

TERMS OF REFERENCE

Consulting Services for the Design, Development, Configuration and
Deployment of the e-Consulate Information System

Country: Republic of Moldova

TECHNICAL REQUIREMENTS

CONTENTS

1. SCOPE OF THE DOCUMENT.....	4
2. BACKGROUND.....	4
3. ACRONYMS AND DEFINITIONS	6
4. GENERAL DESCRIPTION OF THE PROJECT	9
4.1. SCOPE.....	9
4.2. OBJECTIVES.....	9
4.3. LIMITATIONS OF THE SCOPE OF THE PROJECT.....	10
4.4. KEY STAKEHOLDERS.....	10
5. IMPLEMENTATION APPROACH.....	13
5.1. GENERAL PROVISIONS.....	13
5.2. ITERATIVE DEVELOPMENT	13
5.3. AGILE DEVELOPMENT.....	14
5.4. WORKING PRODUCT IN EACH ITERATION	14
5.5. BENEFICIARY INVOLVEMENT	14
6. TIMING.....	16
7. WARRANTY	17
8. EXPECTED DELIVERABLES	18
9. REPORTING REQUIREMENTS	19
10. INSTITUTIONAL ARRANGEMENTS.....	20
11. RELEVANT LEGAL FRAMEWORK	21
12. REQUIREMENTS' TRACEABILITY.....	23
13. CONCEPTUAL ARCHITECTURE.....	24
14. FUNCTIONAL REQUIREMENTS OF THE SYSTEM	31
14.1. SYSTEM'S ACTORS	31
14.2. GENERAL FUNCTIONAL REQUIREMENTS TO THE E-CONSULATE SOLUTION.....	33
14.3. FUNCTIONAL REQUIREMENTS RELATED TO THE APPLICATION PROCESS	35
14.4. FUNCTIONAL REQUIREMENTS RELATED TO THE PROCESSING OF THE SERVICE APPLICATION REQUESTS	45
14.5. OTHER FUNCTIONAL REQUIREMENTS TO THE SYSTEM BACK OFFICE.....	51
14.6. FUNCTIONAL REQUIREMENTS RELATED TO THE SEARCHING AND FILTERING CAPABILITIES OF THE SYSTEM	55
14.7. FUNCTIONAL REQUIREMENTS RELATED TO THE REPORTING CAPABILITIES OF THE SYSTEM	58
14.8. FUNCTIONAL REQUIREMENTS RELATED TO THE SYSTEM ADMINISTRATION CAPABILITIES.....	63
15. UI AND USABILITY REQUIREMENTS	67
15.1. REQUIREMENTS REGARDING UI AND USABILITY	67
15.2. REQUIREMENTS SPECIFIC TO UI FOR FRONT-OFFICE USERS	70
15.3. REQUIREMENTS SPECIFIC TO THE BACK-OFFICE USERS' INTERFACE	70
16. RELEVANT BUSINESS-PROCESSES AND SERVICES TO BE DIGITALISED	72
16.1. THE ONLINE APPLICATION PROCESS.....	73

16.2.	THE ONSITE APPLICATION PROCESS	76
16.3.	MAPPING OF SERVICES PROVIDED THROUGH THE CONSULAR OFFICES.....	79
16.4.	EMERGENCY TRAVEL DOCUMENT ISSUANCE	81
16.5.	PASSPORT ISSUANCE	88
16.6.	ISSUANCE OF THE IDENTITY CARD.....	89
16.7.	AUTHORIZED EMIGRATION	91
16.8.	REGISTRATION OF DIVORCE AND ISSUANCE THE CERTIFICATE	94
16.9.	REGISTRATION OF MARRIAGE AND ISSUANCE THE CERTIFICATE	97
16.10.	SUPERLEGALIZATION OF DOCUMENTS	105
16.11.	DIPLOMATIC PASSPORT/ SERVICE PASSPORT	110
16.12.	NOTARY DOCUMENTS	115
16.13.	CONSULAR DECLARATIONS	119
16.14.	ACQUISITION, RE-ACQUISITION, RENUNCIATION OF CITIZENSHIP	123
16.15.	ISSUANCE OF THE CRIMINAL RECORD CERTIFICATE	126
16.16.	CONSULAR EVIDENCE.....	128
16.17.	REGISTRATION OF THE ACT OF BIRTH	130
16.18.	TRANSCRIPTION OF THE CIVIL STATUS ACTS.....	134
17.	INTEROPERABILITY.....	138
18.	NON-FUNCTIONAL REQUIREMENTS	139
18.1.	TECHNICAL REQUIREMENTS TO THE SYSTEM ARCHITECTURE	139
18.1.1.	<i>Presentation Layer</i>	140
18.1.2.	<i>Business-Logic Layer</i>	141
18.1.3.	<i>Data Layer</i>	142
18.2.	TECHNICAL REQUIREMENTS TO THE TECHNOLOGICAL ARCHITECTURE	143
18.3.	TECHNICAL REQUIREMENTS REGARDING THE SECURITY OF THE PLATFORM.....	145
18.4.	TECHNICAL REQUIREMENTS TO THE USER AUTHENTICATION MECHANISM.....	148
18.5.	TECHNICAL REQUIREMENTS TO THE USER AUTHORIZATION MECHANISM.....	148
18.6.	TECHNICAL REQUIREMENTS FOR MANAGING EXCEPTIONS AND ERRORS	149
18.7.	TECHNICAL REQUIREMENTS REGARDING SYSTEM'S FLEXIBILITY	149
18.8.	TECHNICAL REQUIREMENTS REGARDING SYSTEM'S SCALABILITY	150
18.9.	TECHNICAL REQUIREMENTS REGARDING MAINTAINABILITY	151
18.10.	REQUIREMENTS REGARDING RESISTANCE AND BREAKDOWNS	153
18.11.	REQUIREMENTS REGARDING SYSTEM'S PERFORMANCE	153
18.12.	REQUIREMENTS REGARDING INTEROPERABILITY.....	154
18.13.	REQUIREMENTS TO THE DEDICATED AUDIT FOR APPLICATIONS AND DATABASE SERVERS.....	154
19.	PROJECT IMPLEMENTATION ASPECTS	156
19.1.	HARDWARE SPECIFICATION	156
19.2.	REQUIREMENTS REGARDING SOFTWARE PRODUCTS AND LICENSING	156
19.3.	INTELLECTUAL PROPERTY RIGHTS (IPR).....	156
19.4.	MANAGEMENT OF THE SOURCE-CODE.....	156
19.5.	REQUIREMENTS REGARDING PROVISION OF SERVICES	157
19.6.	TRAINING OF USERS.....	159
20.	PROJECT DOCUMENTATION REQUIREMENTS.....	160
20.1.	SOFTWARE RESOURCES	160
20.2.	SOURCE CODE.....	160

20.3.	USERS' MANUAL.....	161
20.4.	SYSTEM'S ON-LINE HELP.....	161
20.5.	ADMINISTRATION MANUAL	161
20.6.	DEVELOPER'S MANUAL.....	162
20.7.	OTHER TECHNICAL DOCUMENTATION.....	162
21.	SYSTEM TESTING AND QA	164
21.1.	GENERAL PROVISIONS.....	164
21.2.	PERFORMANCE AND SECURITY TESTING	164
22.	QUALIFICATIONS REQUIREMENTS.....	166
22.1.	CONSULTANT QUALIFICATIONS REQUIREMENTS	166
22.2.	CONSULTANT'S STAFFING.....	166
23.	ANNEXES.....	169
23.1.	INDICATIVE DATA SETS FOR ENSURING THE INTEROPERABILITY OF THE SYSTEM	169
23.2.	FOD.....	180
23.3.	RELEVANT E-GOVERNANCE INFRASTRUCTURE	182
23.4.	SAMPLE OF THE REPORTING FORM ON THE CONSULAR ACTIVITY	186
23.5.	THE PRINCIPLES OF GROUPING OF SERVICES ON THE FRONT-OFFICE MAIN PAGE.....	186

1. SCOPE OF THE DOCUMENT

This document describes the terms of reference for the development of the e-Consulate information system of the Republic of Moldova. The document provides technical requirements including functional and non-functional requirements as well as guidance for a team of software developers which shall be selected to develop the software solution. It also describes the actors and security management principles in assigning access rights to user profiles.

This document includes also the indicative specification of the data fields, a system architecture, and the user interface conceptual design. This means that even though the document provides a number of screens mockups and their specification, the final decisions regarding the stylistic and colour aspects will be taken during the development stage. At this phase the document aims to ensure the correspondence of the fields of the designed forms with the data models based on which the database of the system shall be developed.

It is important to note that the document does not cover programming of classes, objects, and software procedures, which make the modules and functions work. This kind of aspects remain at the discretion of the software developers and directly depend on the framework and coding convention agreed by the developers within the technical team. In other words, the specifications and documentation for a specific programming code fell outside the scope of this document. The software development team may, at their own discretion with the approval of eGA, design and develop software classes, objects and procedures that best perform operations of modules and functions required within the e-Consulate system. However, the software development team should apply the high-level design specifications outlined in this document.

IMPORTANT: All user interface screen mockups are *indicative* and have been designed for a web-based software solution. Wherever possible, the mobile version must follow the screens to ensure consistency in the layout. Under no circumstances should the screens or pages presented in this document be considered to be final and exact representations of the *e-Consulate* screens and pages in the real software system. ***All screens and pages are of conceptual nature and might change during the programming stage depending on how the program executes the code to visualize graphical elements and functions.***

Finally, this document does not provide an exhaustive list of all screens or pages that can be created in the e-Consulate information system. The final web application is planned to have more screens and panels. The figures included in the document are templates for basic functions (data list, data entry and panel view), which can be modified to fit the context of any particular screen or page during each iteration of the development stage.

2. BACKGROUND

Currently, some of the consular services provided to fellow citizens abroad are processed through a technologically obsolete integrated automated system, called SIA Consul. This system currently cannot meet the challenges that arise every day for the provision of consular services due to limited storage and development capabilities, as well as non-automated data processing. This creates inconvenience for both citizens and diplomatic mission workers in various operational processes of providing consular services.

Consul IS is an integrated system that has a back-office interface and consists of five modules: biometric passport, diplomatic passport, service passport, travel document and consular super

legalization. Back in 2011, the initial concept of this system was focused on obtaining applications for the issuance of biometric passports, which was gradually expanded to five modules, but with limited functionalities of data processing and storage, without functionalities for processing requests submitted online for various consular services and without the online programming module for consular services.

In the context of establishing a replication model of Unified Center for Public Services Delivery (CUPS) abroad, in the premises of embassies and consular offices to ensure quick and efficient access to public services for diaspora, SIA Consul must be fundamentally rethought and modernized. Therefore, the existent IS Consul will be replaced by the future e-Consulate platform that will allow instant/ automated data processing and interconnection with the existent digital infrastructure offered by the Government. One of its modules will also serve as front office for the provision of most necessary public services requested by diaspora, either accessed with the help of the consular officer or by the citizen him/ herself using a web interface and an electronic identity/signature

3. ACRONYMS AND DEFINITIONS

List of acronyms used in this document:

#	Acronym	Explanation
1	API	Application Programming Interface
2	CMS	Content Management System
3	DB	Database
4	DBMS	Database Management System
5	eGA	Electronic Governance Agency
6	FRQ	Functional Requirements
7	G2C	Government to Citizen
8	GB	Gigabyte
9	GUI	Graphical User Interface
10	HTTPS	HyperText Transfer Protocol Secured
11	ICT	Information and Communication Technologies
12	IS	Information System
13	MFA	Ministry of Foreign Affairs and European Integration of the Republic of Moldova
14	NCPD	National Center for Personal Data Protection
15	NFRQ	Non-functional Requirements
16	OS	Operation System
17	PSA	Public Services Agency
18	RAM	Random Access Memory
19	RM	Republic of Moldova
20	RPO	Recovery Point Objective
21	RTO	Recovery Time Objective
22	SAML	Security Assertion Markup Language
23	SOA	Service-Oriented Architecture

#	Acronym	Explanation
24	SOAP	Simple Object Access Protocol
25	SQL	Structured Query Language
26	SRLE	State Registry of Legal Entities
27	SRP	State Registry of Population
28	SSO	Single Sign-On
29	STISC	IT and Cyber Security Service of the Republic of Moldova
30	UID	Unique Identifier
31	UML	Unified Modeling Language
32	WSDL	Web Services Description Language
33	XML	eXtensible Markup Language

List of definitions used in this document

#	Definition	Explanation
1	Actor	Role of a user or other system that interacts with the information system.
2	Component	Any subsystem, module or subset of the System identified as an integral part of the System.
3	Database	Data collection organized according to a conceptual and well-defined structure, which describes the basic characteristics and the relationship between entities.
4	Immigrant	A foreign or stateless citizen who obtained the right to settle permanently or temporarily in the Republic of Moldova and who loses this status upon leaving the territory of the country or acquiring the citizenship of the Republic of Moldova in accordance with the legislation in force;
5	Logging	A function for recording information about events that take place in a system. In information systems, event records include details about the date, time, user and taken action.

#	Definition	Explanation
6	Migration	A territorial movement of persons, accompanied by a change of place of residence (with the exception of internal migration);
6	Emigrant	A citizen of the Republic of Moldova who travels abroad to settle permanently or temporarily on the territory of another state;
7	Workflow	A series of tasks to produce a desired outcome, usually involving multiple participants and several stages in an organization.
8	Informatic System	Set of programs and equipment that ensure automated data processing.
9	Information System	A system for processing of information, together with associated organizational resources, such as human and technical resources, that provide and distribute data/information.
10	System	e-Consulate system (in this document)
11	Consular servant	A staff member (officer) of a consular office, assigned and accredited to exercise consular functions.

4. GENERAL DESCRIPTION OF THE PROJECT

4.1. Scope

The main purpose of the e-Consulate information system is to improve the quality of the services provided to citizens through the Moldovan diplomatic missions and consular offices, guaranteeing the accessibility, transparency, reducing the costs and time to obtain the services' outcomes, as well as improving the capacity of the consular network by introducing a modern tool that aims to increase the efficiency of the consular servants' activities.

4.2. Objectives

More specifically, the implementation of the e-Consulate system aims to reach the following objectives:

- Integration of all services provided through the Moldovan diplomatic missions and consular offices into a single virtual space and thus ensuring an electronic doorway for accessing the public services by the citizens from abroad.
- Digitization of the consular services that are currently provided according to outdated approaches that involve requesting and processing of many paper-based documents and citizen's multiple visits to the consular offices.
- Ensuring a high level of accessibility by offering a G2C doorway which allows submission of service request applications, their status tracking and receiving of the service outcome in online mode, as well as facilitating the process of requesting the services on-site (at the consular offices) for those citizens who cannot consume electronic services for various reasons (i.e. are not computer-related, lack of internet access, lack of access to a PC or to a smart device). The system will capture the requests from both type of applicants and will guarantee an equitable service provision process in any case.
- Provision of a modern tool that streamlines the day-to-day activities of the consular servants, by making available the necessary means for capturing applications and the needed data about applicants, data validation and verification, issuing of the services' outcomes based on set templates depending of the requested service, digitization of the consular registries and elimination of the paper-based document (to the maximum extent possible), generation of statistical and analytical reports as well as performance monitoring.
- Improving the communication process between the consular offices and other Moldovan institutions by ensuring the interoperability. This aspect must significantly facilitate the process of obtaining and verifying the data with other external sources such as the Public Services Agency, the Ministry of Internal Affairs, and others.
- Achieving all the above listed objectives will ensure an efficient service provision process and the rationalisation of the time related to each stage of the service life cycle:
 - The time needed to find necessary information and preparing the needed documents

- and information to be submitted upon the service request;
 - The time needed for traveling to and from the service center;
 - Waiting time before being served;
 - Service time;
 - Any repeated visits;
 - The time before obtaining the result (output) of the service.
-
- Ensure the MFA and the Moldovan Government with the accurate information in terms of consular service provision and so improving the decision-making and policy-making processes.
 - Diminish the administrative burden related to the provision of services through the diplomatic missions and consular offices.

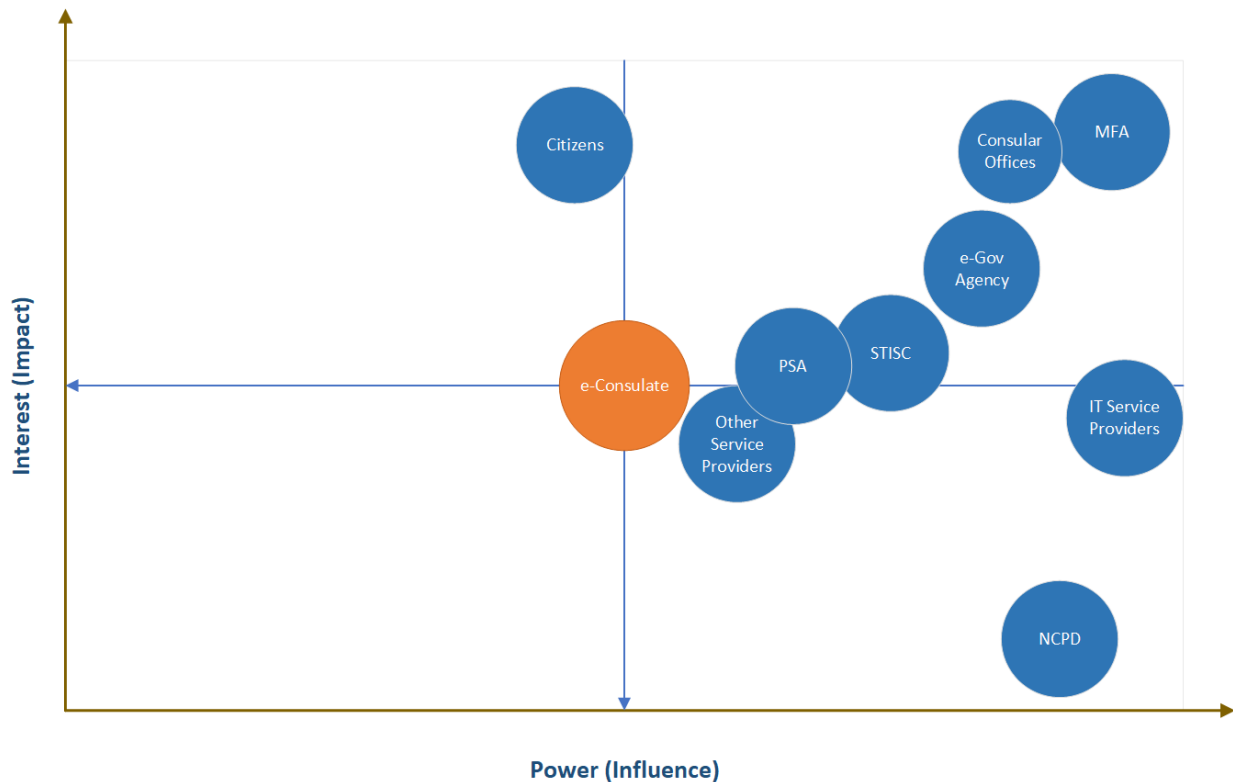
4.3. Limitations of the scope of the Project

The following limits are pre-set for the e-Consulate development and implementation project team taking into account that the System will be hosted in MCloud governmental infrastructure:

- Purchase of hardware equipment (e.g. servers, storage, networking devices, etc.) does not fall within the scope of the project described in this document;
- Activities related to the data-centre arrangement are out of scope;
- Purchase and installation of software at the client level (e.g. Windows OS, MS Office packages) are out of scope of this project;
- Purchase of electronic signatures in the form of sticks or mobile signatures for end-users, is out of scope of this assignment;
- Training services on the use of the e-Consulate are to be provided primarily to users from the Moldovan diplomatic missions and consular offices, as well as for MFA selected employees, as appropriate. For the applicants (citizens), the user guide and video tutorials shall be made available, that must be accessible through the web pages of the targeted institutions;

4.4. Key Stakeholders

In line with the scope of the Project and the objectives of the e-Consulate development and implementation project, the indicative list of the key stakeholders presented below:



Moldovan Diplomatic Missions and Consular Offices

The diplomatic missions and consular offices aim to grant consular protection, upon request or ex officio, to the Moldovan citizens from abroad, within the limits allowed by the law, the norms and principles of international law and in compliance with the internal regulations of the countries' accreditation. The diplomatic missions/consular offices represent the main service provision entity in e-Consulate through which the consular servants get in contact with the citizens who request consular services. In other words, the diplomatic missions and consular offices represent the physical service provision office while the e-Consulate system through its Front-Office component is expected to play the role of a virtual service provision doorway.

Ministry of Foreign Affairs and European Integration (MFA)

The MFA represents the *Product Owner* of the e-Consulate system and the *Beneficiary* of this Project which shall play the crucial role in the coordination of the implementation process of this Project. The Ministry of Foreign Affairs and European Integration is the central public authority which promotes the state's policy in the area of foreign relations and conducts its activity in conformity with the Constitution and the laws of the Republic of Moldova, the decisions of the Parliament, Decrees of the President of the Republic of Moldova, decisions of the Government, and other normative documents, international treaties and agreements to which the Republic of Moldova is party. The Directorate of Consular Affairs is expected to be the most involved ministry's subdivision.

Electronic Governance Agency (eGA)

Electronic Governance Agency is a public institution subordinated directly to the Ministry of Economy and Digitalization (Government), which aims to improve governance through the intensive use of

information technologies. eGA has a systemic approach to modernize public services and bring governance closer to the business and citizens of the Republic of Moldova.

eGA pursues the following objectives:

- Modernization of public services by digitizing and retaining them;
- Streamlining governance through the exchange of data between authorities and institutions providing public services;
- Diversification of access channels to public services;
- Ensuring information security.

Information Technology and Cyber Security Service (STISC, *ro: STISC*)

For the scope of the e-Consulate implementation the STISC will have the role of Technical Administrator of the e-Consulate IS. STISC is currently the entity responsible for the management and operation of the cloud governmental infrastructure – ‘MCloud’. As the operator of the governmental cloud infrastructure and electronic services, STISC has the mission to ensure the administration, maintenance and development of information technology infrastructure, telecommunications system of public administration authorities, as part of the special communications network and state information systems, infrastructure management of the electronic signature, as well as the implementation of state policy in the field of cyber security.

Citizens

The citizens of the Republic of Moldova represent the targeted group of users who shall benefit from the implementation of the e-Consulate system. They form the users to whom the state will provide public services through the diplomatic missions and consular offices from abroad through the new e-Consulate system. The implementation of the system will have a direct impact on the citizens regardless of the method through which they will request the consular service online or on-site.

Third-party Public Bodies

This group of stakeholders include third-party public authorities (state institutions) of the Republic of Moldova that provide public services to the citizens through the consular offices or has a crucial role in the service provision processes. For example, the Moldovan citizens abroad may request services related to issuing of various documents such as passport, national ID, civil status acts and more. The citizens can request the forementioned services from the Moldovan diplomatic missions/consular offices, however the consulates in such cases play only an intermediary role in the service provision process (receiving of applications and handing -over the services’ outcomes) while the service itself and issuing of the service outcome is performed by the Public Service Agency. Another eloquent example is requesting and issuing of the electronic signature to the citizens from abroad where the service provider is STISC.

5. IMPLEMENTATION APPROACH

5.1. General Provisions

This project presumes that an ICT consulting company will be hired to develop the e-Consulate software solution with demonstrated experience in the design and implementation of similar complexity projects to perform key client-facing activities, and to provide on-going maintenance and technical support. More specifically the software development team will be responsible for designing, developing, configuring, and deploying the e-Consulate system as a fully functional product with all functionalities in place, according to the specifications iteratively defined by the MFA.

Due to the relative complexity of the e-Consulate project, an iterative development approach is required to deliver the project on time and according to beneficiary's expectations. When developing the project implementation plan, the selected software development team shall consider the following aspects:

- Development shall be based on an iterative development methodology such as AGILE;
- The iterations shall result in bi-weekly feature releases of e-Consulate functionalities to the test environment;
- The release plan and feature set shall be pre-approved by the Beneficiary (MFA) and reviewed prior to the start of each iteration;
- A time-boxed approach (such as Agile Project Management Methodology or SCRUM) shall be used within the iterations, with the participation of the MFA supervisor;
- The software development team shall plan intermediary bi-weekly demo releases attended by the stakeholders' key staff, especially MFA and eGA;

Prior to the start of development, the eGA and MFA reserve the right to evaluate and approve the technical team, which will be involved in the e-Consulate development. Any changes to the team shall be flagged to eGA and MFA and new team members shall be pre-approved by eGA before embarking on the project.

As mentioned above, the development of the e-Consulate system shall be planned according to an AGILE iterative methodology. An *iteration* is a set period of time during which specific works has to be completed by the developers' team and made ready for Beneficiary's review (MFA and consular offices).

The integration of modules and other system development activities must involve intermediary deliverables. The integration activities for newly developed features/module(s) shall take place after each iteration. The sequence and priority of the functionalities or groups of functionalities to be delivered during this period will be established by the MFA in close collaboration with eGA at the inception phase of the software development.

5.2. Iterative development

As mentioned in the section above, in contrast to waterfall software development approach, the e-Consulate solution shall be developed in iterations named *sprints*. This means that the implementation of different functionalities will take place in phases with some modules being in production while others still being in development. The priorities of functionalities included in a sprint will be determined by the Product Owner (MFA). Sprint duration will be determined by the

Beneficiary together with the development team.

5.3. Agile development

The development shall follow agile principles by allowing change and flexibility in implementation. Beneficiary will maintain the master list of generic requirements for the solution– *Product Backlog*, which consists of ordered business and technical requirements as seen by the Beneficiary. Items in product backlog are ordered by the Beneficiary by their priorities. Beneficiary is free to manage the product backlog by adding new items to it, removing items and reordering them as he/she desires. At the beginning of each sprint, the topmost N items that fit into a sprint are taken, and a sprint backlog is built out of them. Items in sprint backlog are further detailed and distributed to developers. Sprint backlog is not changed during the sprint.

5.4. Working product in each iteration

Each sprint ends up in a working product which is presented to the Beneficiary (MFA) for acceptance in the last day(s) of sprint. The working product shall meet the agreed criteria – Definition of Done (e.g. it must be fully functional, fully tested, accompanied with relevant unit tests, accompanied with relevant documentation where necessary, complete commented source code supplied etc.). Payments will be made upon successful delivery of working packages (one or more working products). In case the deliverables contain defects for reasons not imputable to the Beneficiary, the software development team shall fix them without impacting the time schedule and at no additional costs, including possible visits to Beneficiary site. Working products from different sprints can be combined into a release deployed in production at Beneficiary's discretion. Any incidents reported by the Beneficiary after the release, shall be solved by the Consultant according to the agreed Service Level Agreements (SLAs).

To ensure that the development team is in position to deliver on time working products, a Beneficiary representative – typically named the Product Owner in agile methodologies – is permanently available to the team for answering eventual questions, thus not slowing down the implementation pace.

The Consultant will appoint a Scrum Master from the team of key or non-key experts for the entire duration of the project.

The Scrum Master will be responsible for the day-to-day liaison with the Beneficiary; s/he must ensure the internal coordination and guidance of the project experts and the project coordination with external counterparts.

The Scrum Master must also ensure the availability of suitable experts in accordance with the project planning documentation.

5.5. Beneficiary involvement

In contrast with commonly used waterfall model for procurement and implementation of information systems for the government, the MFA will play the *Product Owner* role which means that the Product Owner will be heavily involved in the development process. The Product Owner will have

three core responsibilities:

1. Maintenance of product backlog – the Product Owner will maintain the product backlog up to date, so it reflects prioritized list of desired functionalities.
2. Answering to questions coming from developers – the Product Owner will be at all time available to the development team for answering their eventual clarification questions, thus avoiding complex and formal communication within the project. This is essential to ensure the team has all the information on time to deliver a working product at the end of the sprint.
3. Acceptance of working packages – delivered working packages are presented to the Product Owner for acceptance at the end of each sprint. The Product Owner shall accept the working package or notify the Consultant of any defects during the following sprint.

Although it is not strictly necessary, the *Product Owner* may participate in team stand up meetings listening for progress and eventual blockers for an immediate reaction.

The Product Owner also decides on product releases, as per release plan.

Also, as per the principles of Agile project management methodology, the Beneficiary will define the Product Vision Statement and Product Roadmap in order to track progress and to ensure the appropriate product development.

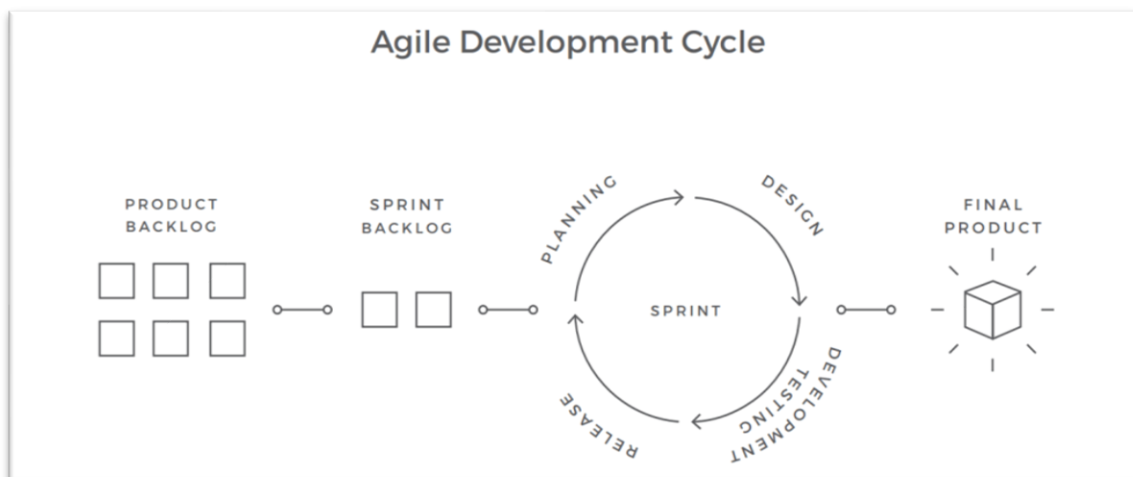


Figure 1. The indicative illustration of the Agile Development Cycle/Process.

6. Timing

The tasks defined under the current Project are estimated to be performed in 12 months of which 9 months for development and 3 months of maintenance period. More details of the e-Consulate maintenance component will be reached combining with the reading of chapter 19.5 Requirements regarding provision of Services.

If new functionalities will be identified by the Product Owner during the maintenance period, these functionalities may be implemented in additional iterations (sprints), upon availability of budget.

7. Warranty

The development team shall provide 6 months of warranty for the developed solution. The warranty period starts after final release. During the warranty period the development team shall fix any identified defects.

8. Expected Deliverables

The following deliverables will be provided by the Consultant during this assignment:

1. A fully functional information system with all functionalities developed and deployed according to the requirements defined by the Beneficiary during the assignment. The Consultant will deliver compliant and documented source-code (including third-party tools and libraries, licenses, where applicable and automation scripts).
2. Technical and End-user documentation developed according to the Beneficiary's documentation requirements.
3. Training sessions and training materials developed according to the Beneficiary's training requirements.

9. Reporting Requirements

The following reports will be provided during the assignment:

1. Sprint Report, including release notes, breakdown and duration of tasks implemented during the sprint, velocity, issues and outstanding problems, proposed actions to be taken;
2. Next Sprint Backlog, including breakdown and estimated duration of tasks proposed to be implemented during the next sprint, resources that the Consultant expects to be provided by the Beneficiary and/or actions to be taken by the Beneficiary;
3. Training reports, submitted after each training session, including:
 - Participants list;
 - Training session agenda;
 - Training materials (presentations, labs etc.);
 - Trainees test results.

10. INSTITUTIONAL ARRANGEMENTS

The eGA is responsible for all administrative and procedural aspects, contract and financial management, including acceptance and payment of deliverables/reports expected under the Contract, general project responsibilities and efficient coordination with stakeholders.

A Product Owner will be appointed by the MFA and will coordinate and decide on all issues related to the technical elements of the Contract. The Product Owner will issue the administrative notice on the start date of the implementation of the contract and other administrative duties.

The eGA will provide the following:

- infrastructure resources for testing and production environments;
- code repository, issue tracking system, CI/CD environment, task management system via the Client's subscription in Azure DevOps. The Consultant shall not include Azure DevOps subscription in its financial proposal;
- Training facilities.

The Consultant will ensure that adequate working conditions (workspace/office premises for experts, office equipment, computers, communication facilities, etc.) and services are provided to the Consultant's staff during the lifetime of the project.

The Consultant will be responsible for the day-to-day management of the project team and availability of necessary resources.

The Consultant will organize the Kick-off meeting and initial e-Consulate Backlog at its premises. All Consultant's Key Experts as specified in the section defining the qualification requirements, shall participate in the Kick-off meeting and initial e-Consulate Backlog. The costs associated with the Beneficiary's presence at the Kick-off meeting will be covered by the Beneficiary and shall not be included in the Consultant's financial proposal.

The Consultant will ensure visits to the MFA site to provide training to end users.

In case the deliverables contain defects and/or there are delays for reasons not imputable to the Beneficiary that may impact project outcome, the Consultant may be requested to visits to Beneficiary's site in order to solve the project issues.

The communication languages will be Romanian or English. The Consultant shall work under the supervision of the appointed Product Owner.

11. RELEVANT LEGAL FRAMEWORK

The following regulatory acts were consulted during the analysis and description of the E-Consulate architecture:

- Law No. 273 of 09-11-1994. regarding identity documents of the national passport system (Published: 09-02-1995 in the Official Gazette No. 9, art. 89)
- Law No. 1024 of 02-06-2000 on the citizenship of the Republic of Moldova* (Published: 10-08-2000 in the Official Gazette No. 98, art. 709)
- Law No. 100 of 04-26-2001 regarding civil status documents (Published: 08-17-2001 in the Official Gazette No. 97-99 art. 765)
- Law No. 242 of 09-24-2010 regarding consular fees (Published: 11-26-2010 in the Official Gazette No. 231-234, art. 732)
- Law No. 246 of 15-11-2018 regarding the notarial procedure (Published: 01-02-2019 in the Official Gazette No. 30-37 art. 89)
- Law No. 257 of 01-11-2013 regarding third-country nationals who are required to hold a visa and third-country nationals who are exempt from the requirement to hold a visa when crossing the state border of the Republic of Moldova (Published: 01-03-2014 in the Official Gazette No. 1-3 art. 02)
- The Code No. 1316 of 10-26-2000 Family Code (Published: 04-26-2001 in the Official Gazette No. 47-48 art. 210)
- The Code No. 1107 of 06-06-2002 Civil Code of the Republic of Moldova (Published: 01-03-2019 in the Official Gazette No. 66-75 art. 132)
- The Decision of the Government of the Republic of Moldova no. 125 for the approval of the Regulation on the issuance of identity documents and records of residents of the Republic of Moldova, dated February 18, 2013 Published: 02-22-2013 in Official Gazette No. 36-40 art. 171
- The Decision of the Government of the Republic of Moldova No. 1144 of 11-21-2018 for the approval of the Regulation regarding the procedure for acquiring and losing the citizenship of the Republic of Moldova (Published: 12-27-2018 in the Official Gazette No. 512, art. 1341)
- The Decision of the Government of the Republic of Moldova No. 421 of 06-26-2013 for the approval of the Regulation regarding the procedure for superlegalization of documents (Published: 06-28-2013 in the Official Gazette No. 136-139 art. 508)
- The Decision of the Government of the Republic of Moldova no. No. 368 of 03-28-2002 regarding the approval of the Consular Statute (Published: 04-11-2002 in the Official Gazette No. 50-52 art. 484)
- The Decision of the Government of the Republic of Moldova No. 987 of 12-24-2012 for the approval of the Regulation regarding the travel document (Published: 12-28-2012 in the Official Gazette No. 273-279 art. 1065)
- The Decision of the Government of the Republic of Moldova No. 558 of 05-18-2007 regarding the approval of the unique models of the standardized forms of civil status documents (Published: 06-01-2007 in the Official Gazette No. 74-77 art. 594)
- The Decision of the Government of the Republic of Moldova No. 757 of 07-04-2006 regarding the approval of the single model of civil status certificate forms (Published: 07-07-2006 in the

Official Gazette No. 102-105 art. 782)

- The Decision of the Government of the Republic of Moldova No. 50 of 15-01-2013 for the approval of the Regulation on the issuance of visas (Published: 18-01-2013 in the Official Gazette No. 10-14 art. 73)
- The Decision of the Government of the Republic of Moldova No. 331 of 05-05-2011 regarding the issuance of invitations to foreigners (Published: 05-13-2011 in the Official Gazette No. 78-81, art. 381)
- The Decision of the Government of the Republic of Moldova No. 332 of 05-05-2011 regarding the approval of the minimum amount of means of maintenance for foreigners in the Republic of Moldova (Published: 05-13-2011 in the Official Gazette No. 78-81 art. 382)
- The Decision of the Government of the Republic of Moldova No. 765 of 18-09-2014 regarding the approval of the list of travel documents accepted for the crossing of the state border of the Republic of Moldova by foreigners (Published: 26-09-2014 in the Official Gazette No. 282-289 art. 817)
- The Order of the Ministry of Justice of the Republic of Moldova No. 59 of 27-02-2019 regarding the approval of models of notarial deeds and notarial certificates (Published: 03-01-2019 in the Official Gazette No. 76-85 art. 410a)
- The Order of the Ministry of Justice of the Republic of Moldova No. OMJ329/2019 of 10.12.2019 regarding notarial registers and the manner of carrying out secretarial work in notarial activity (Published: 24.01.2020 in the Official Gazette No. 14-23 art. 5)
- Information Technology Department Instruction No. 4 of 01-21-2004 regarding the registration of civil status documents (Published: 04-15-2005 in the Official Gazette No. 59-61 art. 200)
- Regulation regarding the issuance of identity documents and the authorization of emigration of citizens of the Republic of Moldova through the diplomatic missions and consular offices of the Republic of Moldova, approved by the joint order Public Services Agency and MFA no. 211-b-195/449 of 01.09.2020
- Regulation regarding the honorary consular officials of other states in the Republic of Moldova and the consular posts headed by them, approved by order no. 1035 of 19.09.2012 of the Minister of Foreign Affairs and European Integration
- Regulation on the issuance of the diplomatic passport and the service passport, approved by the Public Services Agency and MFA joint order no. 224-b-215 of 26.09.2022

12. REQUIREMENTS' TRACEABILITY

To ensure traceability of requirements, the document follows naming conventions in order to identify and track all technical specifications set out for development and implementation of the System.

As there will be more documents compiled during development of the e-Consulate, the reader can easily go back and forth through the list of specifications using the provided reference numbers.

Each reference number is preceded by an abbreviation consisting of several letters, which classifies the requirement. The prefix is followed by a sequential number corresponding to the business process step. For example, FRQ007 and FRQ008 are reference numbers for two functional requirements. NFRQ is reference for non-functional requirement.

In this naming convention, letters in the prefix denote the following:

- FRQ – Functional requirement;
- NFRQ – Non-functional requirement;

The described functionalities have the accompanying use-case diagram, which elaborates the requirements in a more detail way and presents the business context in which the System functionality is used. The detailed design that will be provided by the selected Supplier will have the detailed description of the functionalities.

13. CONCEPTUAL ARCHITECTURE

From the architectural point of view the e-Consulate information system must be developed as a modular web-based solution following the so-called service-oriented architecture (SOA) principles based on microservices, which shall allow integrating it with the shared e-governance services and other relevant ICT solutions of the state bodies of Republic of Moldova. As a modular platform, it should emphasize partitioning of the system functionalities into discrete interchangeable modules, so that each of them to allow performing only one aspect of the required functional component.

According to SOA principles, a service logically represents a business-process or a real-life activity with a specified outcome. Therefore, the architecture based on SOA principles should allow use of the system through various user interfaces (i.e. standard web interface or mobile devices) for the same data source.

The e-Consulate system shall provide G2C (Government to Citizens) interaction by using a graphic user interface such as “rich web interface”, that has many of the characteristics of a so-called “heavy” (desktop) application software, but is delivered through a standard web browser, for example through the extensive use of JavaScript, HTML5 and similar technologies and online services. Additionally, the e-Consulate Front-Office should support interfaces for mobile devices.

The following critical aspects have been considered while designing the architecture of the e-Consulate system:

- **Integration** of the e-Consulate solution with other external relevant ICT systems and databases will contribute to increasing of the accuracy of data and minimizing the effort of manually entering of data by the users while filling the electronic forms;
- **Alignment** of different ICT means with the existing Moldovan e-governance infrastructure and shared e-governance services resulting in sufficient data exchange with the relevant ICT systems and databases such as those from the Public Services Agency, MIA and others;

As can be seen from the diagram below the e-Consulate architecture includes components that must developed from scratch, as well as many already existing components that must be simply reused. Each of the reusable component solves a specific task in the system. For example, *MPass* – for user authentication, *MPay* for payment of the services and more. The role of each architecture’s component is described in the next sections.

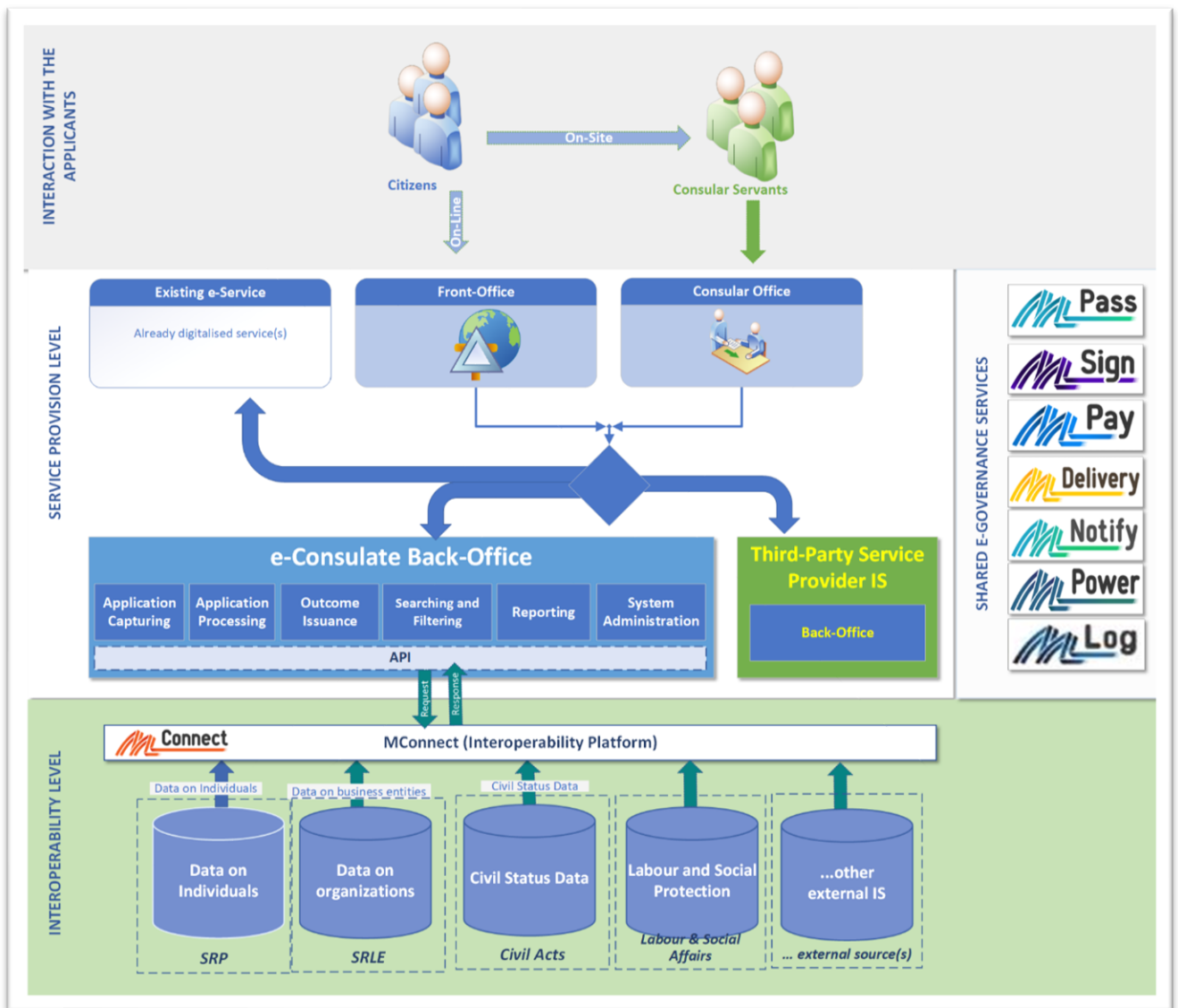


Figure 2. Conceptual Architecture of the e-Consulate solution

The e-Consulate information system is intended to serve as a consular electronic doorway which shall allow citizens to access consular services in an efficient and transparent way, benefiting from increased comfort thanks to the possibility to interact online with the staff of the Moldovan diplomatic missions and consular offices, considerably reducing the interaction and waiting time, as well as eliminating bureaucratic and geographical barriers.

Taking into account the already existing e-Governance infrastructure in the Republic of Moldova, the e-Consulate architecture has been thought to reuse the relevant existing solutions and develop some new ones where necessary. Thus, all the functionalities and features of the system have been grouped logically in key components or modules. Please note that in this particular case the notion "component" has a broader sense and may play the role of a e-Consulate native module or a separate and external application/e-service such as MPass, MLog or other.

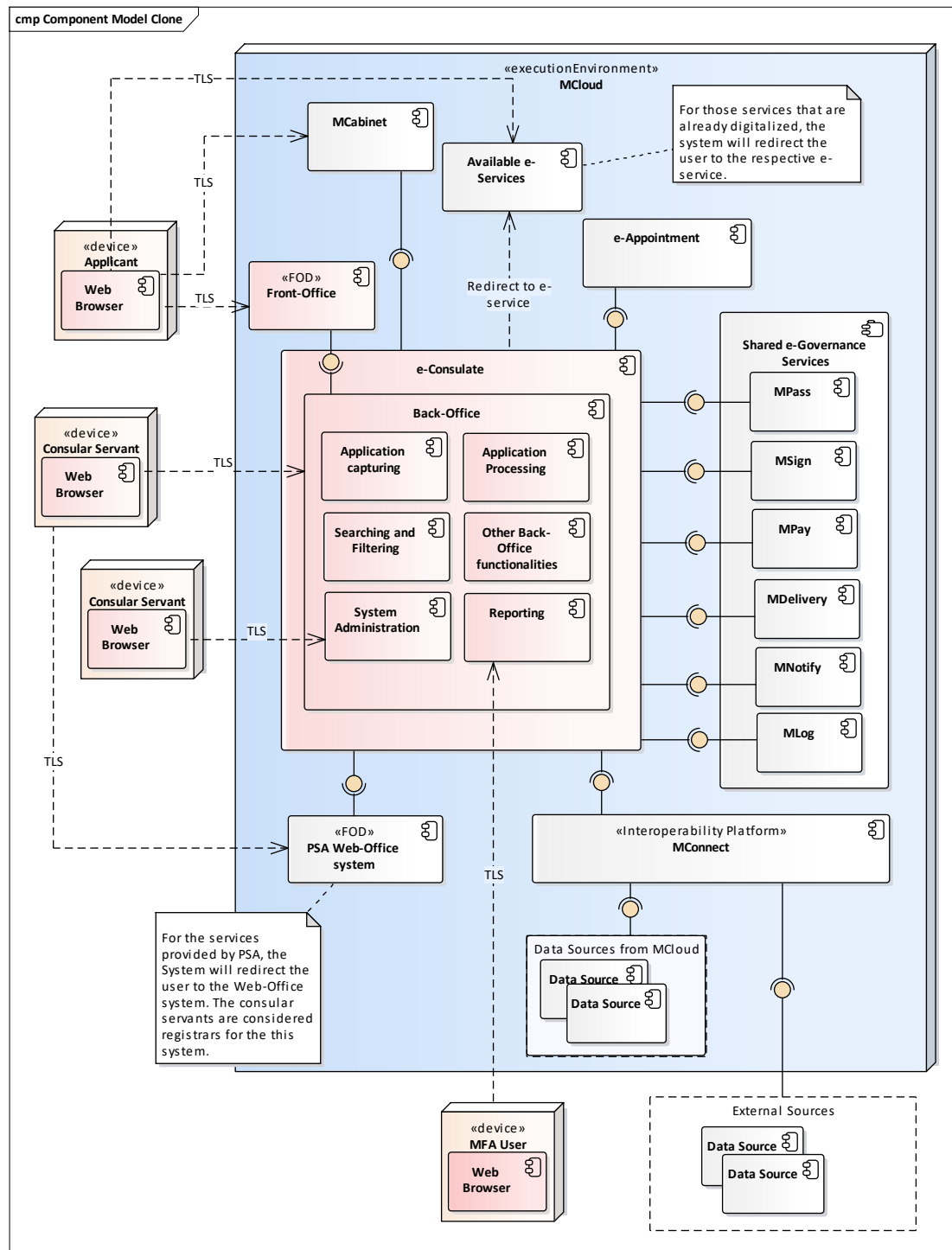


Figure 3. Key Components of the e-Consulate Solution

Based on the above diagram from Figure 3. Key Components of the e-Consulate Solution it is envisaged at this stage that the e-Consulate system will consist of the following key components:

- The **Front-Office** – shall serve as a virtual entry point for the citizens who need to access consular services. More specifically this component encompasses functionalities that allow the citizens to:
 - Consult various information and documents related to the services provided through the diplomatic missions and consular offices and other relevant information about their

activities in a certain country. This is an almost a static sub-component which includes blocks like 'News' and 'FAQs' and which requires a CMS-like tool to manage the content.

- Make an appointment for a visit to a Moldovan diplomatic mission or consular office. This feature shall be implemented by using of the e-Appointment system which is already in the piloting phase in some of the consular offices.
- Request a consular service fully electronically. In this sense the system's front-office will provide dedicated electronic forms to the applicants which shall allow capturing of all needed data, documents and other information needed for the successful provision of the chosen service. It is expected from the Front-Office to provide the respective forms customized for each type of the service.
- Receive the final output of the service provided i.e. a travel document, etc.
- Receive relevant notifications and alerts related to the progress of the submitted application. This functionality shall ensure a stable and efficient direct communication between the citizen and consular servants in charge.

It is worth mentioning that the Front-Office component shall not be fully developed from scratch as a native e-Consulate module. Currently there is an ongoing initiative lead by the eGA called 'FOD' (front-office digitization). It is expected that the front-office functionalities will be implemented based on FOD according to the functional requirements described in this technical specification. Therefore, the FOD allows development of the needed electronics forms for capturing of the applicants' data and documents related to the requested service and storing of the submitted applications into a database. Further the collected applications shall be sent to the Back-Office component through secured APIs.

Reusing of the existing e-governance shared services will simplify significantly the task of the developers, as some of the key capabilities and features of the front-office will be realized by integrating at least the following services: MPass, MSign, MPay, MLog, MNotify, etc. More details are provided in the [Functional Requirements](#) and [Interoperability](#) chapters.

It is also required from the Front-Office to be interconnected with other relevant external data sources such as the SRP or SRLE. This kind of interaction shall bring additional comfort to the users i.e. the applicant may need to fill in only his/her IDNP, while all other data fields of the application form can be automatically pre-filled with his/her personal data retrieved from the SRP. In this sense, the e-Consulate Front-Office shall be interconnected with the governmental interoperability platform MConnect, as well as to implement a direct electronic data exchange mechanism with some of the ICT systems through APIs.

Finally, it shall be highlighted that the Front-Office shall serve as a single electronic doorway for all categories of the services provided through the Moldovan embassies and consular offices, including both: (1) Own services that are provided by the embassies and consular offices; and (2) intermediate services provided by other state institutions (i.e. PSA) through the diplomatic missions and consular offices. More details are provided in the Functional Requirements and Business-Process chapters.

- The **Back-Office** is intended to become the main working tool in the day-to-day activities of the consular servants. More specifically this means that the Back-Office component shall provide all relevant functionalities to the consular servants for analyzing and processing of the citizens' applications, as well as for issuing of the services' outputs. It shall also facilitate the communication with the applicants and the MFA relevant servants from the central level. This

component is expected to be developed under this ToR based on the functional and non-functional requirements described in this document.

The e-Consulate Back-Office component shall have a direct interconnection with the System's Front-Office in order to receive the service request applications that are submitted online by the citizens. Once the applications are stored in the Back-Office, the system shall distribute them according to the type of the services requested and the relevant diplomatic mission/consular office by notifying the respective back-office users. Once the applications are distributed (and tasks assigned to the servants) the system shall start the relevant workflow process depending on the service requested. More details are provided in the [Functional Requirements](#) and [Business-Process](#) chapters.

It is important to highlight that the e-Consulate system shall implement also the so-called '*on-site application process*' which is intended for those users that may not request consular e-services (through the e-Consulate Front-Office) for various reasons i.e. lack of internet access, lack of access to a PC or to a smart mobile device, or for potential applicants who are not computer literate. In this sense the consular servants shall use the same type of electronic forms as in case of applicants to capture all needed information about the applicant upon the service request with the key difference that the forms will be filled in by the consular servant on behalf of the applicant and the applications must be available in the e-Consulate Back-Office as well for further processing. The e-Consulate Back-Office shall be interconnected with the governmental interoperability platform *MConnect* and shall implement some direct electronic data exchange mechanisms through APIs with some of the external systems i.e. SRP. More details are provided in the Interoperability chapter.

For the consular own services, the Back-Office shall implement all needed functionalities and workflows for processing the applications and issuance of the services' outputs, while for the intermediate services such as those provided by the PSA the e-Consulate Back-Office shall provide direct access to the PSA IT system Back-Office. Here it is important to mention that the PSA IT system also integrates the MPass authentication service. And once the consular servant is already authenticated through MPass in the e-Consulate Back-Office, the system shall not ask the user to be repeatedly authenticated while being redirected to the PSA IT system. On the other hand, the e-Consulate Back-Office must be able to realize only the capturing of the citizens' applications for some of the intermediate services, while the provision of the service itself and the issuance of the service output is realized outside the system. This is the case for the request and issuance of the electronic signature service which is provided by the STISC, but the service application request can be submitted to any Moldovan consular office from abroad. As a summary, the e-Consulate Back-Office may implement the following:

- Full set of functionalities for provision of the consular services including capturing of the service request applications (applicants' data and documents), applications processing – analyzing and cross-checking of data and issuing of the service output;
- Partial set of functionalities for provision of the intermediate services. This includes only capturing of the service request applications and consignment of the fact in the system that the service output has reached the applicant;
- Redirect of the consular servant to an external IT system back-office such as that of the Public Service Agency.

The e-Consulate Back-Office must also provide reporting capabilities to both the users from the diplomatic missions/consular offices from abroad and those from the governmental level – MFA users. The users of the embassies/consulates shall be able to run reports that are generated based only on the data related to the diplomatic mission that they are attached to, while the users from the governmental level (i.e. MFA) must be able to run reports based on any data from the database. It is presumed that the statistical reports include only depersonalized aggregated data. The personal data of the applicants may be available at the operational level – embassies/consular offices. More

details are provided in the section Functional Requirements related to the Reporting Capabilities of the System.

Finally, the e-Consulate Back-Office shall include a system administration component which will ensure the organizational structure management and users management in the system.

The e-Consulate architecture presumes the integration the following shared e-governance services:

- **MPass** – for realization of the users' authentication. More specifically the government's Authentication and Access Control Service (MPass) provides secure access to electronic services. It integrates all electronic authentication tools, legally available in the Republic of Moldova such as the Mobile Signature, the electronic signature on USB stick, by using the electronic identity card, and a step authentication.
- **MSign** – for the electronic signature. This integrated government electronic service is a reusable one, provided at the level of the Government's common technological platform, which aims to provide an integrative, secure and flexible mechanism of various solutions for applying and verifying the authenticity of the electronic signature by users in the context of the use of information systems and electronic services, offered by electronic signature providers in accordance with the legislation.
- **MPay** – the electronic payment gateway. As most of the services provided by the consulate offices are paid services, MPay makes it possible to pay for such services through several payment methods such as: bank cards, payment terminals, e-banking systems and cash payments. The beneficiaries of the MPay service are the citizens who need to pay for public services, but also representatives of the business environment, who in their commercial activity need to receive payments for the services provided. Any banking cardholder can make electronic payments for public services, that can be paid using any legal payment instrument available in the Republic of Moldova.
- **MDelivery** – for delivering of the service outputs to the citizen. The purpose of the MDelivery service is to offer the Moldovan public authorities, institutions and public service providers, an efficient, reliable and modern technical solution, which is to be used as one of the mechanisms for the physical delivery of the results of the provision of public services to the beneficiaries. The information platform of this service involves the connection of the three key entities:
 - the service provider as the sender;
 - the service beneficiary (the citizen) as the recipient of the delivery; and
 - the courier service provider.

The *MDelivery* service reduces the costs for all three parties involved and will streamline the process of delivering the service outcome to the beneficiary.

- **MPower** – the electronic governmental service MPower represents the electronic registry of powers of attorneys based on the electronic signature. By using it, as a mechanism for granting powers of attorney for which the legislation does not require notarial authentication, the risks of signature fraud and the representative's expenses are significantly reduced. This service can also be used by citizens of the Republic of Moldova abroad, who have an electronic signature and who can grant powers of attorney (electronically) to persons in Republic of Moldova.

This component can be used in several cases. i.e. when a person requests a consular service on behalf of another citizen or when the notarial acts consular service is requested. More details are provided in the Functional Requirements chapter.

- **MNotify** – for notification of users. The governmental electronic notification service MNotify is the way in which state institutions can notify and inform users on certain events in relation to the public service provision process, by sending messages through different communication channels.
- **MLog** – for logging of the events. More specifically the MLog is a platform shared service that shall be reused in the e-Consulate system to ensure a secured and flexible mechanism for logging and auditing of operations (events) produced in the system at a given time. Logging involves a process used by the systems to record events, including the date and time of the event, the action taken, and other details specific to the event that fully describes it so as to meet the audit requirements.
- **MCabinet** – represents the citizen's governmental portal which is intended to offer to Moldovan citizens an efficient and modern mechanism for obtaining official information of public interest and documented information about themselves, available in the state registries and information systems operated by the public institutions, through a single point of contact access in the form of a virtual cabinet (<https://mcabinet.gov.md>). The conceptual vision of the e-Consulate system envisages that all services' outcomes that have been issued through the system will be also available in the citizen's virtual space of *MCabinet*.
- **MConnect Governmental Interoperability Platform** – facilitates the electronic exchange of data between the public authorities to increase the efficiency and quality of delivery of public services. Through MConnect, the e-Consulate may exchange data in real time without requesting it from citizens and public institutions in the form of letter, certificates or reports. The MConnect platform will contribute to e-Consulate architecture by solving the problem of avoiding multiple connections with too many methods for the electronic data exchange with the external ICT systems.

A deeper understanding of the e-Consulate architecture's components will be reached combining with the reading of the *FUNCTIONAL REQUIREMENTS OF THE SYSTEM* chapter.

14. FUNCTIONAL REQUIREMENTS OF THE SYSTEM

Each user's interaction can be specified using Use Case diagrams and narrative descriptions, which together describe how the System as an entity interacts with a user.

The Use Case Model forms a catalogue of the e-Consulate functionalities described in UML - Use Cases. Each use case represents a single repeatable interaction that a user or an "actor" can perform when using the System.

A use case typically includes one or more "scenarios" that describe the interactions between the Actor and the System and document the results and exceptions that arise from the user's perspective.

Use cases may include other use sub-cases as part of a broader interaction model and may be extended to other use cases to address exceptions.

The use cases diagrams included in this document might be detailed or adjusted during the iterations of the software development cycle.

14.1. System's Actors

Actors are users of the modelled System (the e-Consulate platform). Each actor has a well-defined role and, in the context of this role, will interact with the System and other actors through the provided functionalities that are described as functional requirements and illustrated in the form of Use Cases diagrams.

Any System (non-human actor), such as another software (i.e. *MPass*, *MCabinet*, etc) or DB, can be also an actor.

In the context of this document several e-Consulate actors have been identified. A person can play a single role or can cumulate many of them depending on the circumstances i.e. structure and organization of the consular offices and available staff. This aspect may vary from one consular office to another.

The following are the main actors of the e-Consulate system:

#	Actor	Explanation
1	The Applicant	<p>The applicant represents the citizen of the Republic of Moldova who is temporary or permanently located abroad and who needs to receive a public service either provided by the Moldovan diplomatic mission/consular office itself or by another state organisation. In both cases the applicant can request the desired service through a consular office of RM or by applying online through the e-Consulate Front-Office.</p> <p>The applicant can submit service request applications, can track their statuses, obtain the service outcome and consult relevant information on service provision process.</p>
2	Consular Servant	The Consular Servant represents the employee of a diplomatic mission/consular office which is empowered with responsibilities of capturing the service request applications from the citizens, review and process them

#	Actor	Explanation
		<p>and subsequently issuing of the service outcome (a document i.e. the emergency travel document).</p> <p>The Consular Servant works at the operational level in the e-Consulate Back-Office has access to the service application requests that are addressed to the consular office where he/she works for.</p> <p>The Consular Servant can interact with the Applicant electronically through the e-Consulate system or outside the system i.e. on-site (face-to-face conversation and receiving of paper-based documents), by phone, email or other communication means. However, it is expected that even though some information is gathered offline, the consular servant will record it into the system attaching it to the respective service request.</p>
3	MFA User	<p>This user is represented by an employee of the Ministry of Foreign Affairs and European Integration i.e. from the Directorate of Consular Affairs who has the task to monitor the activity of the diplomatic missions and consular offices of the Republic of Moldova, including the quality level of the service provision process.</p> <p>This user shall have the read-only access to the data stored by the system through the reporting functionalities. The MFA user can run various types of reports (aggregated, statistical, administrative performance reports, etc) related to any of the consular office and their employees.</p>
4	System Administrator	<p>The System Administrator is a technical ICT-skilled person which has the responsibility to manage and configure the System's pre-requisites such as users, their roles and permissions in the system; classifiers and dictionaries; templates for service outcomes, forms/templates of the reports, configuration of the organizational structure (consular offices), alerting and notification mechanism, etc.</p> <p>This user has no access to the data of the applicants or to the service request applications submitted by them.</p>

14.2. General Functional Requirements to the e-Consulate Solution

This section provides an overview on the system's functional capabilities at a higher-level and contains an indicative set of functional requirements reflecting the core functionality of e-Consulate. Details of the functional requirements are provided in the sections that are specific to each group of functionalities.

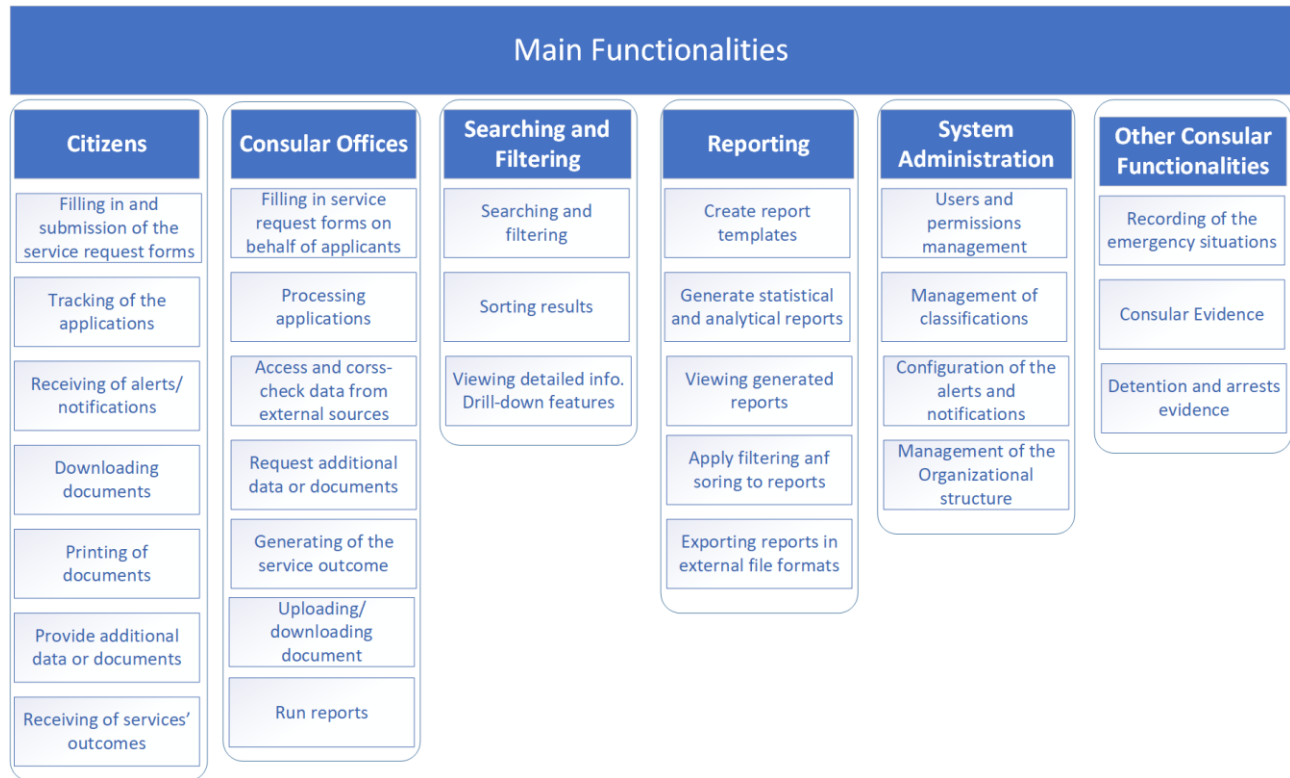


Figure 4. Functional decomposition (major features)

Requirement	Explanation
FRQ001	<p>The e-Consulate solution must provide all needed functionalities to ensure both types of scenarios in terms of requesting a public service from the consular offices:</p> <ul style="list-style-type: none"> The online approach – for the applicants who have an electronic signature and can be authenticated through <i>MPass</i>. This approach realizes a full digitalised process: submission of the electronic application upon request of the service and receiving of the service's output in <i>MCabinet</i>. The offline approach – for the applicants who cannot use the digital means for various reasons (i.e. <i>those who are not computer-literate, lack of access to the internet, lack of access to a PC or smart mobile device</i>) and still opt to request the public service on-site (at the consular office).
FRQ002	<p>The e-Consulate Front-Office component shall be implemented by re-using the <i>FOD</i> which could be customised in order to ensure capturing of</p>

Requirement	Explanation
	the applications for the public services that are provided through the consular offices. For more details on <i>FOD</i> , please see the annex 23.2 <i>FOD</i> .
FRQ003	For those services that are intermediated by the consular offices and that are already digitalised, the system shall implement only a redirect function which will bring the user to the existing e-service.
FRQ004	For the consular services that are not digitalised, the e-Consulate system shall provide a full set of functionalities to ensure capturing of the citizens' application and related data (specific for each service). In this sense, the system shall retrieve part of the data from other external sources as far as possible through the <i>MConnect</i> interoperability platform based on the applicant's IDNP, while the data that are not possible to be obtained electronically shall be captured from the application filled in by the user. More details on this are provided in the next sections.
FRQ005	<p>The principles of filling in and submission of the service request application must respect the approach implemented in <i>FOD</i> in the form of a wizard. This shall be respected in both cases: (a) online application via Front-Office; or (b) on-site application through Back-Office.</p> <p>The general approach in terms filling and submission of the service request application consists of the following key steps and respectively screens:</p> <ul style="list-style-type: none"> • Identification of the applicant; • Service details; • Selection of the delivery method – how the service's output will be delivered to the applicant (i.e. pick-up at the consular office or <i>MDelivery</i>). This step might imply the redirection to the <i>MDelivery</i> service; • Confirmation of the service request application; • Payment – selection of the payment method (might imply redirection to the <i>MPay</i> service); • Confirmation receipt of the application submission (including the unique ID of the application generated by the System). <p>More details are provided in the Chapter 16 RELEVANT BUSINESS-PROCESSES</p>
FRQ006	<p>The e-Consulate system shall enable filling in online application forms for selected services provided through the consular offices. More specifically, the System will provide electronic forms for each type of the selected service.</p> <p>While filling of a service request application the user must be able to perform the following actions:</p> <ul style="list-style-type: none"> • Fill all mandatory fields of the electronic form; • Fill some of the optional fields;

Requirement	Explanation
	<ul style="list-style-type: none"> • Upload files. <p>For this purpose, the system will provide at least the following types of elements on the electronic forms: Textbox, Text area, Dropdown list, RadioButton, CheckBox, Calendar selection, ListBox, links, labels, tables, etc.</p>
FRQ007	The system must offer functional capabilities for the digitisation of consular registers, which are currently kept on paper. In other words, once the outputs of the services are issued electronically, there must be no further need to conduct related recordkeeping on paper forms.
FRQ008	The e-Consulate system shall allow the functional servants to generate, issue and print the outcomes of the consular services. For this purpose, the System shall provide configurable templates for each type of the service according to which the outcome (document) may be generated.
FRQ009	There must a single way to authenticate the users into the System – namely through the <i>MPass</i> authentication service.
FRQ0010	The System must provide functional capabilities to export certain forms in diverse formats such as PDF and MS Excel files. The second one is more relevant in case of the reports, while the services' outcomes must not be possible to be exported in editable formats.
FRQ0011	The System shall support different standard classification in relation with the consular service provision (i.e. countries, jurisdictions, and any other custom classification). Information on any classification/classifier for particular class must be configurable in the system.
FRQ0012	The System will allow managing of the requirements for each consular service. For those services that are fully provided through the e-Consulate system, the electronic versions of the issued outcomes will be integrated in the personal virtual cabinet of the citizen ' <i>MCabinet</i> ' (mcabinet.gov.md) in the section ' <i>My Documents</i> '.

14.3. Functional Requirements Related to the Application Process

This section describes the functional requirement regarding the process on how the applicant can request the consular services. The required approach presumes two methods: the on-line mode and the offline mode which requires the applicant to request the desired service at the consular office on-site. Both scenarios are illustrated in the use case diagrams below and narratively explained in the table of the functional requirements.

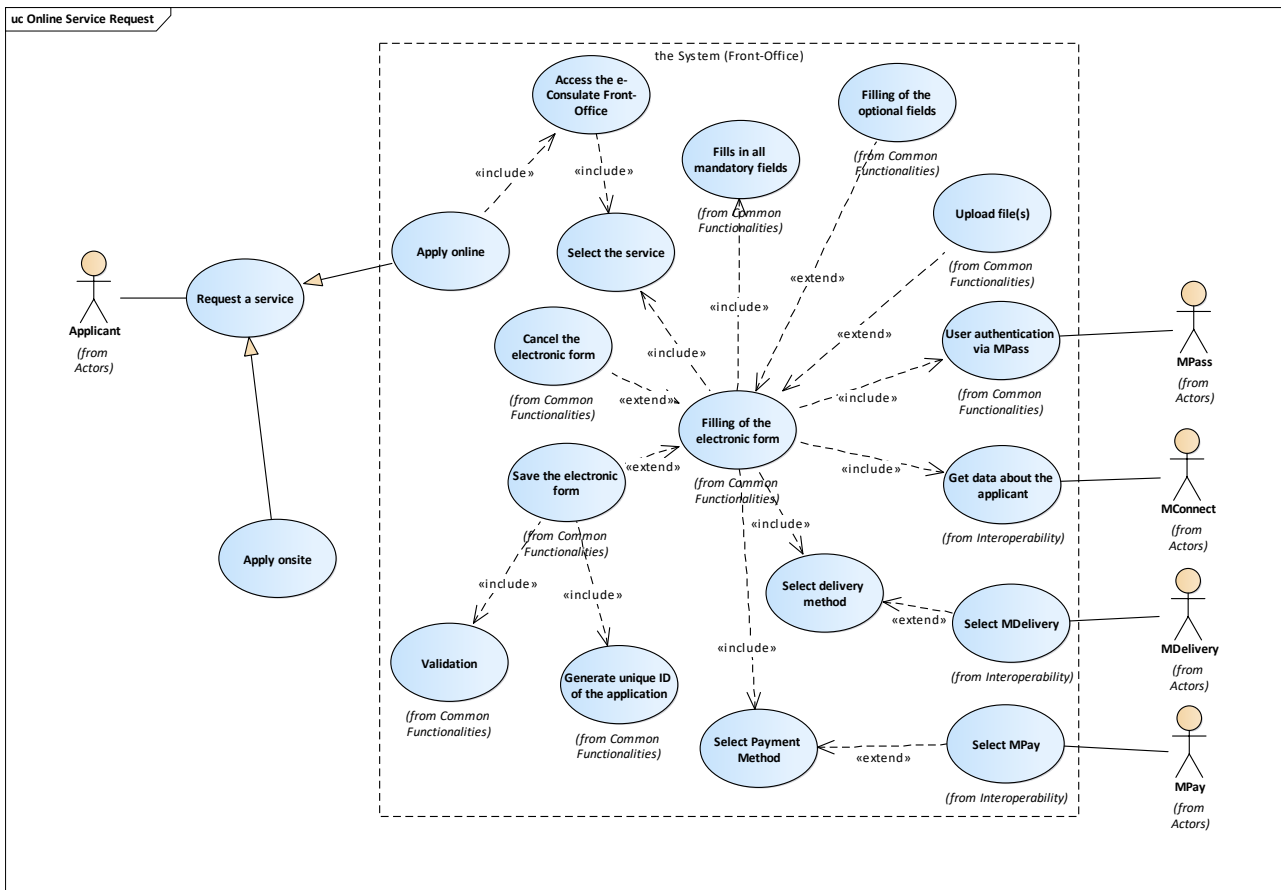


Figure 5. The Use Cases diagram related to the Online Service Request Application

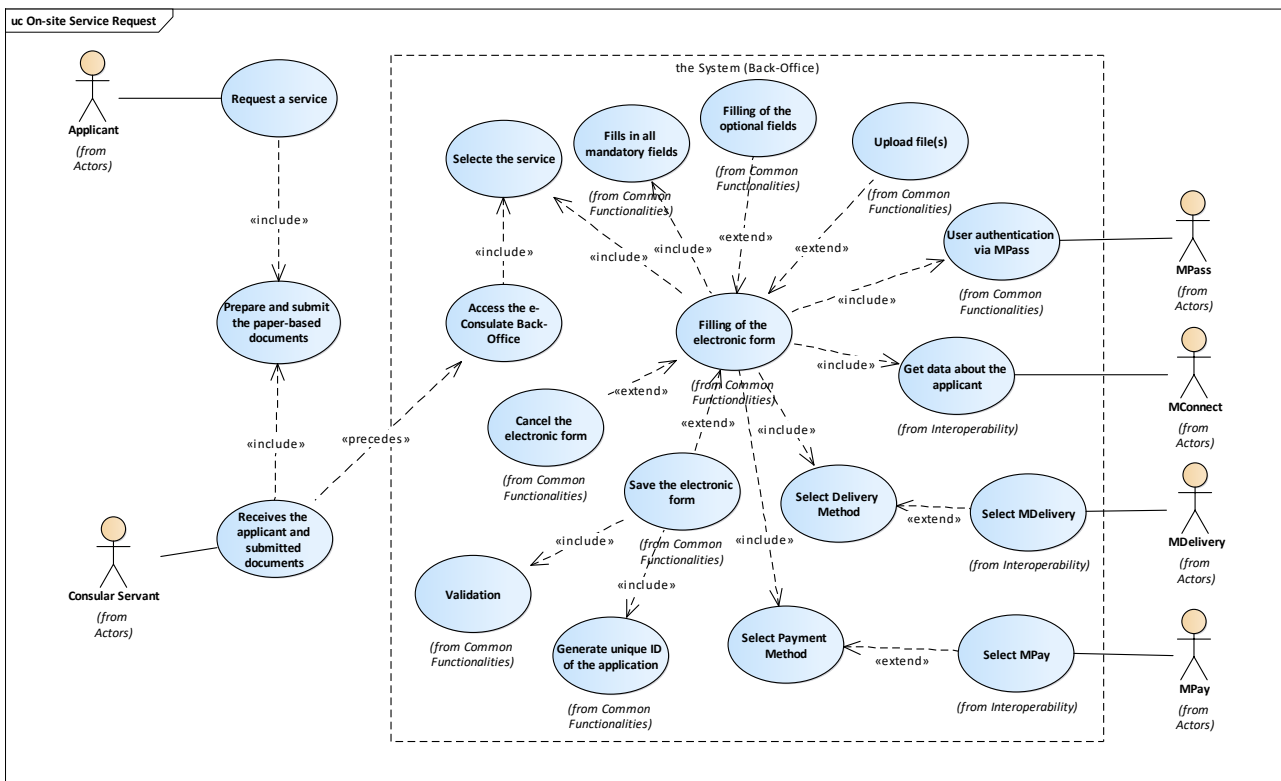


Figure 6. The Use Cases diagram related to the Offline Service Request Application (on-site)

Requirement	Explanation
FRQ0013	<p>The e-Consulate system through its Front-Office (public web portal) shall allow the citizen (the applicant) to request one or many consular services in online mode. For this purpose, the System's Front Office will make available to the user a list of services that are provided through the Moldovan diplomatic missions and consular offices.</p> <p>Once a specific service is selected by the applicant, the system must redirect him/her to the service's page where the user can consult the detailed information about the selected service i.e. how the service is provided, the requirements to be fulfilled by the applicant, the documents and information needed to be provided upon the service request, the service's final output(s), delivery methods, etc.</p> <p>The applicant will be able to apply online to the selected service by clicking the Apply button (ro: <i>'Solicită serviciu'</i>). In response the system shall verify whether the user is authenticated via MPass and redirect him/her to the electronic form which must be filled in. Otherwise, the system shall ask the user to authenticate through the MPass by using one of the available methods i.e. <i>the electronic signature, mobile signature, national electronic ID, 2-step authentication</i>.</p>
FRQ0014	<p>The e-Consulate system shall ensure as well the so-called <i>on-site</i> or <i>offline</i> application process. More specifically, the applicants who cannot use digital means for various reasons (i.e. <i>those who are not computer-literate, lack of access to the internet, lack of access to a PC or smart mobile device</i>) must still be able to request a service at the consular office. In such cases, the consular servant will fill in the electronic application form on behalf of the applicant (citizen) in the System's Back-Office. In fact, the electronic form of the selected service shall be identical with the form provided in the Front-Office for the same service with the only difference that is filled in by a consular servant instead of the applicant.</p> <p>The consular servant must also be authenticated in the System's Back-Office through MPass to perform any operation in the system.</p>
FRQ0015	<p>The System requires the interoperability with the SRP in order to ensure the accuracy of the individual's basic personal data. More specifically, based on the individual's UID (IDNP) the System shall retrieve and cross-check at least the following data:</p> <ul style="list-style-type: none"> • last name of the applicant; • first name of the applicant; • date of birth; • sex; • place of birth; • legal address. • other data which may be determined at the development phase in close consultation with the beneficiary's subject-matter experts. <p>This will significantly decrease the volume of inaccurate (erroneous) personal data caused by the human factor while filling in the electronic forms. More specific</p>

Requirement	Explanation
	details about the data fields to be collected are presented in the specifications of the screen mockups in the <i>chapter 16 RELEVANT BUSINESS-PROCESSES</i> .
FRQ0016	<p>The System must provide the electronic application form which must be completed by the user upon the service request. The fields on the form may vary depending on the selected service. Based on the applicant's IDNP, the System must retrieve the data from other external data sources (i.e. SRP) as far as possible through the governmental interoperability platform 'MConnect'. Other direct interactions through APIs with the external ICT systems is also possible.</p> <p>Therefore, based on the applicant's IDNP the System shall pre-fill in the electronic form of the service request as far as possible. The user must review the pre-completed form and fill in all mandatory fields and some optional, if any.</p>
FRQ0017	<p>The filling of the application form requires from the user:</p> <ul style="list-style-type: none"> • To fill in all mandatory fields; • Optionally to fill in the field marked as optional; • Optionally to upload files i.e. scanned copies of documents, photos, samples of texts for notary acts and many more. <p>The System must provide clear suggestions to the user regarding the format of the data to be provided by the user for each field. For this purpose, the system may display some hints <i>onMouseOver</i> event, which shall provide explanation about the content expected to be provided by the user in the respective field.</p>
FRQ0018	<p>For the payable services, both sub-systems Front-Office and Back-Office must be able to generate the bill for the requested service which may include the delivery costs as well. One of the available options will be the use of the <i>MPay</i> service. However, the citizen may opt to pay cash via a local bank in the foreign country.</p> <p>The system must allow setting of the tariff for each type of the service. For this purpose, the system must provide a configuration page to the system administrator.</p>
FRQ0019	<p>The user must be able to select the method of receiving the service's output:</p> <ul style="list-style-type: none"> • delivery at his living place (through <i>MDelivery</i>) – in case this option is selected the System will redirect the user to the <i>MDelivery</i> where the user shall select the courier service provider, address, etc. • Personal pickup of the document at a diplomatic mission/consular office – the user must be able to select one from a dropdown list.
FRQ0020	<p>The System must implement validation rules that are relevant to each specific field of the forms filled in by the user. In other words, during the filling of the electronic form and pressing the Save button, the System must conduct the validation of the form by checking whether all mandatory fields have been filled in with data and whether the entered data are of correct format. Client-side and server-side validation procedures are allowed to be implemented.</p> <p>The validation of the forms can be realised through different client-side scripts such as <i>JavaScript</i> and/or other. The extensive validation of the user-entered data shall be performed on the server-side and it is based on the defined validation rules at</p>

Requirement	Explanation
	<p>the business-logic layer. The server-side validation shall take place when a post-back session is called after completion of each web page.</p> <p>In case of a wrong filling of any data field(s) on the form, the System shall highlight the problematic fields, provide relevant alerting message and clearly state what is required from the user at given moment in order to complete the data entry.</p>
FRQ0021	<p>In both cases online and on-site service request, the applications must be stored accordingly into the database. More specifically, all applications submitted through the Front-End must be stored in a centralised manner regardless of the consular office they are addressed to. Further, the applications must be made available to the e-Consulate Back-Office and assigned to the respective consular office and a responsible consular servant. On the other hand, in case the service is requested on-site (directly at the consular office) it involves a consular servant who shall fill in the application form on behalf of the applicant in the system's Back-Office.</p> <p>In other words, in both cases (on-line and on-site service request) the citizens' applications must be stored and made available in the e-Consulate Back-Office to the consular servants from the respective consular offices.</p>
FRQ0022	<p>The System must generate a unique ID number which must be assigned to each newly stored application. The application's UID must be kept through its entire life-cycle and ensure its traceability.</p>
FRQ0023	<p>Regardless of the method through which the applicant is requesting a service, the System will send a confirmation e-mail message (if the email address is available) to the applicant which will contain at least the following information:</p> <ul style="list-style-type: none"> • Date and time when the application was submitted; • Unique ID of the application (which was generated by the System) upon its submission; • Name of the consular office; • Service requested; • Full address and contact details of the consular office; • Other relevant information, to be defined by the beneficiary at the development stage of this functionality.
FRQ0024	<p>Once a new application has been saved to the Back-Office's database and a responsible consular servant has been assigned, the System must be able to set deadlines for processing of the service request. The deadline can be set for each type of service separately and the responsible consular servant must receive reminders if a deadline is approaching or has expired. The respective alerts may be sent through email and must be visible on the user's dashboard. The content of such an alert must contain at least the UID of the application, the deadline, data on applicant and the type of requested service.</p>
FRQ0025	<p>The System must be able to track the deadlines set for processing of each service request. Based on this approach, the system must be able to generate specific reports that would allow the supervisors to monitor the performance of the consular servants, presenting for example the following information:</p>

Requirement	Explanation
	<ul style="list-style-type: none"> Total number of submitted service request applications during a certain period (week, month); Number of delayed tasks per each consular servant and per the entire consular office; Number of successfully processed service requests as per the set deadlines; Percentage of delays; Other information to be determined by the beneficiary during the development stage of this functionality.
FRQ0026	The Applicant must be able to check the status of his application. For this purpose, the Front-Office will provide a special section where the user must be able to indicate the application's unique ID and in response to visualise the information on the application's status.

Figure 7. Screen mockup for the applicant identification upon service request

Form fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the system	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user authentication using MPass - Authentication service)		Active

#	Element Name	Element Type	Description	Field Type	Element Mode
5	VerifyApplication Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras Button	Button	OnClick: Open request extract page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	Natural person (individual) type of applicant	RadioButton	Natural person (individual) type of applicant		
10	Legal entity (organisation) type of applicant	RadioButton	Legal entity (organization) type of applicant		
11	Applicant's UID	ListBox	The unique identification number (UID) of the applicant	String	Active
12	Applicant's First name	ListBox	First name of the applicant	Text	
13	Applicant's Last name	TextBox	Applicant's Last name	Text	
14	Applicant's phone number	TextBox	Phone number of the applicant	Number	
15	Applicant's e-mail	TextBox	e-Mail address of the applicant	Text	Active
16	Terms and Conditions	CheckBox	Terms and Conditions agreement		
17	Continue button	Button	Continue button		
18	Titile of the page	Label	Applicant's Data and service selection	Text	
19	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
20	Service Details	Menu Item	Service details menu item		
21	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
22	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
23	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
24	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
25	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	

Ministry of Foreign Affairs and European Integration of the Republic of Moldova

Embassy of the Republic of Moldova

Language Log In

Verify application Request Extract Verify Document Terms and Conditions

Service Delivery Method

Applicant's Data

Service Details

Delivery Method

Confirmation

Signature

Payment Method

Confirmation Receipt

Delivery Method

Select delivery method of the document:

☒ Receive document electronically through citizen's Portal MCabinet (default)

Note

* The requested document will be issued by default in electronic format (Law no. 234/2021 on public services)!

* The electronic document will be available for download from citizen's or employer Portal ([mcabinet.gov.md](#)), without having to show up at the Public Service Agency

* For accessing MCabinet Portal you need electronic signature, [see how to obtain electronic signature](#).

☐ Receive document in paper-based form (optional)

☐ Delivery at a location abroad

☐ Delivery in RM (through MDelivery)

☐ Pick up at the consular office

Pick up point *

<Select the consular office>

Service 000 MDL

Total 000 M

Back Continue

Figure 8. Screen mockup for selecting the delivery method for the service outcome

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Logo	Image	The logo may display the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the service platform	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed platform language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user credentials to be filled (through MPass - Authentication and access control service)		Active
5	Verify Application	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras Button	Button	OnClick: Open request extras page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service output' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	title of the page	Label	title of the page	Text	
10	Receives in MCabinet	CheckBox	Receive the electronic version of the service outcome in the citizen's virtual cabinet MCabinet (default)	Value	Disabled
11	Paper-based format	CheckBox	Allows the user to receive the service outcome as a paper-based document	Value	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
12	MDelivery	RadioButton	Allows the user to receive the paper-based document through the <i>MDelivery</i> service. If selected the System will redirect the user to the <i>MDelivery</i> e-service at the next step.	Value	
13	Pick up at office	RadioButton	Allows the user to pick up the paper-based document at the consular office. If selected, the user needs to indicate one of the available pick-up points from the dropdown list.	Value	
14	Pick-up point	Dropdown List	Allows the user to select one of the consular offices available to pick-up the paper-based document (the service outcome).	Value	
15	Total amount	Label	Total amount to be paid by the user for the service provision	Text	Read-only
16	Cost elements	Label	Service's const elements. May include taxes, delivery costs, etc.	Text	Read-only
17	Back button	Button	Redirects the user to the previous screen		
18	Continue button	Button	Redirects the user to the next step of the wizard.		
19	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
20	Service Details	Menu Item	Service details menu item		
21	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
22	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
23	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
24	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
25	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
26	Delivery at a location abroad	RadioButton	Allows the user to indicate an address in the country from abroad where the service outcome will be delivered via courier services.	Value	

Ministry of Foreign Affairs and European Integration of the Republic of Moldova

Embassy of the Republic of Moldova

Language Log In

Verify application Request Extract Verify Document Terms and Conditions

Confirmation of the application form....

Applicant's data

Type of applicant: Civil Person
 Applicant's IDNP: 0123456789012
 Applicant: Ion Nicolaescu
 Applicant's Telephone: 069012345
 Applicant's Email: ion.nicolaescu@gmail.com

Service details

Service: Emergency Travel Document
 Service Identification Number: 000011112222333345
 Name of applicant for which the extract is requested: Ion Nicolaescu
 Service Issue Term: 1 day
 Date of issuance for the service: 01.02.2023
 Destination: ????????

Back Continue

Figure 9. Screen mockup for the confirmation step upon request of the service

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the service platform	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed platform language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user details to be filled (through MPass - Authentication and access control service)		Active
5	Verify Application	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras Button	Button	OnClick: Open request extras page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service output' page		Active
8	Terms and conditions	Button	OnClick: Opens the terms and conditions page		Active
9	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
10	Service Details	Menu Item	Service details menu item		

#	Element Name	Element Type	Description	Field Type	Element Mode
11	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
12	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
13	Signature	Menu Item	Allows te user to sign electronically the service request application form	Text	
14	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
15	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
16	Back	Button	Redirect the user to the previous screen		
17	Continue	Button	Redirects the user to the next screen		
18	Title of the page	Label	Title of the page	Text	

14.4. Functional Requirements Related to the Processing of the Service Application Requests

In order to be able to provide the requested service, the consular servant needs to perform a set of actions. The major part of such actions can be realised through the system's Back-Office and only a small number of actions might require the consular servant to act outside the system.

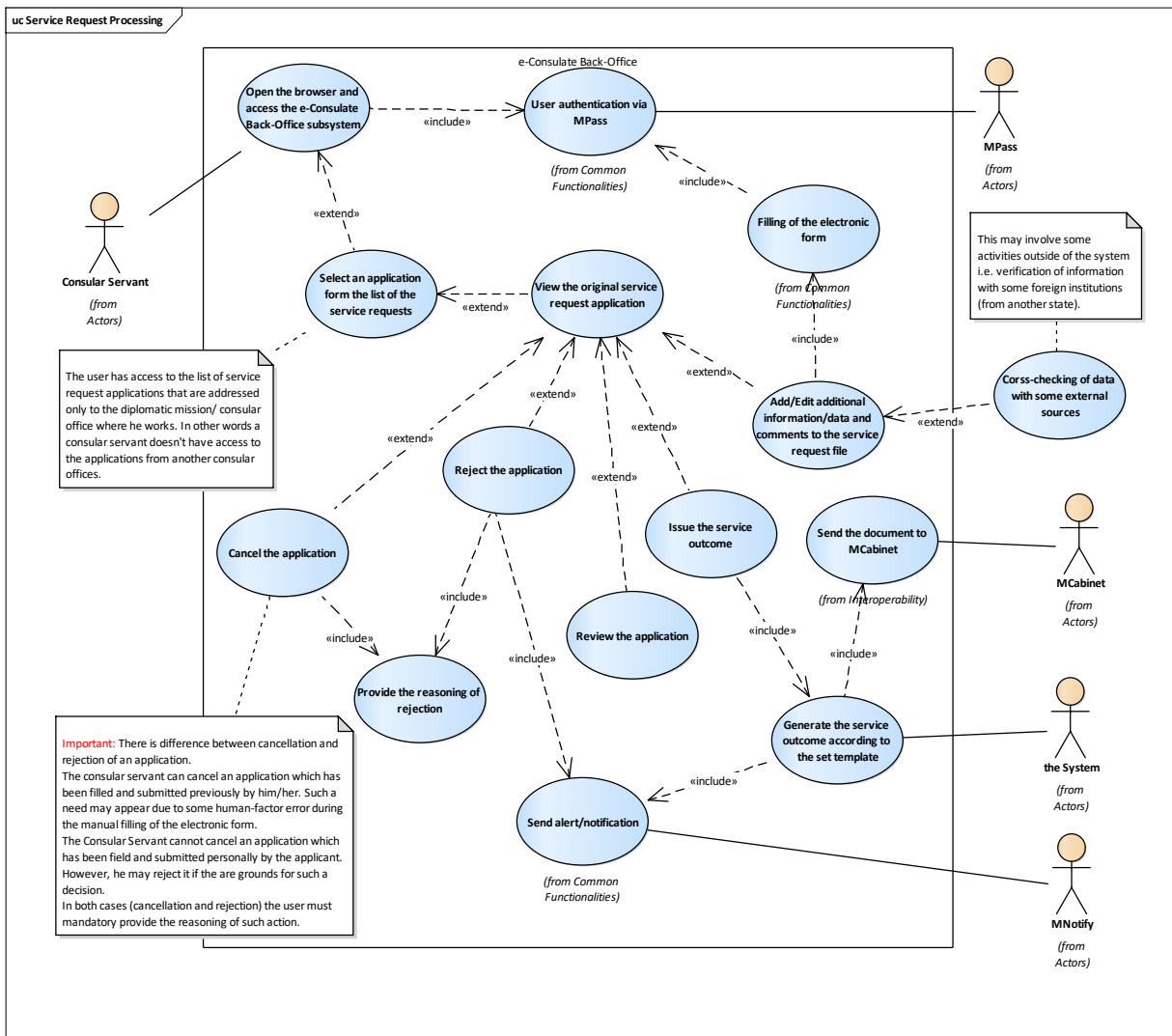



Figure 10. The Use Cases diagram related to the processing of the service request

Requirement	Explanation
FRQ0027	<p>It is essential to distinguish processing of the service request applications according to the following categories:</p> <ol style="list-style-type: none"> Services provided by the consular offices (where the service provider is the diplomatic mission/consular office); Services intermediated by the consular offices – on behalf of other Moldovan public authority (i.e. services provided by the PSA, STISC, etc) and that are already digitalised as G2C; Services intermediated by the consular offices that are NOT digitalised (no electronic services available to the citizens).
FRQ0028	<p>The activities related to the processing of service request applications may slightly differ depending on the requested service. However, usually this process presumes the following activities to be carried out by the Consular Servant:</p> <ul style="list-style-type: none"> Review of the originally submitted application form of the applicant; Verification of the applicant's data, current circumstances vs service's




Requirement	Explanation
	<p>requirements.</p> <ul style="list-style-type: none"> • Cross-checking of some of the data with the external sources. Here it is important to mention that some of the data might involve verifications conducted outside of the System, as it may require consultations with institutions from another country to which the system doesn't have access. However, the System must provide the respective fields (depending on service) where the user can record the results of such verifications. • Taking of the decision regarding the issuance of the service outcome or rejection of the application. The user must be able to record the respective decision into the System and the status of the application will be changed. • Issuance of the service outcome (if so decided) and its delivery to the applicant. The System must be able to generate the service outcome (only for the services provided by the consular offices) and record the fact that the service has been successfully delivered to the applicant.
FRQ0029	<p>For the services of the category a) from FRQ0027, the System must provide a Back-Office component to the consular servants and ensure the full set of functionalities needed to process the service request applications:</p> <ul style="list-style-type: none"> • Accessing and visualising the electronic form of the submitted application; • Cross-checking of the service-relevant data with other external sources; • Issuing of the service output (electronic form and printing); • Rejection of the application; • Requesting of additional information and clarifications;
FRQ0030	<p>For the services of the category b) from FRQ0027, the System will not provide any functionalities in the back-office due to the fact that processing of such services takes place in other ICT systems of third-party service providers (other Moldovan public authorities).</p> <p>As mentioned in the general functional requirements for such services, the system's Front-Office will provide the option which redirects the user to the respective e-service (i.e. MPower). The consular servant may provide consultation support to the applicant on how to use the respective e-services.</p>
FRQ0031	<p>For the services of the category c) from FRQ0027, the e-Consulate Back-Office will provide functionalities for registering the citizen's applications and service's related data. As the processing and issuing of the service output is carried out by a third-party public authority, the e-Consulate Back-Office shall provide as well a functionality which would allow the public servant to record the fact the service have been provided and the output has been delivered to the applicant.</p> <p>In other words, for this category of services, the system Back-Office shall provide functionalities only for capturing of the applications from citizens and recoding of the final result of the service provision process.</p>
FRQ0032	<p>For the processing of the following services that are provided by the PSA:</p> <ul style="list-style-type: none"> • Passport issuance; • Identity Card issuance; • Authorized emigration;

Requirement	Explanation
	<ul style="list-style-type: none"> • Transcription of a foreign civil act and issuance of the certificate; • Change of the first name and/or last name; <p>the System's will redirect the user (consular servant) to the ICT System of PSA which already has all needed functionalities related to the provision of the aforementioned services. For such cases, the consular servant being already authenticated through MPass in the e-Consulate Back-Office must remain authenticated in the PSA system which uses the same authentication service – <i>MPass</i>.</p>
FRQ0033	<p>For the services that are fully processed through the e-Consulate system, the Back-Office shall provide a dashboard with a list of pending tasks assigned to each user depending on his role in the system.</p> <p>The dashboard shall contain brief information about the number of newly submitted applications; new tasks assigned to the user, tasks pending user's action, other data which might be defined together with the beneficiary at the development stage of the dashboard.</p> <p>The user's dashboard must offer drill-down capabilities which shall bring the user to a deeper (more detailed) level of the topic. For example, OnClick event on the number of the new applications will bring the user the list of the newly submitted applications allowing him/her to open each of them separately and perform the actions needed for the provision of the service.</p>
FRQ0034	A consular servant can see only those service request applications that have been addressed to the consular office where the respective servant works.
FRQ0035	<p>The system will provide to each consular servant a list of the applications in progress or newly submitted. The resolved applications shall be listed in a separate list.</p> <p>The list of applications will contain at least the following columns:</p> <ul style="list-style-type: none"> • The date and time of submission; • The unique ID of the application (which was generated by the system upon saving of the application); • First and last name of the applicant (citizen); • The service requested; • Status (i.e. 'new' or 'in progress'); • Submission mode (online or on-site); • Time limit or the deadline; • Operations icons/buttons (View, Edit, Cancel);
FRQ0036	The service requests must be also categorised according to the level of urgency. For this purpose, the System may highlight the service requests in different colours depending on set duration for service provision. i.e. the requests marked as urgent shall be highlighted in red.
FRQ0037	The System through its Back-Office component shall allow the consular servant to register a service application request on behalf of an applicant (citizen) who is requesting the service on-site at the consular office. For this purpose, the System will provide the same electronic forms for both Front-Office and Back-Office for each type of service.

Requirement	Explanation
FRQ0038	The System's Back-Office must provide the so-called 'View' functionality to the authorised users who can visualise the filled in electronic forms. The 'View' functionality shall display as read-only the any electronic form (i.e. the service request application form).
FRQ0039	The Back-Office shall allow the authorised users (consular servants) to edit an electronic form. However, it is important to note that the user cannot edit the application forms that have been filled in and signed by another user. For instance, the consular servant cannot edit the application form which has been filled in and submitted by the applicant. The consular servant can edit a form which has been priorly created and filled in by himself. The form can be edit until it is not finally confirmed (signed). Once it was already confirmed/signed, the form can no longer be edited. However, it can be cancelled by providing mandatorily an explanation.
FRQ0040	Any application can be rejected by the consular servant during the review process if there are respective grounds for such a decision. It is mandatory to provide the relevant reasoning, by recording it into the system Back-Office. So the system shall store the information about the person who rejected the application, as well as the date and time of the operation. Additionally, the applicant must be notified in case his/her service request application is rejected. In this sense the applicant must receive a message which informs him about the fact that the application has been rejected, when, by whom and the reason.
FRQ0041	The consular servant has the right to cancel an application form which has been priorly recorded by him. Such cases might occur due to some human factor errors while filling in an electronic form. However, it must be highlighted that the System shall not delete the cancelled application from the database. Rather the status of the application shall be changed and it must no longer appear in the list of active applications.
FRQ0042	The e-Consulate System must be interconnected with the e-Appointment system which is currently in the piloting phase and allows the citizens to schedule a visit to the consular offices. More specifically, the e-Appointment system records the IDNP of the citizen, date and time of the scheduled visit, consular office and service. It is highly desired that e-Consulate system to receive the record of the appointment, so that a draft (preliminary) form of the application may be generated depending on the service requested. The respective draft application may be generated by the system based on the applicant's IDNP and the service requested.



Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language 
Ion Nicolaescu 
Log out 

Application ID	0123456789012345
Status	Draft
Date of payment	05.02.2023
Payment method	MPay
Submission Date	05.02.2023 12:00.12
Cost	00.0 MDL
Estimated date of issuance	07.02.2023
Delivery location	At the Consular Mission
Delivery method	MDelivery
Issuance on paper	Yes

Applicant

Applicant's First name
Ion

Applicant's Last Name
Nicolaescu

Applicant's IDNP
01234567890123

Applicant's Email
ion.popescu@mail.abc

Applicant's Phone no.
+37360123456

Service Details

Type of document
Travel Document

Document
Emergency Travel Document

Applicant's IDNP
01234567890123

Applicant's Date of Birth
22.01.1992

Request method
Online

Figure 11. Screen mockup related to the functionality of viewing of a submitted service request application

Form fields specification

#	Element Name	Element Type	Description	Field Type
1	Logo	Image	Coat of Arms	Image
2	Name of the diplomatic mission	Label	Header title: Name of the diplomatic mission	Text
3	Language	Link	Allows the user to change the language of the interface	
4	User's name	Label	First and last names of the user	Text
5	Log out	Link	Log out	Text
6	Application's UID	Label	Application's unique ID	Text
7	Status	Label	Status of the application	Text
8	Date of payment	Label	Date of payment	Date
9	Type of document	Label	Type of document	Text
10	Service's outcome	Label	Service's outcome	Text
11	Applicant's IDNP	Label	Applicant's IDNP	Text
12	Applicant's Date of Birth	Label	Applicant's Date of Birth	Text
13	Service request method	Label	Service request method	Text
14	Applicant's first name	Label	Applicant's first name	Text
15	Applicant's Last Name	Label	Applicant's Last Name	Text

#	Element Name	Element Type	Description	Field Type
16	Applicant's IDNP	Label	Applicant's IDNP	Text
17	Applicant's e-mail	Label	Applicant's e-mail address	Text
18	Applicant's phone number	Label	Applicant's phone number	Text
19	Submission Date	Label	Submission Date	Date
20	Cost	Label	Cost of the service	Value
21	Estimated date of issuance	Label	Estimated date of issuance	Text
22	Delivery method	Label	Delivery method	Text
23	Issuance on paper	Label	Issuance on paper	Text
24	Payment method	Label	Payment method	Text

14.5. Other Functional Requirements to the System Back Office

The following functionalities shall be implemented in the e-Consulate Back-Office and made available only to the users from the consular offices and at the Ministry level.

Requirement	Explanation
FRQ0043	<p>The system shall allow the users from the diplomatic missions to record information about emergency situations including natural disasters, accidents and more, that occur in the accredited country. In this regard the system will provide dedicated electronic forms at the level of each diplomatic mission which will collect the information.</p> <p>The users at the MFA level must be able to access in read-only mode the information about the emergency situations that have been entered by the diplomatic missions.</p> <p>The indicative form mockup for collecting recording of the information about the emergency situations is presented in the Figure 12. Screen mockup for the recording of the emergency situations.</p>
FRQ0044	<p>The system shall allow the users from the diplomatic missions and consular offices to record the information about the detentions and arrests of Moldovan citizen abroad. For this purpose, the System must allow recording of at least the following citizen's data:</p> <ul style="list-style-type: none"> • IDNP; • First name; • Last name; • passport series and number; • The reason and date of detention, including the legal basis. <p>An API shall be exposed which will allow the MIA to consume such information.</p>
FRQ0045	<p>The system shall allow the users from the diplomatic missions and consular offices to record the information about deaths of the Moldovan citizens abroad, with the possibility of uploading the relevant documents and official references issued by the authorities from the accredited states. Each deceased person shall be automatically identified in the system through the IDNP.</p>

Requirement	Explanation
	An API shall be exposed in order to allow the PSA and MIA to consume such information.
FRQ0046	The beneficiary requires the implementation of functional possibilities which will allow storing of the fingerprints/specimens of the stamps and signatures of the relevant authorities from the accredited states. In this regard the system shall re-use/integrate the functionalities developed as part of the apostille system.

Ministry of Foreign Affairs and European Integration of the Republic of Moldova

Embassy of the Republic of Moldova

Language Log In

Verify application Request Extract Verify Document Terms and Conditions

Recording of the Emergency Situation

The Embassy of the Republic of Moldova in <Country>

The date and time of the referral dd.mm.yyyy hh:mm

Cause of the emergency situation

Date and time of the occurrence of the accident/emergency situation dd.mm.yyyy hh:mm

Place of occurrence of the accident/emergency situation

Total number of victims, including citizenship

Persons Dead/injured/unidentified

Dead Injured Unidentified

Moldovan citizens affected

Dead Injured Out of danger

Emergency line established by the authorities of the country of residence

Emergency line established by the Moldovan diplomatic mission

Relevant details (measures, recommendations of the authorities of the country of residence, etc., press release)

Actions taken by the diplomatic mission, presented in chronological order

Source of information

☐ The information needs to be further update

Date and time of reporting dd.mm.yyyy hh:mm

Save

Figure 12. Screen mockup for the recording of the emergency situations

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
2	Header Item	Label	The item describes the header title of the system	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user authentication using MPass - Authentication service)		Active
5	Verify Application	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras	Button	OnClick: Open request extract page		Active
7	Verify document	Button	OnClick: Opens 'Verification of the service outcome' page		Active
8	Terms and Conditions	Button	OnClick: Opens the terms and conditions page		Active
9	Save	Button	Saves the data and redirects the user to the next step.		
10	Title of the page	Label	Short title of the requested service	Text	
11	The date of the referral	Calendar	The date of the referral	Date	
12	Time of the referral	Dropdown List	The time of the referral	Number	
13	Cause of the emergency situation	TextArea	Cause of the emergency situation	Text	
14	Date of the occurrence of the accident/emergency situation	Calendar	Date of the occurrence of the accident/emergency situation	Date	
15	Time of the occurrence of the accident/emergency situation	Dropdown List	Time of the occurrence of the accident/emergency situation	Value	
16	Place of occurrence	TextBox	Place of occurrence of the accident/emergency situation	Text	
17	Victims	TextArea	Total number of victims, including citizenship	Text	
18	Persons dead	TextBox	Persons dead	Number	
19	Persons injured	TextBox	Persons injured	Number	
20	Unidentified	TextBox	Number of unidentified persons	Number	
21	citizens dead	TextBox	Moldovan citizens dead	Number	
22	Injured	TextBox	Number of injured Moldovan citizens	Number	
23	Out of danger	TextBox	Number of Moldovan citizens out of danger	Number	
24	Emergency line	TextBox	Emergency line established by the authorities of the country of residence	Text	
25	Emergency line (MD)	TextBox	Emergency line established by the Moldovan diplomatic mission	Text	
26	Relevant details	TextArea	Relevant details such as planned measures, recommendations of the authorities of the country of residence, etc., press release.	Text	
27	Actions taken	TextArea	Actions taken by the diplomatic mission, presented in chronological order	Text	
28	Source of information	TextBox	Source of information	Text	
29	Status of the record	CheckBox	Checked if the information needs to be further updated	Value	
30	Date of reporting	Calendar	The date when the even was reported by the Moldovan diplomatic mission. Auto-completed by the System with the date of Today	Date	

#	Element Name	Element Type	Description	Field Type	Element Mode
31	Time of the event reporting	Dropdown List	The time when the even was reported by the Moldovan diplomatic mission. Auto-completed by the System with the current time	Number	

14.6. Functional Requirements Related to the Searching and Filtering Capabilities of the System

Requirement	Explanation
FRQ0047	The system shall provide searching and filtering capabilities to support the consular servants in the process of service provision to the citizens.
FRQ0048	The searching and filtering capabilities must be available also to the MFA users. So, the system must allow the retrieval of information by indicating the specific criteria of the searched subject, such as: country, consular offices, type of services, period of time, etc. The user shall be able to indicate one criterion or a combination of criteria according to which the System shall perform the search and will display the list of results.
FRQ0049	The system will provide capabilities to sort the information found and displayed in tabular form. Thus, the information shall be possible to be sorted ascending from A to Z (for columns containing textual values) and from 0 to 9 (for columns containing numerical values, i.e., amounts); or descending – from Z to A and from 9 to 0, as the case may be.
FRQ0050	The system will provide the users with drill-down functionalities, so that by selecting a record from the list of found items (i.e., consular offices, type of services, etc) will be able to delve into details to the most detailed level.
FRQ0051	The System shall allow the users to search and check the status of the service request application based on its unique ID. A sample of a screen for checking the status of a service request application is presented in the figure below.

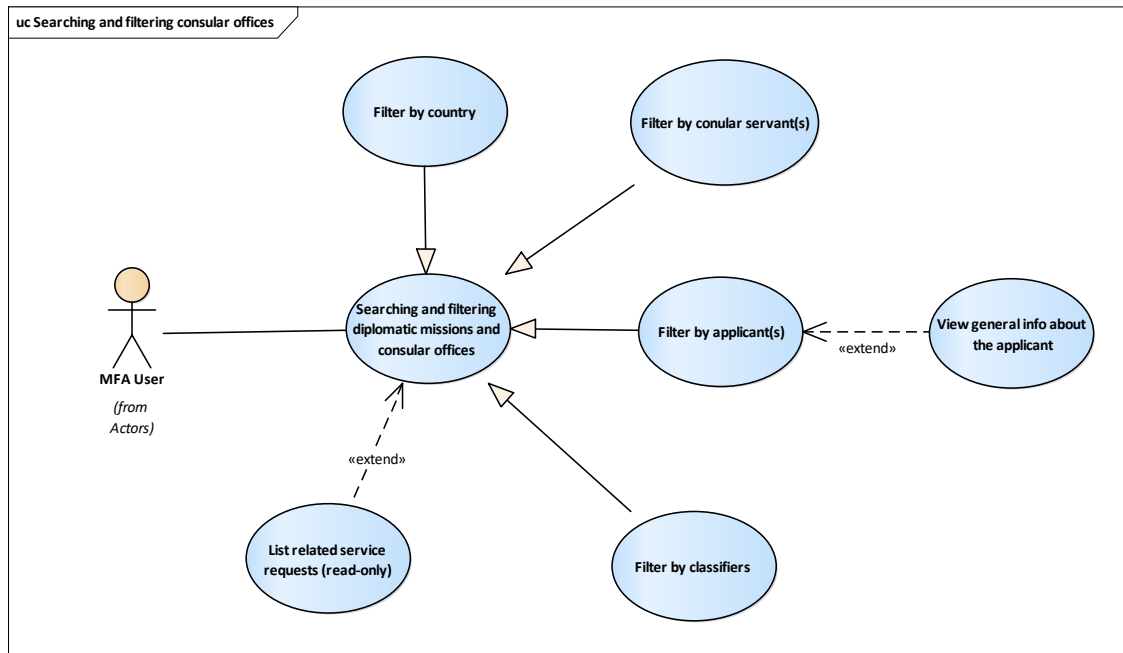


Figure 13. The use cases diagram related to searching and filtering consular offices

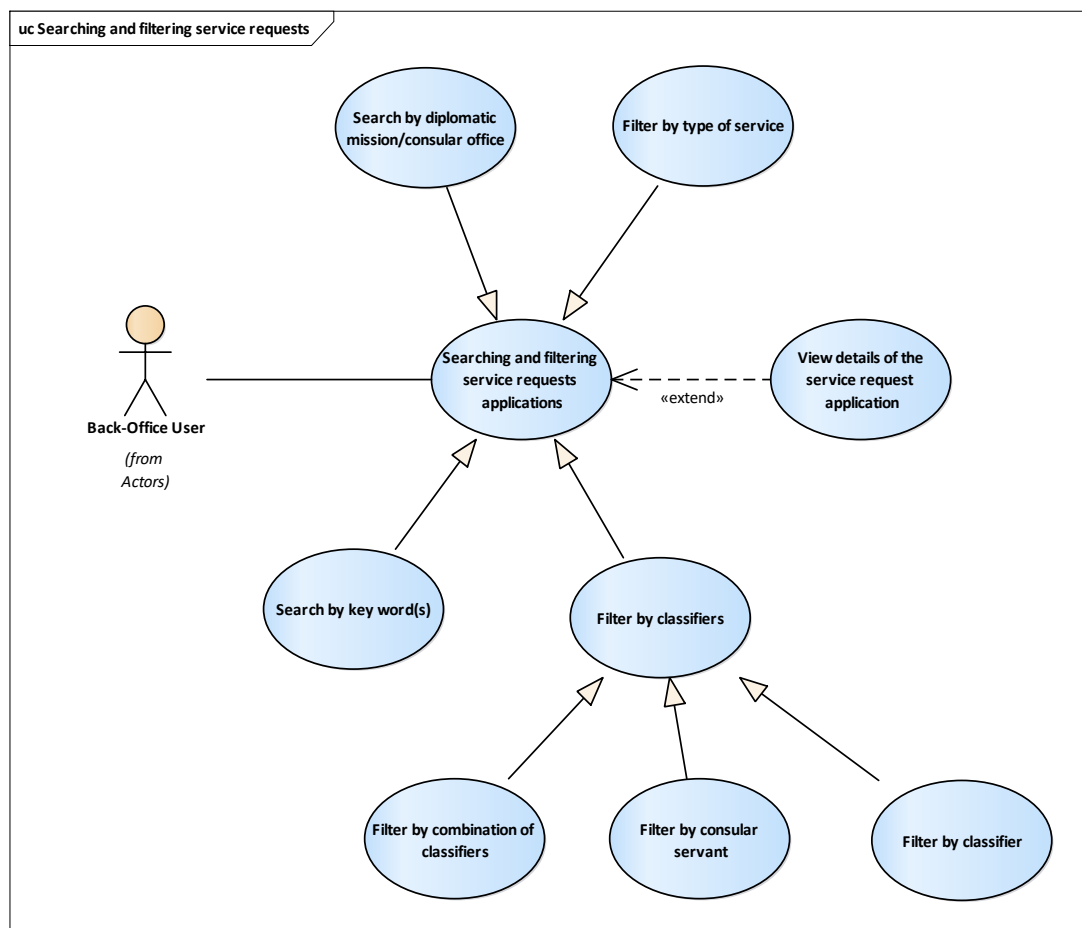


Figure 14. The use cases diagram related to searching and filtering service request applications

Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language Log In

Verify application Request Extract Verify Document Terms and Conditions

Application's unique ID

Check

Figure 15. Screen mockup related to the verification of the status of a service request application

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the service platform	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed platform language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user details to be filled(through MPass - Authentication and access control service)		Active
5	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extract Button	Button	OnClick: Open request extras page		Active
7	Verify Extract	Button	OnClick: Opens 'Verification of the service output' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	Application's unique ID number	TextBox	Application's unique ID number	Text	
10	CheckAppRecord Button	Button	OnClick: Checks the service request application status by its UID number.		Active

Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language Log In

Verify application Request Extract Verify Document Terms and Conditions

Verify Document

Unique number of the issued document

Issuance date

Verify

Figure 16. Screen mockup related to verification of the validity of a issued service outcome (document)

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the service platform	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed platform language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user details to be filled (through MPass - Authentication and access control service)		Active
5	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extract Button	Button	OnClick: Open request extras page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service output' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	Unique number of the issued document	TextBox	Unique number of the issued document	String	
10	Document's issuance date	Calendar	Document's issuance date	Date	
11	Verify button	Button	Verify button		
12	Title of the functionality	Label	Title of the functionality	Text	

14.7. Functional Requirements Related to the Reporting Capabilities of the System

Requirement	Explanation
FRQ0052	<p>The e-Consulate system must provide a reporting module/sub-system in order to support the analytical and decision-making process of the MFA. Therefore, the System shall be able to generate reports based on any data stored in its database that are related to the submitted service request applications, their status and issued service outcomes.</p> <p>The system shall provide various reporting formats, such as tabular format or graphical representation. The users must be able to select the type/format of each report to be generated.</p>
FRQ0053	<p>The system must be able to generate reports based on available data by different topic (i.e., <i>the most in-demand services, the most requested consular offices</i>, etc) with the possibility of customization of the analysis views (table or graphic).</p>
FRQ0054	<p>The reporting and analytics aim to offer transparency around service provision process and volumes and workload breakdown among the consular servants. This kind of analytical information will allow managers at MFA level to identify and solve the root cause of staff overloading, if any.</p> <p>The e-Consulate reporting must provide at least the following information which may be detailed at a later stage:</p>

Requirement	Explanation
	<ul style="list-style-type: none"> • Online service requests vs. on-site service requests; • Number of assigned service requests per each country, consular office and each consular servant; • Number of executed and delayed services per each consular office and/or consular servant; • The average time of service provision depending on the type of service; • Other performance indicators that might be determined at the development stage.
FRQ0055	<p>The system will allow users to establish filtering and sorting criteria at the moment of running the reports.</p> <p>Additionally, the e-Consulate reporting tool shall allow users to define customized reports and save their templates.</p>
FRQ0056	The system will allow the generation of synthetic reports with aggregated data. In other words, the users at MFA level must be able to generate reports aggregated per certain consular office, per country or per all consular offices as a whole.
FRQ0057	A Consular Servant can run reports that contain data related only to the consular office where he/she works, while the MFA users can run reports that contain data related to all consular offices.
FRQ0058	The reports must be exportable in PDF and MS Excel formats. In addition, the System may provide an automated delivery mechanism of reports (e.g., through e-mail). In this sense, the system will provide support for subscribing to reports for the users, by receiving generated reports by e-mail at certain time, configured based on the criteria defined by the subscribed user.
FRQ0059	The reports must contain at least, a header and footer of the MFA and other general information which shall be defined by the Beneficiary at the development stage.
FRQ0060	The reports shall be provided with filter by fields function (e.g., <i>Period of time, Country, Consular Office, Type of Service, etc.</i>).
FRQ0061	<p>The reports' columns / information will be displayed based on list of fields from the System's database, with the possibility to specify their type and size. It shall also be possible to apply the list of possible operators:</p> <ul style="list-style-type: none"> • Totals / subtotals – based on a list of fields from the database and a list of possible functions or operators; • Possible filters – based on a list of fields from the database; • Default filters/conditions - the field and the value to be specialized; • Ordering – based on a list of fields from the System's relational database.
FRQ0062	The generated reports must be possible to be visualized through a web-browser without the need to install other additional software.
FRQ0063	The reporting form in the annex 23.4 on Consular Activity is mandatory to be implemented in the system.

Requirement	Explanation
FRQ0064	<p>The system shall be also able also to generate the following types of detailed reports on consular activities, which could be disaggregated for instance by service type, applicant profile and more:</p> <ul style="list-style-type: none"> • Passports, grouped by number and/or by applicant profile (adult/child, gender, etc); • Identity cards, grouped by number or by applicant profile (adult/child, gender, etc); • Emergency Travel Documents, grouped by total number or by applicant profile (adult/child, gender, etc); • Citizenship, grouped by number or by type of request applications (acquisition, renunciation, re-acquisition, recognition and determination of citizenship); • Issued citizenship certificates: grouped by number or by type of applications (renunciation, reacquisition, recognition); • Civil status acts: grouped by total number or by type of services: 1) civil status act transcription, total number or by document type: birth, marriage, divorce and death) 2) civil status act registration, total number or by type of marital status events: birth, marriage, divorce, death and change of name and/or first name; • Notary Acts: grouped by total number or by type of document such as powers of attorney, declarations, legalized copies of documents, notarial translations, wills, contracts, certification of facts; • Superlegalization: grouped by total number of records or by applicant profile (natural/legal person); • Other consular activities grouped by total number of actions or by type of service: requesting a document from Republic of Moldova, consular certificates/declarations issued; • Authorized emigration: grouped by total number or by applicant profile (country of emigration, adult/child, gender); • Consular evidence: grouped by total number of records or by applicant profile (country of registration, type of record; temporary or permanent, adult/child, gender).
FRQ0065	<p>The System must be capable to generate reports containing quantitative information completed and updated by each diplomatic mission, regarding:</p> <ul style="list-style-type: none"> • Moldovan citizens established abroad in the state of accreditation (age/gender); • Moldovan citizens serving their sentence on the territory of the state of accreditation; • Moldovan citizens who study in the state of accreditation (pre-university, higher education, etc); • Moldovan citizens employed in the state of accreditation.

Requirement	Explanation
	Predominantly the data for such reports shall be aggregated from the consular evidence activity. If any adjustments of the respective electronic form is needed (adding or modifying of fields), this shall be done together with the Beneficiary.

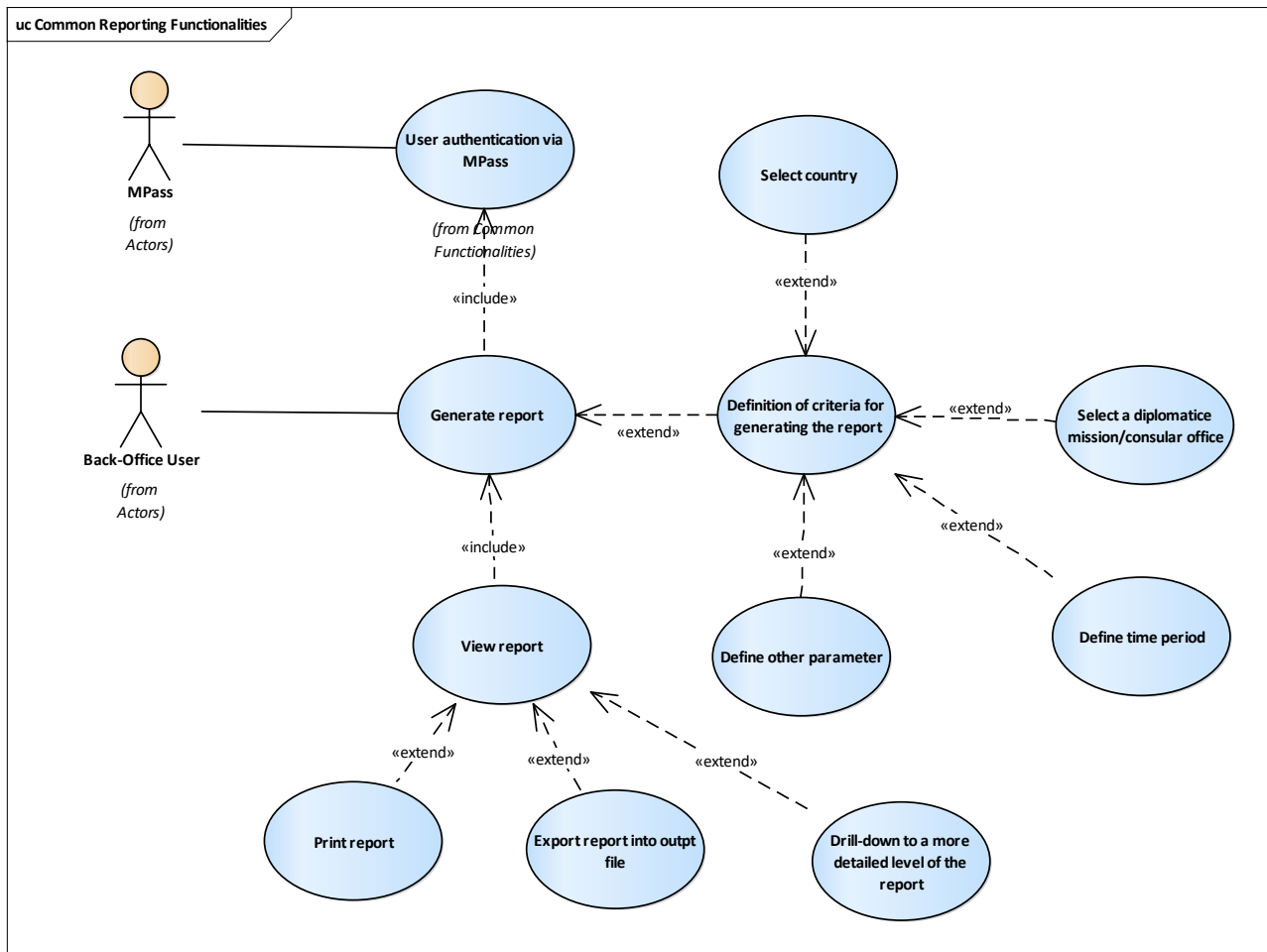


Figure 17. The Use Cases diagram related to the common reporting functionalities to be provided by the System

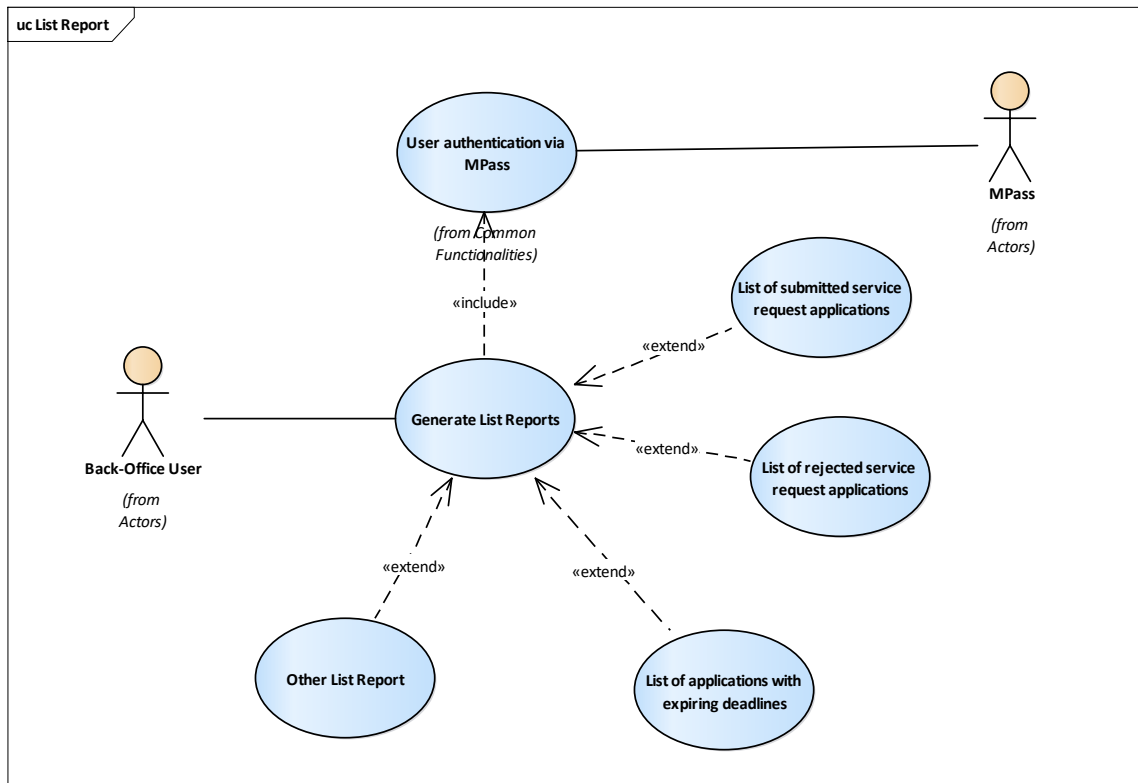


Figure 18. The Use Cases diagram related to the generation of the list reports

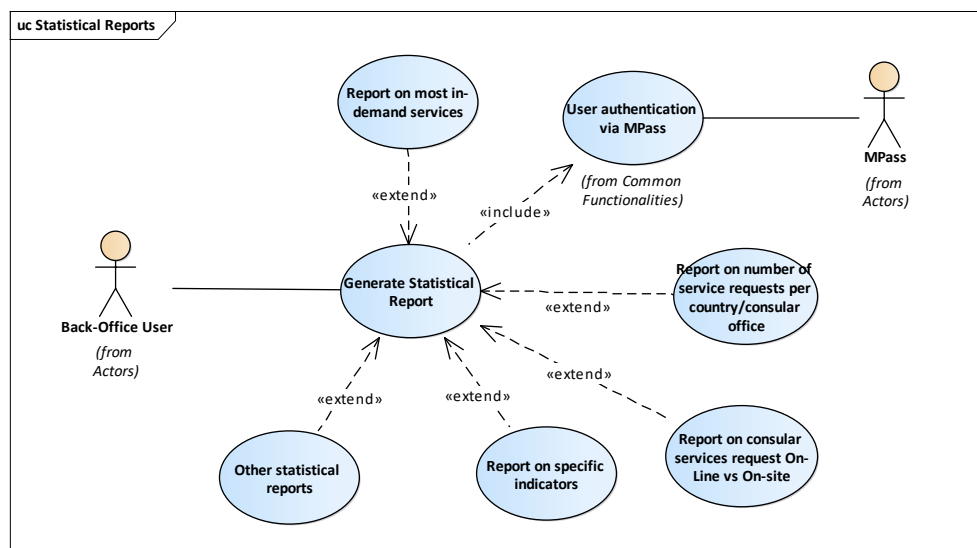


Figure 19. The Use Cases diagram related to running of statistical reports

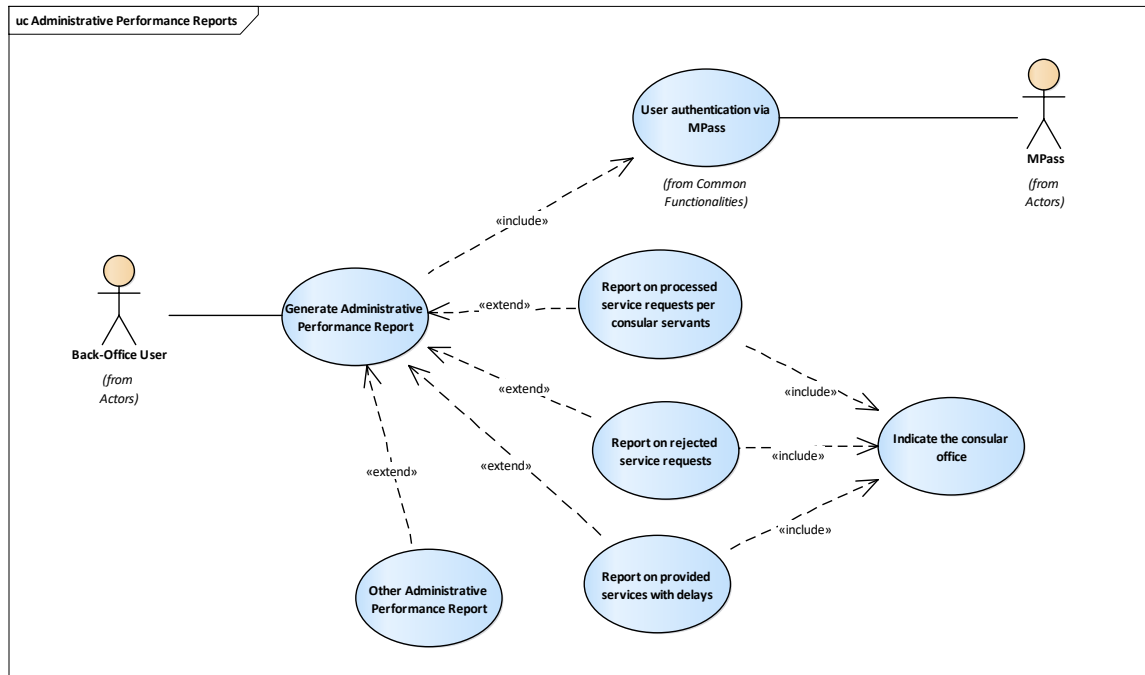


Figure 20. The Use Cases diagram related to running of administrative performance reports

14.8. Functional Requirements Related to the System Administration Capabilities

Requirement	Explanation
FRQ0066	<p>The System shall provide functionalities for managing the organizational structures (the involved diplomatic missions and consular offices). Thus, the System Administrator shall have the possibility to add, modify or deactivate any of such entities. The System shall not allow the deletion of the entity if it is an active one.</p> <p>In fact, such an entity (<i>consular office</i>) cannot be deleted. It can be activated and will no longer be listed in the system, but it shall remain in the database for reporting purposes.</p>
FRQ0067	<p>The System shall provide functionalities to the System Administrator for users' management. He/he must be able to attach roles to each user and necessarily indicate the consular office where the user works.</p> <p>The Administrator will be able to set the necessary permissions: the level of access to the data and the level of access to the needed functionalities.</p>
FRQ0068	<p>The System shall provide to the System Administrator functionalities regarding the management of classifications. It must provide features such as "Add, Edit, Deactivate".</p> <p>Examples of classifications: Countries, Services, etc</p>
FRQ0069	<p>The system shall provide to the System Administrator functionalities for configuring of the notification / alert mechanism.</p> <p>During the configuration of a notification / alert, the System shall offer the possibility to indicate:</p>

Requirement	Explanation
	<ul style="list-style-type: none"> What is the event of the notification; Who is the user to receive the notification; Content (text) of the notification; What is the time of notification; Periodicity of the notification; Other parameters, if relevant.
FRQ0070	Under no circumstances the System Administrator may have access to the personal data of the applicants or to the submitted service requests applications.

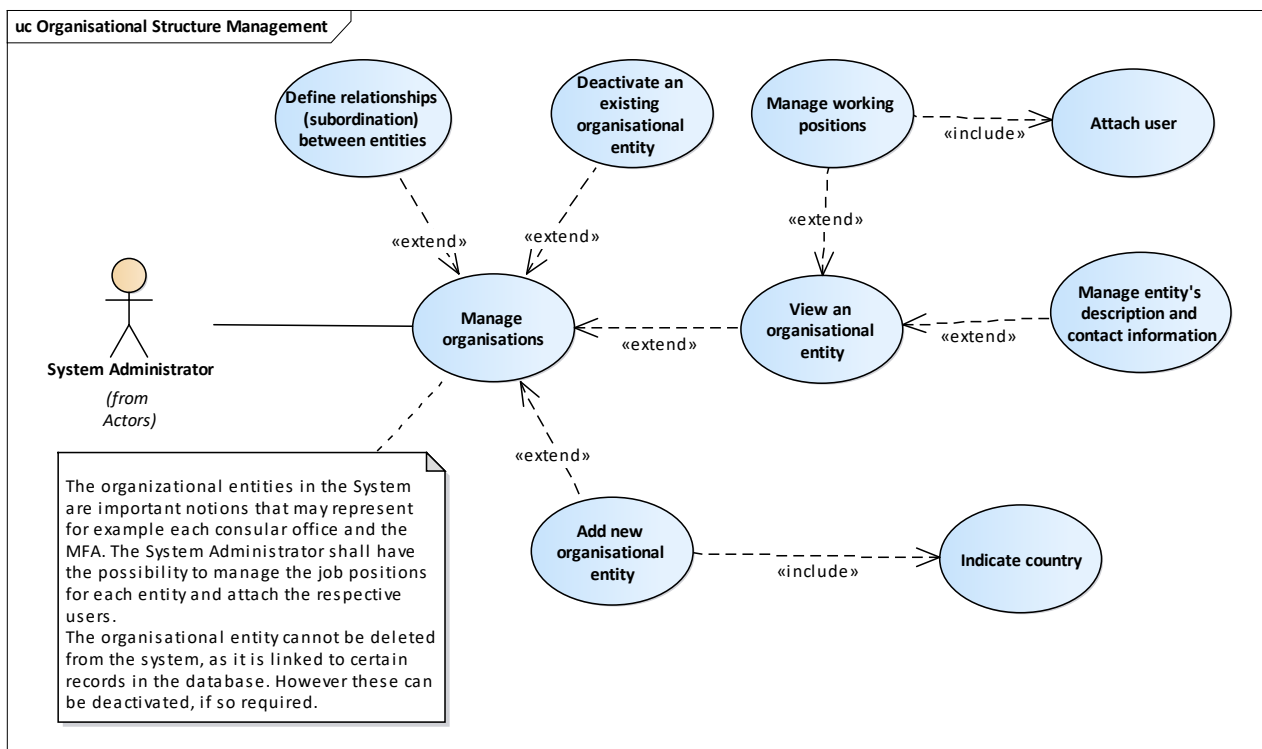


Figure 21. The Use Cases diagram related to organizational structure management

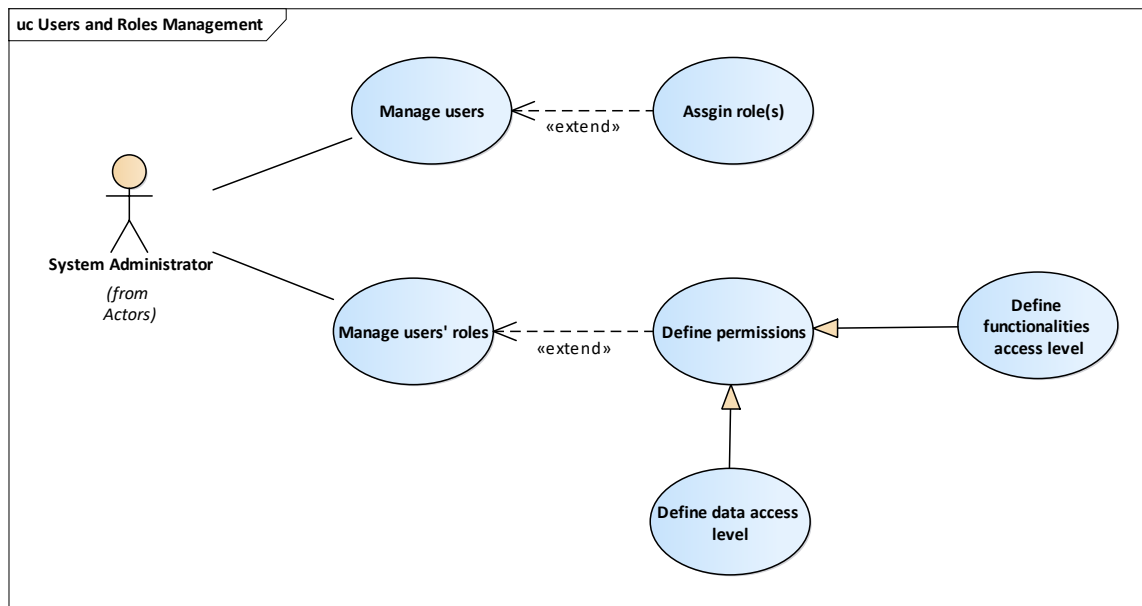


Figure 22. The Use Cases diagram related to users and roles management

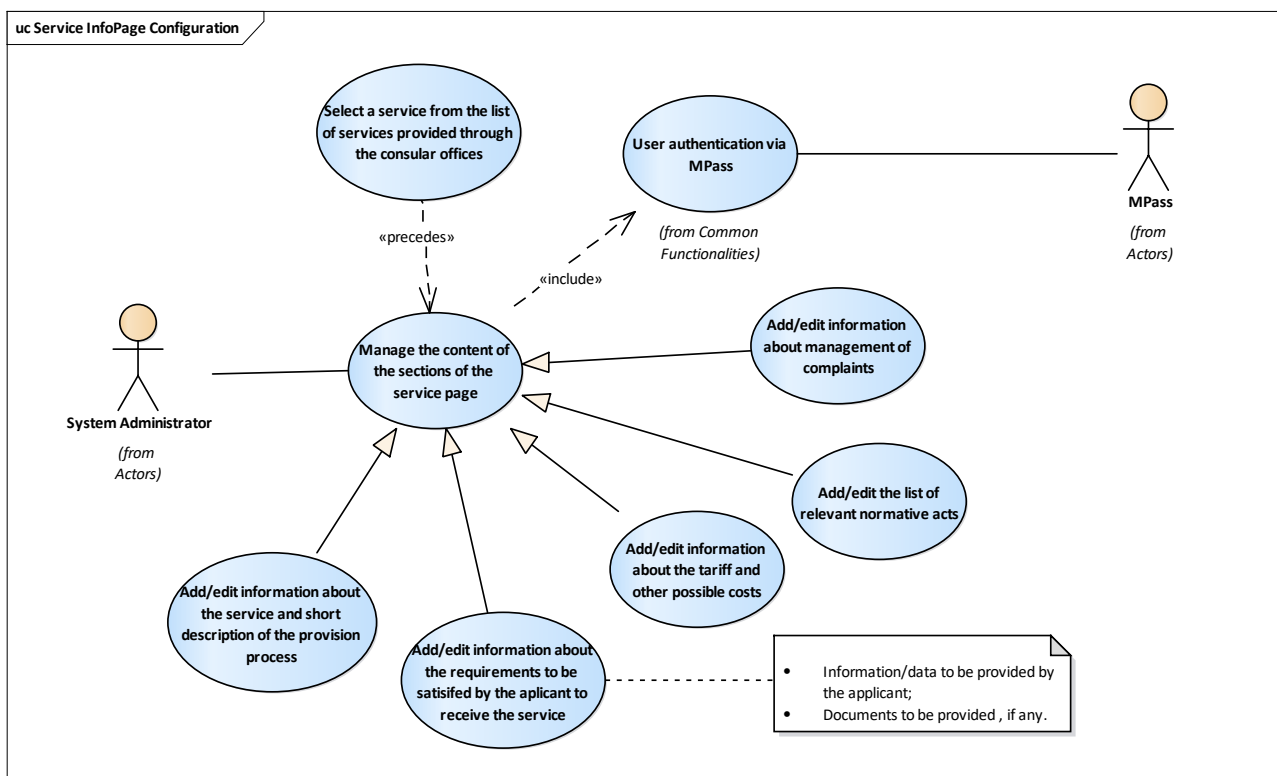


Figure 23. The Use Cases diagram related to management of the content of the e-service page

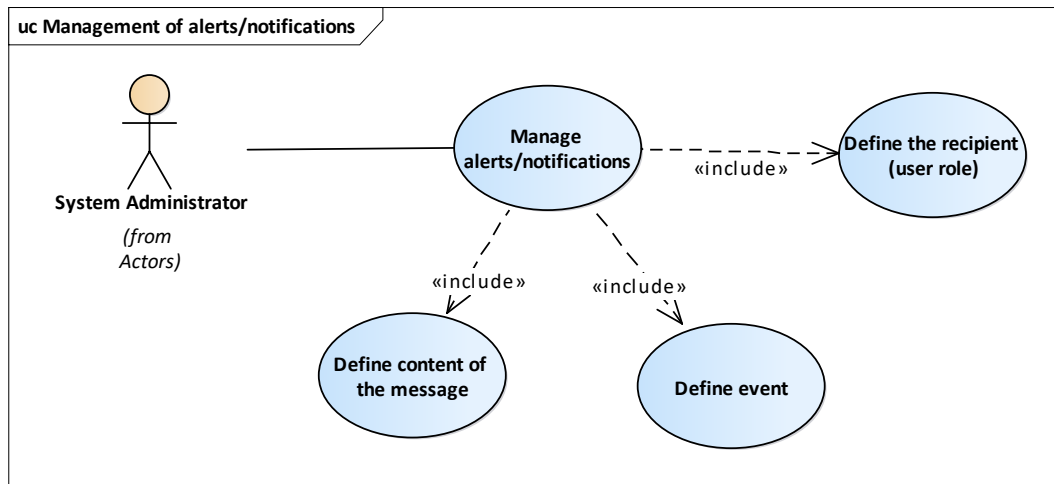


Figure 24. The Use Cases diagram related to configuration of alerts and notifications

15. UI AND USABILITY REQUIREMENTS

15.1. Requirements regarding UI and Usability

As the e-Consulate system is foreseen as web-based IT solution with a multi-tier architecture, all system's business functions to be made available to the users shall be accessed only via graphical user interfaces (GUI). Under no circumstances the end-users shall have direct access to the business-logic layer or system database.

It is expected that the e-Consulate system will be accessed by different types of users with different level of computer literacy and it is important the solution to provide user-friendly, intuitive and comfortable interfaces without requiring extensive technical assistance, support or offline user guides. The time required for training to use the new software solution should be minimal and the users from the involved diplomatic missions and consular offices must have access to the supporting information at any time to facilitate the proper use of the system.

For System Administrators, a guide shall be provided to explore advanced functionalities, however such advanced functionalities should be as intuitive as possible. All the interfaces for the Back-Office users (from the consular offices) must be in Romanian language, while the interfaces for the Front-Office must support Romanian.

Even though the e-Consulate system consists of several modules, the user interfaces for each module must respect a unique graphic design style. The graphic elements and the texts used must be consistently used from the point of view of associated significance.

The graphical interfaces for the consular offices' users shall allow personalization of the workspace (e.g. addition of menu points to favourites, display of last user access, saving of parameterized searches, etc.).

The following represents the requirements to the User Interfaces (UI) that should be fulfilled by the ICT solution of the e-Consulate system:

Requirement	Explanation
UIREQ001	All system's functionalities shall be accessible to users as per their role in the System only through Graphical User Interfaces (GUIs) by using web-browsers. The system's GUI represents the <i>Presentation Layer</i> of the system's multi-layer architecture to which the users shall have access to functionalities and be able to visualize the data. All CRUD (Create, Read, Update, Delete) operations of information objects shall be accessible to users in the System's GUI.
UIREQ002	The system's GUI shall be consistent, both at visual and functional level, independently of technology. The GUI elements must be familiar to the users, and designed accordingly to the globally recognized patterns and guidelines.
UIREQ003	The e-Consulate system shall provide a user-friendly interface that is intuitive, accessible to all types of users, and accessed via a web browser. In this sense, the system's Front-Office GUI shall be designed in such a way that it is comprehensible and

Requirement	Explanation
	understandable by each user group. Comprehensibility refers to users of the System being able to understand the visualisation at each step of the process.
UIREQ004	All user interfaces, regardless of the system's module, must have unique graphic design styles. The UI's graphic elements and texts must be used consistently from the point of view of the associated significance. State symbols and MFA logi (i.e. flag, coat of arms, relevant emblems) and other specific graphical elements have to be presented on each web page.
UIREQ005	If any user performs inappropriate actions in the system, System feedback shall be provided to the aforementioned user in the form of a clearly understandable error message that must provide clear explanation of the occurred error event, as well as an advice-message on possible further actions of the users in order to resolve the situation. In other words, in case of any unconventional behaviour from the side of users, the system should display error messages containing stepwise information on how to proceed. In this sense, it must be taken into account during the development of System's GUI that if a certain user is not able to access the needed data in easy and timely manner and without any System's feedback, it may influence risky behaviour. On the other side if the user experiences real-time feedback too often or within irrelevant situations, it may cause a cognitive overwork, loss of interest, frustration, and even panic. That is why the system's error alerting mechanism must be well balanced and provide short but clear and understandable messages to users.
UIREQ006	The provided graphical design and user-friendly interface shall be balanced and distinctively optimized for a minimum resolution of 1360x768. At the same time, the GUI should be responsive on multiple devices/screens and optimized for mobile devices, such as tablets, smartphones or laptops. The users' interface should not limit users' freedom. Importantly, different system's hints/messages should not annoy users with inappropriate information, which may prevent a normal task being completed.
UIREQ007	The system's user interface must have a universal style of graphic design. As a result, the user interface and user experience should adopt a consistent approach to enable intuitive and easy-to-use adoption of the system by users.
UIREQ008	The information shall be provided by the system in comprehensive and universally acceptable form, and it must be compliant with accessibility standards such as W3C accessibility guidelines. Also, the system's GUI design and functionalities should be easy to learn and understand. The user interface will consist of elements familiar to the users, simple and relevant to their duties within the system.
UIREQ009	The system's front office GUI will support multilingual approach. The user will be able to select the language of the user interface and the system will display the GUI as per selected language, depending of the availability of the content. It is expected to have the relevant content on the consular service provision and related in <i>Romanian</i> . Therefore, the GUI shall be able to display the content in <i>Unicode</i> format, which will allow simultaneously displaying text in <i>Latin, Romanian and Cyrillic</i> characters.

Requirement	Explanation
UIREQ010	Each GUI's webpage shall include a header, which may contain graphic elements and styles relevant to RM and MFA context. The header shall be located on the upper part of the webpage for the whole width of the page. State symbols of Republic of Moldova shall be located on the left or right corner of the header. The remaining space will be filled with other GUI elements that are relevant to the theme.
UIREQ011	For the convenience of users, the system should provide a context-sensitive help feature, at the level of the user interface.
UIREQ012	Depending on the categories of users (and their roles), the system should provide a customized interface for each category of users.
UIREQ013	For the most important functionalities the system shall have the possibility to adapt automatically the user interface to the used device (e.g. laptop, desktop PC, tablet or smartphone).
UIREQ014	The use of icons and other symbols or images is advisable to the system GUI, however, these shall be mandatory accompanied with so-called 'hints' text descriptions. The relevant users' alerts must be presented at an early use-stage and subtly repeated throughout the rest of the user's interaction.
UIREQ015	The e-Consulate users should be able to switch between multiple levels of details when the System provides them either with a large amount of data, or with data that consist of many subordinate data levels or elements (i.e. while displaying the reports). Different levels of details might be required due to the user's specific task. Therefore, in this sense the System's GUI may support drill-down options from some general level of representation of data to the detailed level of representation.
UIREQ016	The GUI shall organize paging of the large outputs (lists), if any.
UIREQ017	In addition to the above-mentioned requirement, the e-Consulate GUI will provide filtering capabilities according to different parameters and grouping capabilities – based on a list of object properties. Especially this requirement is relevant in case of generation and displaying of data in tabular or list forms.
UIREQ018	The e-Consulate graphical user interface must include interaction techniques that retain users engaged and informed at all time and preventing user's loss of interest. The System's GUI shall not include irrelevant elements, information or unnecessary interaction methods.
UIREQ019	The system shall display friendly error messages to the users, if any error has occurred. It SHALL NOT display to the end users the technical details of the error occurred. The form and content of the error message shall be decided more exactly at the development stage and it will depend on its type.
UIREQ020	The e-Consulate system shall follow the simple principle, which involves for each individual screen means that two things should be obvious to the end user: <i>"Where am I now?"</i> and <i>"How can I go back?"</i> This means these controls have to be close to the top of the screen.

Requirement	Explanation
UIREQ021	The developers' team will ensure that the web-browser's " <i>Back</i> " button works in a predictable manner in all situations.

15.2. Requirements specific to UI for Front-Office Users

Requirement	Explanation
UIREQ022	The e-Consulate system shall provide GUIs to the Public Internet Users (citizens – potential applicants).
UIREQ023	The user has to select the preferred language during while accessing the system Front-Office. Further only the selected language will be used during navigation through all other pages.
UIREQ024	The system shall allow the movement between the main and dependent web pages dedicated to certain topic/theme. The navigation between pages (screens) shall be realized by using easy-to-use elements such as " <i>Next></i> ", " <i><Back</i> " & " <i>Home</i> " buttons. The movement between the pages is controlled by the logic of the placed content.
UIREQ025	The system's Front-Office GUI for the external users (public internet users) shall be mandatory adaptable to the mobile devices, such as tablets, laptops or smartphones.
UIREQ026	The system may provide subscription and notifications options to the external users as well as some sharing functionalities through the most relevant social media networks (<i>i.e. Facebook</i> , etc).
UIREQ027	The system GUI shall provide similar to the web forms layouts for printing on the paper format.
UIREQ028	In case the Front-Office is accessed through an unsupported web browser, the user shall receive a clear message on this issue as well the information on recommended web-browsers to be used and relevant add-ons if so required.

15.3. Requirements specific to the Back-Office users' interface

Requirement	Explanation
UIREQ029	It must be taken into account that the Back-Office users (<i>the MPass authenticated users such as the consular servants and MFA users</i>) will access the system almost by using desktop PCs or laptops in some of the cases. Therefore, the resolution and the entire GUI design shall be suitable for desktop PCs and laptops.
UIREQ030	The language of the GUI for the internal users shall be <i>Romanian</i> .
UIREQ031	The interfaces may require the text fields to be filled (if any) by using <i>Romanian</i> characters.

Requirement	Explanation
UIREQ032	The dedicated interface for maintenance of the needed classifications and/or code lists shall be developed. The relevant classifications might be imported from an external source (such as MS Excel files) or managed manually if so needed.
UIREQ033	All the GUI's elements such as menus, buttons, content, navigation and more shall be based on the user entitlements, roles and permissions.
UIREQ034	The e-Consulate system shall provide notifications and reminders to the authenticated users. The alerts and reminders shall be provided through the System's GUI on the user's dashboard – the next screen after the login. The system must be capable to provide notifications through <i>MNotify</i> . The notifications generated by the system shall contain the necessary information for direct accessing (opening) of notified action (e.g. automatic opening of the electronic form which must be filled).
UIREQ035	The e-Consulate solution shall provide a dedicated GUI for the System Administrators in order to be able to configure different settings of the system. All system maintenance activities in terms of user interfaces' configuration, user rights management, and data source settings should be done by using visual tools.
UIREQ036	The system should allow the users interfaces to apply validation rules that are relevant to each specific field. In other words, during the filling of any electronic forms by the users, the System's GUI may provide client-side fields' validation. This can be realized by using different client-side scripts such as <i>JavaScript</i> and/or similar means.
UIREQ037	In case of a wrong filling of any data field(s) on the electronic form, the system shall mark the problematic fields, provide relevant alerting message and clearly state what is required from the user at given moment in order to complete the field data entry.
UIREQ038	The extensive validation of the user-entered data shall be performed on the server-side and it is based on the defined validation rules at the business-logic layer. The server-side validation shall take place when a post-back session is called after completion of each web page. In the server-side validation, the input submitted by the user shall be sent to the server and validated using one of server-side languages of the technological platform chosen for the development of the e-Consulate system (i.e. <i>C#</i>).
UIREQ039	Normally, the server-side validation shall occur after the client-side validation is successfully performed. After all validation rules of the entered data are successfully applied – the data can be saved into the database.
UIREQ040	After the validation process of each page on the server-side is performed, the feedback shall be sent back to the user through a new dynamically generated web page. On the dynamic generated message web page, if so needed, will be placed buttons that subsequent user's actions are accessible.

16. RELEVANT BUSINESS-PROCESSES AND SERVICES TO BE DIGITALISED

Following the analysis of workflows within the Moldovan diplomatic missions and consular offices, a business-process model has been developed which takes into account the use of an ICT tool (e-Consulate) in the daily activities of the consular employees.

The proposed model involves a way of working aimed at using electronic documents and records, applying electronic signatures, excluding manual filling of paper-based registries and forms and by using special means of security, data protection and users' authorization.

Please note that all user interface screen mockups are indicative and have been designed for a web-based application. Wherever possible, the mobile version must follow the screens to ensure consistency in the layout. Under no circumstances should the screens or pages presented in this document be considered to be final and exact representations of the e-Consulate screens and pages in the real software system. All screens and pages are of conceptual nature and might change during the programming stage depending on how the program executes the code to visualize graphical elements and functions.

Finally, this document does not provide an exhaustive or final list of all screens or pages that can be created in the e-Consulate information system. The final web application is planned to have more screens and panels. The figures included in the document are templates for basic functions (data list, data entry and panel view), which can be modified to fit the context of any particular screen or page during each iteration of the development stage.

16.1. The Online Application Process

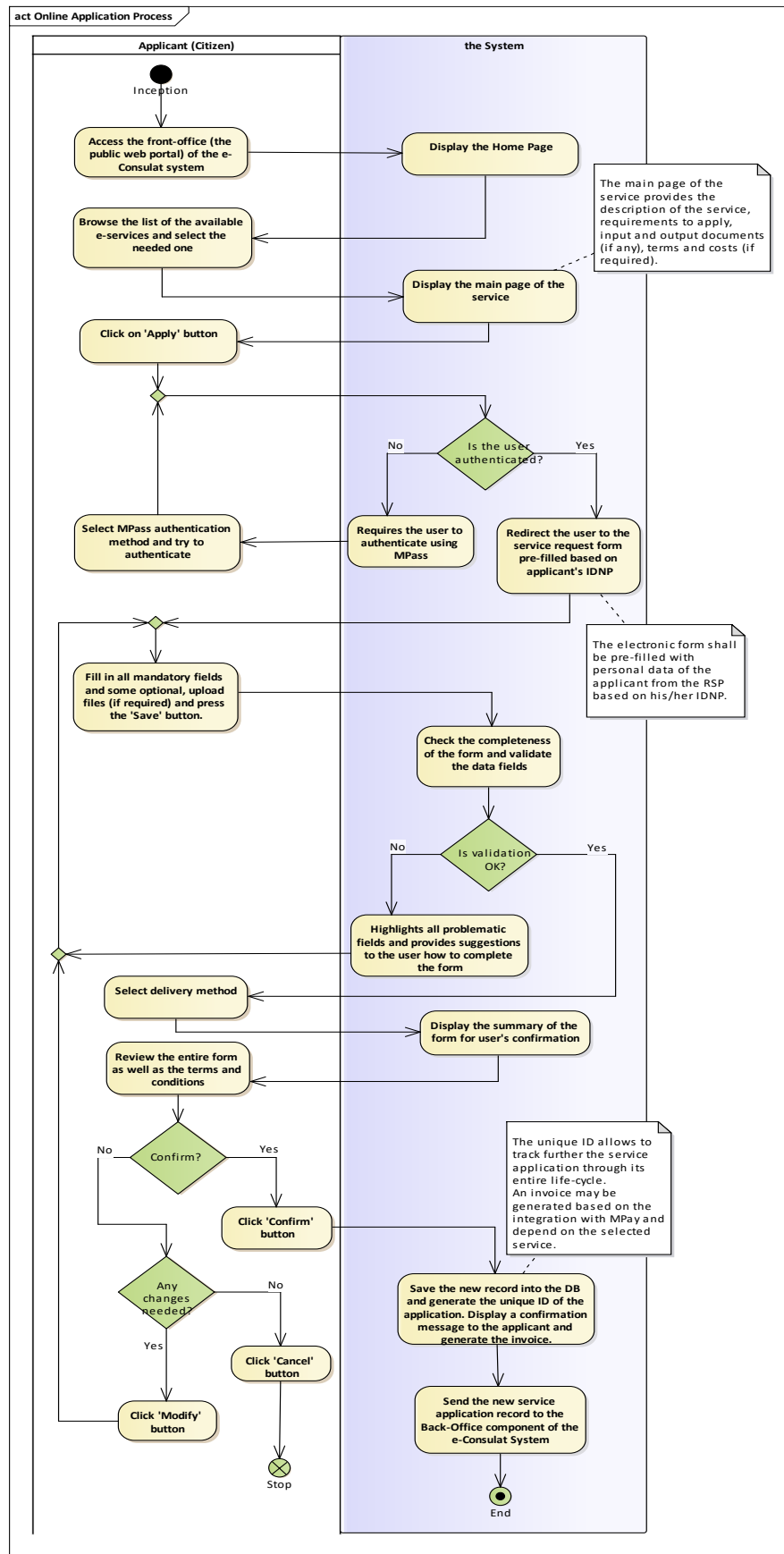


Figure 25. The Activity Diagram related to the Online Application Process

Description of the online application process

	Intention >>	Service selection and user authentication >>	Filling of the application form >>	Delivery and payment methods >>	Finalisation
The Applicant	A Moldovan citizen who is outside of Republic of Moldova requests a consular service using the e-Consulate Front-Office through the online application method				
Pre-conditions	The user must have electronic signature to be able to authenticate through MPass.				
Post-conditions	The user's new service request applications is saved into the System and a unique ID number is attached which allows further tracking of the application				
Actions	<ul style="list-style-type: none"> • The user accesses the public web portal of the e-Consulate system (the Front-Office) 	<ul style="list-style-type: none"> • The System displays the Home Page of the public web portal; • The user brows the list of the consular services and selects the needed one; • The system displays the service's page where the user can read the relevant information including requirements to request the service; • The user clicks on Apply button and the system check's whether the user is authenticated. • If not authenticated the system redirect s the user to the MPass authentication page. • The user selects one of the available authentication methods and follows the procedure. If the authentication is successful the system redirects the user to the service's page. 	<ul style="list-style-type: none"> • The System displays the application form. The data fields of the form depending on the selected service. The data processed during this process can be seen in the specification below. • The System retrieves the personal data of the applicant based on the established electronic data exchange with other external sources such as PSA and pre-fills automatically the fields of the form (where possible). • The user fills/edit (if needed) all mandatory and some optional fields of the form, attaches files (if any) and clicks on 'Save' button. 	<ul style="list-style-type: none"> • The system checks the completeness of the form – if all mandatory fields are filled and if the format of the provided data correspond to the required once. The validation may involve both client-side and server-side validation operations. • If any issues are identified, the system highlights the problematic fields and provides suggestions/guidance to the user on how to correct the data. • Once the form is successfully validated by the system, the user will have to select one of the delivery methods. If MDelivery is selected the system will redirect the user to the MDelivery page. • A read-only version of the application form is provided to the user for his final review and confirmation. • Once the application is confirmed by the user, it is saved into the Front-Office database and a unique ID is generated and assigned to the 	<ul style="list-style-type: none"> • The system transfers the application from the Front-Office database to the Back-Office through APIs. The users of the responsible embassy/consulate are assigned and the respective task is created. • The system sends a confirmation email to the applicant indicating also the unique ID of the application through which the user may track his/her submitted application. The email may include also the bill if so required by the type of service. The same content is displayed on the web page. • The applicant reads the content and receives the confirmation message.

	Intention >>	Service selection and user authentication >>	Filling of the application form >>	Delivery and payment methods >>	Finalisation
				<p>application which will allow tracking of the case during its life-cycle.</p> <ul style="list-style-type: none"> Depending of the requested service the system may generate a bill through integration with MPay which shall be paid by the applicant. 	
Touchpoints	<ul style="list-style-type: none"> PC, Laptop or Tablet Web Browser 	<ul style="list-style-type: none"> System's welcome screen; Service's page; MPass Authentication page 	<ul style="list-style-type: none"> Service request application form; 	<ul style="list-style-type: none"> Service request application form; 	<ul style="list-style-type: none"> Service web page of the e-Consulate portal. Applicant's email
Exceptions		<ul style="list-style-type: none"> If the user provides the wrong data, the system displays the error message and asks to repeat the authentication procedure. 	<ul style="list-style-type: none"> There might be cases when the IDNP shall be empty i.e. for children. The entire form must be editable even for those fields that are automatically retrieved from the external sources. This might occur in some cases when the data from PSA are not updated compared to the real status of the person. In such cases the user must have the possibility to edit the pre-filled fields. 	<ul style="list-style-type: none"> If payment is not confirmed, automatically through integration with <i>MPay</i> or manually by a consular officer, the system must not allow processing of the service request. During the final review action, the applicant may refuse to confirm the application form and may click on 'Modify' or 'Cancel' button. If the 'Modify' button is clicked – the system will redirect the user to the filling of the application step. If 'Cancel' button is clicked the system will cancel the entire operation and will redirect the user to the latest accessed web page. Should any errors occur and the application is not saved, the system must inform the applicant by displaying the respective explanation. 	

16.2. The Onsite Application Process

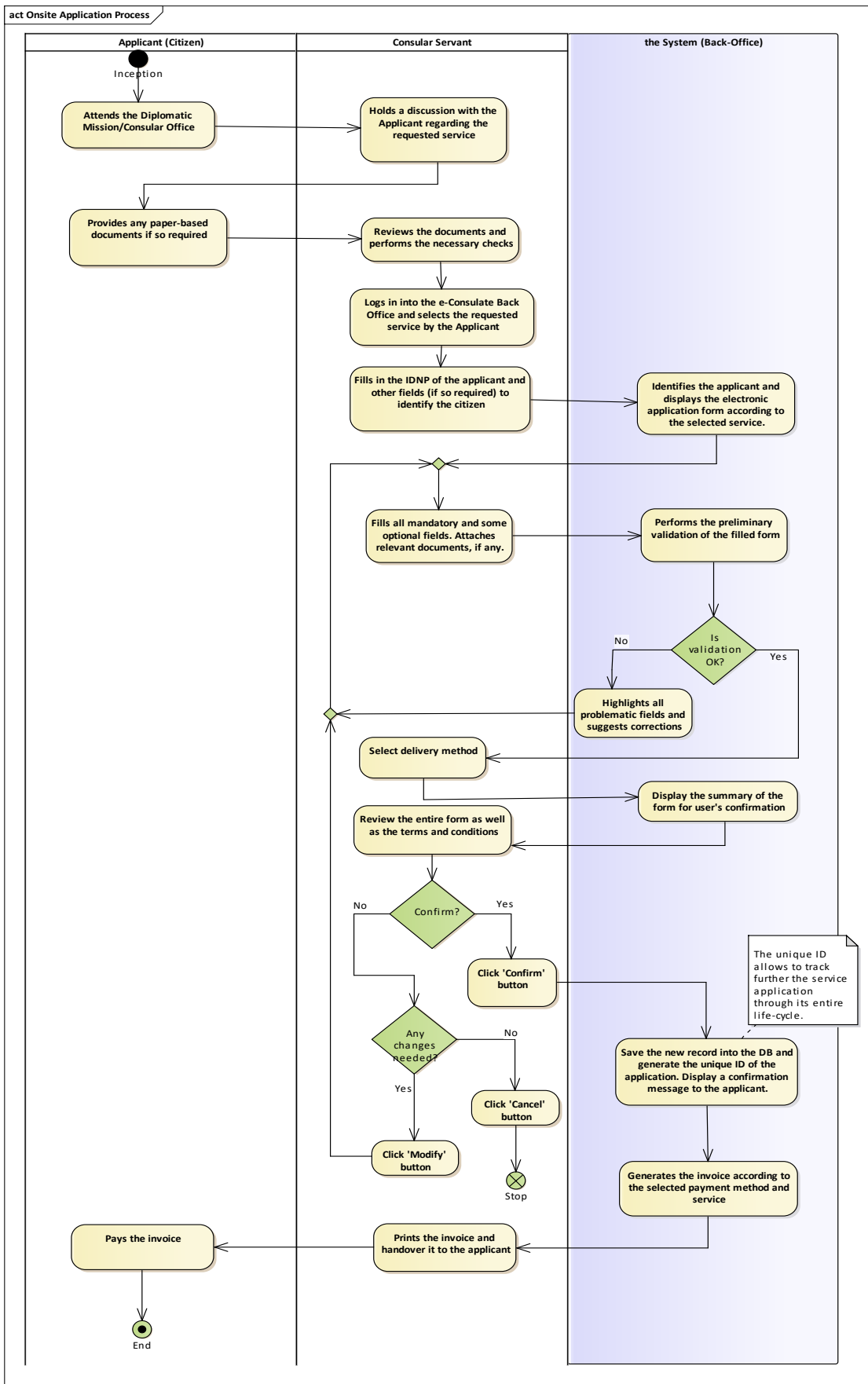


Figure 26. The Activity Diagram related to the Online Application Process

Description of the on-site application process

	Intention >>	Service selection and user authentication >>	Filling of the application form >>	Delivery and payment methods >>	Finalisation
Consular Servant	A consular servant who receives the applicant at the consular office in order to provide a service.				
Pre-conditions	The user must have electronic signature to be able to authenticate through MPass. The user is authenticated via MPass service.				
Post-conditions	The user's new service request applications is saved into the System and a unique ID number is attached which allows further tracking of the application				
Actions	<ul style="list-style-type: none"> • The user receives the applicant (citizen) and reviews the paper-based documents (if any); • Holds a discussion with the applicant to clarify some details, if so needed. • The user accesses the e-Consulate Back-Office) 	<ul style="list-style-type: none"> • The System displays the dashboard of the user; • The user brows the list of the consular services and selects the needed one; • The system displays the service's page. • The user fills in the IDNP and/other applicant's identification data; • The system identifies the applicant through 	<ul style="list-style-type: none"> • The System displays the application form. The data fields of the form depending on the selected service. The data processed during this process can be seen in the specification below. • The System retrieves the personal data of the applicant based on the established electronic data exchange with other external sources such as PSA and pre-fills automatically the fields of the form (where possible). • The user fills/edit (if needed) all mandatory and some optional fields of the form, attaches files (if any) and clicks on 'Save' button. 	<ul style="list-style-type: none"> • The system checks the completeness of the form – if all mandatory fields are filled and if the format of the provided data correspond to the required once. The validation may involve both client-side and server-side validation operations. • If any issues are identified, the system highlights the problematic fields and provides suggestions/guidance to the user on how to correct the data. • Once the form is successfully validated, the user will have to select one of the delivery methods. If <i>MDelivery</i> is selected the system will redirect the user to the <i>MDelivery</i> page. • A read-only version of the application form is provided to the user for his final review and confirmation. • Once the application is confirmed by the user, it is saved into the database and a unique ID is generated and assigned to the 	<ul style="list-style-type: none"> • The system sends a confirmation email to the applicant indicating also the unique ID of the application through which the user may track his/her submitted application. The email may include also the bill if so required by the type of service. • The user provides to the applicant the details of the submitted service request application.


	Intention >>	Service selection and user authentication >>	Filling of the application form >>	Delivery and payment methods >>	Finalisation
				<p>application which will allow tracking of the case during its life-cycle.</p> <ul style="list-style-type: none"> Depending of the requested service the system may generate a bill through integration with <i>MPay</i> which shall be paid later by the applicant. 	
Touchpoints	<ul style="list-style-type: none"> PC, Laptop or Tablet Web Browser 	<ul style="list-style-type: none"> System's welcome screen; Service's page; MPass Authentication page 	<ul style="list-style-type: none"> Service request application form; 	<ul style="list-style-type: none"> Service request application form; 	<ul style="list-style-type: none"> Service web page of the e-Consulate portal. Applicant's email
Exceptions		<ul style="list-style-type: none"> If the user provides the wrong data, the system displays the error message and asks to repeat the authentication procedure. 	<ul style="list-style-type: none"> There might be cases when the IDNP shall be empty i.e. for children. The entire form must be editable even for those fields that are automatically retrieved from the external sources. This might occur in some cases when the data from PSA are not updated compared to the real status of the person. In such cases the user must have the possibility to edit the pre-filled fields. 	<ul style="list-style-type: none"> During the final review action, the applicant may refuse to confirm the application form and may click on 'Modify' or 'Cancel' button. If the 'Modify' button is clicked – the system will redirect the user to the filling of the application step. If 'Cancel' button is clicked the system will cancel the entire operation and will redirect the user to the latest accessed web page. Should any errors occur and the application is not saved, the system must inform the applicant by displaying the respective explanation. 	

16.3. Mapping of Services Provided Through the Consular Offices

#	Service	Service provider and other third-party bodies involved	Explanation
1	Passport issuance	Public Services Agency	The service will be implemented through a tight integration with the ICT system of the Public Services Agency
2	Issuance of ID Cards	Public Services Agency	The service will be implemented through a tight integration with the ICT system of the Public Services Agency
3	Authorised emigration	Public Services Agency	Capturing of the service request applications will be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
4	Marriage registration and issuance of the certificate	Public Services Agency	To be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
5	Divorce registration and issuance of the certificate	Public Services Agency	To be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
6	Transcription of the civil status act and issuance of the certificate	Public Services Agency	Capturing of the service request applications will be implemented in e-Consulate system, while the processing shall be realised in close interaction with PSA and other data sources via MConnect
7	Changing of the person's first and/or last names	Public Services Agency	The service will be implemented through a tight integration with the ICT system of the Public Services Agency
8	Emergency Travel Document	Consular Offices (MFA)	Will be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
9	Issuance of the diplomatic passport and service passport	Consular Offices (MFA)	To be implemented in e-Consulate system in close interaction with PSA and Border Police and other data sources via MConnect
10	Consular superlegalization	Consular Offices	To be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
11	Notary acts	Consular Offices	To be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
12	Consular declarations	Consular Offices	To be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
13	Consular registration/record keeping	Consular Offices	Will be implemented in e-Consulate system in close interaction with PSA and other data sources via MConnect
14	Obtaining documents or information from the Republic of Moldova	Consular offices and other third-party institutions	The capturing of the service request applications will be implemented in e-Consulate system, while the processing shall be realised in close interaction with other data sources via MConnect

#	Service	Service provider and other third-party bodies involved	Explanation
15	Acquisition, re-acquisition and renunciation of citizenship of the Republic of Moldova	Consular Offices, MFA, PSA, SIS, Presidency	Only capturing of the service request applications will be implemented in e-Consulate system. The final result/decision will be also recorded in the system.
16	Electronic signature	STISC	The service will be provided by redirecting the user to the STISC e-service page: https://semnatura.md/Home/PpStep1
17	Issuance of the criminal record	MIA/Consular offices	The capturing of the service request applications will be implemented in e-Consulate system or could be re-used by redirecting the user to the <i>e-Cazier service</i> .
18	Certificate of matrimonial capacity	Public Services Agency/ Consular offices	The service is already digitalised and the user shall be redirected to the following e-service: https://essc.servicii.gov.md/Requests/Application

16.4. Emergency Travel Document issuance



Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language

Log In

Verify application

Request Extract

Verify Document

Terms and Conditions

Emergency Travel Document

Service Request Application

Submitted Documents

Application Processing

Applicant's Data

Service Details

Delivery Method

Confirmation

Signature

Payment Method

Confirmation Receipt

Applicant's Type

☐ Citizen of Republic of Moldova
☐ Stateless person
☐ Foreign Citizen

Citizenship

Civil Status

☐ Single ☐ Married
☐ Divorced ☐ Widow(ed)
☐ Other

Place of Birth

Current Residence Address

Phone number

Reason for Emergency Travel Document Application

☐ Travel Document is expired
☐ Travel Document is broken
☐ Travel Document that contains incorrect and outdated data
☐ Travel Document is taken out of use
☐ Travel Document lost/ stolen
☐ Other

Enter reason for Emergency Travel Document Application

Planned return date

Father's First Name

Father's Last Name

Date of Birth

Mother's First Name

Mother's Last Name

Date of Birth

☐ Terms and Conditions

First Name

Last Name

Date of Birth

Sex

Country of Birth

E-mail Address

Upload Photo

Back

Confirm

Figure 27. Screen mockup for Service Details: Emergency Travel Document

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the service platform	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed platform language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user details to be filled (through MPass - Authentication and access control service)		Active

#	Element Name	Element Type	Description	Field Type	Element Mode
5	Verify Application	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras Button	Button	OnClick: Open request extras page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service output' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	Service Heading Title	Label	The heading describes the title of the service	Text	Read-only
10	Applicant Tab Link	Tab	OnClick: Opens the Service Request Application		Active
11	Documents Tab Link	Tab	OnClick: Opens the content reserved for uploading documents		Active
12	Application Processing	Tab	OnClick: Opens the content reserved for consular servant for Application Processing		Active
36	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
37	Service Details	Menu Item	Service details menu item		
38	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
39	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
40	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
41	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
42	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	

Applicant's Type17

☐ Citizen of Republic of Moldova43
 ☐ Stateless person44
 ☐ Foreign Citizen45

Citizenship16

Civil Status19

☐ Single
 ☐ Married
 ☐ Divorced
 ☐ Widow(ed)
 ☐ Other

Place of Birth20

Current Residence Address22

Phone number23

Reason for Emergency Travel Document Application25

☐ Travel Document is expired
 ☐ Travel Document is broken
 ☐ Travel Document that contains incorrent and outdated data
 ☐ Travel Document is taken out of use
 ☐ Travel Document lost/ stolen
 ☐ Other

Enter reason for Emergency Travel Document Application26

Planned return date27

Father's First Name30

Father's Last Name29

Date of Birth28

Mother's First Name31

Mother's Last Name32

Date of Birth35

☐ Terms and Conditions33

Back34

Confirm35

First Name13

Last Name14

Date of Birth15

Upload Photo47

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
13	Applicant Name TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's first name. When user is logged in with MPass, the platform should check the field according to the applicant's personal data received via MConnect Queries from the Person data structure of the FirstName property	Text	
14	Applicant's LastName TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's last name. When user is logged in via MPass, the platform should check the field according to the applicant's personal data received via MConnect Queries from the Person data structure of the LastName property	Text	Active
15	DOB TextBox	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the textarea input When user is logged in with MPass, the platform should prepopulate the field with data retrieved through MConnect Queries from the Person data structure of the BirthDate property	Date	Active
16	Citizenship TextBox	Dropdown List	Active only if 'Foreign citizen' radiobutton is selected	Value	
17	Applicant's Type RadioButtonGroup	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes applicant's type.	Value	Active
18	Sex RadioButtonGroup	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes applicant's sex. When user is logged in with MPass, the platform should check the field according to the applicant's personal data received via MConnect Queries from the Person data structure: SexCode property.	Value	Active
19	CivilStatus RadioButtonGroup	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes applicant's civil status.	Value	Active
20	PlaceofBirth TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's place of birth. When user is logged in via MPass, the platform should check the field according to the applicant's personal data received via MConnect. Queries from the 'Person' data structure of the BirthLocality/BirthRegion property	Text	Active
21	CountryofBirth TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's country of birth. When user is logged in via MPass, the platform should check the field according to the applicant's personal data received via MConnect	Text	Active
22	ResidenceAddress TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's residence When user is logged in via MPass, the platform should check the field according to the applicant's personal data received via MConnect Queries from the Registration data structure of the Address property	Text	Active
23	Telephone TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's phone number,	Number	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
24	Email TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's email address.	Value	Active
25	Reason CheckBoxGroup	CheckBox	OnChange: The event triggers when the user selects any of checkboxes that describes reason for travel document application.	Value	Active
26	ReasonEmergency TextBox	TextBox	OnInput: The event triggers when the user inputs the reason for travel document application.		
27	ReturnDate TextBox	TextBox	OnChange: The event triggers when applicant's planned return date to home country is picked from the calendar and prefills the text input.	Date	Active
28	Father DOB TextBox	TextBox	OnInput: The event triggers when father's birthdate is picked from the calendar and prefills the text input Comment: The textbox must be active only when application is submitted for a person under 18 years. Comment: Queries from the Relative data structure the BirthDate property.	Date	Disabled
29	FatherLastName TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's last name. The textbox must be active only when application is for submitted for a person under 18 years; Queries from the Relative data structure the LastName property	Text	Disabled
30	FatherFirstName TextBox	TextBox	OnInput: The event triggers when user inputs the father's first name; The textbox must be active only when application is for submitted for a person under 18 years; Queries from the Relative data structure the FirstName property.	Text	Disabled
31	MotherFirstName TextBox	TextBox	OnInput: The event triggers when user inputs the mother's first name; The textbox must be active only when application is for submitted for a person under 18 years; Queries from the Relative data structure the FirstName property.	Text	Active
32	MotherLastName TextBox	TextBox	OnInput: The event triggers when user inputs the mother's first name; The textbox must be active only when application is for submitted for a person under 18 years; Queries from the Relative data structure the FirstName property.	Text	Disabled
33	Terms RadioButton	RadioButton	OnChange: The event triggers when the user picks of radio button that describes if the applicant agrees with the terms.	Value	Active
34	Back Button	Button	Redirects the user to the previous page		Active
35	Confirm Button	Button	OnClick: Saves the data and takes the user to the next step		Active
43	Citizen of Republic of Moldova	RadioButton	Citizen of Republic of Moldova	Value	
44	Stateless person	RadioButton	Stateless person	Value	
45	Foreign Citizen	RadioButton	Foreign Citizen	Value	
46	Applicant's photo	Image	Applicant's photo	Image	
47	Upload photo	Image	Allows the user to upload a new photo is required	Image	

54

Required documents

an identity document, with photo, issued by the authorities

☐ of the Republic of Moldova (identity card, driver's license, military passbook);

☐ a travel document(previous passport);

proof from the local police authorities regarding the claim

☐ of loss or theft (depending on the case) or statement regarding the loss, theft of the passport;

☐ other documents, that can help us to recognize your citizenship.

Proof documents

Upload files or attach

Browse55

Figure 29. Screen mockup: Emergency Travel Document – Tab “Submitted documents”

Form fields specification

#	Element Name	Element Type	Description
54	Required documents	Panel	Panel of checkboxes with type of documents to be uploaded
55	Browse	Button	Allows the user to select a document to be uploaded

Application submitted on

14/02/2023

48

Application Submitted

49

☐ in person
 ☐ electronically(through mail)
 ☐ empowered person
 ☐ institution

Application reviewed by

John Smith

50

Documents attached to the applicati

51

☐ proof of Republic of Moldova Citizenship
 ☐ proof of residence Permit
 ☐ proof of absence of valid travel document
 ☐ civil registry documents
 ☐ other

Identity verification

☐ Verified

52

Preview of the uploaded documents

53






Figure 30. Screen mockup: Emergency Travel Document – Tab “Application processing”

Form fields specification

#	Element Name	Element Type	Description	Field Type
48	Date of submission	Calendar	Date when the service was requested by the applicant	Date
49	Application submission method	Panel	Application submission method (radiobutton group)	
50	Name of the Consular Servant	TextBox	Name of the Consular Servant	Text
51	Documents attached to the application	Panel	Documents attached to the application (group of checkboxes)	Text
52	Identity verification	CheckBox	Identity verification	Value
53	Documents preview		Preview of the documents that have been provided by the applicant	

16.5. Passport issuance

Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language Log In

Verify application Request Extras Verify Extras Terms and Conditions

Passport issuance

Service description

The passport of the citizen of the Republic of Moldova is issued to citizens of the Republic of Moldova, regardless of age, who meet the legal conditions and are not in one of the situations of suspension of the right to free movement abroad.

The passport of the citizen of the Republic of Moldova is issued:

- * persons under the age of 7 - for a period of 4 years;
- * persons aged from 7 to 16 years - for a period of 7 years;
- * persons over 16 years of age - for a period of 10 years;
- * persons for whom fingerprinting is temporarily impossible - for a period of 12 months.

People for whom it is physically impossible to take fingerprints (permanently or temporarily) and children under the age of 12 are exempt from the mandatory inclusion of fingerprints in the passport.

The citizen of the Republic of Moldova has the right to simultaneously hold two valid passports, provided that the personal data of the holder, contained in them, are identical.

Service Application Form

Figure 31. Screen mockup - Passport issuance service request

Form fields specification

#	Element Name	Element Type	Description	Field Type
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item	
2	Service Details	Menu Item	Service details menu item	
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text
5	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text
8	title of the service	Label	title of the service	Text
9	Service Application Form	Button	Redirect the user to the Public Services Agency's System to fill in the form.	

16.6. Issuance of the identity Card

Figure 32. Screen Mockup

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows te user to sign electronically the service request application form	Text	
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
8	Title of the service	Label	Title of the service	Text	
9	Age of the applicant	Panel	llows the user to select a range of applicant's age		
10	e-Appointment	Button	Redirects the user to the e-appointment service	Value	
11	Language	Button	Allows the user to change the language of the interface		
12	logo	Image	coat of arms	Image	
13	Name of the diplomatic mission	Label	Name of the diplomatic mission	Text	
14	VerifyApplication Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
15	Request Extras Button	Button	OnClick: Open request extract page		Active
16	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active

#	Element Name	Element Type	Description	Field Type	Element Mode
17	Terms Button	Button	OnClick: Opens the terms and conditions page		Active

16.7. Authorized Emigration

Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language

Verify application Request Extract Verify Document Terms and Conditions

Authorized Emigration

Form Details

Is the service application submitted by an empowered person?
☐ Yes ☐ No

Personal Information About Applicant

Applicant's IDNP: 364576456346

First Name: Second Name: Date of Birth: [Calendar icon]

Sex: ☐ Male ☐ Female Emigration Country:

Place of Birth

Country of birth: Region/District: Town/Village/Municipality:

Current Residence

Region/District: Town/Village/Municipality: Street:

no. Flat Number:

Applicant's Relatives

Add relative +

First name	Last name	Date of Birth	IDNP

Submitted documents

Add document +

Document Type	Document Series	Document Number	Issue Date	Issuing Authority

Special Mentions

Continue

Figure 33. Screen mockup - Authorized emigration


Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
8	Yes	CheckBox	The service request application is submitted by an empowered person	Value	
9	No	CheckBox	The service request application is submitted by the applicant himself	Value	
10	Applicant's UID	TextBox	Applicant's IDNP	String	
11	Applicant's First name	TextBox	Applicant's First name	String	
12	Applicant Second Name	TextBox	Applicant Second Name	String	
13	Date of Birth	Calendar	Applicant's date of birth	Date	
14	Male sex	RadioButton	Sex of the applicant is male	Value	
15	Female sex	RadioButton	Sex of the applicant is female	Value	
16	Emigration Country	Dropdown List	Emigration Country	Text	
17	Country of birth	Dropdown List	Country of birth	Text	
18	Region/District	ListBox	Region/District. In case of other countries the system will allow the user to enter manually the data.	Text	
19	Town/Village//Municipality	Dropdown List	Town/Village//Municipality. In case of other countries the system will allow the user to enter manually the data.	Text	
20	Region/District	Dropdown List	Current residence of the applicant: Region/District	Text	
21	Current residence Town/Village/Municipality	ListBox	Current residence of applicant Town/Village/Municipality	Text	
22	street	TextBox	current residence of the applicant: street	Text	
23	Number of the house	TextBox	Number of the house	Number	
24	flat number	TextBox	flat number	Number	
25	First name of the relative	Column	First name of the relative	String	
26	Last name of the relative	Column	Last name of the relative	String	
27	Date of birth	Column	Relative's date of birth	Date	
28	Relative's UID	Column	Relative's IDNP	String	
29	Add relative	Button	Allows the user to add relatives		
30	Add document	Button	Allows the user to add documents		
31	Document Type	Column	Type of the document	Text	
32	Document Series	Column	Document Series	String	
33	Document Number	Column	Document Number	String	
34	Issue Date	Column	Issue Date	Date	
35	Issuing Authority	Column	Issuing Authority	Text	
36	Special mentions	TextArea	Comments and explanations	Text	
37		Button	Saves the data and redirects the user to the next step		
38	Title of the service	Label	Title of the service	Text	
39	Applicant's photo	Image	Applicant's photo	Image	
40	logo	Image	Coat of arms	Image	
41	Header title: Name of the diplomatic mission	Label	Name of the diplomatic mission	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
42	Language	Button	Allows the user to change the language of the interface	Value	
43	VerifyApplication Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
44	Request Extras Button	Button	OnClick: Open request extract page		Active
45	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
46	Terms Button	Button	OnClick: Opens the terms and conditions page		Active

16.8. Registration of Divorce and Issuance the Certificate



Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language

Verify application
Request Extract
Verify Document
Terms and Conditions

Divorce registration and issuance of the certificate

Applicant's Data

Service Details

Delivery Method

Confirmation

Signature

Payment Method

Confirmation Receipt

Service Details

We the undersigned, request the dissolution of the marriage based on the joint declaration of the spouses. We declare that we have no minor children and no matrimonial disputes.

	HE	SHE
IDNP		
First, Last names		
Date of Birth		
Age		
Birth Place		
Nationality		
Citizenship		
Current Residence		
Job Description		
Studies		

Marriage Act Details

Marriage Certificate	
Number	
Issue Date	
Registered By/Issued By	

Divorce Details

Divorce Reason

	HE	SHE
Last Name after Divorce		
Identity documents		

Continue

Figure 34. Screen mockup - Divorce registration and issuance of the certificate


Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows te user to sign electronically the service request application form	Text	
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
8	VerifyApplication Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
9	Request Extras Button	Button	OnClick: Open request extract page		Active
10	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
11	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
12	logo	Image	Coat of arms	Image	
13	Header title: Name of the diplomatic mission	Label	Name of the diplomatic mission	Text	
14	Language	Button	Allows the user to change the language of the interface	Value	
15	Title of the service	Label	Title of the service	Text	
16	Personal UID of the spouse (he)	TextBox	The IDNP of the spouse (he)	String	Active
17	Personal UID of the spouse (she)	TextBox	The IDNP of the spouse (she)	String	Active
18	First and last name of the spouse	Label	First and last name of the spouse	Text	Active
19	First and last name of the spouse	Label	First and last name of the spouse	Text	Active
20	Date of birth	Label	Date of birth of the spouse	Date	Active
21	Date of birth	Label	Date of birth of the spouse	Date	Active
22	Age	Label	Age of the spouse	Number	Active
23	Age	Label	Age of the spouse	Number	Active
24	Place of birth	Label	Place of birth	Text	Active
25	Place of birth	Label	Place of birth	Text	Active
26	Nationality	Label	Nationality	String	Active
27	Nationality	Label	Nationality	String	Active
28	Citizenship	Label	Citizenship	String	Active
29	Citizenship	Label	Citizenship	String	Active
30	Current Residence	Label	Current Residence	Text	Active
31	Current Residence	Label	Current Residence	Text	Active
32	Job Description	Label	Job Description	Text	Active
33	Job Description	Label	Job Description	Text	Active
34	Studies	Label	Studies	Text	Active
35	Studies	Label	Studies	Text	Active
36	Number of the marriage certificate	Label	Number of the marriage certificate	Number	Active
37	Date of issue	Label	Date of issue	Date	Active
38	Issuance authority	Label	Issuance authority	Text	Active
39	Explanation of the Divorce Reason	TextArea	Explanation of the Divorce Reason	Text	Active
40	Name after Divorce	TextBox	Name of the spouse after divorce	String	Active
41	Name of the spouse after divorce	TextBox	Name of the spouse after divorce	String	Active
42	ID document of the spouse	Label	ID document of the spouse	Text	Active
43	ID document of the spouse	Label	ID document of the spouse	Text	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
44	Continue	Button	Saves the data and takes the user to the next step: to make an appointment to the consular office.		

16.9. Registration of Marriage and Issuance the Certificate



Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language

Verify application
Request Extract
Verify Document
Terms and Conditions

Marriage registration and issuance of the certificate

1
2
3
4
5
6
7

Applicant's Data
Service Details
Delivery Method
Confirmation
Signature
Payment Method
Confirmation Receipt

Form Details

Marriage Declaration

	HE	SHE
First Name	13	14
Last Name	15	16
IDNP	17	18
Date of Birth	19	20
Age	21	22
Place of Birth	Country	Country
	Region/District	Region/District
	City/Municipality	City/Municipality
Birth Certificate	Number	Number
	Date issued	Date issued
	Registered By	Registered By
Nationality	35	36
Citizenship	37	38
Civil Status	<input type="radio"/> single <input type="radio"/> divorced <input type="radio"/> widow	<input type="radio"/> single <input type="radio"/> divorced <input type="radio"/> widow
	Certificate/Act	Certificate/Act
	Number	Number
	Date issued	Date issued
	Registered By	Registered By
Number of marriages		
Economic activity	<input type="checkbox"/> employee at the enterprise, organization, institution <input type="checkbox"/> employee at farm <input type="checkbox"/> employee at private individuals <input type="checkbox"/> employer(Owner) <input type="checkbox"/> freelancer <input type="checkbox"/> employee at personal farm <input type="checkbox"/> employee at family business <input type="checkbox"/> member of a cooperative <input type="checkbox"/> other	<input type="checkbox"/> employee at the enterprise, organization, institution <input type="checkbox"/> employee at farm <input type="checkbox"/> employee at private individuals <input type="checkbox"/> employer(Owner) <input type="checkbox"/> freelancer <input type="checkbox"/> employee at personal farm <input type="checkbox"/> employee at family business <input type="checkbox"/> member of a cooperative <input type="checkbox"/> other
	47	48
Education Level	<input type="checkbox"/> data missing <input type="checkbox"/> superior education <input type="checkbox"/> superior incomplete education <input type="checkbox"/> Medium education <input type="checkbox"/> Upper secondary education <input type="checkbox"/> Lower secondary education <input type="checkbox"/> primary education <input type="checkbox"/> without primary education, but knows to read and write <input type="checkbox"/> illiterate	<input type="checkbox"/> data missing <input type="checkbox"/> superior education <input type="checkbox"/> superior incomplete education <input type="checkbox"/> Medium education <input type="checkbox"/> Upper secondary education <input type="checkbox"/> Lower secondary education <input type="checkbox"/> primary education <input type="checkbox"/> without primary education, but knows to read and write <input type="checkbox"/> illiterate
	49	50
Current Residence	Address	Address
	51	52
Identity Card	Since	Since
	53	54
	Series	Series
	55	56
	Number	Number
	57	58
	Issued By	Issued By
	59	60
	Issue Date	Issue Date
	61	62

☐ We declare hereby that we agree with the matrimonial condition

Continue

Figure 35. Screen mockup – The application form for marriage registration

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
8	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
9	Request Extras Button	Button	OnClick: Open request extract page		Active
10	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
11	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
12	Title of the service	Label	title of the service	Text	
13	First Name	TextBox	First Name The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	String	Active
14	First Name	TextBox	First Name The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	String	Active
15	Last Name	TextBox	Last Name The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	String	Active
16	Last Name	TextBox	Last Name The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	String	Active
17	The UID of the person	TextBox	IDNP of the person	String	Active
18	The UID of the person	TextBox	The IDNP of the person	String	Active
19	Date of Birth	Calendar	Date of Birth The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Date	Active
20	Date of Birth	Calendar	Date of Birth The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Date	Active
21	Age	TextBox	Age. The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Number	Active
22	Age	TextBox	Age. The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Number	Active
23	City/Municipality	ListBox	City/Municipality	Text	Active
24	City/Municipality	ListBox	City/Municipality		Active
25	Country	Dropdown List	Country	Text	Active
26	Country	Dropdown List	Country	Text	Active
27	Region/District	ListBox	Region/District	Text	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
28	Region/District	ListBox	Region/District	Text	Active
29	Number of the birth certificate	TextBox	Number of the birth certificate The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Number	Active
30	Number of the birth certificate	TextBox	Number of the birth certificate The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Number	Active
31	Date of issuance	Calendar	Date of issuance The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Date	Active
32	Date of issuance	Calendar	Date of issuance The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Date	Active
33	Authority	TextBox	Authority. The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Text	Active
34	Authority	TextBox	Authority. The field must be automatically pre-filled if the data are retrieved successfully through MConnect.	Text	Active
35	Nationality	TextBox	Nationality	String	Active
36	Nationality	TextBox	Nationality	String	Active
37	Citizenship	TextBox	Citizenship	String	Active
38	Citizenship	TextBox	Citizenship	String	Active
39	Civil status	RadioButton	Civil status	Value	Active
40	Civil status	RadioButton	Civil status	Value	Active
41	Number of the civil act	TextBox	Number of the civil act	Number	Active
42	Number of the civil act	TextBox	Number of the civil act	Number	Active
43	Date of issuance	Calendar	Date of issuance	Date	Active
44	Date of issuance	Calendar	Date of issuance	Date	Active
45	Authority	TextBox	Authority	Text	Active
46	Authority	TextBox	Authority	Text	Active
47	Economic activity	CheckBox	Economic activity	Value	Active
48	Economic activity	CheckBox	Economic activity	Value	Active
49	Education level	CheckBox	Education level	Value	Active
50	Education level	CheckBox	Education level	Value	Active
51	Current residence	TextBox	Current residence	Text	Active
52	Current residence	TextBox	Current residence	Text	Active
53	Date since	Calendar	Date since	Date	Active
54	Date since	Calendar	Date since	Date	Active
55	Series of the ID card	TextBox	Series of the ID card	String	Active
56	Series of the ID card	TextBox	Series of the ID card	String	Active
57	Number of the ID card	TextBox	Number of the ID card	Number	Active
58	Number of the ID card	TextBox	Number of the ID card	Number	Active
59	Authority	TextBox	Authority	Text	Active
60	Authority	TextBox	Authority	Text	Active
61	Date of issuance of the ID card	Calendar	Date of issuance of the ID card	Date	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
62	Date of issuance of the ID card	Calendar	Date of issuance of the ID card	Date	Active
63	Consent	CheckBox	Consent	Value	Active
64	Continue	Button	Saves the data and redirects the user to the next step: appointment to the consular office.		Active
65	logo	Image	Coat of arms	Image	
66	Header title: Name of the diplomatic mission	Label	Name of the diplomatic mission	Text	
67	Language	Button	Allows the user to change the language of the interface	Value	

After the recording and signing of the application form the system shall provide a pre-filled form of the marriage registration act which consists of two pages as presented in the next figures. After the completion of the steps related to the filling and signing of the application forms and the act of marriage , the System will allow the consular servant to issue and print the Certificate of Marriage according to the template in force.

HE		SHE	
Last name before marriage			
25		26	
Last name after marriage			
27		28	
First name			
31		30	
IDNP	23	IDNP	24
Date and place of Birth			
Date of Birth <input type="text"/> Age <input type="text"/> years old Village <input type="text"/> City/Town (Municipality) <input type="text"/> District <input type="text"/> Country <input type="text"/>		Date of Birth <input type="text"/> Age <input type="text"/> years old Village <input type="text"/> City/Town (Municipality) <input type="text"/> District <input type="text"/> Country <input type="text"/>	
Birth Certificate			
Certificate no. <input type="text"/> from <input type="text"/> issued by <input type="text"/>		Certificate no. <input type="text"/> from <input type="text"/> issued by <input type="text"/>	
Nationality			
36		37	
Citizenship			
38		39	
Employment status			
40		41	
Level of education			
42		43	
Civil status			
Civil Status <input type="radio"/> Single <input type="radio"/> Divorced <input type="radio"/> Widow(ed) Certificate no. <input type="text"/> from <input type="text"/> issued by <input type="text"/> No. of marriages <input type="text"/> cite the number of marriages he registers		Civil Status <input type="radio"/> Single <input type="radio"/> Divorced <input type="radio"/> Widow(ed) Certificate no. <input type="text"/> from <input type="text"/> issued by <input type="text"/> No. of marriages <input type="text"/> cite the number of marriages she registers	

Form fields specification

#	Element Name	Element Type	Description	Field Type	Element Mode
3	Civil Status	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes citizen's civil status.	Value	Active
4	Date of Birth	Calendar	Applicant's date of birth	Date	
5	CivilStatus RadioButtonGroup	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes citizen's civil status.	Value	Active
6	Date of Birth	Calendar	Applicant's date of birth	Date	
7	Date of issuance	Calendar	Date of issuance	Date	
11	Wife Date of Birth	Calendar	Wife's date of birth	Date	
12	Age	TextBox	Age	Number	Active
13	Village	TextBox	Consular inputs Village birth place	Text	Active
14	City/Town (Municipality)	TextBox	City/Town (Municipality) of birth	String	Active
15	District	Dropdown List	Place of Birth - District/County	String	Active
16	Country	Dropdown List	Place of Birth - Country	Value	Active
17	Husband Date of Birth	Calendar	Husband 's date of birth	Date	
18	Age	TextBox	Age	Number	Active
19	Village	TextBox	Village	Text	Active
20	City/Town (Municipality)	TextBox	City/Town (Municipality) birth place	String	Active
21	District	Dropdown List	Place of Birth - District/County	String	Active
22	Country of Birth	Dropdown List	Country of Birth	Value	Active
23	IDNP	TextBox	Personal UID	String	
24	IDNP	TextBox	Personal UID	String	
25	Last name before marriage	TextBox	Last name of the person before marriage	String	
26	Last name of the person before marriage	TextBox	Last name of the person before marriage	String	
27	Last name after marriage	TextBox	Last name after marriage	String	
28	Last name after marriage	TextBox	Last name after marriage	String	
30	First name of the person	TextBox	First name of the person	String	
31	First name of the person	TextBox	First name of the person	String	
32	Certificate no.	TextBox	Certificate no.	Number	
33	Certificate no.	TextBox	Certificate no.	Number	
34	Issued by	TextBox	Organisation which issued the certificate	Text	
35	Issued by	TextBox	Organisation which issued the certificate	Text	
36	Nationality	TextBox	Nationality	String	
37	Nationality	TextBox	Nationality	String	
38	Citizenship	TextBox	Citizenship	String	
39	Citizenship	TextBox	Citizenship	String	
40	Employment status	TextBox	Economic activity of the person	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
41	Employment status	TextBox	Employment status	Text	
42	Level of education	Dropdown List	Level of education	Text	
43	Level of education	Dropdown List	Level of education	Text	

HE		SHE	
Residence (Address)			
Street	44	Street	45
No.	46	No.	47
Apartment	48	Apartment	49
Village	50	Village	51
City (municipality)	52	City (municipality)	53
District	54	District	55
Country	56	Country	57
Identity documents		Add doc + 58	
Document Title	59	Document Title	60
Series	61	Series	62
No.	63	No.	64
Issue Date	65	Issue Date	66
Issued By	67	Issued By	68
Issued marriage certificate			
Series	69	No.	70
Signature		Signature	
Notes			
71			
Issued documents afterwards		Add doc +	
No.	Document Title	Series	Number
1.			
2.			
3.			
4.			
Stamp		Consular Servant First Name, Last Name 72	
		Save 78	

Figure 37. Screen mockup for the Act of Marriage - back page

Form fields specification

#	Element Name	Element Type	Description	Field Type
44	Citizen's address - street	TextBox	Citizen's address - street	Text
45	Citizen's address - street	TextBox	Citizen's address - street	Text
46	street no.	TextBox	street no.	Number
47	street no.	TextBox	street no.	Number
48	Apartment no.	TextBox	Apartment no.	Number
49	Apartment no.	TextBox	Apartment no.	Number
50	Village (locality)	TextBox	Citizen's address - village (locality)	Text
51	village (locality)	TextBox	Citizen's address - village (locality)	Text
52	City (Municipality)	TextBox	Citizen's address - City (Municipality)	Text
53	City (Municipality)	TextBox	Citizen's address - City (Municipality)	Text
54	District	TextBox	Citizen address - District (region)	Text
55	District	TextBox	Citizen address - District (region)	Text
56	Country	Dropdown List	Country	Text
57	Country	Dropdown List	Country	Text
58	Add doc	Button	Allows the user to add an additional record about the identity document (if needed and available)	
59	Document Title	TextBox	Document Title	Text
60	Document Title	TextBox	Document Title	Text
61	Series	TextBox	Series of the document	Text
62	Series	TextBox	Series of the document	Text
63	No.	TextBox	Number of the document	Number
64	No.	TextBox	Number of the document	Number
65	Issue date	Calendar	Date when the document was issued	Date
66	Issue date	Calendar	Date when the document was issued	Date
67	Issued by	TextBox	Name of the organisation which issued the document	Text
68	Issued by	TextBox	Name of the organisation which issued the document	Text
69	Series	TextBox	Series of the Marriage Certificate	String
70	No.	TextBox	Number of the Marriage Certificate	Number
71	Notes	TextArea	Any additional notes or explanations (optional)	Text
72	Full name of the consular servant	Label	Full name of the consular servant. Auto-completed by the system.	Text
73	Document title	Column	Document title	Text
74	Series	Column	Series of the document	String
75	Number	Column	Number of the document	Number

#	Element Name	Element Type	Description	Field Type
76	Date issued	Column	Date when the document was issued	Date
77	Issued by	Column	Name of the organization which issued the document	Text
78	Save	Button	Saves the data and redirects the user to the next step (page)	

16.10. Superlegalization of Documents

Embassy of the Republic of Moldova

Language

Verify application Request Extract Verify Document Terms and Conditions

Superlegalization of documents

Service Request Application Submitted Documents Application Processing

Information about empowered person

Is the service application submitted by an empowered person?

☐ Yes ☐ No

Information about applicant

IDNP

First Name Last Name Date of Birth

Phone no. Applicant's Email

Information about legal entity

Organisation's Name Organisation's founding date

Phone no. E-mail Address

Information about documents to be superlegalized

Documents New Document +

Document Type	Document Number	Document Series	Destination Country

☐ Terms and Conditions

Back Confirm

Figure 38. Screen mockup – superlegalization application form

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
33	Heading Title Label	Label	The heading describes the title of the service	Text	Read-only
34	Applicant Tab Link	Tab	OnClick: Opens the Service Request Application		Active
35	Documents Tab Link	Tab	OnClick: Opens the content reserved for uploading documents		Active
36	Consular Servant Tab Link	Tab	OnClick: Opens the content reserved for consular servant for Application Processing		Active
37	Logo	Image	Coat of arms	Image	
38	Header of the page	Label	Name of the diplomatic mission	Text	
39	Language	Button	Allows the user to change the language of the interface	Value	
40	Verify Application	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
41	Request Extras Button	Button	OnClick: Open request extract page		Active
42	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
43	Terms Button	Button	OnClick: Opens the terms and conditions page		Active

Information about empowered person

Is the service application submitted by an empowered person ⁸

☐ Yes ⁹ ☐ No ¹⁰

Information about applicant

IDNP ⁵⁶

First Name ¹¹ Last Name ¹² Date of Birth ¹³

Phone no. ¹⁴ Applicant's Email ¹⁵

Information about legal entity

Organisation's Name ¹⁶ Organisation's founding date ¹⁷

Phone no. ¹⁸ E-mail Address ¹⁹

Information about documents to be superlegalized

Documents ²⁴ New Document +

Document Type ²⁰	Document Number ²¹	Document Series ²²	Destination Country ²³

☐ Terms and Conditions ²⁵

Back ²⁶ **Confirm** ²⁷

Figure 39. Screen mockup – information about the empowered person

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
56	IDNP	Textbox	Applicant's IDNP	String	Active
8	Applicant's Type RadioButton Group	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes whether the application is submitted by an empowered person.	Value	Active
9	Empowered	RadioButton	OnChange: The event triggers the empowered person status, and sets active the attorney information section group	Value	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
10	Not through an empowered person	RadioButton	OnChange: The event triggers the empowered person status, and sets inactive the attorney information section group	Value	Active
11	Attorney First Name	TextBox	OnInput: The event triggers when user inputs the attorney's first name.	Text	Active
12	Attorney Last Name	TextBox	OnInput: The event triggers when user inputs the attorney's last name.	Text	Active
13	Date of Birth	TextBox	OnChange: The event triggers when attorney's birthdate is picked from the calendar and prefills the textarea input.	Date	Active
14	Telephone TextBox	TextBox	OnInput: The event triggers when user inputs the attorney's phone number,	Text	Active
15	Email	TextBox	OnInput: The event triggers when user inputs the attorney's email address.	Value	Active
16	Company Name	TextBox	OnInput: The event triggers when user inputs the company's name.	Text	Active
17	Organization's founding date	Calendar	The date when the organisation was founded (established).	Date	Active
18	Company Telephone	TextBox	OnInput: The event triggers when user inputs the company's phone number,	Value	Active
19	Company Email	TextBox	OnInput: The event triggers when user inputs the company's email,	Value	Active
20	Document Type	GridView(Table)	Document type	Value	Active
21	Document Number	GridView(Table)	The document's number.	Number	Active
22	Document Series	GridView(Table)	the document series.	Value	Active
23	Destination	GridView(Table)	The country for which the document should be superlegalized.	Text	Active
24	New Doc	Button	OnClick: The event should trigger a new row for document insertion needed for the superlegalization process.		Active
25	Terms Radio Button	RadioButton	OnChange: The event triggers when the user picks of radio button that describes if the applicant agrees with the terms.		Active
26	Back Button	Button	Redirects the user to the previous page		Active
27	Confirm Button	Button	OnClick: Saves the data and takes the user to the next step		Active
28	Applicant's First Name	TextBox	OnInput: The event triggers when user inputs the applicant's first name. May be automatically retrieved from other external sources through MConnect based on person's IDNP. Queries from the Person data structure of the FirstName property.		
29	Applicant Last Name	TextBox	OnInput: The event triggers when user inputs the applicant's last name. May be automatically retrieved from other external sources through MConnect based on person's IDNP. Queries from the Person data structure of the LastName property.	Text	Active
30	Date of birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the textarea input May be automatically retrieved from other external sources through MConnect based on person's IDNP. Queries from the Person data structure of the BirthDate property.	Date	Active

#	Element Name	Element Type	Description	Field Type
49	Application's Unique ID	Label	Application's Unique ID	String
50	Approved	CheckBox	Approved	Value
51	Rejected	CheckBox	Rejected	Value
52	Preview area	Image	Preview area of the document	Image
53	Download file	Button	Download file	
54	Back	Button	Redirects the user to the previous screen	
55	Continue	Button	Saves the data and takes the user to the next step	

16.11. Diplomatic Passport/ Service Passport

Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language

Verify application Request Extract Verify Document Terms and Conditions

Diplomatic Passport/ Service Passport issuance

Service Request Application Submitted Documents Application Processing

Document Type
☐ Diplomatic Passport ☐ Service Passport

Enter reason for Document Application

Information about applicant
 Applicant's IDNP

 First Name Last Name Date of Birth
 Place of Birth Country of Birth
 Current Residence Address
Document possession
☐ ID Card ☐ Birth Certificate
 Job Position Employer
 Phone no. E-mail address
☐ Terms and Conditions

Back Confirm

Figure 41. Screen mockup - Diplomatic/Service Passport Application Form (available only in the Back-Office)

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
8	Applicant Tab Link	Tab	OnClick: Opens the Service Requests Application		Active
9	DocumentsTab Link	Tab	OnClick: Opens the content reserved for uploading documents		Active
10	Consular Servant Tab Link	Tab	OnClick: Opens the content reserved for consular servant for Application Processing		Active
34	Title of the service	Label	Title of the service	Text	
35	Logo	Image	Coat of arms	Image	
36	Header of the page	Label	Name of the diplomatic mission	Text	
37	Language	Button	Allows the user to change the language of the interface	Value	
38	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
39	Request Extras Button	Button	OnClick: Open request extract page		Active
40	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
41	Terms Button	Button	OnClick: Opens the terms and conditions page		Active

Document Type 22

☐ Diplomatic Passpo 23 ☐ Service Passport 24

Enter reason for Document Application

28

Information about applicant

Applicant's IDNP

14

First Name 11 **Last Name** 12 **Date of Birth** 13

Place of Birth 17 **Country of Birth** 18

Current Residence Address

19

Document posession 25

☐ ID Card 26 ☐ Birth Certificate 27

Job Position 29 **Employer** 30

Phone no. 16 **E-mail address** 15

☐ Terms and Conditions 31

Back 20 **Confirm** 21

Figure 42. Screen mockup Diplomatic/Service Passport – Tab Service Request Form

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
11	Applicant's First Name	TextBox	OnInput: The event triggers when user inputs the applicant's first name. The data may be obtained from other external data sources through MConnect based on person's IDNP. Queries from the Person data structure of the FirstName property.		
12	Applicant Last Name	TextBox	OnInput: The event triggers when user inputs the applicant's last name. The data may be obtained from other external data sources through MConnect based on person's IDNP. Queries from the Person data structure of the LastName property.	Text	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
13	Date of Birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the textarea input. The data may be obtained from other external data sources through MConnect based on person's IDNP. Queries from the Person data structure of the BirthDate property.	Date	Active
14	Applicant's IDNP	TextBox	OnInput: The event triggers when user inputs the applicant's IDNP.	String	Active
15	Applicant Email	TextBox	OnInput: The event triggers when user inputs the applicant's email address.	Value	Active
16	Applicant Phone no.	TextBox	OnInput: The event triggers when user inputs the applicant's phone number.	Number	Active
17	PlaceofBirth TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's place of birth. The data may be obtained from other external data sources through MConnect based on person's IDNP. Queries from the 'Person' data structure of the BirthLocality/BirthRegion property	Text	Active
18	Country of Birth TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's country of birth.	Text	Active
19	Residence Address	TextBox	OnInput: The event triggers when user inputs the applicant's residence Queries from the Registration data structure of the Address property	Text	Active
20	Back Button	Button	Redirects the user to the previous page		Active
21	Confirm Button	Button	OnClick: Saves the data and takes the user to the next step		Active
22	Document Type RadioButton Group	RadioButton	OnChange: The event triggers when the user picks one of the radio buttons that describes which of the aforementioned document type is required.		Active
23	DiplomaticPass Radio Button	Button	OnChange: The event triggers the diplomatic passport status application	Value	Active
24	ServicePass Radio Button	RadioButton	OnChange: The event triggers the service passport status application	Value	Active
25	DocType RadioButtonGroup	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes which of the listed documents is submitted(id card, birth certificate,etc).		Active
26	ID Card Radio Button	RadioButton	OnChange: The event triggers the id card document submission status, and sets active the id card required fields	Value	Active
27	Birth Radio Button	RadioButton	OnChange: The event triggers the birth certificate document submission status, and sets active the birth certificate required fields	Value	
28	DocReason TextBox	TextBox	OnInput: The event triggers when the user inputs the main reason for document issuance	Text	Active
29	Job Position TextBox	TextBox	OnInput: The event triggers when the user inputs the job position	Text	Active
30	Employer TextBox	TextBox	OnInput: The event triggers when user inputs the employer's name. When user is logged in with MPass, the platform should check the field according to the applicant's personal data received via MConnect; Queries from the Organization data structure for the Name property.		

32

Required documents

an identity document, with photo, issued by the authorities

☐ of the Republic of Moldova (identity card, driver's license, military passbook);

☐ a travel document(previous passport);

proof from the local police authorities regarding the claim

☐ of loss or theft (depending on the case) or statement regarding the loss, theft of the passport;

☐ other documents, that can help us to recognize your citizenship.

Proof documents


Upload files or attach [Browse](#) 33

Figure 43. Screen mockup - Diplomatic/Service Passport - Submitted documents

Form Fields Specification

#	Element Name	Element Type	Description
32	Required documents	Panel	Panel of checkboxes with type of documents to be uploaded
33	Browse	Button	Allows the user to select a document to be uploaded

16.12. Notary Documents



Ministry of Foreign Affairs and European Integration of the Republic of Moldova

Embassy of the Republic of Moldova

Language

Verify application

Request Extract

Verify Document

Terms and Conditions

Notary Document

Service Request Application

Submitted Documents

Application Processing

Applicant's Data

Service Details

Delivery Method

Confirmation

Signature

Payment Method

Confirmation Receipt

Information about applicant

First Name

Last Name

Date of Birth

Applicant's IDNP

Phone no.

E-mail address

Information about empowered person

First Name

Last Name

Date of Birth

IDNP

Phone no.

E-mail address

Type of power of attornies

Upload model of custom power of attorney *

Drop files to attach [Browse](#)

Explanation (describes the reason for notary act issuance or other comments regarding the required document)

Back

Confirm

Figure 44. Screen mockup - Notary documents - General application form

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
2	Service Details	Menu Item	Service details menu item		
3	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
4	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
5	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
6	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
7	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
8	Applicant Tab Link	Tab	OnClick: Opens the Service Request Application		Active
9	DocumentsTab Link	Tab	OnClick: Opens the content reserved for uploading documents		Active
10	Consular Servant Tab Link	Tab	OnClick: Opens the content reserved for consular servant for Application Processing		Active
29	Logo	Image	Coat of arms	Image	
30	Header of the page	Label	Name of the diplomatic mission	Text	
31	Language	Button	Allows the user to change the language of the interface	Value	
32	VerifyApplication Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
33	Request Extras Button	Button	OnClick: Open request extract page		Active
34	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
35	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
48	Title of the service	Label	Title of the service	Text	

Information about applicant

First Name

Last Name

Date of Birth

Applicant's IDNP

Phone no.

E-mail address

Information about empowered person

First Name

Last Name

Date of Birth

IDNP

Phone no.

E-mail address

Type of power of attornies

Upload model of custom power of attorne

Drop files to attach

Brow

Explanation (describes the reason for notary act issuance or other comments regarding the required document)

Back

Confirm

Figure 45. Screen mockup - Notary documents - Service Request Form

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
11	Applicant's First Name	TextBox	<p>OnInput: The event triggers when user inputs the applicant's first name.</p> <p>This information may be retrieved from external sources through MConnect based on citizen's IDNP.</p> <p>Queries from the Person data structure of the FirstName property.</p>	String	

#	Element Name	Element Type	Description	Field Type	Element Mode
12	Applicant's Last Name	TextBox	OnInput: The event triggers when user inputs the applicant's last name. This information may be retrieved from external sources through MConnect based on citizen's IDNP. Queries from the Person data structure of the LastName property.	String	Active
13	Applicant date of birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the textarea input This information may be retrieved from external data sources through MConnect based on citizen's IDNP. Queries from the Person data structure of the BirthDate property.	Date	Active
14	Applicant Email address	TextBox	OnInput: The event triggers when user inputs the applicant's email address.	String	Active
15	Applicant Phone no.	TextBox	OnInput: The event triggers when user inputs the applicant's phone number.	String	Active
16	Applicant's IDNP	TextBox	Citizen's IDNP	String	Active
17	First name of the empowered person	TextBox	OnInput: The event triggers when user inputs the applicant's first name. This information may be retrieved from external sources through MConnect based on citizen's IDNP. Queries from the Person data structure of the FirstName property.	String	
18	Last Name of the empowered person	TextBox	OnInput: The event triggers when user inputs the applicant's last name. This information may be retrieved from external sources through MConnect based on citizen's IDNP. Queries from the Person data structure of the LastName property.	String	Active
19	Applicant Date of Birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the text area input This information may be retrieved from external sources through MConnect based on citizen's IDNP. Queries from the Person data structure of the BirthDate property.	Date	Active
20	Email address	TextBox	OnInput: The event triggers when user inputs the person's email address.	String	Active
21	Contact Phone no.	TextBox	OnInput: The event triggers when user inputs the contact phone number.	String	Active
22	IDNP of the empowered person	TextBox	The IDNP of the empowered person	String	Active
23	Custom Power of Attorney Label	Label	The below section should be used only if the user has a need for a special/custom model of power of attorney	Text	Read-only
24	Browse Button	Button	OnClick: The event should open a pop-up where the user could select a custom power of attorney from personal files.		Active
25	Explanation Text Area	TextArea	OnInput: The event triggers when the user inputs the main reason or comment for document issuance	Text	Active
26	Back Button	Button	Redirects the user to the previous page		Active

#	Element Name	Element Type	Description	Field Type	Element Mode
27	Confirm Button	Button	OnClick: Saves the data and takes the user to the next step		Active
28	Type Dropdown List	Dropdown List	OnChange: The event triggers when the user picks a power of attorney from the dropdown list	Value	Active

16.13. Consular Declarations

Ministry of Foreign Affairs and European Integration of the Republic of Moldova
Embassy of the Republic of Moldova

Language

Verify application Request Extract Verify Document Terms and Conditions

Consular Declaration

Service Request Application Submitted Documents Application Processing

Information about empowered person

Is the service application submitted by an empowered person?

☐ Yes ☐ No

Information about applicant

First Name Last Name Date of Birth

Applicant's IDNP Phone number E-mail Address

Type of consular declarations

☐ clarification of discrepancies in the identity or civil status documents (name/surname, change of name/surname, retention of name after marriage and/or divorce/ death of spouse, place of birth indicated incompletely or differs in other documents, civil status of the person, other situations);

☐ existence or absence of income and real estate in the Republic of Moldova (is issued only upon presentation of certificates issued by the tax authority or the territorial cadastral service of the Republic of Moldova);

☐ other;

Explanation (describe the reason for declaration issuance)

☐ Terms and Conditions

Back Confirm

Figure 46. Screen mockup - Consular declaration service - General form

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Heading Title Label	Label	The heading describes the title of the service	Text	Read-only
2	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
3	Service Details	Menu Item	Service details menu item		
4	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
5	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	

#	Element Name	Element Type	Description	Field Type	Element Mode
6	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	
7	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
8	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
9	Applicant Tab Link	Tab	OnClick: Opens the Service Request Application		Active
10	Documents Tab Link	Tab	OnClick: Opens the content reserved for uploading documents		Active
11	Consular Servant Tab Link	Tab	OnClick: Opens the content reserved for consular servant for		Active
28	Logo	Image	Coat of arms	Image	
29	Header of the page	Label	Name of the diplomatic mission	Text	
30	Language	Button	Allows the user to change the language of the interface	Value	
31	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
32	Request Extras Button	Button	OnClick: Open request extract page		Active
33	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
34	Terms Button	Button	OnClick: Opens the terms and conditions page		Active

Information about empowered person

Is the service application submitted by an empowered person?

☐ Yes
 ☐ No

Information about applicant

First Name

Last Name

Date of Birth

Applicant's IDNP

Phone number

E-mail Address

Type of consular declarations

☐
clarification of discrepancies in the identity or civil status documents
 (name/surname, change of name/surname, retention of name after marriage and/or divorce/ death of spouse, place of birth indicated incompletely or differs in other documents, civil status of the person , other situations);

☐
existence or absence of income and real estate in the Republic of Moldova
 (is issued only upon presentation of certificates issued by the tax authority or the territorial cadastral service of the Republic of Moldova);

☐
other;

Explanation (describe the reason for declaration issuance)

☐ Terms and Conditions

Back

Confirm


Figure 47. Screen mockup – Consular Declaration service – information about the empowered person

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
12	Applicant's First Name	TextBox	OnInput: The event triggers when user inputs the applicant's first name. This information may be retrieved from external data sources through MConnect Queries from the Person data structure of the FirstName property.		

#	Element Name	Element Type	Description	Field Type	Element Mode
13	Applicant's Last Name	TextBox	OnInput: The event triggers when user inputs the applicant's last name. This information may be retrieved from external data sources through MConnect Queries from the Person data structure of the LastName property.	Text	Active
14	Date of Birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the textarea input This information may be retrieved from external data sources through MConnect Queries from the Person data structure of the BirthDate property.	Date	Active
15	E-mail address	TextBox	OnInput: The event triggers when user inputs the applicant's email address.	Value	Active
16	Applicant Phone no.	TextBox	OnInput: The event triggers when user inputs the applicant's phone number.	Number	Active
17	IDNP	TextBox	Citizen's personal UID – the IDNP.	String	Active
18	Applicant's Type	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes whether the application is submitted by a empowered person.	Value	Active
19	Empowered person	RadioButton	OnChange: The event triggers the empowered person status, and sets active the attorney information section group	Value	Active
20	No RadioButton	RadioButton	OnChange: The event triggers the empowered person status, and sets inactive the attorney information section group	Value	Active
21	Consular Type Check Box Group	CheckBox	OnChange: The event triggers when the user selects one or multiple checkboxes that describes which of the aforementioned type of consular declaration is required.	Value	Active
22	Clarification Radio Button	RadioButton	OnChange: Clarification documents are required in selecting the checkbox	Value	Active
23	Tax info CheckBox	CheckBox	OnChange: Clarification documents for tax and revenue information	Value	Active
24	Explanation Text Area	TextArea	OnInput: The event triggers when the user inputs the main reason for declaration issuance	Text	Active
25	Terms and conditions	RadioButton	OnChange: The event triggers when the user picks of radio button that describes if the applicant agrees with the terms.		Active
26	Back Button	Button	Redirects the user to the previous page		Active
27	Confirm Button	Button	OnClick: Saves the data and takes the user to the next step		Active

16.14. Acquisition, Re-acquisition, Renunciation of Citizenship


32

☐ Is the application filled for a child? 85

IDNP 34

First Name 35

Last Name 36

Date of Birth 37

Patronymic 38

Sex 39

Pseudonym 40

☐ Male ☐ Female

Previous First Name 41

Previous Last Name 42

Place of birth

Country of Birth 83

Region/District 80

City/Town/Village 43

Current Residence

Residence Country 84

Region/District 44

City/Town/Village 53

Street 45

Flat No. 46

Apartment 47

Phone no. 48

+373...

Military situation 49

Civil status 50

Ethnicity 51

Education level 52

Married

Date of settlement in Rep. Moldova 54

Date of departure from Rep. Moldova 55

Date of losing citizenship of R.M 56

Reason for the loss of the citizenship of Rep. Moldova 57

Citizenship previously owned 58

Workplace 59

Position 60

Retir. 61

☐ Yes ☐ No

Personal information about parents

Father's First Name 62	Father's Last Nam 63	Citizenship 64	Father's UID 65
Mother's First Name 66	Mother's Last Nam 67	Citizenship 68	Mother's UID 69

Personal information about spouses

Spouse's First Name 70	Spouse's Last Nam 71	Citizenship 72	Spouse's IDNP 73

Personal information about minor children

No.	Child First Nan 74	Child Last Nam 75	Se 76	Date of Birt 77	Citizenshi 78	Child's UID 79
1						
2						
3						

Back 82

Continue 81

Figure 48. Screen mockup – Acquisition, Re-acquisition, Renunciation of Citizenship

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
32	Applicant's photo	Image	Applicant's photo	Image	

#	Element Name	Element Type	Description	Field Type	Element Mode
33	Upload photo	Image	Allows the user to upload a new photo is so required	Image	
34	Applicant's UID	TextBox	Personal ID number of the applicant. OnInput: Based on person's IDNP (<i>if available</i>) the platform should check the field according to the applicant's personal data received via MConnect and prefills the textbox with the applicant's IDNP.	Value	Active
35	Applicant First name	TextBox	First name of the applicant	String	Active
36	Applicant's Last Name	TextBox	Last name of the applicant	String	Active
37	Date of birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the textarea input.	Date	Active
38	Patronymic	TextBox	Applicant's patronymic	String	Active
39	Applicant's sex (gender)	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes applicant's sex.	Value	Active
40	Applicant's Pseudonym	TextBox	OnInput: The event triggers when user inputs the pseudonym	String	
41	Previous FirstName	TextBox	OnInput: The event triggers when user inputs the applicant's previous first name in case of change.	String	Active
42	Previous Last Name	TextBox	OnInput: The event triggers when user inputs the applicant's previous last name in case of change.	String	Active
43	Locality of birth	TextBox	City or Town or village where the applicant was born	Text	Active
44	Region/District	TextBox	OnInput: The event triggers when user inputs the region/district or other administrative unit of the applicant's country of residence	String	Active
45	Street	TextBox	OnInput: The event triggers when user inputs the street and number at his current residence	String	Active
46	Flat TextBox	TextBox	OnInput: The event triggers when user inputs the flat number at his current residence	Text	Active
47	Apartment TextBox	TextBox	OnInput: The event triggers when user inputs the apartment at his current residence	String	Active
48	Phone no.	TextBox	OnInput: The event triggers when user inputs the phone at his current residence	Number	Active
49	Military situation	TextBox	OnInput: The event triggers when user inputs its military situation	String	Active
50	Civil status	Dropdown List	OnChange: The event triggers when user picks the civil status from dropdown list	Value	Active
51	Ethnicity	Dropdown List	OnChange: The event triggers when user picks his ethnicity from dropdown list	Value	Active
52	Education level	Dropdown List	OnChange: The event triggers when user picks his acquired education from dropdown list	Value	Active
53	Locality	TextBox	OnInput: The event triggers when user inputs the locality of the applicant's current residence	String	Active
54	Settlement Date TextBox	TextBox	OnChange: The event triggers when applicant's date of settlement is picked from the calendar and prefills the textarea input	Date	Active
55	Departure Date TextBox	TextBox	OnChange: The event triggers when applicant's date of departure from Republic of Moldova is picked from the calendar and prefills the textarea input	Date	Active
56	Loss Date Textbox	TextBox	OnChange: The event triggers when applicant's date of losing citizenship from Republic of Moldova is picked from the calendar and prefills the textarea input	Date	Active
57	Reason TextBox	TextBox	OnChange: The event triggers when the user inputs the reason for citizenship loss	String	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
58	Previous Citizenship	DropDown List	OnChange: The event triggers when the user inputs the previously owned citizenship	Text	Active
59	Workplace TextBox	TextBox	OnInput: The event triggers when user inputs the applicant's current workplace	String	Active
60	Job position	TextBox	OnInput: The event triggers when user inputs the applicant's current position at the workplace	String	Active
61	Retiree	RadioButton	OnChange: The event triggers when the user picks any of radio buttons that describes whether the applicant is a retiree.	Value	Active
62	Father's First Name	Column	OnInput: The event triggers when user inputs the father's first name;	String	Active
63	Father Last Name	Column	OnInput: The event triggers when user inputs the father's first name;	String	Active
64	Father's Citizenship	Column	OnInput: The event triggers when user inputs the father's citizenship;	String	Active
65	Father's UID	Column	OnInput: The event triggers when user inputs the father's personal ID number (the IDNP if father is a Moldovan citizen).		
66	Mother's First Name	Column	OnInput: The event triggers when user inputs the mother's first name;		
67	Mother's Last Name Column	Column	OnInput: The event triggers when user inputs the mother's last name;		
68	Mother Citizenship Column	Column	OnInput: The event triggers when user inputs the mother's citizenship;	String	Active
69	Mother IDNP	Column	OnInput: The event triggers when user inputs the mother's personal ID number (the IDNP if mather is a Moldovan citizen).		
70	Spouse First Name	Column	OnInput: The event triggers when user inputs the spouse's first name;	String	Active
71	Spouse Last Name Column	Column	OnInput: The event triggers when user inputs the spouse's last name;	String	Active
72	Citizenship		OnInput: The event triggers when user inputs the spouse's citizenship;		
73	Spouse personal UID	Column	OnInput: The event triggers when user inputs the spouse's personal ID number;	String	Active
74	Child First Name	Column	OnInput: The event triggers when user inputs the child's first name;		
75	Child Last Name	Column	OnInput: The event triggers when user inputs the child's last name;	String	Active
76	Child Sex	Column	OnInput: The event triggers when user inputs the child's sex;	String	Active
77	Child Birth	Column	OnInput: The event triggers when user inputs the child's birth date;	Date	Active
78	Child Birth	Column	OnInput: The event triggers when user inputs the child's citizenship;	String	Active
79	Child IDNP Column	Column	OnInput: The event triggers when user inputs the child's personal ID number (the IDNP for Moldovan citizens).	String	Active
80	Region	TextBox	Region, district or other administrative unit of the applicant's country of birth	Text	Active
81	Continue	Button	Saves the data and takes the user to the next step		
82	Back Button	Button	Redirects the user to the previous page		Active
83	Country of birth	DropDown List	The country where the applicant was born	Value	

#	Element Name	Element Type	Description	Field Type	Element Mode
84	Residence country	DropDown List	OnInput: The event triggers when user inputs the applicant's current residence country		
85	Child status	RadioButton	Checked radiobutton means that the dossier is filled on behalf of a child	Value	

16.15. Issuance of the Criminal Record Certificate

The screenshot displays the 'Request the Criminal Record Certificate' form on the Embassy of the Republic of Moldova website. The header includes the Ministry of Foreign Affairs and European Integration of the Republic of Moldova, the Embassy logo, and navigation links for Language, Log In, Verify application, Request Extract, Verify Document, and Terms and Conditions. The form itself is titled 'Request the Criminal Record Certificate' and contains a 'Service Request Application Form' section. This section includes instructions on providing identity data (IDNP) and a consent statement. Input fields are provided for IDNP, Language (set to English), and Consular Office (The Consular Office to the United Kingdom of Great Britain and Northern Ireland). A 'Continue' button is located at the bottom right of the form.

Figure 49. Service Request Application Form for issuance of the Criminal Record Certificate

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the system	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user authentication using MPass - Authentication service)		Active
5	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras Button	Button	OnClick: Open request extract page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	Continue	Button	Saves the data and redirects the user to the next step.		

#	Element Name	Element Type	Description	Field Type	Element Mode
10	Title of the page	Label	Short title of the requested service	Text	
11	Applicant's Data menu item	Menu Item	Applicant's Data menu item		
12	Service Details	Menu Item	Service details menu item		
13	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	
14	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	
15	Signature	Menu Item	Allows te user to sign electronically the service request application form	Text	
16	Payment Method	Menu Item	Allows the user to select the payment method.	Text	
17	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	
18	IDNP	TextBox	Applicant's personal ID number (the IDNP)	String	
19	Language of the service outcome	Dropdown List	Allows the user to indicate the language required for preparation and issuance of the service outcome (the criminal record).	Value	
20	Consular Office	Dropdown List	Allows the user to indicate the consular office to which his/her service request application is addressed.	Value	
21	Terms and conditions	Checkbox	If checked the user agrees with the terms and conditions related to the provision of the service.	Value	

The citizen submits the service request application (*according to the figure above*) to obtain the criminal record (cazier judiciar). Upon the request the System (or the consular servant) must capture from the citizen his/her IDNP, the desired language of the output language, the consular office and the delivery method.

Once the application is successfully submitted, it must be made available in the e-Consulate Back-Office where it is assigned to a consular servant who becomes responsible for issuance of the document within the set deadline.

It is expected that the e-Consulate system will request the applicant's criminal record (ro: *cazier juridic*) from *e-Cazier* system based on applicant's IDNP. The result (*the criminal record in Romanian language or the content of the criminal record*) issued by the *e-Cazier* must be received in the e-Consulate Back-Office and the relevant consular servant must be notified.

Next, the responsible consular servant will translate the criminal record information in the language specified by the applicant upon request of the service. The System will allow the respective consular servant to issue and print the translated version of the criminal record certificate which shall be handed-over to the applicant according to the selected delivery method.

Once the service output (criminal record) is issued, printed and handed over to the applicant, the record can no longer be modified or deleted.

16.16. Consular Evidence

Information about applicant

IDNP

14

Date of Birth

13

First Name

11

Last Name

12

Place of Birth

15

Country of Birth

16

Information about residence

Current Residence Address

17

Phone no, at residence

20

Home Address (in R.Moldova)

21

Phone no. at home

22

Information about job and civil status

Job Position (acquired in R.Moldova)

23

Job Position (at current residence)

24

Employer (at current residence)

25

Civil status

26

Identity Card Information

Issue Date

27

Issued by

28

Validity

29

Back

30

Confirm

31

Figure 50. Screen mockup - Consular registration/record-keeping - general view

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
11	First Name	TextBox	OnInput: The event triggers when user inputs the applicant's first name. This information may be retrieved through MConnect based on citizen's IDNP.	String	
12	Last Name	TextBox	OnInput: The event triggers when user inputs the applicant's last name. This information may be retrieved through MConnect based on citizen's IDNP.	String	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
13	Date of birth	TextBox	OnChange: The event triggers when applicant's birthdate is picked from the calendar and prefills the field. This information may be retrieved through MConnect based on citizen's IDNP.	Date	Active
14	IDNP	TextBox	Requires the user to enter the personal UID of the citizen – IDNP.	String	Active
15	Place of birth	TextBox	The city/town/village where the citizen was born	Text	Active
16	Country of Birth	Dropdown List	Allows the user to select the country of birth from the list of countries.	Text	Active
17	Residence Address	TextBox	Address of the citizen	Text	Active
20	Phone no.	TextBox	Citizen's contact phone number including the country code.	String	Active
21	Home Address	TextBox	The address of the citizen in Republic of Moldova	Text	Active
22	Home Phone	TextBox	The citizen's contact phone number in Republic of Moldova	String	Active
23	Home Job Position	TextBox	The job position of the citizen in Republic of Moldova	Text	Active
24	Current Job Position	TextBox	Current job position of the citizen at current residence (in the country of accreditation)	Text	Active
25	Current Employer	TextBox	The name of the employer – the company where the citizen is currently employed	Text	Active
26	Civil Status	Dropdown List	The civil status of the citizen	String	
27	Date	TextBox	The date when the citizen's ID card has been issued. This information may be retrieved through MConnect based on citizen's IDNP.	Date	Active
28	Issued Entity	TextBox	The name of the organization which issued the ID card. This information may be retrieved through MConnect based on citizen's IDNP.	Text	Active
29	Validity	TextBox	The date until the document (ID card) is valid. This information may be retrieved through MConnect based on citizen's IDNP.	Date	Active
30	Back	Button	Redirects the user to the previous page		Active
31	Confirm	Button	OnClick: Saves the data and takes the user to the next step		Active

16.17. Registration of the Act of Birth

FIRST NAME ¹		LAST NAME ²	
<input type="text"/>		<input type="text"/>	
IDNP ³		DATE OF BIRTH ⁴	
IDNP <input type="text"/>		<input type="text"/>	
SEX ⁶			
Male <input type="text"/>			
BIRTH PLACE			
Village ⁸		District ⁹	
<input type="text"/>		<input type="text"/>	
City (municipality) ¹⁰		Country ¹¹	
<input type="text"/>		<input type="text"/>	
THE DETAILS OF BIRTH ACT REGISTRATION			
Document Title ¹²			
No. ¹³			
Issue Date ¹⁴			
Issued By ¹⁵			
BIRTH STATUS			
Type of Birth ¹⁶		Child Birth Status ¹⁷	
<input type="radio"/> Singleton <input type="radio"/> Multiple (Two, Three)		<input type="radio"/> Alive <input type="radio"/> Deceased	
INFORMATION ABOUT FATHER		INFORMATION ABOUT MOTHER	
IDNP ¹⁸		IDNP ¹⁹	
First Name ²⁰		First Name ⁴¹	
<input type="text"/>		<input type="text"/>	
Last Name ²¹		Last Name ⁴²	
<input type="text"/>		<input type="text"/>	
Place of Birth ²²		Place of Birth ⁴³	
Commune, District, Country		Commune, District, Country	
Date of Birth ²³ Age ²⁴ years old		Date of Birth ⁴⁴ Age ⁴⁵ years old	
<input type="text"/>		<input type="text"/>	
Nationality ²⁵		Nationality ⁴⁶	
<input type="text"/>		<input type="text"/>	
Citizenship ²⁶		Citizenship ⁴⁷	
<input type="text"/>		<input type="text"/>	
Home Address: Street ²⁷		Home Address: Street ⁴⁸	
<input type="text"/>		<input type="text"/>	
No. ²⁸ Apartment ²⁹		No. ⁴⁹ Apartment ⁵⁰	
<input type="text"/>		<input type="text"/>	
Village(commune) ³⁰		Village(commune) ⁵¹	
<input type="text"/>		<input type="text"/>	
City(municipality) ³¹		City(municipality) ⁵²	
<input type="text"/>		<input type="text"/>	
District ³²		District ⁵³	
<input type="text"/>		<input type="text"/>	
Country ³³		Country ⁵⁴	
<input type="text"/>		<input type="text"/>	
Employment Status ⁵⁵			
<input type="text"/>			
Education Level ⁵⁶			
Bachelor's degree <input type="text"/>		Bachelor's degree <input type="text"/>	
Identity Documents ⁵⁷ Add doc			
FATHER DOCUMENTS		MOTHER DOCUMENTS	
Docume ⁵⁷		Docume ⁶²	
Title ⁵⁸		Title ⁶³	
<input type="text"/>		<input type="text"/>	
Series ⁵⁹		Series ⁶⁴	
<input type="text"/>		<input type="text"/>	
No. ⁶⁰		No. ⁶⁵	
<input type="text"/>		<input type="text"/>	
Issue Date ⁶¹		Issue Date ⁶⁶	
<input type="text"/>		<input type="text"/>	
Issued By ⁶²		Issued By ⁶⁷	
<input type="text"/>		<input type="text"/>	

Figure 51. Screen mockup - Act of Birth Registration - Front page

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Child First Name	Textbox	Child's First Name	Text	Active
2	Child Last Name	Textbox	Child's Last Name	Text	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
3	Child IDNP	Textbox	Child's IDNP	Number	Active
4	Child Date of Birth	Label	Label of the field	Text	Active
6	Child Sex	Dropdown List	Child's sex	Boolean	Active
7	Date of Birth	Calendar	OnChange: The event triggers when the date of birth is picked from the calendar and prefills the field input	Date	Active
8	Village (locality)	TextBox	Child's birth place – village (locality)	Text	Active
9	District	TextBox	Child's birth place – district (region, county)	Text	Active
10	City/Town	TextBox	Child's birth place – city/town		
11	Country	Dropdown List	Child's birth place – country	Text	Active
12	ChildDoc Title	Textbox	Birth Certificate Title	Text	Active
13	ChildDoc No.	Textbox	Number of the Birth Certificate	Value	Active
14	ChildDoc Issue Date	Calendar	Birth Certificate's Date of issuance	Date	Active
15	ChildDoc Issued By	Textbox	The organization which issued the document	Text	Active
16	Pregnancy Type RadioButton Group	RadioButton	Pregnancy type (i.e. single or multiple)	Value	Active
17	Child's Birth Status RadioButton Group	RadioButton	Child's birth status	Value	Active
18	Father's IDNP	TextBox	The IDNP of father	Value	Active
19	Mother's IDNP	TextBox	The IDNP of mother	String	Active
20	Father's First Name	TextBox	Father's first name. In case of Moldovan citizens the data may be obtained automatically from other external data sources through MConnect based on citizen's IDNP.	String	Active
21	Father's Last Name	TextBox	Father's last name. In case of Moldovan citizens the data may be obtained automatically from other external data sources through MConnect based on citizen's IDNP.	String	Active
22	Father's Place of Birth	TextBox	father place of birth (locality, district, country)	String	Active
23	Father's date of birth	Calendar	Father's date of birth. In case of Moldovan citizens the data may be obtained automatically from other external data sources through MConnect based on citizen's IDNP.	Date	
24	Father's age	TextBox	Father's Age. The age can be determined (calculated) by the system.	Number	Active
25	Father's Nationality	TextBox	Father's nationality	String	Active
26	Father's Citizenship	Dropdown List	Father's citizenship	String	Active
27	Street	TextBox	Father's address – street	String	Active
28	Street Number	TextBox	Father's address – street number	Number	Active
29	Apartment Number	TextBox	Father's address – apartment number	Number	Active
30	Father's Village	TextBox	Father's birth place – village (locality)	Text	Active
31	Father's City	TextBox	Father's birth place – city	String	Active
32	Father's District	TextBox	Father's birth place – district	String	Active
33	Father's Country	Dropdown List	Father's country of birth	String	Active
41	Mother's First Name	TextBox	Mother's first name. In case of Moldovan citizens, the data may be obtained automatically from other external data sources through MConnect based on citizen's IDNP.	String	Active
42	Mother's Last Name	TextBox	Mother's last name. In case of Moldovan citizens, the data may be obtained automatically from other external data sources through MConnect based on citizen's IDNP.	String	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
43	Mother's place of birth	TextBox	Mother's place of birth	String	Active
44	Mother's date of birth	Calendar	Mother's date of birth. In case of Moldovan citizens, the data may be obtained automatically from other external data sources through MConnect based on citizen's IDNP.	Date	
45	Mother's age	TextBox	Mother's Age. The age can be determined (calculated) by the system.	Number	Active
46	Mother's Nationality	TextBox	Mother's nationality	String	Active
47	Mother Citizenship	Dropdown List	Mother's citizenship	String	Active
48	Mother 's address Street	TextBox	Mother's address – home street	String	Active
49	Mother's Street Number	TextBox	Mother's address – street number	Number	Active
50	Mother's Apartment Number	TextBox	Mother's apartment number	Number	Active
51	Mother's village	TextBox	Mother 's birth place – village (locality)	Text	Active
52	Mother's city	TextBox	Mother 's birth place – city	String	Active
53	Mother's district	TextBox	Mother 's birth place – district	String	Active
54	Mother's Country	Dropdown List	Mother 's birth place – country	String	Active
55	Employment status	TextBox	Employment status, economic Activity	String	Active
56	Education Level	Dropdown List	Education Level	String	Active
57	FatherDoc Title	TextBox	Father's Document Title	String	Active
58	FatherDoc No.	TextBox	Father's document number	Number	Active
59	FatherDoc Series	TextBox	Father's Document Series	String	Active
60	FatherDoc Issue Date	TextBox	Father's Document Issue Date	Date	Active
61	FatherDoc IssuedBy	TextBox	Father's document issued entity	String	Active
62	MotherDoc Title	TextBox	Mother's Document Title	String	Active
63	MotherDoc No.	TextBox	Mother's document number	Number	Active
64	MotherDoc Series	TextBox	Mother's Document Series	String	Active
65	MotherDoc Issue Date	TextBox	Mother's Document Issue Date	Date	Active
66	MotherDoc IssuedBy	TextBox	Mother's document issued entity	String	Active
67	AddDoc	Button	OnClick: Add an additional identity document		

THE BASIS FOR THE REGISTRATION OF DATA ABOUT THE FATHER					
a) Marriage Certificate	No. <input type="text"/>	Issue Date <input type="text"/>	Issued By <input type="text"/>		
b) Paternity Declaration	No. <input type="text"/>	Issue Date <input type="text"/>	Issued By <input type="text"/>		
c) the request of the mother of the child or the declarant	No. <input type="text"/>	Issue Date <input type="text"/>	Signature <input type="text"/>		
d) the Court Decision	Issue Date <input type="text"/>	Issued By <input type="text"/>	Case No. <input type="text"/>		
ISSUED DOCUMENTS					
Document Title <input type="text"/>		Series <input type="text"/>	Number <input type="text"/>		
INFORMATION ABOUT THE DECLARANT					
First Name <input type="text"/>		Last Name <input type="text"/>			
IDNP	<input type="text"/>				
Position	<input type="text"/>		Institution <input type="text"/>		
Identity document	<input type="text"/>	Series <input type="text"/>	No. <input type="text"/>		
Notes					
ISSUED AFTERWARDS DOCUMENTS					
No. <input type="text"/>	Document Title <input type="text"/>	Series <input type="text"/>	Number <input type="text"/>	Issue Date <input type="text"/>	Issued By <input type="text"/>
1.					
2.					
3.					
4.					
<div>Stamp</div> <div>Consular Servant <u>First Name, Surname, signature</u></div> <div>Save</div>					

Figure 52. Screen mockup - Act of Birth Registration - Front page

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
34	Marriage Certificate Issue Date	Calendar	Marriage Certificate issue date	Date	
35	Paternity Declaration Date	Calendar	Paternity Declaration issue date	Date	

#	Element Name	Element Type	Description	Field Type	Element Mode
36	Mother's Request Date	Calendar	Mother Request Issue Date	Date	
37	Court Decision Date	Calendar	Court Decision Date	Date	Active
70	Marriage CertNumber	TextBox	Marriage Certificate Number	Number	Active
71	Marriage Certificate Entity	TextBox	Marriage Certificate issued entity	String	Active
72	Paternity Declaration Number	TextBox	Paternity Declaration Number	Number	Active
73	Paternity Declaration Entity	TextBox	Paternity Declaration Entity	String	Active
74	Request Number	TextBox	Request Number	Number	Active
75	Court Decision Entity	CheckBox	The entity that issued the decision	Text	Active
76	Case Number	TextBox	Court Decision Case Number	Number	Active
77	IssuedDoc Title	TextBox	Issued Document Title	String	Active
78	IssuedDoc Series	TextBox	Issued Document Series	String	Active
79	IssuedDoc Number	TextBox	Issued Document Number	Number	Active
80	Declarant First Name	TextBox	Declarant's First Name	String	Active
81	Declarant Last Name	TextBox	Declarant's Last Name	String	Active
82	Declarant IDNP	TextBox	Declarant's IDNP	String	Active
83	Declarant Position	TextBox	Declarant's Job Position	String	Active
84	Declarant Institution	TextBox	Declarant's Job Institution	String	Active
85	Declarant DocTitle	TextBox	Declarant's Identity Document Title	String	Active
86	Declarant DocSeries	TextBox	Declarant's Identity Document Series	String	Active
87	Declarant DocNumber	TextBox	Declarant's identity document number	Number	Active
88	Mentions	TextArea	Birth Act Text Mentions	String	Active
89	Save	Button	Saves the data and redirects the user to the next page		
90	IssuedDoc Title	Column	Title of the Issued Afterwards Document	String	Active
91	IssuedDoc Series	Column	Series of the Issued Afterwards Document	String	Active
92	IssuedDoc Number	Column	Number of the Issued Afterwards Document	Number	Active
93	IssuedDoc Date	Column	Date of the Issued Afterwards Document	Date	Active
94	IssuedDoc Entity	Column	Name of the organization which issued the document	String	Active
95	IssuedDoc Order	Column	Issued Afterwards order number	Number	Active
96	Full name of the consular servant	Label	Full name of the consular servant. Auto-completed by the system.	Text	

16.18. Transcription of the Civil Status Acts

The following screen mockup is based on the transcription of the Certificate of Birth as civil act. However the system must allow capturing and recording of the needed data for the transcription of the other civil status acts as well such as: Certificate of Marriage, Certificate of Divorce, Certificate of Death, Certificate of

Birth.

1

2

3

4

5

6

7

8

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

Transcription of the Civil Status Act

Service Request Application Form

Applicant's IDNP

Last Name

First Name

Date of Birth

Type of Civil Act

Information about the birth certificate

First Name

Last Name

Date of Birth

Country of Birth

Region/District

City/Town

Date of Registration

Authority wh
registered the birth

Attached documents

Copy of the Act of Birth

Copy of the Birth Certificate

ID Card of the Applicant

Attach document

Terms and conditions

Continue

Figure 53. Screen Mockup - Transcription of the Civil Status Act (Sample: Birth Certificate)

Form Fields Specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the system	Text	Read-only
3	Language Button	Button	OnClick: Pick and change displayed language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user authentication using MPass - Authentication service)		Active
5	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extras Button	Button	OnClick: Open request extract page		Active
7	Verify Extras	Button	OnClick: Opens 'Verification of the service outcome' page		Active
8	Terms and conditions	Button	OnClick: Opens the terms and conditions page		Active
9	Continue	Button	Saves the data and redirects the user to the next step.		

135

#	Element Name	Element Type	Description	Field Type	Element Mode
10	Title of the page	Label	Short title of the requested service	Text	
11	Applicant's Data menu item	Menu Item	Applicant's Data menu item		Active
12	Service Details	Menu Item	Service details menu item		Active
13	Delivery Method	Menu Item	Allows the user to select the delivery method of the service's outcome	Text	Active
14	Confirmation	Menu Item	Allows the user to review and confirm the electronic form of the service request application	Text	Active
15	Signature	Menu Item	Allows the user to sign electronically the service request application form	Text	Active
16	Payment Method	Menu Item	Allows the user to select the payment method.	Text	Active
17	Confirmation Receipt	Menu Item	Displays the Confirmation Receipt	Text	Active
18	IDNP	TextBox	Applicant's personal ID number (the IDNP)	String	Active
19	Terms and conditions	CheckBox	If checked the user agrees with the terms and conditions related to the provision of the service.	Value	Active
20	Last name	TextBox	Last name of the applicant. The data may be obtained automatically from other external sources through MConnect, based on citizen's IDNP.	String	Auto-completed
21	First name	TextBox	First name of the applicant. The data may be obtained automatically from other external sources through MConnect, based on citizen's IDNP.	String	Auto-completed
22	Date of Birth	Calendar	Date of Birth of the applicant. The data may be obtained automatically from other external sources through MConnect, based on citizen's IDNP.	Date	Auto-completed
23	Type of Civil Act	Dropdown List	Allows the user to select the type of the civil status document which he needs to be transcribed. i.e. Birth Certificate, Marriage Certificate, Certificate of divorce, etc.	Value	Active
24	Type of the civil act	Label	The type of the civil status document selected by the user to be transcribed. This text varies based on the selected type of civil act.	Text	Read-only
25	First name	TextBox	First name according to the certificate of birth which was issued in the country of birth	String	Active
26	Last name	TextBox	Last name according to the certificate of birth which was issued in the country of birth	String	Active
27	Date of birth	TextBox	Date of birth according to the certificate of birth which was issued in the country of birth	Date	Active
28	Sex - Male	CheckBox	Sex – Male. If checked than Checkbox ('Sex-Female') = unchecked.	Boolean	Active
29	Sex - Female	CheckBox	Sex – Female. If checked than Checkbox ('Sex-Male') = unchecked.	Boolean	Active
30	Country	Dropdown List	Country of birth	Value	Active
31	Region/District	TextBox	Person's place of birth - Region/District of the country of birth	Text	Active
32	City/Town	TextBox	City/Town/Locality where the person was born	Text	Active
33	Date of the birth registration	Calendar	Date of the birth registration	Date	Active
34	Authority which registered the birth	TextBox	Authority which registered the birth (from the country of birth)	Text	Active
35	Attached document(s)	Link	Attached document(s)	Text	Active

#	Element Name	Element Type	Description	Field Type	Element Mode
36	Attach document	Button	Allows the user to attach an additional document		Active
37	Civil Act Information	Panel	The panel which contains the fields related to the metadata of the civil status act (document) which must be transcribed. The form fields vary depending on the selected type of civil act.		

17. INTEROPERABILITY

The e-Consulate interoperability is a feature of communication with other external software solutions. More details on the purpose of integration which each component was provided in the Conceptual Architecture chapter and in the functional requirements.

To support the entire set of work processes to the consular services, and to provide relevant information throughout the whole service provision process, a data exchange mechanism with other information systems relevant to the concerned field shall be implemented in the e-Consulate.

Given the current legal framework and the available government ICT infrastructure, it is currently recommended that the data exchange be carried out through the *MConnect* interoperability platform. To ensure this aspect, the e-Consulate must provide interfaces based on open standards.

In the context of the e-Consulate functional requirements, it is required the system to be interconnected with the following shared electronic services and ICT systems:

- The authentication and authorization service '*MPass*'.
- The electronic signature service '*MSign*';
- The electronic payment service '*MPay*';
- The logging service '*MLog*';
- The notification service '*MNotify*';
- The delivery service '*MDelivery*';
- The citizen's virtual cabinet '*MCabinet*';
- The service '*MPower*';

As described in the functional requirements, the e-Consulate shall implement in some specific cases the redirecting mechanisms to the following existing ICT solutions:

- to the already digitalised services (existing e-service);
- The Web-Office information system of the Public Services Agency. (for the services provided by the PSA).

The electronic data exchange with other external sources such as SRP, SRLE, and others shall be realised through the interconnection with the governmental interoperability platform MConnect. The indicative data sets to be received by the e-Consulate system is included in the Annex [23.1 Indicative data sets for ensuring the interoperability of the System](#). The aforementioned data sets can be detailed and even extended during the development stage should such a need be identified by the developers and/or the MFA.

Therefore, it is understood that the e-Consulate shall provide interfaces that can interact with external ICT solutions in real time. The System's interfaces shall enable interacting with external ICT applications and e-services (message-based communication).

All aspects related to the interoperability of the e-Consulate shall be documented accordingly (e.g. by using the WSDL model – standard web services description language). For more details, please see the chapter [20. PROJECT DOCUMENTATION REQUIREMENTS](#).

18. NON-FUNCTIONAL REQUIREMENTS

18.1. Technical Requirements to the System Architecture

From a conceptual point of view, the implementation of the e-Consulate system will include the implementation of various technologies for optimizing the processes of collecting, storing, processing and visualizing of the information that at the same time will preserve and improve the quality of the data on the basis of which the involved actors work.

In order to facilitate communication and the interoperability of the e-Consulate system with other third-party ICT systems and databases, standard semantic structures should be applied for automated data exchange.

Considering these aspects, the concept of data architecture of the e-Consulate system will be guided by the following principles:

- All information objects are managed exclusively by electronic means;
- Information objects are stored using best practices in terms of their digital representation;
- The e-Consulate system follows a conceptual data model necessary and sufficient to ensure the management of all information objects electronically;
- The e-Consulate system adopts semantics for structuring information objects according to relevant international and national standards (for cases where these exist).

The concept of data architecture should offer both interoperable communication between the e-Consulate system components, Front-Office and Back-Office, and at the same time provide access to, and interaction with, internal and external (citizens) users.

It is required that e-Consulate system to be implemented as an integrated, web-based, modular software solution that encompasses several functional components (as described in the functional requirements chapter). As result MFA which is the owner of the e-Consulate system should obtain a sufficiently flexible solution which can be configured according to the specifics of the service provision through the diplomatic missions and consular offices.

The following general requirements to the system architecture shall be fulfilled:

Requirement	Explanation
NFFRQ001	The architecture of the e-Consulate system must be compatible with high availability virtualized infrastructure and geographically distributed user model. It must be taken into account that most part of the users are located abroad in different countries and on different continents. Additionally, it must be highlighted that the users (including back-office users and citizens) will access the system according to different time-zones. This leads to the necessity the System to be available 24/24 hours.
NFFRQ002	The e-Consulate system architecture must be based on a multi-tier architecture type, organized in at least 3 layers or tiers (architectural layers), with clear division between them, so that each higher layer depends only on the lower neighbouring layer. The image below illustrates a generic example of a "3-layer architecture".
NFFRQ003	The architecture must be open, modular and based on integrated components. These principles must be visible at all levels of the architecture.

Requirement	Explanation
NFFRQ004	At the same time, it is recommended the system architecture to consider the principles of Service Oriented Architecture (SOA). Please refer to the Conceptual Architecture chapter to get a better understanding about the components that will integrate the e-Consulate system.
NFFRQ005	The System will optimize processing of queries (i.e. caching of queries).
NFFRQ006	The System uptime shall be at least 99.5%, with 8 hours Recovery Time Objective (RTO) and zero data loss Recovery Point Objective (RPO). Please note that this requirement depends on the <i>MCloud</i> governmental infrastructure managed by STISC.
NFFRQ007	The e-Consulate system must be protected by backup procedures that allow system administrators to restore the entire solution to a predefined, uncompromised state, including to another data centre, if necessary.

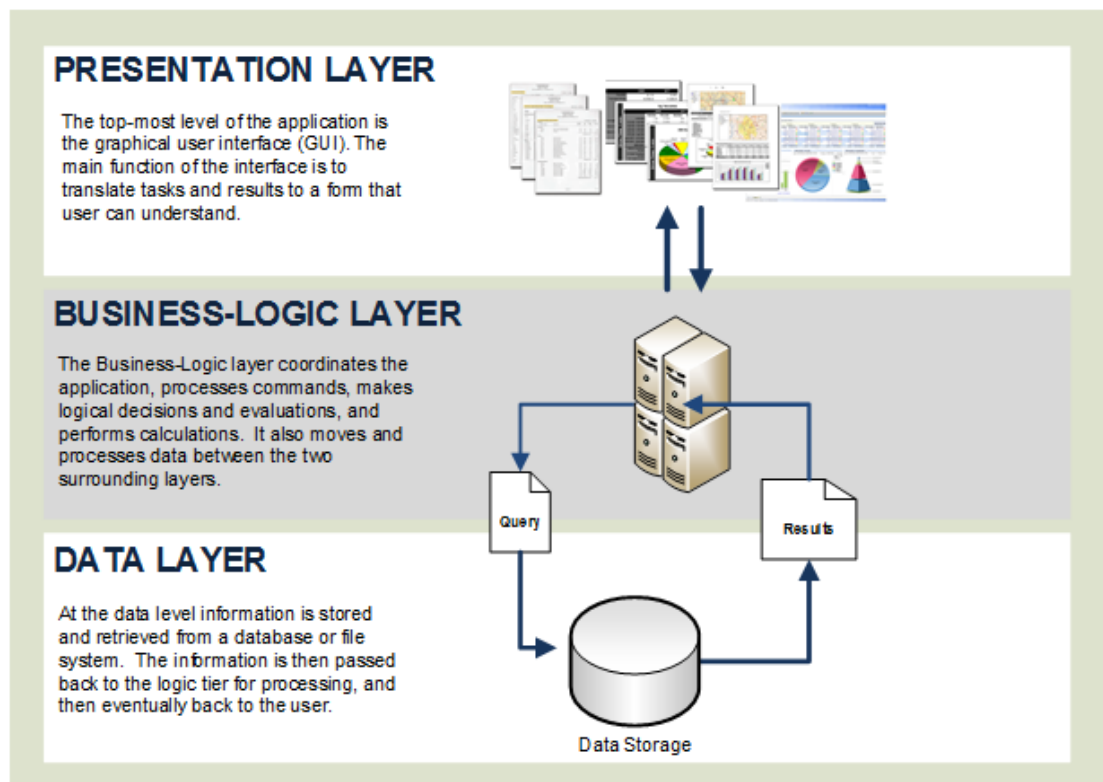


Figure 54. Example of a 3-layer architecture

18.1.1. Presentation Layer

The System Architecture's Presentation Layer must enable user interaction with the business functions of the e-Consulate system.

The requirements to the architecture presentation layer are listed below:

Requirement	Explanation
NFFRQ008	All users of the e-Consulate system will use web browser to access the functionalities and data of the System for which they are authorized. The new System shall support cross-browser compatibility, which means that users shall be able to access the System using standard web browsers using either a desktop PC, laptop or a mobile devices. In this sense the new System will be compatible with at least 2 most recent versions of the following Web browsers: Microsoft Edge, Google Chrome, Mozilla Firefox and Safari.
NFFRQ009	The System shall implement HTML 5 web interface and should use only web browser. However, in case of certain specific functionality, the System may use certain minimum supplementary installations (e.g. web browser add-ons) if needed. This remains at the decision of the software development team. The graphical user interface shall support Romanian, Russian and English language.
NFFRQ010	The presentation layer won't implement any business rules, except of the validation of data entry.
NFFRQ011	The new System must be accessible by any user which is connected to the Internet using standard devices (e.g. desktop stations, portable computers and other suitable mobile devices). For this purpose, the GUI must provide a corresponding responsive design. More detailed requirements regarding the GUI can be found in the chapter UI and User Experience Requirements .

18.1.2. Business-Logic Layer

The architecture's Business Logic Layer shall implement the functionalities of the e-Consulate system, as per the preliminary functional requirements described in the sections above of this document. This layer is responsible for accessing, processing and transformation of data, manages the business-rules and assures the data consistency and accuracy. The business logic layer is accessed from the presentation layer to make the functionalities available to the users and it can also offer data to other external information systems through the data exchange interfaces - APIs.

The requirements for the business-logic layer are defined as follows:

Requirement	Explanation
NFFRQ012	The Business Logic Layer must be completely independent from the Presentation Layer and from other external applications that use the data exchange mechanisms.
NFFRQ013	The Business Logic Layer must have a completely modular architecture based on reusable components and abstract interfaces. There must be no identical functions made of different components.
NFFRQ014	The Business Logic Layer must contain and delimit the and the "entity" and "processes workflow" components – the 'subject' and its behaviour (activities).
NFFRQ015	The components related to Business Logic Layer must communicate through dedicated interfaces/ internal functions (tight coupling).

Requirement	Explanation
NFFRQ016	The components of the Business Logic Layer may be accessible for external applications only through the data exchange interfaces – APIs.
NFFRQ017	The architecture of the Business Logic Layer will allow simultaneous access to the functionalities of the System.
NFFRQ018	The components of the Business Logic Layer must be developed in modern and widely used programming language(s) and technologies for development of web applications such as C#, ASP.NET framework.
NFFRQ019	The technology at this layer must allow seamless integration of the functional modules of the System.

18.1.3. Data Layer

The database and data will be implemented using a relational database management system (DBMS).

The final data model (as-built) implemented at this level of the architecture must be documented and detailed by the software development team and delivered to eGA. The data model must contain both the technical description at the data level (e.g., database structures, database objects, relationships, etc.) and the semantic description (association of data structures with entities and their properties).

The requirements for the Architecture's Data Layer are defined as follows:

Requirement	Explanation
NFFRQ020	The data model will follow at least the "Third Normal Form (3NF)" approach to database design, to reduce data duplication and ensure referential integrity.
NFFRQ021	The System data model must follow the Common Data Modelling with a generic Data Model which consists of generic types of entity like class, relationships, and others.
NFFRQ022	The data at the Data Layer must be accessed only through the Business Logic Layer and independent from the Business Logic Layer.
NFFRQ023	The data model must be updated/completed by the project team, it must contain both the technical description of the data (e.g. entity-relationship diagrams, structures of databases, objects in databases, etc.), and the semantic description (association of data structures with business entities and their properties). The semantic description has to be available for users, where applicable (e.g. customization of reports).
NFFRQ024	The architecture of the e-Consulate system must ensure the data integrity and accuracy when data is accessed and modified by several entities simultaneously.
NFFRQ025	The Data Layer of the System's Architecture shall support relational database management systems that have at least the following modern capabilities: <ul style="list-style-type: none"> • Effective utilization of RAN and SIMD instructions; • Columnar format for tables (including encoding);

Requirement	Explanation
	<ul style="list-style-type: none"> • Partitioning; • Virtualization, deployment.
NFFRQ026	The System will be implemented using a single database management platform implemented in high-availability (e.g. failover cluster, mirroring).
NFFRQ027	<p>The System's DBMS will provide at least the following general features:</p> <ul style="list-style-type: none"> • Be able to identify and resolve deadlock situations; • It shall allow primary key and foreign key constraints; • It shall allow fields to accept NULL values; • It shall provide the ability to impose constraints on data types and values, if so needed.

18.2. Technical Requirements to the Technological Architecture

The technological architecture includes all the software and hardware components necessary to ensure the operational environment in which the e-Consulate system will run. Thus, the technological platform includes: the development environments and programming languages for writing and compiling the source code, database management systems (DBMS), operating systems (OS) on which the e-Consulate system components will run, other specialized software (if applicable) required to be installed for properly running the system, and the hardware platform on which the entire e-Consulate solution will run.

The software development team shall not impose a certain technology (or technology providers) and must not limit in any way from a technological point of view the development and implementation of the e-Consulate system. The software development team must respect the requirements recommended by the eGA in terms of using of suitable technologies and programming languages. This is required due to the fact that the e-Consulate system must be compatible and integrable with the already existing e-Governance infrastructure of the Republic of Moldova.

It is important that all e-Consulate system components (e.g., middleware, databases) to run on a platform which uses the operating systems such as Windows Server or Linux in a virtualized environment provided by *MCloud*. The supported versions of the operating systems to be used must be maintained by their manufacturers, being part of at least two of the latest major releases.

It is recommended that the technological stack of the e-Consulate solution be widely used in several countries in the region (Eastern Europe) and for which there must be at least two suppliers available on the market, so that the owner of the e-Consulate system does not remain strictly dependent on a single technology supplier and avoid the so-called 'vendor-locked' situations.

The requirements regarding architecture for the technological level are presented in the following table:

Requirement	Explanation
NFFRQ028	The technology architecture must have a high level of resistance to failure and must not contain single points of failure (SPOF).
NFFRQ029	The technology architecture must assure rational and balanced use of processing resources.

Requirement	Explanation
NFFRQ030	The developers' team is responsible for implementation and configuration of the software solution into the hosting environment – <i>MCloud</i> .
NFFRQ031	The technological platform of the e-Consulate software must be widely used in several countries, and must be supported in the Eastern Europe region.
NFFRQ032	The technological platform of the e-Consulate software system must be independent from the hardware technological platform (i.e. it shall run on at least two types of processors provide by different manufacturers).
NFFRQ033	The technologies used at the level of the technological architecture must be homogeneous as much as possible (a minimum number of different technologies used e.g., OS, middleware software and database). This is required in order not to impose to MFA/STISC the need to hire too many ICT specialists skilled in different technologies and areas.
NFFRQ034	The technological platform for software must support the creation, modification, processing, storage and accessing of textual data in Unicode format.
NFFRQ035	All components of the System (e.g. middleware, databases) shall run on platform with operating systems from the Windows Server and/or Linux family which are supported in the hosting environment. The supported versions of the operating systems must be maintained by producers and shall belong to the latest 2 major versions.
NFFRQ036	<p>To preserve Government investments, the e-Consulate solution shall be developed using the latest versions of the following technology stack:</p> <ul style="list-style-type: none"> • Programming language is C#. • ORM is Entity Framework Core. • Web framework is ASP.NET MVC Core. • RDBMS is Microsoft SQL Server. • Container engine is Docker. • Container orchestration is Kubernetes. • Cache server and session store is SQL Server or Redis. <p>During the development process, the software developers or the Product Owner may propose use of additional components required for the development and proper functionality of the solution in production. Upon the Beneficiary's approval of such components, the costs for them shall be added through amendments to the contract.</p>
NFFRQ037	<p>The system shall run as container instances and shall not depend on specific host OS instance. Building container images shall be automated.</p> <p>Running in a container-based environment, the application must be elastic, including when adding/removing application container instances, changing of configurations and system parameters has no impact on any work in progress, such as any active sessions, requests, etc.</p>

18.3. Technical Requirements regarding the Security of the Platform

The information security is one of the critical aspects of the e-Consulate system, considering that the system will operate with sensitive personal data.

The Information security involves the protection of ICT resources and infrastructure related to the operation of the e-Consulate system against premeditated or accidental actions of a natural or artificial nature, which may result in causing damage to the participants in the process of operating the information that is stored and processed in the system. The information security of the e-Consulate system includes a number of terms such as: measures, policies, technologies, control points, organizational structure, duties and functions. All these means of control shall be identified to ensure the information security and to implement them in the e-Consulate system;

In order to achieve an increased level of information security, two major components must be considered – physical security and informational security:

- Physical security refers to protecting the physical infrastructure of the data centres and users' components (access points inside the buildings, access to the users' computers, printers, etc) by applying all security measures;
- Informational security involves protecting information by applying security measures at a logical level, by using ICT means. These may include antivirus software, protection of the communication channels, logical delimitation of subnets, use of firewalls, control over the use of pirated software, recordkeeping and updating of software product licenses.

The information risk is an event, or a possible action aimed at causing damage to the information resources or infrastructure related to the e-Consulate system. The main threats to the information security of the system may be:

- illegal collection and use of information stored and processed in the e-Consulate system;
- violation of information processing technology;
- developing and spreading of software that can affect the normal functioning of information and communication systems, as well as information protection systems;
- destruction, damage, electronic suppression or destruction of hardware and/or software means of information processing;
- compromising credentials, keys and means of cryptographic protection of information;
- leakage of information through technical channels;
- the implementation of electronic information interception devices in the technical means of data processing, storage and transmission through communication channels, as well as in the service rooms of the system users;
- destruction, damage, or theft of mechanical or other information media;
- attempts to intercept information in local networks of system registrars and communication lines, decoding it and imposing false information;
- the use of non-certified information technologies, data protection means, computerization and communication means in the creation and development of the information infrastructure;
- unauthorized access to information resources located in the database;
- violation of the legal restrictions related to the dissemination of information.

Considering the abovementioned the e-Consulate system must fulfil at least the following requirements regarding information security:

- the information security must comply with the requirements of the RM legislation in force, as well as international standards that do not contravene the law and allow for increased security;
- the information security must ensure:
 - the information confidentiality, which involves the limiting of access to the information by persons without appropriate rights and powers;
 - the logical integrity of the information, i.e., the prevention of unauthorized introduction, modification, copying, updating and destruction of the information;
 - the physical integrity of the information;
 - protection of the information infrastructure against damage and attempts to change its operation;

the following mechanisms may be used to fulfil the tasks regarding ensuring the information security of the e-Consulate system:

- users' authentication and authorization through a secure mechanism;
- access management;
- recording actions and auditing by using a logging function.

The new IT System shall implement at least the following requirements in terms of Security issues:

Requirement	Explanation
NFFRQ038	<p>The e-Consulate system will support the following informational security requirements according to the Information Security Standard:</p> <ul style="list-style-type: none"> • Information integrity – maintaining and assuring the accuracy and completeness of data over its entire lifecycle; • Confidentiality – protection from unauthorized access to data; and • Availability – to ensure the availability of the information when needed.
NFFRQ039	<p>The System must support the following main mechanisms for ensuring the informational security:</p> <ul style="list-style-type: none"> • Authentication and Authorization (must be realised through integration with <i>MPass</i>); • Managing access to information; • Recording actions of users in the System and transactional logs (through integration with <i>MLog</i>); • Encryption of information, where needed; • IT audit; and • Business-continuity and disaster-recovery.
NFFRQ040	<p>The Architecture of the new e-Consulate system is conceived using a <i>Secured by Design</i> approach and comply with the relevant requirements specified in GD no.201 of 28.03.2017 (http://lex.justice.md/md/369772/).</p>
NFFRQ041	<p>All System associated processes will work with minimum privileges required to perform assigned tasks.</p>

Requirement	Explanation
NFFRQ042	The new System shall allow creation of User Accounts and User Roles. The System will provide reporting services for user activities and allow allocation and management of users' access rights.
NFFRQ043	All access credentials (if any) used by the System must be configured in the administrative interfaces. The System MUST NOT contain hard-coded access credentials.
NFFRQ044	The e-Consulate system must support users access through <i>MPass</i> service by using one of the available authentication methods such as the electronic signature <i>MSign</i> , mobile signature, electronic national ID or two-step authentication.
NFFRQ045	The System shall guarantee the full protection and integrity of the database content.
NFFRQ046	The access to features offered to users outside diplomatic missions, consular offices and MFA will be controlled by overload protection of the service by one or more network nodes.
NFFRQ047	All form fields filled in by the users must be validated according to a suitable approach i.e. client-side and server-side validation.
NFFRQ048	The System must support encrypted communication channels, such as HTTPS, SSL and TLS, if so needed. This shall be decided during the software development phase.
NFFRQ049	The system MUST ensure the confidentiality of the data transmitted through the communication channels.
NFFRQ050	The users' actions shall be recorded in electronic logs. For this purpose, the e-Consulate system must integrate the <i>MLog</i> service.
NFFRQ051	The e-Consulate system might emit a periodic signal indicating its functional status and health status of the ICT system.
NFFRQ052	The System shall support standard security features such as automatic disconnection after a period of idle status (e.g. 10 min). This parameter shall be configurable for the web application.
NFFRQ053	The System shall allow the temporary blocking of the user's access in case of multiple failed login attempts.
NFFRQ054	The System must support the critical information access blocking even for the System administrators.
NFFRQ055	Only authorized system administrators shall have access to logs of operations.
NFFRQ056	The System shall guarantee the protection of the stored data by ensuring that the core data cannot be accessed without log-in through the provided User Interface.
NFFRQ057	The system's components shall rely on the least privilege principle and run under such a limited privilege account under the OS rights model. The documentation shall highlight each of the system's components required privilege level and considerations that force use of that level or access.

Requirement	Explanation
NFFRQ058	Secrets (passwords, private keys and certificates, connection strings) and addresses of external services shall be clearly delineated in configuration documentation and easily modifiable via automated scripts.
NFFRQ059	The system shall expose readiness and health-check API via a HTTP GET requests. The health-check shall check the health of as many system components as possible. In case of health check error, a human-readable error message shall be returned.

18.4. Technical Requirements to the User Authentication Mechanism

Additionally, to the above-mentioned requirements, the e-Consulate System shall implement at least the following requirements in terms of User Authentication mechanism:

Requirement	Explanation
NFFRQ060	The System will allow access to its functionalities only after a successful authentication and authorisation of the user.
NFFRQ061	The e-Consulate system will support for all type of user the authentication through MPass by using any of the available methods such as the electronic signature MSign, mobile signature, electronic ID or two-step authentication.
NFFRQ062	The System will provide the external user with timely information on the application of policies for using the passwords.
NFFRQ063	The System will allow external users accounts (citizens) to be disabled or suspended at the application level if such a need appears due to security reasons.
NFFRQ064	The System will allow setting the expiration time for user sessions in case of inactivity.
NFFRQ065	The System will have effective mechanisms to prevent the unauthorized download of active sessions initiated by legitimate users.
NFFRQ066	A System's work session will be blocked at the request of the user or automatically at the end of the user's session.

18.5. Technical Requirements to the User Authorization Mechanism

Additionally, to the above-mentioned requirements, the E-Consulate system shall implement at least the following requirements in terms of User Authorization mechanism:

Requirement	Explanation
NFFRQ067	The System will allow granular management of access rights to all objects of the information system and possible actions (e.g. screens, buttons, menus, menu options).

Requirement	Explanation
NFFRQ068	The System will allow the definition of user groups and roles within the system and assigning users and groups to these roles.
NFFRQ069	The System will allow the granting of access rights to the user explicitly, group and role. A user can be assigned one role, its rights of access can be determined on a cumulative basis.
NFFRQ070	Access to data within the System shall be controlled by security parameters.
NFFRQ071	The new System will have appropriate mechanisms for protecting data entry (incoming data from authorized users, input from external sources).
NFFRQ072	All actions for changing data within the System will be made through specialized GUI forms in accordance with the business-process workflow. Under no circumstances, the end user can have access to make changes at the level of DB.
NFFRQ073	The e-Consulate solution will have appropriate mechanisms to prevent the unauthorized manipulation of data that are stored by the System.

18.6. Technical Requirements for Managing Exceptions and Errors

This section sets out the requirements for the mechanism for managing exceptions and errors within the new System to be implemented:

Requirement	Explanation
NFFRQ074	The e-Consulate system must capture and handle all exceptions and errors generated by its components. All events must be recorded in a centralised manner.
NFFRQ075	When an error occurs, the System must display a generic error message to the user. The form of error messages is dependent on the user type. It may contain an error code and a unique identifier of the error to facilitate support.
NFFRQ076	The System will use standard tools for analysing and processing the records of exceptions and errors.
NFFRQ077	If a dependent System's component detects an error, the cause of the error must be communicated to the caller component. Any error should be logged for Administrators' inspection.
NFFRQ078	Error management must provide comprehensive instructions for identifying of the problem and handling of the error.

18.7. Technical Requirements regarding System's Flexibility

The adaptability and flexibility terms refer to the ability for the software solution to adapt to possible or future changes in its requirements.

Requirement	Explanation
NFFRQ079	The e-Consulate architecture shall be in line with the needs of the consular service provision process in terms of the flexibility and adaptability aspect. The Beneficiary advocates a modular architecture based on independent components accessing

Requirement	Explanation
	the data. These principles shall be visible at all levels of the System's architecture. Therefore, in order to make the System to be accommodated, flexible and easy to maintain, there must be used unified technology platform for all processes realized by the system's components.
NFFRQ080	The architecture of the new IT System's shall be able to adapt to the changes in users' environment (diplomatic missions/consular offices) and usability requirements without encompassing major structural changes and permitting evolution and growth.

18.8. Technical Requirements regarding System's Scalability

While using the new e-Consulate system, the number of transactions processed as well as the number of users logged in simultaneously may increase or decrease significantly from time to time. The number of citizens that can access the system concurrently in a certain period of time cannot be predicted. For the rational use of the resources, the e-Consulate system architecture must be sufficiently scalable. In this sense relevant technical requirements have been identified that must be considered during the software development process. The architecture of the entire solution must be scalable, so that the system be able to support expansion in the context of increasing the number of users, without changing the original solution. Therefore, the software solution of the e-Consulate system must be scalable both vertically and horizontally.

It should be noted that the e-Consulate system will serve a relatively large number of transactions that will require adequate allocation of resources for data processing and storage. The needed resources must be allocated in the execution environment (MCloud) and might involve additional servers or new resources for the already existing servers.

Therefore, at least the following technical requirements related to the e-Consulate system and its DBMS shall be taken into account by the software development team during the development and implementation:

Requirement	Explanation
NFFRQ081	The e-Consulate system must provide increased processing capacity without interrupting operations. To this end, the System will support the horizontal expansion of the processing capacity (for example, adding new application servers and load balancing or allocating more resources to the database servers).
NFFRQ082	The new System can be configured to automatically adjust to key levels (lag-sensitive). The System must be capable to be adjusted up and down.
NFFRQ083	The System must be capable of serving the maximal number of transactions with adequate allocation of resources for data processing and storage. The resources will be allocated in the virtual environment and could be new servers or new resources to the existing servers.
NFFRQ084	The entire e-Consulate solution must be scalable, which means that it must be able to expand the number of users, with no change in the initial solution. The solution should be scalable both vertically and horizontally.

Requirement	Explanation
NFFRQ085	The system must ensure a balanced distribution of load on different hardware and software components to operate the system within acceptable parameters with an increasing load.
NFFRQ086	The System shall use the functionalities for clustering available in the virtual environment to improve the scalability and business continuity of the e-Consulate solution.
NFFRQ087	The System's DBMS shall support table and index partitioning. The data of partitioned tables and indexes may be divided into units that can be spread across more than one filegroup in a database.
NFFRQ088	The System's DBMS shall allow the definition of the minimum amount of data transferred between the disk and the local memory of the database upon request.
NFFRQ089	The System's DBMS shall allow setting of memory options such as minimum server memory and max server memory, to reconfigure the amount of memory that is managed by the DBMS, which is being used by an instance of the Database Server(s).
NFFRQ090	<p>The System's DBMS shall provide the possibility of logical partitioning of large tables in order to reduce the time of access to data according to various partitioning criteria (list, range, hash) and all combinations thereof (range-list, range-hash, etc.). In other words, the database table partitioning shall allow dividing a large table into smaller, more manageable parts without having to create separate tables for each part. Data in a partitioned table shall be physically stored in groups of rows called 'partitions' and each partition shall be able to be accessed and maintained separately.</p> <p>Therefore, the DBMS may allow the system administrators to be able to speed up loading and archiving of data and to perform maintenance operations on individual partitions instead of the whole table. They may be also able to improve query performance.</p>

18.9. Technical Requirements regarding Maintainability

Requirement	Explanation
NFFRQ091	The number of software providers (in terms of technological stack) for the e-Consulate components shall be not more than 3 providers; this requirement is added to prevent the potential need of the STISC or MFA to hire ICT specialists skilled in too many technologies.
NFFRQ092	The number of development environments used for the development of applications which are part of the offered solution shall be not more than 3;
NFFRQ093	The architecture of the proposed System shall allow the implementation of changes in a simple way at application level. The boundary affected by changes shall be minimal and the components needed to be tested in the result of changes, clearly identifiable.

Requirement	Explanation
NFFRQ094	The technology(ies) on which the e-Consulate system will be built shall not be an outdated one. Therefore, the software development team shall build the e-Consulate system on the latest version of the technological platform which has been chosen.
NFFRQ095	The system shall log its various actions and events in a structured manner. Logging shall be configurable and based on extensible logging framework (such as log4net, nlog, etc.). Logging framework shall minimally support JSON format and the following targets: console, rolling files, UDP and HTTP POST.
NFFRQ096	<p>The system shall differentiate events and actions it logs into at least following levels: Critical, Error, Warning, Info, Debug</p> <p>Critical and Error level events shall be logged only for non-recoverable error that require human intervention.</p> <p>Event log records will include at least:</p> <ul style="list-style-type: none"> • the type of the event • timestamp when the event took place • event level • system component that produced the event • user/user agent, IP that triggered the event • information object identifier affected • textual details about the produced event
NFFRQ097	The system shall implement graceful shutdown, i.e. shutting down an application container instance at any time shall not impact any work in progress, such as any active sessions, requests, event logs, etc.
NFFRQ098	<p>The development team shall supply all the source code for system components that are not available as COTS from third parties.</p> <p>The source code shall use package managers for dependencies to 3rd party libraries. All prerequisite software must be part of container image definition and based on public container repository.</p>
NFFRQ099	The development team shall supply the deployment procedure and supporting tools for this. Deployment procedure shall cover all the prerequisites before proceeding to system installation. The deployment shall be automated and include database structure initialization and seeding.
NFFRQ100	The system upgrades shall be automated, including database upgrade/downgrade scripts or code. To enable rolling upgrades in production environment, the recommended practice is to perform database breaking changes in incremental changes.

18.10. Requirements regarding Resistance and Breakdowns

Requirement	Explanation
NFFRQ101	The e-Consulate solution must have instruments implemented for the execution of backup copying procedures and management of historical backup copies.
NFFRQ102	The proposed system must have mechanisms of assurance of data integrity in case of breakdown of any components.
NFFRQ103	The proposed system must have mechanisms of operative restoration of availability and accessibility of applications in case of continuity incidents.
NFFRQ104	The architecture of the proposed system must be resistant to breakdown of components and must not have single breakdown points (SPOF).

18.11. Requirements regarding System's Performance

Requirement	Explanation
NFFRQ105	The simultaneous running of internal processes of the Platform must not have impact on the general performance of the System. Otherwise, the development team will include in the guidelines of the system administration and operation of applications the information regarding the processes that can affect the performance of applications and his recommendations regarding the simultaneous running of these processes.
NFFRQ106	The average server reply time shall not exceed 3 seconds at nominal system load. However, this is not related to reports generation which indeed may take a longer time.
NFFRQ107	<p>The architecture of the e-Consulate system (except the Front-Office component) must ensure the following minimum levels of performance for:</p> <ul style="list-style-type: none"> • Management of a number of 300 accounts of users (Back-Office); • Management of up to 300 simultaneous user connections. This number includes only Back-Office users. <p><i>IMPORTANT NOTE: The potential number of applicants (citizens) is not included in the numbers above. As already mentioned in this ToR, it is impossible to predict the number of citizens that concurrently may access the system (its Front-Office) in a certain period of time.</i></p>
NFFRQ108	The Front-Office of the e-Consulate system may be accessed by a relatively high number of users (citizens) from different geographical areas and using different time zones. This imposes the need of having the e-Consulate system available 24/24 hours 7/7 days a week.
NFFRQ109	It is expected that the system's performance will be tested before launching it into production. Performance testing will include minimum two components: system load testing and system stress testing.

Requirement	Explanation
NFFRQ110	The generation of reports and the access of information must not affect the operational performance of the e-Consulate System at the level of processing the transactions. Otherwise, in the system's documentation, the reports with significant impact on performance shall be identified and the recommendations shall be formulated regarding the generation of reports so that they do not affect the performance characteristic of the applications.
NFFRQ111	The e-Consulate solution must be capable to store all the transactional and historical data for a long period of time (minimum 7 years), without being affected its performance.
NFFRQ112	The system shall use asynchronous processing whenever possible to perform any input-output.
NFFRQ113	The system shall meter and expose its key performance indicators. The development team shall propose the list of indicators and discuss/agree them with the eGA and MFA.

18.12. Requirements regarding Interoperability

In order to support the business processes of the involved service centres, the development team will make all efforts as required so that the e-Consulate system to be integrated with other relevant IT systems, subject to their availability. The interoperability of the system represents characteristic of communication with other external ICT Systems, applications or services.

The requirements regarding the interoperability characteristics of platform are:

Requirement	Explanation
NFFRQ114	All the application programming interfaces of the System must be based on open standards.
NFFRQ115	The e-Consulate System may interact with external data sources through the governmental interoperability platform <i>MConnect</i> .
NFFRQ116	The APIs of the provided System will allow the weak coupling with external ICT systems and services (communication based on messages).
NFFRQ117	All System's APIs must be properly documented (e.g. by using Web Services Description Language – WSDL).
NFFRQ118	The System shall have the possibility of creating email messages according to preconfigured templates and sending them to the indicated recipients through an electronic mail server set up in the configurations of the System.

18.13. Requirements to the Dedicated Audit for Applications and Database Servers

Requirement	Explanation
NFFRQ119	The e-Consulate solutions may provide tools that are able to be used for providing additional operational functions:

Requirement	Explanation
	<ul style="list-style-type: none"> • engine for collection of events in real time in an operational database; • management tools for the audit database; • the operational database has the purpose to keep data online for 6 months, without having a major impact on the database server; • a separate client interface which can be used by the administrators of the directory service; • the client interface will include all the tools needed for the administration of the product; • the client interface will include a predefined set of reports and filters for investigational purpose.
NFFRQ120	The system must extend the native audit capacities at level of transactional log, both at level of application server and database server, with the purpose of capturing any critical changes or the activity of user and/or administrator in detail, in view of immediate detection of actions and the recognition of their significance; must highlight who, what, when, where and from what station made a change.
NFFRQ121	<p>The system's DBMS must allow granularization in the smallest detail e.g.:</p> <ul style="list-style-type: none"> • SQL broker auditing (or similar), database, object, performance, SQL roles and transaction events as well as errors and warnings; • Auditing of users' actions in real time; • Completion of functions of detection and prevention of intrusions by a permanent monitoring of actions inside the databases.
NFFRQ122	The e-Consulate system must integrate the <i>MLog</i> service and may use some native audit logging if such a need will be determined at the development stage.
NFFRQ123	Tin order to ensure full flexibility, the security administrators must be able to configure the System granularly so that certain categories of events are recorded exclusively in this events' log, in order not to load from operational point of view the administrative interface.
NFFRQ124	The solution must provide a predefined set of intelligent alerts, in real time, when critical objects are modified or when certain patterns of changes are detected.
NFFRQ125	The e-Consulate solution must provide a management of changes at the level of all involved service centres from a unique client and allow the storage of all audit data in a single centralized and secured database.
NFFRQ126	The auditing solution must reduce the resolution times of problems by grouping, sorting and filtering the search results by type of events, user account, objects etc.
NFFRQ127	The auditing tools must include preconfigured and customizable reports for fulfilling of the audit requirements.
NFFRQ128	The auditing tools must allow the generation of intelligent alerts which allow the correlation of audited events.
NFFRQ129	The auditing solution may provide reports switchboard type for all the data audited or for specific data without requiring knowledge of architecture or administration.

19. PROJECT IMPLEMENTATION ASPECTS

19.1. Hardware Specification

This project does not include procurement of any hardware for hosting of the System to be developed and implemented. The proposed IT solution is supposed to be hosted in the governmental cloud infrastructure “MCloud” which is being managed by the Electronic Governance Agency and technically by the STISC. Both institutions are subordinated to the State Chancellery of the Republic of Moldova.

The Software developers’ team will have to prepare the detailed specification of the hardware resources needed for the functioning of the proposed IT solution. Additionally, the Software developers’ team shall provide detailed specification of needed end-users’ hardware, if any (e.g. PCs, scanners, etc.).

19.2. Requirements regarding Software Products and Licensing

This assignment doesn’t include the procurement of any software licenses.

19.3. Intellectual Property Rights (IPR)

All Intellectual Property Rights in the Contract Material vests in eGA, which has the right to subsequently handover the e-Consulate System and the IPR to the MFA.

The Software developers team retains all Intellectual Property Rights in: (a) any COTS Software and existing derivatives thereof and (b) any other of Software developers team’s Pre-existing Intellectual Property, which Software developers team shall furnish during the course of the System implementation through a License.

The eGA and the MFA have the right to use the e-Consulate software solution for an indefinite period of time, according to these ToR. The MFA will not have the right to handover the e-Consulate software to third parties without prior agreement with eGA. The software platform will remain the intellectual property of eGA and the MFA, who is entitled to develop, equip and adapt it as a product or service.

All data stored in the e-Consulate database are owned by the relevant Moldovan state bodies such as MFA, PSA, MIA, etc. Access to these data is subject to the terms and conditions regarding the confidentiality of the information throughout the entire contractual period of the software developers’ team and beyond.

19.4. Management of the Source-Code

The software developers’ team shall provide the successfully compiled and documented source code (including third instruments and libraries, where applicable).

The Software developers’ team should use a tool similar to Azure DevOps to manage all versions of software applications that will be iterated across the software development lifecycle, as per agreed Development Plan.

All project documents related to the software development phase should also be uploaded and

maintained in the tool.

All members of the software development team, as well the eGA and MFA responsible project supervisor need to have a registered user account with the aforementioned tool (e.g. Azure DevOps) in order to access all files.

Under no circumstances shall any external persons have access to any uploaded file. Access to all files stored in Azure DevOps shall be restricted to members of the software development team and aforementioned project supervisor.

19.5. Requirements regarding provision of Services

The services of support and post-implementation maintenance during Defects Liability Period/ Warranty Period shall be provided by the Software developers team and shall assure the removal of incidents and problems which occurred in the use of the System, which will be addressed and solved in due course, with minimum impact on the activity of the users.

After the expiry of the warranty period the owner of the System may request the extension of services provision based on the cost specified in the Price Schedules under Installation and Other Services. The Software Development Team shall accept the subsequent provision of services for the period required by the owner of the System.

The support services in the warranty and post-implementation period will be provided by the Software developers team, regardless of causes that led to the occurrence of the incident (e.g. errors in application, problems at level of third-party software).

For this purpose, depending on the specificity of each incident case, the Software developers team shall include but not limit to the following activities:

- Reception and recording all information and complaints about the incident produced and the context from the Beneficiary;
- Localization of the incident and identification of immediate activities which must be carried out to reduce the impact of the problem or incident;
- Identification of the causes of the incident and establishment of the actions needed to be carried out to remove the incident;
- Guidance of the Beneficiary in view of performing actions for the reduction of the impact of the incident and its resolution in the time limit established;
- Presentation of detailed information to the owner of the System regarding the causes of the incident, reasoning of actions carried out and planned actions to prevent the repetition of similar incidents.
- Examination of the need for registration of a new problem in relation to the System. In case of the problem registration, the selected Software developers' team will manage it according to the requirements for the support services for problem resolution.

Requirements regarding Maintenance Services

The maintenance services to be provided by the Software developers team for maintaining the normal operation of the System. For this purpose, the Software developers' team shall provide updates and changes in the System without additional costs during the post-implementation period. The owner of the System may request 3-5 days of the training for staff to be updated about

changes introduced in the update of the System without additional costs.

Level of provision of support services

The Level (performance criteria's) of provision of support services is determined by parameters these services must be provided by the Software developers team. The Software developers team shall describe in his offer the methodology how needed/requested support services will be provided (location of the certified support center, mobile support center, etc.).

The parameters which characterize the level of support services are:

- Response Time (TR) – is the time in which the selected Software developers team will react to a support request, will diagnose the situation and will establish the actions that must be carried out for resolution.
- Resolution Time (TS) – is the objective time in which it is expected that the selected Software developers team will carry out the actions in his area of responsibility for the complete resolution of the client's request.

The classification of severity of incidents is identified in the following table.

Classification of incidents

Classification	Impact on the quality parameters for the operation of applications
Critical	The System is unavailable for all or the majority of business users. The important transactions need to be made as soon as possible (in hours).
High	The System is unavailable for good part of users. Important transactions and operations need to be made until the beginning of the next day.
Ordinary	The System is unavailable for part of users. There are transactions and operations that need to be made in the next three days.
Low	The System is unavailable for a limited number of users. There are no transactions and operations to be made in the next three days.

The software developers' team shall be able to provide support services in the working days in accordance with the legislation of the Republic of Moldova, between 08:00 – 17:00.

19.6. Training of Users

- 19.6.1. The Software developers team's team must prepare the detailed training programme, including the training materials for training of the target groups.
- 19.6.2. The development of an e-Learning training module based on Moodle LMS is also required.
- 19.6.3. The programme and training materials shall be approved by the Beneficiary before commencement of the training. Training materials used during training sessions shall be prepared in Romanian, printed and filed.
- 19.6.4. In addition, one set of the documents should be presented on CD or memory stick.
- 19.6.5. The backstopping team shall prepare, print and deliver training materials in form of manuals for each target group, persons attended to the training. Format and number of the copies shall be coordinated with MFA and diplomatic missions.
- 19.6.6. The curricula for the IT technical staff group will cover the entire set of components and controls used for the configuration of the new System. A final exam shall be conducted after the trainees will implement an individual task of configuration of the System (simple but covering main components and functions).
- 19.6.7. MFA and eGA has the right to make changes in the training programme and request additional trainings in case of unsatisfactory performance.
- 19.6.8. The software development team will provide ToT (training of trainers) training to the key-users appointed by the MFA, considered as target group, aimed to deliver skills in future maintenance of the newly provided solution. Along with the curriculum, training materials will be developed, including relevant System maintenance questions.
- 19.6.9. The training materials for end-users – shall contain but not limited to a detailed explanation of the use of the System; detailed responsibilities of each user role, system's functionalities and other appropriate information. Training of the users' trainers must be conducted in Romanian language. The training materials shall be provided in Romanian language.
- 19.6.10. The Software developers' team shall create a video-tutorial as supporting instruction for the users in Romanian language.

20. PROJECT DOCUMENTATION REQUIREMENTS

20.1. Software resources

The e-Consulate system shall be developed based on the technologies compatible with the existing technological setup used for existing e-Governance solutions. Therefore, it is expected that the System will be developed based on the following main technologies:

- ASP.NET Core;
- C# programming language;
- Microsoft SQL Server as DBMS;

Based on the abovementioned assumption, at least the following type resources are expected to be delivered by the software development team:

- Declarative markup ASP.NET Core files generated as result of the compilation process e.g. *.aspx*, *.ascx*, *.cs* and *.master* files ASP.NET-related files (**.ASPX* files) and assemblies/compiled files such as **.DLL* files;
- Database files: **.MDF* files, known as the primary database file, which contains the schema and data;
- Web application configuration files such as **.config*, **.web* or **.xml*, **.json*.
- Web pages and styles such as *html*, *cshtml*, *CSS*, *JavaScript libraries*, etc;
- Media files such as images used for the graphical user interfaces;
- Any third-party library or software on which the System depends;
- Any other relevant resources needed for the operation of the System.

20.2. Source Code

The software development team shall provide the successfully compiled and documented source code (including third instruments and libraries, where applicable).

The software development team should use a tool similar to Azure DevOps to manage all versions of software applications that will be iterated across the software development lifecycle, as per an agreed Development Plan.

All project documents related to the software development phase should also be uploaded and maintained in *the* tool.

All members of the software development team need to have a registered user account with the aforementioned tool (e.g. Azure DevOps) in order to access all files.

Under no circumstances shall any external persons have access to any uploaded file. Access to all files stored in Azure DevOps shall be restricted to members of the software development team.

At least the following types of source-code files shall be delivered:

- ASP.NET Core Project file: **.SLN* files
- All declarative mark-up ASP.NET Core pages – **.cshtml*, *aspx* files;
- All code-behind classes and server-side code (e.g. developed in C#) – **.cs* files;
- All ASP.NET components that provides various building blocks of ASP.NET Core pages. Basically, as object models, which describes the Server-side counterparts of almost all HTML elements

or tags and Server-controls, which help in developing of complex user-interfaces (e.g. Calendar control or the Gridview control);

- All ASP.NET Core forms – which extend the event-driven model of interaction to the web applications of the new IT System;
- System configuration files which shall be almost *XML*-like files (e.g. **.json*, **.config* and *.xml* files);
- Any client-side scripts such as JavaScript and similar;
- Web-pages and everything related to them e.g. HTML, CSS style files, CSHTML, XML, XSD and XSLT files.
- MS SQL Server databases-related files:
 - **.MDF* files, known as the primary database file, which contains the schema and data; and
 - **.LDF* files, which contains the logs.
- Any other relevant source-code files that are used within the software solution;

20.3. Users' Manual

The software development team shall prepare a printable manual book that provides instructions and guides to the end-users on how to use the new software application programmes.

The Users' Manual shall be distributed electronically in PDF format.

The Users' Manual should be written for the average user who may have a middle level of computer literacy and shall contain at least a detailed explanation of the use of the e-Consulate system, detailed responsibilities of each user role, System's functionalities and other appropriate information.

The Users' Manual must be available in *Romanian*.

The Users' Manual should be dual purpose to serve as a desk companion or library resource and as a training material for any training course that may be conducted. In the case of a training course, the Users' Manual would be printed and distributed to the training participants.

20.4. System's on-line Help

The new e-Consulate platform should provide an on-screen refresher guide that covers critical topics from the user guide to help the user whilst he or she is currently logged in. The logged in user should be able to access the online help section in any event that the user does not have immediate access to the operation manual.

The online help section should not be a duplication of the entire contents of the operation and maintenance manual. Specific topics deemed critical should be the priority in the online help section. Thus, online help provides a limited set of topics to read through.

20.5. Administration Manual

The software development team shall prepare and deliver the System installation and configuration

guidelines (to include at least how to install application(s), what the e-Consulate solution's hardware and software requirements are, technological platforms description and configuration, application configuration, disaster recovery procedures).

The Administration Manual shall describe entire set of components and controls used for the configuration of the new system, including also the guidelines to the System Administrators on how to manage the users and their roles.

Also the Administration Manual shall provide instructions on System's maintenance and all back-up aspects.

20.6. Developer's Manual

The Developer's Manual is a document designed for the developers, which has to provide good understanding and guidelines on how the e-Consulate software system is organized and how further adjustments can be made. In other words, the aforementioned manual is intended for programmers wishing to customize or extend the e-Consulate system or interact with its APIs. The software developers wishing to extend or customize the System are expected to know and understand *.NET Core*, *.NET Framework* technology, *ASP.NET Core* and the *C# programming languages* as well as object-oriented programming principles and SOA. It is also expected that the wishing to extend or customize the system are familiar with *HTTPS*, *HTML*, *CSS*, *JavaScript* and *XML*.

Those programmers wishing to take advantage of the System's APIs need only a basic understanding of working with *SOAP*, *REST*, *JSON*, *HTTPS* and *XML* based APIs.

The database developers that intend to extend or customize the databases of the new e-Consulate system must have good knowledge of *Microsoft SQL Server* as well as good skills in *T-SQL language*.

The Developer's manual shall describe the programming style and practices used in the development of the e-Consulate system. Any developers that intend to extend or customize the System in the future must conform to the guidelines of the manual.

The Developer's manual has to approach at least the following aspects:

- Requirements to the environment;
- System's Requirements;
- Development Tools to be used;
- Namespaces;
- Vocabulary;
- System's settings and Configuration Rules;
- System's components;
- Third-party components;
- System's APIs if any;
- Other aspects relevant for system's developers.

20.7. Other Technical Documentation

At least the following documents shall be prepared and submitted by the software development

team after the e-Consulate system is developed, tested and accepted:

- **Deployment Model (*as-built*)**, including the description of all nodes and the links between them. This model shall also contain the precise specifications of equipment and operation environments for the operation of the system at normal parameters, as well as specifications for a minimal configuration;
- **Final System Architecture (*as-built*)**;
- **Well commented final versions of the Database Structure and Data Models**, including the *SQL creation script*;
- **Documentation of the developed APIs** (if any) used for the data exchange with other IT systems;

21. SYSTEM TESTING AND QA

21.1. General Provisions

The Software Quality Assurance practices shall be implemented for the entire e-Consulate system development lifecycle, regardless of the underlying development methodology/approach being used by the software development team. The Quality Assurance will incorporate and implement software-testing methodologies to test the new ICT System after each iteration/development stage. This kind of approach involves functional testing activities to be carried out once a major system component (module or group of functionalities) is developed. It must be highlighted also that before the aforementioned functional testing, some internal testing shall occur during the development activities. These shall be carried out by the developers without the involvement of the MFA and representatives from the consular offices.

Rather than checking for quality after completion of the project, the Software Quality Assurance processes test for quality in each development iteration/stage – module by module (or group of modules) until the entire System is complete.

In order to be able to detect early flaws in the written code which may be more difficult to be identified at a later testing stage, the QA staff (testers) must use the so-called 'Unit Testing' at the development level for modular functions within the software platform. This means that the smallest testable parts of the software modules (called units), are individually and independently scrutinized for proper operation. The unit testing methodology will be applied during the development phase in close collaboration with the software developers and testers. The main objective of these activities is to isolate the written code to test and determine whether it works as intended. In other words, the unit tests must be isolated to ensure that the units don't rely on any external code or functions. The software development team shall move to the next phase only once the current/previous phase complies with the required quality standards of the developed module (or group of modules).

The software development team should use specialized tool for managing the quality assurance process and tracking the issuance and resolution of software issues (*bugs*). This could be a tool similar to Jira or Trello. However, it must be taken into account that this is a recommendation and the decision regarding the tool shall be taken by the software development team subject to eGA approval.

All members of the software development team need to have a registered user account in the aforementioned Tool in order to access all information uploaded and stored.

Under no circumstances shall the general public have access to any information stored in aforementioned QA tool. Access to all information stored in it shall be restricted to members of the software development team, MFA and eGA if so will be required.

21.2. Performance and Security Testing

In addition to the standard check-out and set-up tests, the testers' team (with the assistance of the beneficiary) shall perform the tests on the newly developed e-Consulate system before installation will be deemed to have occurred;

The parties shall check if all the automatic mechanisms of integration with other external ICT

systems meet the requirements.

The testers' team shall perform the security testing at least according to OWASP Top 10 ¹ vulnerabilities. The team will provide details about the testing method and the achieved results.

The eGA reserves the right to hire a *Third-Party QA Experts or Specialised Company* to carry out the *Load* and *Stress* testing related to the e-Consulate System's performance.

The acceptance criteria for performance and security testing are:

- 100% of the nonconformities detected at delivery were addressed;
- 80% of the accessibility tests are successful;
- 80% of the security tests are successful;
- performance is according to the set requirements;
- no critical deficiencies² and less than 2 major deficiencies and 30 average and minor deficiencies were detected.

The acceptance date will be the point when all critical or blocking deficiencies detected have been fixed and the system is put into production.

The performance and security testing can be conducted at the final stage when the system is entirely integrated.

¹ The OWASP Top 10 is a standard awareness document for developers and web application security. It represents a broad consensus about the most critical security risks to web applications.

² The testers' team will provide in their test plan document a classification of the deficiencies e.g. minor, average, critical.

22. QUALIFICATIONS REQUIREMENTS

22.1. Consultant qualifications requirements

The Consultant (ICT Consultancy Company) shall furnish documentary evidence (including information about the completed contracts and contact information of clients from whom the references could be taken or whom the Beneficiary may, when necessary, visit to familiarize themselves with the systems put into operation by the Consultant) to demonstrate that it meets the following experience requirements:

1. Have been in operation for at least five (5) years with main part of its business being the development of information systems.
2. Experience in conducting projects similar size and complexity developing web applications proven by at least two (2) contracts with the development phase finalized in the last three (3) years. For ongoing projects, copies of acceptance documents of the entire software solution shall be provided.
3. Experience in software development using agile software development principles (as described in the scope of work and Implementation Approach section of the ToR) would be an asset. This shall be demonstrated by presenting the project methodology describing the role of the client.
4. Demonstrated experience using required technology stack as described in the [Technical Requirements to the Technological Architecture](#) (NFFRQ036) would be an asset.

22.2. Consultant's Staffing

The performance of the proposed assignment will require Key Professional Staff and Non-Key Staff. The Consultant should provide qualified staff, both key-experts and non-key experts considering the assignment requirements and implementation time frame. The number and level of effort for all experts shall be listed in the technical proposal and their costs included in the financial proposal. Staff inputs may be adjusted during the contract implementation, subject to actual needs and additional system functionalities to be developed.

Qualification of Key Experts

Key experts represent specific knowledge and/or expertise required for the successful project implementation. Although the Consultant will form project implementation team at its discretion, the Consultant shall provide the following key experts with proved competencies:

- Key expert 1. Senior software developer;
- Key expert 2. Software developer;
- Key expert 3. Software developer;
- Key expert 4. Software Tester;
- Key expert 5. Trainer.

Each key expert must meet at least one of the following requirements:

- Experience in web UI design and development using responsive frameworks, progressive web apps;
- Experience in database design, development, and optimization;
- Experience in systems' integration, API design and development using SOAP/REST;
- Experience with unit testing;
- Experience in DevOps practices;
- Experience writing technical and end-user documentation;
- Experience in conducting training sessions for end users and ICT specialists.

Per total the entire team of the proposed key experts must meet all the above requirements.

Offers which will not demonstrate that the team covers the above requirements may be subject of disqualification.

One of the key experts shall be appointed as *Scrum Master*.

For proposed key experts the CVs need to be submitted, demonstrating the minimum qualifications requirements, as detailed below:

Key Expert 1. Senior software developer:

- university degree in Computer Science or another relevant domain;
- at least 7 years of experience in software development;
- participated in at least 2 software development projects in the last 3 years using Agile approach;
- at least 3 years of experience in software development using C#, Entity Framework, ASP.NET MVC, SQL Server;
- certifications in any technology from the required technology stack is an asset;
- ability to communicate in Romanian or English.

Key Expert 2-3. Software developer:

- university degree in Computer Science or another relevant domain;
- at least 5 years of experience in software development;
- participated in at least 2 software development projects in the last 3 years using Agile approach;
- at least 3 years of experience in software development using C#, Entity Framework, ASP.NET MVC, SQL Server;
- certifications in any technology from the required technology stack is an asset;
- ability to communicate in Romanian or English.

Key Expert 4. Software Tester:

- university degree in Computer Science or another relevant domain;
- at least 3 years of experience in software testing in projects of similar complexity;
- proven experience in software testing analysis and design;
- proven experience in automated testing;
- proven experience in performance (load and stress) testing;

- proven experience in security testing;
- certification in testing or any technology from the required technology stack is an asset;
- ability to communicate in Romanian or English.

Key Expert 5. Trainer

- University degree in Computer Science or another relevant domain;
- Proven experience in conducting training sessions for end-users and IT specialists in at least 2 similar projects;
- Proven experience in writing technical and end-user documentation;
- Experience in on-line training development using Moodle e-learning system is an asset;
- Ability to communicate in Romanian;
- Knowledge of English is an asset.

23. ANNEXES

23.1. Indicative data sets for ensuring the interoperability of the System

Data field	Data Type	Compulsoriness	Explanation
RealEstates			
Buildings	CadastralNumber[]		Buildings
Lands	CadastralNumber[]		Lands
Residences	CadastralNumber[]		Residences
CadastralNumber			
CadastralNumber	String	Yes	Cadastral number of the real estate
RealEstate			
CadastralNumber	String	Yes	Cadastral number
Type	String	Yes	Type
Enjoyment	String	Yes	Type of use
Area	String	Yes	Area
Address	Address	Yes	Address
Rights	Right[]	Yes	Property rights
Address			
AdministrativeCode	String	No	Administrative-territorial code (CUATM)
Region	String	Yes	District or municipality
Locality	String	Yes	City, town or locality
Zone	String	No	Zone/sector (for cities/towns)
Street	String	No	Street
House	String	No	House
Block	String	No	Block
Flat	String	No	Apartment number
Post	String	No	Postal code
Right			
PersonType	Integer	Yes	Type of the person: <ul style="list-style-type: none"> • 1 – for natural person (individual); • 2 – for organisation (legal entity)
PersonalData	PersonShortData / OrganizationShortData	Yes	Owner's data
Document	Document	Yes	Document
Interdictions	Boolean	Yes	Interdictions: <ul style="list-style-type: none"> • true – if there is an active interdiction; • false – no interdictions.

Data field	Data Type	Compulsoriness	Explanation
PercentageShare	String	Yes	Percentage share
PersonShortData			
IDNP	String	Yes	Identification number
LastName	String	Yes	Last name
FirstName	String	Yes	First name
SecondName	String	Yes	Patronymic
BirthDate	Date	Yes	Date of birth
OrganizationShortData			
IDNO	String	Yes	Organisation's unique identification number
Name	String	Yes	Name of the entity
Document			
DocTypeCode	Integer	Yes	Type (contains values from the national classification) - CF 37603221.0265.03)
Series	String	Yes	Series of the document
Number	String	Yes	Number (reg. number)
Debts			
IDNx	String	Yes	Identification number of the taxpayer (IDNP sau IDNO)
FullName	String	Yes	First and last name, patronymic of the taxpayer
Debts	Debt[]	Yes	List of debts grouped as per the category of budgetary types
Debt			
BudgetCode	Integer	Yes	Budget code. <ul style="list-style-type: none"> ● 1 - consolidated ● 2 – state budget ● 3 – local budgets ● 5 – social insurance budgets ● 6 – medical insurance budgets ● 8 – fund for population support
TotalDebt	Double	Yes	Total sum of the debt
BaseDebt	Double	Yes	Main sum of the debt
PenaltyDebt	Double	Yes	Penalty
FineDebt	Double	Yes	Sum of the fine
DeclaredIncomes			
DeclaredIncome	DeclaredIncome[]	No	Declared income
DeclaredIncome			
OrganizationName	String	Yes	Name of the organisation
Type	String	Yes	Type of income
Year	Integer	Yes	year

Data field	Data Type	Compulsoriness	Explanation
Sum	Double	Yes	Sum of the income
Person			
IDNP	String	Yes	Individual's unique identification number
LastName	String	Yes	Last name
FirstName	String	Yes	First name
SecondName	String	Yes	Patronymic
SexCode	String	Yes	Sex (according to the classification - CF 37603221.0037.01)
BirthDate	Date	Yes	Date of birth
BirthCountryCode	String	Yes	Code of the country of birth (according to the national classification - CF 37603221.0026.01)
BirthRegion	String	Yes	District or municipality of birth
BirthLocality	String	Yes	Locality of birth
CitizenshipCode	String	Yes	Citizenship (according to the national classification - CF 37603221.0066.03)
IdentityDocument	Document	Yes	Data of the Identification document
Registration	Registration	Yes	Data on residence
Relatives	Relative[]	Yes	List of person's relatives
Registration			
RegistrationTypeCode	Integer	Yes	Type of the registration (according to the national classification - CF 37603221.0264.01)
RegistrationDate	Date	Yes	Registration date
ExpirationDate	Date	No	Reg. expiration date
Address	Address	Yes	Address / residence
Relative			
RelativeTypeCode	Integer	Yes	Cod of the relative's type (according to the national classification - CF 37603221.0268.01)
IDNP	String	No	IDNP (may be blank for some persons who refused the IDNP)
LastName	String	Yes	Last name
FirstName	String	Yes	First name
BirthDate	Date	Yes	Date of birth
Organization			
IDNO	String(13)	Yes	Organisation's unique identification number

Data field	Data Type	Compulsoriness	Explanation
FiscalCode	String(13)	Yes	Fiscal code
Name	String	Yes	Full name
ShortName	String	Yes	Short name
RegistrationDate	Date	Yes	Registration date
LegalFormCode	Integer	Yes	Juridical form of the organisation (according to the classification - CF 37603221.0326.01)
AuthorizedCapital	String	Yes	Authorised capital (MDL)
StateCapital	String	Yes	State capital (MDL)
MunicipalCapital	String	Yes	Municipal capital (MDL)
PrivateCapital	String	Yes	Private capital (MDL)
ResidentRMCapital	String	Yes	Resident's capital (MDL)
ForeignCapital	String	Yes	Foreign citizen
Administrators	Administrator[]	Yes	List of administrators
Founders	Founder[]	Yes	List of founders
Administrator			
RoleCode	Integer	Yes	The code of the administrator's code (According to the classification - CF 37603221.0071.01)
PersonalData	PersonShortData	Yes	Personal data of the administrator
Address	Address	Yes	Legal address
Founder			
PersonType	Integer	Yes	Type of the founder (natural person or legal entity) („1”, if the parameter PersonalData contains values of a natural person (structure PersonShortData), or „2” if the parameter PersonalData contains data of a legal entity (structure OrganizationShortData))
PersonalData	PersonShortData / OrganizationShortData	Yes	Personal data of the founder
Address	Address	Yes	Registration date
Vehicle			
IDNV	String(13)	Yes	Unique identification number of the vehicle
PlateNumber	String	Yes	Plate number
Year	Integer	Yes	Production year
CategoryCode	Integer	Yes	Category / subcategory of the vehicle (According to the classification CF 37603221.0303.03)

Data field	Data Type	Compulsoriness	Explanation
Make	String(25)	Yes	Make/Brand
Model	String(25)	Yes	Model
Color	String	Yes	Colour
VIN	String	Yes	VIN code
BodyType	String	Yes	Body type (According to the classification CF 37603221.0308.04)
EngineVolume	Integer	Yes	Engine capacity, cm ³
StateRegistrationDate	Date	Yes	Date of state registration
VehicleStatus	String	Yes	Status of the vehicle (According to the classification CF 37603221.0327.01)
Owner	VehicleOwner	Yes	Data about the owner of the vehicle
Holders	VehicleHolder[]	Yes	Data about the holders of the vehicles
VehicleOwner			
PersonType	Integer	Yes	Type of the owner: <ul style="list-style-type: none"> • 1 – for natural persons (individuals); • 2 – for legal entities (organisations).
PersonalData	PersonShortData / OrganizationShortData	Yes	Personal data of the vehicles owner
VehicleRight	Integer	Yes	Vehicle rights (According to the classification CF 37603221.0317.01)
RegistrationDocumentNumber	String	Yes	Number of the registration certificate
RegistrationDate	Date	Yes	Date of the registration certificate
VehicleHolder			
PersonType	Integer	Yes	Type of the person <ul style="list-style-type: none"> • 1 – for natural persons (individuals) • 2 – for legal entities (organisations)
PersonalData	PersonShortData / OrganizationShortData	Yes	Personal data of the owner of the vehicle
VehicleRight	Integer	Yes	Vehicle rights (According to the classification CF 37603221.0317.01)
RegistrationDocumentNumber	String	Yes	Number of the registration certificate
RegistrationDate	Date	Yes	Date of the registration certificate
ExpirationDate	Date	Yes	Expiry date of the certificate

Data field	Data Type	Compulsoriness	Explanation
SpecialRemarks	String	No	Special remarks
DrivingLicense			
Number	String	Yes	Number of the driving license
IssueDate	Date	Yes	Date of issuance of the driving license
ExpirationDate	Date	Yes	Expiry date of the driving license
Categories	Category[]	Yes	Category of the driving license
Category			
Name	String	Yes	Name of the category
ExpirationDate	Date	No	Expiry date of the category
TechnicalVerificationReports			
TechnicalVerificationReports	TechnicalVerificationReport[]	Yes	Data from the technical verification reports of the vehicle
TechnicalVerificationReport			
VerificationDate	DateTime	Yes	Date of the technical verification
VerificationExpirationDate	DateTime	Yes	The expiration date of the technical verification
VerificationTypeCode	Integer	Yes	The identifier of the type of the verification. The following values are possible 0, 1, 2, 3, 4, 5 or other values from the nomenclature.
VerificationTypeName	String	Yes	Verification type name. The following values can be received for the VerificationTypeCode: <ul style="list-style-type: none"> • 0 - "<" • 1 - „Înmatriculare" • 2 - "Obligatorie" • 3 - „Reutilare" • 4 - "Schimbare raport" • 5 - „Testare repetată"
Vehicle	InspectedVehicle	Yes	Data about the vehicle
VehicleOwner	PersonData / OrganizationData	Yes	Data about the owner of the vehicle
ReportID	String	Yes	The unique ID of the verification report
Decision	String	Yes	Textual description of the decision type. The following values are possible according to the nomenclature in force: <ul style="list-style-type: none"> • „A trecut testarea tehnică cu eliberarea ecusonului" • „A trecut testarea tehnică fără eliberarea ecusonului"
CEMT	Certificate	No	Data about the CEMT certificate

Data field	Data Type	Compulsoriness	Explanation
ADR	Certificate	No	Data about the ADR certificate
InspectedVehicle			
IDNV	String(13)	Yes	IDNV
PlateNumber	String	Yes	Plate number
Year	Integer	Yes	Production year
Make	String(25)	Yes	Make
Model	String(25)	Yes	Model
Color	String	Yes	Vehicle's colour
VIN	String	Yes	VIN code
BodyType	String	Yes	Body type of the vehicle
EngineVolume	Integer	Yes	Engine volume, cm ³
PersonData			
IDNP	String(13)	Yes	IDNP of the person
FirstName	String(50)	Yes	Last name
LastName	String(50)	Yes	First name
Address	String	Yes	Address
IdentityDocument	Document	Yes	Data about the identity document
OrganizationData			
IDNO	String(13)	Yes	IDNO of the owner organisation
Name	String(50)	Yes	Name of the organisation
Address	String	Yes	Address of the organisation
Certificate			
ID	String	No	The ID of the certificate
Series	String	No	Series of the certificate
Number	String	No	Number of the certificate
IssueDate	DateTime	No	Date of issuance of the certificate
ExpirationDate	DateTime	No	Expiry date of the certificate
Restrictions			
Restriction	Restriction[]	No	Restriction
Restriction			
IDNV	String	Yes	The unique ID of the vehicle - IDNV
PlateNumber	String	Yes	Plate number
Type	String	Yes	Type of the vehicle : <ul style="list-style-type: none"> • AUTO • MOTO • REMORCA
Restricted	Boolean	Yes	Restriction (Yes/No)
RestrictionProcess	String	Yes	Number of the protocol
RestrictionDate	Date	Yes	Restriction date

Data field	Data Type	Compulsoriness	Explanation
NumberColor	String	Yes	Background colour of the plate number: <ul style="list-style-type: none"> white yellow
RestrictionArticle	String	Yes	CCRM Article
RestrictionParagraph	String	Yes	CCRM Paragraph
UnemploymentBenefit			
From	Date	No	The start of the unemployment benefit payment period
To	Date	No	End of unemployment benefit payment period
Amount	Double	No	The amount of the monthly unemployment benefit
Status	String	No	Status of the decision (approved, finalised, etc., if the Amount No field contains a value)
MedicalCertificate			
Status	String	Yes	Status of the certificate: <ul style="list-style-type: none"> The data from the medical certificate have been received and are in the process of examination The data from the medical certificate were not accepted, text error The decision to establish the allowance for temporary work incapacity is approved The decision to refuse in determining the allowance is adopted The compensation is transferred for payment to the designated payment service provider Awaiting calculation The data from the medical certificate was not sent
Pensioners			
Pensioner	Pensioner[]	No	Data about the pensioner
Pensioner			
IDNP	String(13)	Yes	The UID of the person
Status	Integer	Yes	The status of the person in CNAS IS: <ul style="list-style-type: none"> 1 - active 2 – not active

Data field	Data Type	Compulsoriness	Explanation
AwardDate	Date	Yes	The date when the category has been assigned to the person
DisabledPersonList			
DisabledPerson	DisabledPerson[]	No	Data about the person with disability
DisabledPerson			
IDNP	String(13)	Yes	The UID of the person
Status	Integer	Yes	The status of the person in CNAS IS: <ul style="list-style-type: none"> • 1 - active • 2 – not active
AwardDate	Date	Yes	The date when the category has been assigned to the person
AccountStatements			
AccountStatements	AccountStatement[]	No	Account statement
AccountStatement			
EmployerCode	String	Yes	The Employer's registration code at CNAS
EmployerName	String	Yes	Employer's name
Month	Integer	Yes	Month
Year	Integer	Yes	Year
Period	String	Yes	Reporting period
WorkingDays	Integer	Yes	Number of the working days per week
Category	String	Yes	Category of the insured person
PositionCode	String	Yes	Code of the job position
Fund	Double	Yes	Salary Fund and other reimbursements
IncapacityBenefit	Double	Yes	Compensation for temporary work incapacity
CalculatedContributions	Double	Yes	Calculated individual contributions
PaidContributions	Double	Yes	Individual contributions paid
CalculatedBaseContributions	Double	Yes	Calculated base contributions
PaidBaseContributions	Double	Yes	Paid base contribution
From	Date	Yes	The beginning of the work period or the period of temporary incapacity for work
To	Date	Yes	End of work period or period of temporary incapacity for work
MonthlyIncomes			
MonthlyIncome	MonthlyIncome[]	No	Data about the monthly income
MonthlyIncome			

Data field	Data Type	Compulsoriness	Explanation
EmployerIDNO	String	Yes	Employer's UID
EmployerName	String	Yes	Employer's name
Month	String	Yes	Month
Year	String	Yes	Year
PositionCode	Integer	Yes	Job position code
PositionName	String	Yes	Name of the job position
Sum	Double	Yes	Amount of gross income
Workplaces			
Workplace	Workplace[]	No	Data about the workplace
Workplace			
EmployerIDNO	String(13)	Yes	Employer's UID
EmployerName	String	Yes	Employer's name
PositionCode	Integer	Yes	Job position code
PositionName	String	Yes	Name of the job position
From	Date	Yes	The beginning of the work period or the period of temporary incapacity for work
To	Date	Yes	End of work period or period of temporary incapacity for work
PolicyStatus			
CategoryID	Integer	No	Category's ID (according to th nomenclature Categories of the AOAM)
CategoryName	String	No	Name of the category
IDNP	String(13)	Yes	The IDNP of the insured person
LastName	String	No	Last name of the insured person
FirstName	String	No	First name of the insured person
SecondName	String	No	Patronymic of the insured person
BirthDate	Date	No	Date of birth
Residence	String	No	Residence address
PolicyNumber	String	No	Number of the insurance policy
InsuredStatus	String	No	The status of the person in the AOAM system
FamilyDoctor	FamilyDoctor	Yes	Family doctor
FamilyDoctor			
DoctorIDNP	String(13)	Yes	The IDNP of the family doctor
DoctorFullName	String	Yes	Full name of the family doctor
MedicalInstitutionCode	String	Yes	The code of the medical institution
MedicalInstitutionName	String	Yes	The name of the medical institution
BorderCrossings			

Data field	Data Type	Compulsoriness	Explanation
BorderCrossing	BorderCrossing[]	Yes	Data about crossing the border
BorderCrossing			
Date	Date	Yes	Date of border crossing
Direction	String	Yes	Direction: <ul style="list-style-type: none"> Entrance – entrance in RM Exit – exit from RM
Point	String	Yes	The name of the border crossing point
FirstName	String	Yes	First name
LastName	String	Yes	Last name
BirthDate	Date	Yes	Date of birth
IDNP	String(13)	Yes	The UID (IDNP) of the person
PassportNumber	String	Yes	Number of the travel document
Citizenship	String	Yes	Citizenship
VehiclePlateNumber	String	No	Vehicle's Plate Number
VehicleMake	String(30)	No	Vehicle make
VehicleModel	String(30)	No	Vehicle model
Driver	Boolean	No	Driver status: <ul style="list-style-type: none"> true – for driver status false – for passenger status
Route	String	No	Name of the route
PersonWantedResult			
IsWanted	Boolean	Yes	The 'IsWanted' status of the person: <ul style="list-style-type: none"> true false
ProsecutionBodyName	String	No	Name of the prosecuting authority that initiated the process
Contraventions			
Contravention	Contravention[]	No	Contravention
Contravention			
CommittedDate	DateTime	No	Date (if null – the date is not applicable)
CommittedLocation	String	Yes	Location. Comma separated address
ContraventionStatus	String	Yes	Contravention Status
InformedDate	DateTime	Yes	Date and time when the person was notified. (From this moment the timer for paying the fine starts)

Data field	Data Type	Compulsoriness	Explanation
FineLinePaid	Double	Yes	Fine paid for the current installment (if the payment is made in installments)
FinePaid	Double	Yes	Fine paid
OrderKey	String	Yes	A 16-digit code that allows identification of the protocol document (used for payment)
PaidAt	DateTime	No	Date and time when the fine was paid
Sanctions	SanctionModel[]	Yes	Sanctions
SerialNumber	String	Yes	Series and number of the protocol
CustomProperties	CustomPropertyModel[]	No	Additional information
SanctionModel			
ArticleChapter	String	Yes	Chapter of the article
ArticleName	String	Yes	Number of the article (ex. 236(1))
MaterialChapterName	String	No	Chapter name
MaterialNormName	String	No	Name of the norm
MaterialNormType	String	No	Type of the norm (Contravention Code)
SanctionPointValue	Integer	No	Penalisation points
SanctionStatus	String	Yes	status of the sanctions (i.e. paid, etc)
SanctionType	String	Yes	Type of the sanction
SanctionValue	String	Yes	Value of the sanction
CustomPropertyModel			
Name	String	Yes	Name of the additional information (i.e. Plate number)
Value	String	Yes	Value of the additional information

23.2. FOD

The FOD (Front-Office Digitization) is a framework containing a collection of visual components and integration libraries that enables rapid design and development of front-office for digital government services. FOD components are designed to be oriented to user experience. The main beneficiaries of services developed based on FOD are citizens, businesses, and foreigners. FOD includes components which are used to easily configure and develop thin back-office for governmental service providers. Also, FOD could be integrated with existing service provider back-offices.

The FOD has been developed based on following technology stack: .NET, NuGet, MudBlazor, Kafka, Redis, PostgreSQL, Kubernetes, Helm, Git, Prometheus, Fluentd, Elastic Stack.

The FOD includes integration blocks with all Governmental Platform Services (see below diagram

Figure 55. General Architecture of FOD):

- MPass – for authentication and authorization (<https://mpass.gov.md>)
- MSign – for electronic signature (<https://msign.gov.md>)
- MPay – for electronic payments (<https://mpay.gov.md>)
- MNotify – for electronic notifications (<https://mnotify.gov.md>)
- MLog – for logging of business events
- MPower – for digital power of attorney (<https://mpower.gov.md>)
- MDelivery – for delivering the results of provided public services (<https://mdelivery.gov.md>)
- MConnect – for data exchange with third party information systems including state registers (<https://mconnect.gov.md>)
- MCabinet – for service application requests status monitoring and electronic documents downloading (<https://mcabinet.gov.md>)

The FOD components description is publicly available on (<https://fod.live.egov.md>). The FOD components package is provided by EGA upon request.

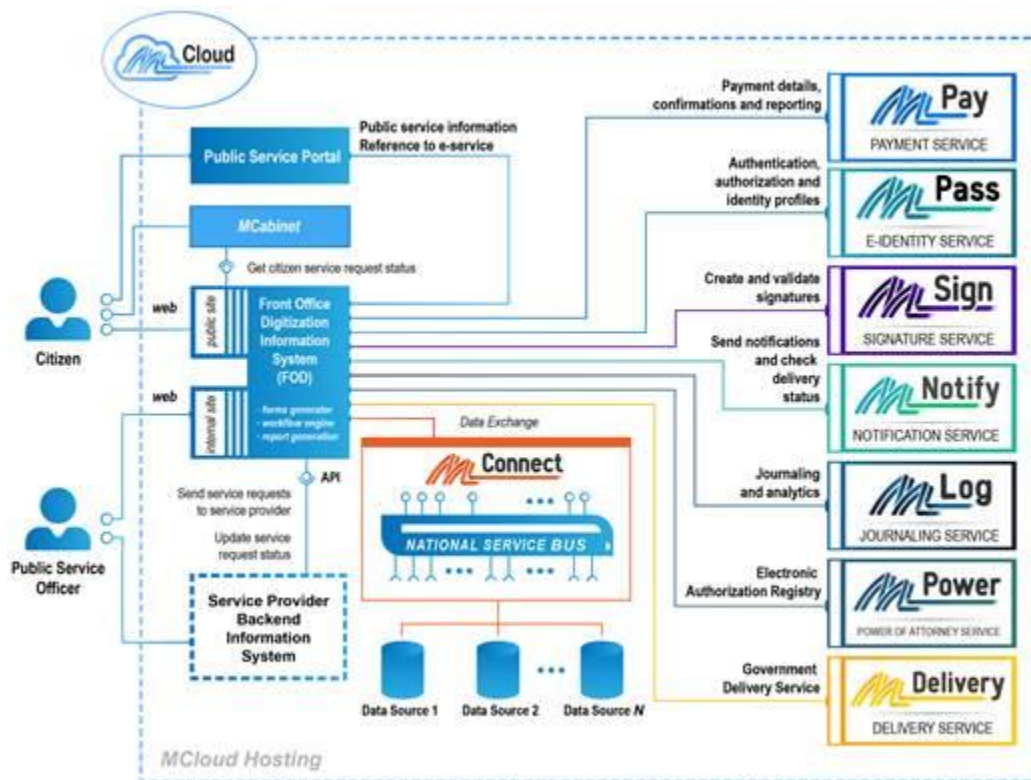


Figure 55. General Architecture of FOD

23.3. Relevant e-Governance Infrastructure

MCloud – Governmental Cloud Infrastructure

Many digital solutions designated for the Moldovan's public sector use the existing e-Government infrastructure and shared electronic services, as follows:

- The Governmental Cloud (MCloud)
- The Government Authentication Service (MPass);
- The Electronic Signature (MSign)
- The Electronic Payment Service (MPay);
- The Logging Service (MLog);
- The Notification Service (MNotify);
- The Citizen's virtual personal cabinet (MCabinet);
- The Delivery service (MDelivery);
- The Electronic powers of attorney service (MPower);
- The Governmental Interoperability Platform (MConnect);

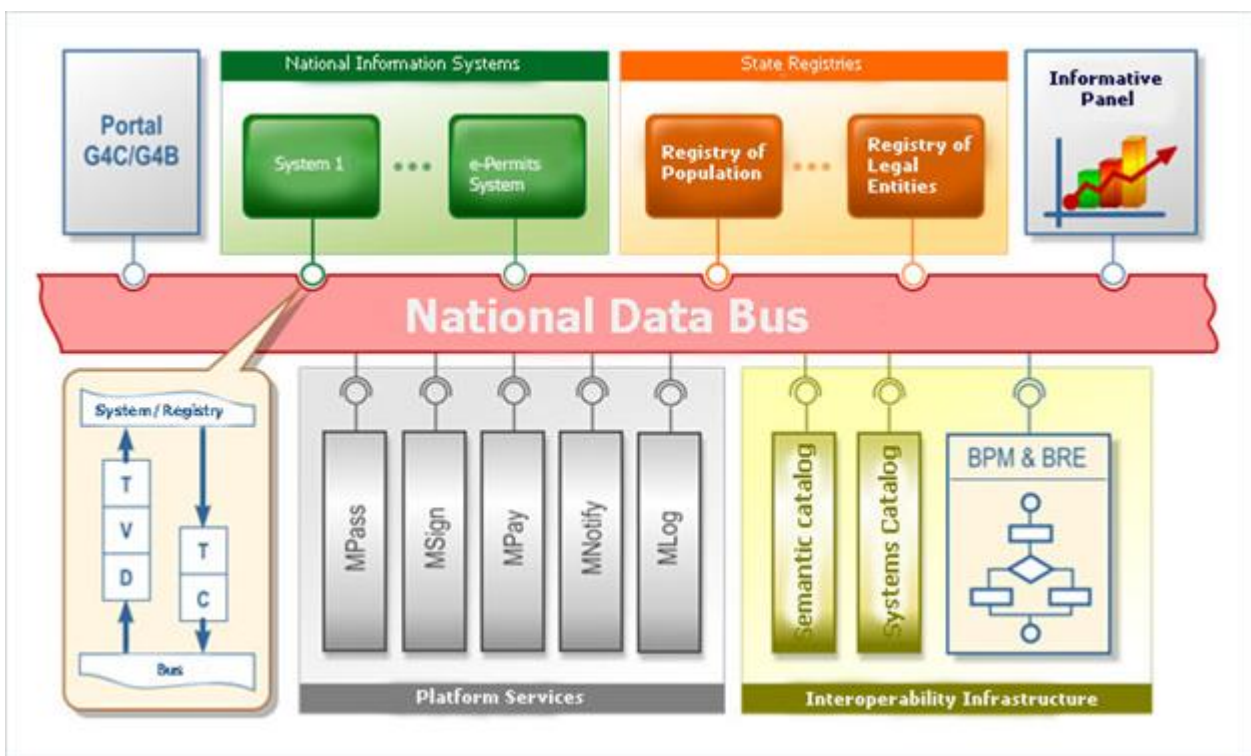


Figure 56. Existing Governmental ICT Infrastructure

Cloud government infrastructure - "MCloud" is a fully virtualized environment based on VMWare.

Hosting ICT solutions in MCloud is the only plausible and legal proposal, as the scenario saves beneficiaries from significant infrastructure costs, such as: data centre creation, purchases of servers, storages, networking devices, security and so on. The entire MCloud infrastructure is a government-owned one, created especially for the country's public authorities and institutions. Being managed by the STISC, it is one of the most secure and equipped ICT infrastructures in the country.

Placing of any ICT solution in MCloud saves the system's owner from additional hardware maintenance costs. This being transferred under the responsibility of the technical administrator.

It is worth mentioning that MCloud was specially designed and built so that several institutions can use common ICT solutions and applications, stored in a single data centre. None of the institutions needs server

infrastructure and storage space.

The Government of the Republic of Moldova has launched the common technological platform MCloud, especially to streamline spending on the consumption of ICT services. The MCloud platform comes to capitalize on government costs and consolidate data centers into a form of shared management. Thus, considerably reducing costs and increasing the quality and security of information systems of state importance.

The MCloud platform has been fully operational since February 14, 2013, and many public authorities have already migrated digital content to this platform.

MPass

MPass is the national service, which allows authentication and access to digital public services. The service offers different authentication mechanisms: mobile signature, digital certificate, user name and password.

MPass Server offers a Single Sign-On authentication that provides users with full control over the authentication and authorization of hosted user accounts.

It is important to note that the potential solution which uses single-sign-on, only applies to web applications and applications, which requires direct or indirect user interaction with MPass website.

Users which have valid digital certificates are able to create accounts that do not need validation. The MPass server automatically extracts data from the trusted digital certificate and creates a validated user account.

Any digital solution which integrates MPass service will be required to assign a certain level of authentication. Thus, systems which require high assurance of user identification will be requesting authentication with client digital certificate and those which consider the login/password as sufficient will allow both forms authentication and digital certificate authentication

Electronic Governance Agency shall provide the MPass Integration Guide, which provides a high-level view on the system architecture, and details the process of system interaction to provide authentication services to third party IT Systems and Software developers' teams.

MSign

MSign is the government's electronic signature service, which offers the ability to use all types of electronic signatures in online interactions and verify the authenticity of signatures under guaranteed security.

Through MSign the user can sign with 3 available tools: Mobile Signature, Electronic Identity Card and Electronic Signature (STISC).

The ICT solution shall be integrated with MSign to be used in particular for the signing of documents within the digital applications and in order to certify some users' actions.

One of the electronic signature tools is the Mobile Signature, which was launched in September 2012, in partnership with mobile operators in the Republic of Moldova. It provides digital signature and timestamp over time. MSign is integrated with many information systems in Moldova for accessing electronic services and allows users to sign various digital content like web forms, offline documents, images.

Mobile signature is an innovative service that allows access to electronic services using a mobile phone. It works as an identity card in the virtual environment, allows authentication in the virtual space to confirm the identity with the help of the mobile phone.

With the help of the mobile signature, users can sign remotely documents, reports, statements or online applications. Both public and private electronic services can be also accessed in a simple and convenient way. Users do not depend on the work schedule of the institutions, but can access electronic services from

anywhere and anytime.

According to law no. 264 of July 15, 2004 regarding the electronic document and the digital signature, the documents in electronic format are equivalent to the handwritten paper documents.

To obtain the right to digital signature via mobile phone, certificates issued by the Information Technology and Cyber Security Service are used, and the right to register users is granted to mobile operators.

Anyone can quickly get the mobile signature from the mobile operators in the Republic of Moldova. For this, they shall present only the identity card and complete an application. This process does not take more than 15 minutes. The regular SIM card that MD citizens have is usually replaced with a special SIM card, which includes the mobile signature.

MLog

MLog is a centralized service which aims to provide a secure and flexible mechanism for logging and auditing, ensuring conservation of the transactions (events), produced in an information system at a given time.

Electronic Government Agency will provide the MLog Integration Guide, which describes the technical interfaces that must be exposed by information systems that integrate with MLog and the technical interfaces that MLog exposes for them

MNotify

MNotify is a software application for sending of notifications within the information systems owned by public authorities within their jurisdiction and other public institutions of public service.

In this context, "Service" implies a message that is automatically generated by the information systems of the institutions with the purpose to notify users about changes of certain services or methods of service provision.

Thus, users may be notified of any changes in terms of reduced time, by e-Mail, SMS, instant messaging or other communication channels, as needed.

Electronic Government Agency will provide the MNotify Integration Guide, which describes the technical interfaces that must be exposed by information systems that integrate with MNotify and the technical interfaces that MNotify exposes for them.

Governmental Interoperability Platform – “MConnect”

The Governmental Interoperability Platform “MConnect” facilitates the exchange of data between the authorities to increase the efficiency and quality of delivery of public services. Through the interoperability platform, the public authorities exchange data in real time without requesting it from citizens and the business environment in the form of certificates, reports and other types of documents.

‘MConnect’ ensures the following objectives:

- increase the efficiency and effectiveness of information systems through which electronic public

- services are delivered;
- increase the efficiency of the use of public funds;
- increase citizens' comfort;
- increase the security of information systems of the local and central public administration;
- reuse the resources involved in the information systems;
- improve the collaboration between the institutions of public administration;
- promote the web accessibility;
- comfort for citizens.

The data exchange will be performed through secured channels, using dedicated standards and protocols such as XML, SOAP and HTTPS. MConnect is compatible with the following databases:

- Microsoft SQL Server;
- Oracle;
- MySQL;
- Informix;
- DB2;
- ...and other relational databases; as well as with:
- Cassandra,
- MongoDB and other non-relational databases.

23.4. Sample of the reporting form on the consular activity

Report on Consular Activity													
	Passports	Identity cards	Emergency Travel documents	Examined dossiers on citizenship	Issued Citizenship certificates	Civil Acts	Notary acts	legalization	Other actions	permanent residence establishment	Consular evidence	Consular taxes	Related taxes
Quarter I													
Quarter II													
Quarter I													
Quarter III													
Quarter IV													
Quarter II													
Annual													

23.5. The principles of grouping of services on the front-office main page

The screen mockup below presents from a high-level perspective the principle of grouping the services on the e-Consulate main page.

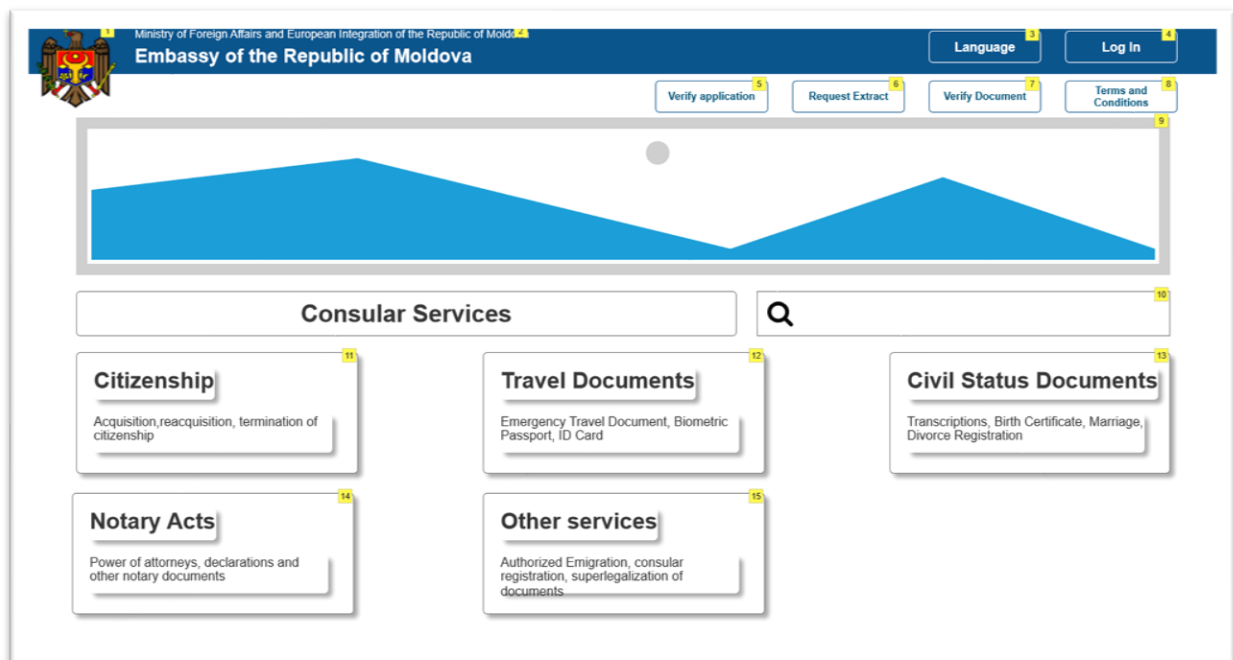


Figure 57. The principle of grouping the services on the e-Consulate main page

Screen elements specification

#	Element Name	Element Type	Description	Field Type	Element Mode
1	Image Logo	Image	The image that displays the country's coat of arms	Image	Active
2	Header Item	Label	The item describes the header title of the service platform	Text	Read-only

#	Element Name	Element Type	Description	Field Type	Element Mode
3	Language Button	Button	OnClick: Pick and change displayed platform language		Active
4	Login Button	Button	OnClick: Opens log in popup that displays the user credentials to be filled (through <i>MPass</i> - Authentication and access control service)		Active
5	Verify Application Button	Button	OnClick: Opens page 'Verification of the application status by its UID'		Active
6	Request Extract Button	Button	OnClick: Open request extras page		Active
7	Verify Document	Button	OnClick: Opens 'Verification of the service outcome' page		Active
8	Terms Button	Button	OnClick: Opens the terms and conditions page		Active
9	Banner Image	Image	The image banner that displays the latest news	Image	
10	Search Service	TextBox	OnInput: The event triggers when user inputs the desired consular service.	Text	Active
11	Citizenship banner	Link	OnClick: Open pop-up with citizenship subservices (Acquisition, reacquisition, termination of citizenship)		Active
12	Travel Documents banner	Link	OnClick: Open pop-up with travel documents subservices (Emergency Travel Document, Biometric Passport, ID Card)		Active
13	Civil status acts banner	Link	OnClick: Open pop-up with civil status documents subservices (Transcriptions, Birth Certificate Registration)		Active
14	Notary banner	Link	OnClick: Open pop-up with notary documents subservices (Power of attorneys, declarations and other notary documents)		Active
15	Other Services banner	Link	OnClick: Open pop-up with other consular services (authorized emigration, consular registration, superlegalization)		