National Institute of Electronic Government, Public Institute

Terms of Reference for Hiring a Firm for the Modernization of the Citizen's Portal and Software Development

Maputo, November 2024

1. CONTEXT

The National Institute of Electronic Government, a Public Institute abbreviated as INAGE, IP, created by Decree No. 61/2017, of November 6, whose competences, autonomy, budgetary regime, organization and operation were adjusted through Decree No. 35/2022, of July 22, is a category A public institution, endowed with legal personality, administrative, financial and patrimonial autonomy with the fundamental mission of coordinating and providing Government services Promoting greater speed in the provision of public services and promoting initiatives to improve the efficiency and transparency of the Public Administration in its interaction with the citizen.

The success of e-Governance in the country requires a robust internal capacity, which involves several aspects ranging from trained human resources to the efficient management of systems, electronic processes and digital accessibility in order to ensure that electronic services and information are accessible to all citizens, promoting digital inclusion.

It is in this context that INAGE, IP intends to use part of the funds from the EDGE Project, financed by the World Bank, to hire a company that will be responsible for the modernization of the Citizen's Portal and the development of services, including software, ensuring that citizens and companies enjoy a unified and coherent interface to access a wide range of public services. In addition, the contracted company will also develop specific software to provide services directly to the citizen, increasing the efficiency and accessibility of the public services offered.

2. OBJECTIVES OF THE MISSION

The objectives of this contract are to support:

- The development of a transactional Citizen's Portal from the existing one;
- The digitalization of the services to be integrated into the service portal.

3. SCOPE OF WORK

3.1. Implementation Phases

The implementation of the Citizen's Portal must occur in accordance with the following phases:

Phase 1: Evaluation of the current version of the Citizen's Portal

This phase aims to establish a robust documentary base that will serve as a reference for the implementation of the Citizen's Portal, involving the review of existing documentation and the creation of additional documentation as necessary.

- The company shall conduct a detailed analysis of the documentation, source code and hosting infrastructure to evaluate the architecture, existing technology and all tools that includes the review of the current portal documentation, interoperability features, available services and implementation strategy, considering the continuous technological advances and the changing needs of end users;

  The company shall conduct discussions with INAGE, IP and other relevant institutions to identify the resources and arrangements necessary to keep the portal up to date, especially in the face of changes in the processes or systems related to access to the services.

Phase 2: Assessment and Evaluation of public services and associated system.

INAGE, IP will identify and priority services for the initial stage, among which the following stand out:

i. **Identity Card Application –** Allow citizens to request or renew their Identity Card through the portal and follow the process of their request, make the payment digitally, and receive notifications to proceed with the collection of the document;

ii. **Tax Identification Request (NUIT) -–**Allow citizens, through the portal, to request their NUIT (Tax ID), follow the processing process of their application, as well as print their NUIT Attribution Declaration;

iii. **Application for Criminal Record Certificate –** Allow citizens to request and monitor the issuance of their Criminal Record Certificate through the portal, make the payment digitally and print the certificate directly through the Portal.

iv. **Renewal of the Driving License –** Allow the citizen to request the issuance or renewal of their driving license through the portal, generate their entity and reference, make the payment digitally, as well as receive the notification to be able to go to INATRO, IP to proceed with the collection of their biometric driving license;

v. **Request for Military Declaration - MDN (Recruitment Center) -** Allow citizens to request the issuance of their Certificate of Compulsory Military Service through the portal,

enabling the monitoring of their process, being able to make the payment through digital means, and receive the notification to go and collect their declaration.

vi. **Request for Civil Registration Certificate (marriage) –** Allow citizens to request the issuance of their Marriage Certificate through the portal, enabling the monitoring of their process, being able to make payment digitally, as well as receive the notification to be able to collect the Certificate;

vii. **Request for a copy of the Birth Certificate –** Allow the citizen to request the issuance of a copy of their Birth Certificate through the portal, follow the process of processing their request, make the payment by digital means, as well as receive the notification to be able to go to the registry office to collect it or download and print it;

viii. **Application for Vehicle Title** – Allow citizens to request the registration of their Vehicle Title through the portal, generate their entity and reference, enabling the monitoring of their request, and they can make the payment by digital means, as well as receive the notification to go to the Vehicle Registry Office for collection purposes;

ix. **Application for Survivor's Pension Certificate** - Allow citizens to apply for their Survivor's Pension Certificate through the portal, follow the application process, as well as receive notification to go to the Commercial Registry Office to proceed with the collection;

The evaluation of the services to be digitized will comprise the following components:

i. **Service Mapping** - An exhaustive inventory of all processes inherent to the service should be carried out in terms of workflow, points of contact with the user, for cases where the components are already digitalized, the data elements, data type, format, etc., as well as the technologies used, should be mapped.

ii. **Simplification, digitalization and integration** - Using a user-centered approach, all the functional and non-functional requirements necessary for the provision of simplified services should be defined, based on the once-only principle. This includes a quick assessment of the level of effort (budget, schedule, resources) to conduct business process reengineering (including any legal reforms), as well as digitizing services and integrating systems for service delivery through the portal.

iii. **Equipment and infrastructure** - The company will conduct a rapid analysis of the equipment, and infrastructure within each institution hosting the services to identify any limitations, compatibility issues, areas of improvement and upgrades needed to support an effective implementation of the service and its integration in the Citizen's Portal. This

includes supporting INAGE and the relevant institution to define the budget needed for any upgrades or purchase of additional equipment.

Additional priority services can be added based on the outcome of the workshop, as well as results from the service catalogue (this consultancy is being carried out in parallel).

Phase 3: Roadmap and Solution Design

i. Detailed implementation roadmap

Based on the data collected during the Evaluation phase, INAGE, IP should define which high-priority services should be added to the portal, focusing on those with strong digital readiness and simplified, high-impact processes.

The assessment, the level of effort required and the timetable will be discussed with the owners of the services and the associated system (relevant ministries and institutions), and on the basis of these discussions, a final agreement will be reached on the priority services to be integrated into the portal, including:

- **Roadmap and timetable** - The objectives of integration in the Citizen's Portal must be identified in collaboration with INAGE, IP and the entity responsible for the service. **Governance arrangements**: Agreement on the responsibilities of each stakeholder and arrangements for the implementation, monitoring and reporting of the progress of the work.
- **Implementation plan and agile project management** – Agreement on the implementation plan, including business process reengineering, systems digitalization, system integration/interoperability and schedule. The implementation plan should include provisions for agile project management (see section on Working Models).

The implementation plan and roadmap will include a break-down of the estimated man-hours and budget required for each stage of development, which will need to be approved by INAGE. Failing to come to an agreement on this plan and proposed budget will lead to the suspension of the contract.

ii. Design

The selected company will be expected to implement a user-centered design approach to develop the *front-end* of the Citizen's Portal, converting the service's workflows into intuitive

and engaging user interfaces (UI). To align the Portal's functionalities with user expectations, the company should develop:

- **User research:** In order to collect insights into user needs, preferences, and behaviors, ensuring that the final product is accessible and easy to use. The company will also be expected to propose and implement a variety of methods, such as surveys, interviews, focus groups, and user persona creation to collect detailed user feedback and preferences.
- **Iterative Design and Prototyping**: Develop interactive mockups and prototypes that simulate the look and functionality of the final product. This iterative process will allow for the refinement of user interface elements, navigation flows, and interaction patterns based on user feedback.
- **Usability Testing**: Conducting extensive usability testing sessions with a diverse group of potential users, with the goal of identifying any usability issues and areas for improvement. These sessions should be iterative, allowing for quick adjustments to prototypes based on real user interactions and feedback.

iii. Architecture and Infrastructure

a) Architecture

- The contracted company should design the architecture of the Citizen's Portal, emphasizing scalability, maintainability and performance, through a microservices architecture, as well as design infrastructure tailored to the specific needs of the Citizen's Portal.
- The company must ensure that each service is developed around a specific process, allowing its independent development, deployment and scalability, with minimal or no impact on the other services. This will increase flexibility for collaboration and integration, making it possible for multiple teams to work simultaneously and adopt different technologies. Additionally, it will facilitate the addition and maintenance of services.

b) Infrastructure

- **Design principles and standards**: The company should establish a set of design principles and set specific standards and goals for scalability, security, and compliance to guide the development of the infrastructure architecture.
- **Performance and scalability**: The contractor should design the infrastructure to handle peak loads and scale dynamically, ensuring a seamless user experience.

- **Security and compliance: Incorporate:** The contractor company will be expected to propose robust security measures, including data encryption, secure access control, and compliance with relevant regulations.
- The acquisition of additional equipment may be carried out through a supplementary contract, and it is the responsibility of the contracted company to carry out the configuration.

iv. Launch Workshop

The company should support INAGE, IP in the launch of a workshop dedicated to the Citizen's Portal, with the participation of all relevant institutions. The aim of the workshop will be to present the objectives of the portal, promote support for the integration of services into a single platform in place of dispersed sites, discuss governance arrangements for regularly adding and updating transactional services and information on the portal, and identify potential additional services that can be integrated in an agile manner.

Phase 4: Implementation of Services and new Features

The company will have to work under a time-based contract to deliver the services, through an agile methodology, to implement the agreed roadmap. The company will use standard user search techniques to identify and prioritize user needs during the assessment phase and develop the roadmap, in close collaboration with INAGE, IP and relevant stakeholders.

After the completion of the evaluation and design phase, the firm must present a functional prototype. This prototype should be based on actual running software, rather than just graphic mockups. The prototype of the commissioned service only needs to contain a subset of features that will be required before the services are activated.

After the initial customer service prototype is demonstrated, the vendor will be required to provide monthly progress updates until the system is ready to be deployed in production.

3.2. General Requirements of the Citizen's Portal

3.2.1. Functional Requirements

Based on interoperability, the company should provide reusable services, which include:

a. Authentication - the Portal should have a robust mechanism for secure authentication and validation of user identities. This may include, for example, interoperability with the national civil identification system for reliable verification of users' identity cards. Other

forms of authentication can be developed based on needs. The authentication process must adhere to relevant data security and privacy standards and protocols, in compliance with relevant regulations and existing identity verification standards.

b. **Payments –** to allow citizens to complete the workflow within the portal, the platform should be integrated with payment systems, namely banks and mobile money to ensure greater inclusion.

c. User Support - The Portal must offer several support mechanisms to ensure efficient assistance to the user. This includes an AI-powered Chat Bot for quick responses, direct chat with the support team and voice chat for complex interactions, and ready to connect to *Contact Center* platforms when needed. This approach ensures accessibility, scalability, and alignment with existing initiatives, increasing user satisfaction and service efficiency.

d. Notifications – The platform should provide notification mechanisms, supporting the automatic sending of alerts and messages to users by SMS, WhatsApp and email, informing, for example, when a requested document is available for collection. The system should also utilize USSD when necessary.

e. **Interoperability** – The backend of the Citizen's Portal will use the interoperability platform to integrate with the systems (legacy or not) that provide public services and facilitate the exchange of data between related services in a transparent manner for the end user. X-Road will be implemented as the service bus between the Citizen's Portal and all its services. Thus, the company will be responsible for the design and implementation of an architecture that uses the Government's Interoperability Framework for the exchange of data between services.

f. **Data analysis** – to allow through key indicators the monitoring of efficiency in the provision of services, including, for example, the number of requests for each service, the average delivery time of the service (and for each step to be completed).

3.2.2. NON-FUNCTIONAL REQUIREMENTS

a. **Design based on Life Events –** The design of the portal should be based on life events in order to provide a streamlined user experience. This design philosophy will improve the user experience by not only allowing the user to quickly locate services, but also anticipating, highlighting and notifying citizens for future needs based on service-specific criteria (e.g. notifying users to apply for an ID after receiving the birth certificate, notifying the user to purchase a NUIT after obtaining a BI, etc).

b. **Usability** – The system should be user-friendly (*UI/UX*), including its configuration options, based on regular user testing.
c. **Reliability** – The system must operate consistently, without failure over time. To meet this requirement, the software or platform must allow regular backups of the system and data in order to restore and maintain the service as quickly as possible in the event of a failure.
d. **Accessibility –** the portal must have multi-channel support, allowing services to be requested by SMS, USSD and voice, when necessary. Given that the Government is developing *Contact Center* services (through a separate contract), the portal must allow the request of services by third parties (*Contact Center* Agents) and ensure the security and privacy of each citizen. The Portal must also be accessible through smartphones and tablets.
e. **Scalability** – The system must maintain consistent performance without crashes or downtime as the number of users and data grows over time. The new version must also be scaled according to the existing infrastructure.
f. **Auditability** - The system must be auditable to ensure the transparency of data processing and the consistency of the procedures performed by users. In addition, the source code must be available for special audits.
g. **Documentation** – The new software should have detailed documentation of its operations for users and technical features for the IT support team.
h. **Security** - The provider must maintain physical and IT security that follows industry Best Practices to ensure that there is no unauthorized access to any customer data. The software must pass mandatory security testing for at least the top 10 OWASP vulnerabilities. The vendor is required to present the test plan (e.g., scenarios, tools, environment) and test results to the customer. The system must be protected against unauthorized access, use, disclosure, interruption, modification, or destruction of the data. To do this, it must adopt cryptographic methods to protect data from unauthorized access and prevent malicious data tampering, among other things. The provider will immediately inform the customer of any security breach and keep a record of such breaches. The supplier will take all necessary steps to recover this information and will cooperate with the customer in any investigation into the breach.
i. **Optimal performance** - The system must have optimal performance for the most common procedures, such as capturing, searching and retrieving data from the database, printing certificates, listing reports, among others, considering the existence of basic IT hardware and network equipment.

j. **Mobile Device Features** – The portal should be designed to work seamlessly on desktops, laptops, mobile phones, and tablets.

k. **System Improvements** – When the system goes live, the vendor must have implemented automated testing within an automated deployment pipeline to enable the secure deployment of improvements through a continuous integration system. The vendor is required to present the test plan (e.g., scenarios, tools, environment) and test results to the customer.

l. **Data extraction** - The supplier must ensure that any data entered into the systems provided can be extracted by the customer at no additional cost, both in bulk and individually.

m. **Open source** – whenever possible, the company will prioritize the use of open source technologies, to reduce licensing fees, as well as to take advantage of the advantages offered by solutions supported by global communities.

n. **Inclusion** - To ensure the inclusion of all citizens with disabilities or color blindness, the color palette should be selected in a way that maintains contrast and clarity, ensuring that information remains discernible to users with vision impairments. Additionally, the design should incorporate features such as adjustable font sizes, alt text for images, and keyboard navigation options, catering to the needs of people with visual or motor impairments. Strict adherence to accessibility norms and standards such as those established in WCAG must be ensured[1]. Continuous user testing will be carried out to evaluate and improve the project.

o. **Performance and availability** - The portal shall have fast response times, with page load times of no more than 5 seconds under normal operating conditions. It should be able to handle concurrent user sessions without degradation in performance. The number of concurrent users will be agreed with INAGE, IP and based on the number of services included in the portal. Provisions will be made to increase the number of concurrent users based on growing needs (the platform must allow at least 50 000 users to operate simultaneously). Additionally, the response time for user interactions with the AI-powered Chat Bot should be almost instantaneous, providing quick and seamless assistance. The portal should have high availability, with a target uptime of at least 98% per month. Backup, redundancy, and *failover* mechanisms must be implemented to ensure resilience to system failures or outages, with built-in redundancy and failover mechanisms to ensure continuous operation.

[1] Web Content Accessibility Guidelines (WCAG): https://www.w3.org/WAI/standards-guidelines/wcag/

3.3. Maintenance and Support

The company shall strengthen the capacity of INAGE, IP to provide maintenance and support to the platform, including through the development of relevant governance mechanisms, including the identification of team members to monitor performance, collect regular data on performance and swiftly resolve issues based on pre-specified service level agreements and procedures (the company shall advise INAGE, IP in additional recruitments as needed). These governance arrangements will include a proposal on how to work closely with INAGE, IP on maintenance during the contract.

In close collaboration with INAGE, IP for the purpose of on-the-job training, the company should provide comprehensive maintenance and support services to ensure the best functioning, security and usability of the Citizen's Portal. This should cover at least the following aspects:

- **Bug fixes *and troubleshooting:*** **Prompt** resolution of any software failures, technical problems reported by users or identified through tracking systems. Timely updates and *patches* should be released to mitigate vulnerabilities and ensure the stability of the portal.
- **Technical support:** The company must offer technical assistance and guidance to administrators to solve problems, or difficulties related to the use or functionality of the portal. Support channels, including email, phone, and online chat, should be available during specified business hours to respond to inquiries and provide assistance. This will be designed in close collaboration with INAGE, IP and relevant sectoral stakeholders.
- **Performance Tracking and Optimization:** The company should establish protocols and support INAGE, IP in monitoring the performance of the portal, including response times, server availability, and resource utilization, to identify potential bottlenecks or areas for improvement. Optimization measures should be implemented to improve performance, scalability, and reliability as needed.
- **Security maintenance:** the company will conduct security audits and assessments on a regular basis to identify and mitigate possible vulnerabilities or threats to the portal's infrastructure and data. Security *patches* and updates should be applied promptly to address known security issues and protect against emerging threats.
- **Software updates and upgrades:** The company will be responsible for managing and deploying software updates, *patches*, and version updates to ensure that the portal remains

up-to-date with the latest security features and enhancements. Compatibility tests should be performed to verify that updates do not disrupt existing functionality or integrations.

- **Backup and disaster recovery:** Regular backups of portal data should be performed to protect against data loss or corruption. A comprehensive disaster recovery plan should be developed and maintained to facilitate the rapid restoration of services in the event of system failures or emergencies. The development and implementation of the Disaster Recovery Plan should be aligned with existing guidelines and standards.
- **Training and documentation:** The company shall provide training materials, user manual, and documentation to support users and administrators in the effective use of the portal.
- **Reporting and Communication:** The company shall provide periodic reports on maintenance and other activities, including troubleshooting status, performance metrics, and security updates. Communication channels should be kept open to keep stakeholders informed about maintenance activities, scheduled downtimes and future improvements.

4. WAYS OF WORKING

Time-Based Contract - this contract will be time-based, and the company will provide monthly bills and reports on deliveries.

Initial Contact and Interaction with the Different Stakeholders – INAGE, IP will facilitate the obtaining of all the necessary credentials, as well as the initial contact with the different stakeholders.

Development Methodology – the contracted company must implement an agile development methodology, holding weekly meetings with INAGE, IP product managers to ensure the correct implementation of the requirements. This methodology should emphasize flexibility, continuous improvement, and the delivery of high-quality results. The development work will be organized in *sprints*, with regular reviews and adaptation of the plans according to the evolving needs of the project and customer feedback. INAGE, IP will designate one or more Product Managers to collaborate directly with the company, participating in weekly or biweekly product management meetings, or *sprint* meetings whenever necessary.

User-Centric Approach: A user-centric approach should be used to define requirements, ensuring that the solution is aligned with the needs of end users.

Agile Project Management – the company must adopt agile methodologies and principles with a focus on continuous improvement, stakeholder collaboration, adaptive planning. Various agile methodologies such as Scrum, Kanban and Lean, are suggested, with the choice depending on the specific requirements of the project and the team dynamics. Agile project management tools like JIRA, Asana, Trello, etc. are recommended to support these processes, increase transparency, and maintain team collaboration.

Confidentiality - The contractor is obliged to maintain the confidentiality of official information and may only disclose it to third parties with written authorization from INAGE, IP.

The data processed and the information obtained are the exclusive property of the Government of Mozambique through INAGE, IP.

Intellectual and technical property - the products developed at the request of the beneficiaries will remain the intellectual property of the Government of Mozambique through INAGE,IP, and may involve any public institution according to its attributions and the nature and purpose of the product in question. The Company will ensure that any data entered into the systems provided by the Client or on its behalf remains the Client's intellectual property.

INAGE, IP is the owner of the artifacts produced (portal software, source code, documentation, etc.) on behalf of the Government of Mozambique in the management and provision of e-Government services and these artifacts must be made available in such a way that they can be used, modified and shared whenever necessary.

Local capacity building - If the selected company is international, it must collaborate with one or more local companies to support the implementation of the outlined activities. This partnership not only facilitates local capacity development but also promotes long-term product sustainability. This collaborative approach not only increases the chances of project success, but also strengthens the local ecosystem, allowing local businesses to offer ongoing support for similar initiatives in the future.

Reporting provisions: technical meetings will be held weekly between the teams, and coordination meetings between the company, INAGE, IP and relevant stakeholders will be held at least once a month or whenever requested by the Directorate-General of INAGE, IP.

The subsequent phases of project implementation will only take place after the approval of the previous phase by INAGE, IP.

5. DURATION, DELIVERABLES AND PAYMENTS

Activity	Deliverable	Timeline (after the contract is effective)
Phase 1. Evaluation of the Citizen Portal	• Citizen Portal Evaluation Report	1 month
Phase 2. Evaluation of Services to Be Digitized / Integrated into the Portal	• Service Evaluation Report	3 months
Phase 3. Design and roadmap	• Implementation Plan • System Requirements • Design Workshop Report including (prototypes, mockups, etc) • Architecture and technical specifications • Development Plan	4 months
Phase 4. Service Integration (Development) and Testing, Maintenance and Support	Iterative development and maintenance support: Update report every 2 months on the progress of the portal's development, including: - Progress on the implementation of the approved implementation roadmap - Issues in the roll out, including on performance and maintenance	17 months (Report to be submitted every two months)
Final report	Final report, including: - Arrangements for sustainability of the service portal, including long term maintenance, management of equipment, training and human resource availability - Lessons learned for the development of the portal (including on institutional arrangements, capacity, resources, technology and architecture, etc.)	18 Months

This will be a time-based contract, but the firm will include in their proposal an estimation of the share of the budget spent on phases 1-3 (diagnostic and roadmap design) to ensure they are done in a cost effective way, and won't exceed 10 % of the total budget on these 3 phases.

6. CONTRACT MANAGEMENT

Time-Based Contract - this contract will be time-based, and the company will provide reports on delivery and time spent every two months.

A focal point within INAGE will be appointed to manage this contract, with support from a committee.

During the Design phase of this contract, the firm will prepare a detailed proposal for each stage, feature, or major development milestone, outlining:

- **Expected Cost**: A breakdown of anticipated costs associated with the milestone, with monthly breakdown.
- **Expected Results:** A clear description of the deliverables and outcomes for the milestone.
- **Level of Effort**: An estimate of the resources, including time and personnel, required to complete the milestone.
- **Acceptance Criteria**: Defined and measurable criteria that will be used by INAGE, IP to evaluate the completion and quality of the milestone.

The INAGE focal point will be responsible for ensuring that the firm adheres to the proposal approved during the design phase. Invoices will be sent on the basis of the agreed deliverable and expected costs. Failure to adhere to the approved timeline for deliverables and associated costs may lead to termination of contract.

Prior to payment, INAGE, IP will conduct an evaluation and testing of the deliverable. Payment will only be approved after the successful completion of tests, confirmation that all acceptance criteria have been met, and final approval from INAGE, IP.

7. QUALIFICATION CRITERIA

i. To the CONTRACTED PARTY

- **Experience with Interoperability:** experience in implementing scalable data integration platforms for a minimum period of 3 years, preferably for the public sector**.** Proven track record of successfully implementing interoperable solutions. Demonstrated experience in designing and implementing RESTful and SOAP APIs.

- **Experience working with the public sector in Africa:** At least 2 successful experiences in developing and implementing software solutions for the public sector in Africa, which are currently in operation.
- **Technologies:** Proven track record of successful projects, in particular in the design, development and implementation of systems using a variety of technologies and programming languages (e.g. Java, Python, JavaScript, C#)
- **Project Management:** Competence in project management, which includes planning, team coordination, efficient resource allocation, and meeting deadlines;
- **Location and language:** The lead specialist and key personnel working in the country must have excellent oral and written communication skills in Portuguese and English.

ii. MAIN TECHNICAL TEAM

The CONTRACTOR's technical team must be composed of at least the following:

Position	Qualification
Project Manager	• Master's degree in Project Management, Computer Science, Engineering, or similar areas; • Minimum of 7 years of experience in managing successful complex IT projects; • Experience working with government institutions and stakeholders in Africa; • Certification in Project Management (PMP), Six-sigma black belt is highly desirable.
Software Architect	• Degree in Computer Engineering, Software Engineering or similar; • Minimum of 15 years of experience in systems architecture; • Experience in the design and implementation of highly scalable interoperable systems; • Proven experience in developing One-Stop-Shop platforms for the provision of digital public services, preferably in an African country; • Strong knowledge of interoperability solutions and frameworks; • Strong skills in software development, distributed systems architecture, information security and digital identity management. Familiarity with related

	technologies such as XML, SOAP, REST, PKI (public key infrastructure), and authentication systems; • Excellent documentation skills.
2 Senior Developers – Full Stack	• Degree in Computer Engineering, Software Engineering or similar; • Minimum of 10 years of experience in software development; • Experience in Software Development using agile methodologies and tools; • Knowledge and experience in interoperability standards; • Proven experience in developing and optimizing RESTful and/or SOAP APIs; • Experience using version control software such as Git • Extensive knowledge with the following programming languages: Java, PHP, C#, JavaScript and Python; • Experience working with government institutions and stakeholders; • Strong knowledge in web development;
Quality Assurance Specialist	• Master's degree in Computer Science, Computer Engineering or related areas; • More than 7 years of professional experience as a software tester; • More than 2 years of experience in software development; • Extensive experience with Selenium, Apium, Junit or Pytest frameworks; • Experience with API testing tools such as Postman, SOAPUI, Insomnia, or others. • Training in Quality Management Systems and implementation of ISO 9001:2008 standards
3 Back-end Developers	• Degree in Computer Science, Computer Engineering or related areas; • More than 5 years of software design, development and implementation; • Exceptional programming skills and deep knowledge of the following programming languages: Java, C#, JavaScript, PHP, Python; • Exceptional skills and in-depth knowledge of the following frameworks: Spring, Spring Boot, Laravel, and Ruby on Rails.

2 Database Specialists	• Degree in Computer Science, Computer Engineering or related areas; • 10 years of experience in database administration; • Proficiency in Oracle, Microsoft SQL Server, Postgres and others; • In-depth knowledge of database security and performance tuning; • Experience with cloud-based database solutions; • Experience in government or public sector projects; • Relevant certifications, for example, Oracle Certified Database Administrator.
2 UI/UX Designer	• Degree in Graphic Design, Computer Science, Computer Engineering, Information Technology or related areas; • 3 years of experience in UI/UX; • In-depth knowledge of prototyping technologies such as: Figma, balsamiq, Adobe XD and others.
User Researcher	• Degree in Psychology, Human-Machine Interaction, Computer Science or related field; • 3 years of experience in qualitative and quantitative research; • 3 years of research experience for ICT projects; • Strong analytical skills; • Experience in data management and analysis.
2 Business Analysts	• Degree in Business Administration, Computer Science, Computer Engineering, Information Technology or related areas; • 3 years of experience in analysis and documentation of business processes; • Experience in defining and refining requirements • Strong analytical skills.
2 Service Designer	• Degree in Design, Computer Science, Human-Machine Interaction or similar; • 3 years of experience in designing complex software solutions; • Experience in Research, Design thinking and Human-Centered Design; • Experiment with software solutions for design and prototyping.

2 Product Managers	• Master's degree in Computer Science, Computer Engineering, Information Technologies or related areas; • More than 5 years of professional experience in IT development (web and/or mobile and/or applications); • At least 2 years of experience as an IT Project Manager or Product Manager; • Good knowledge of the technologies used in the project; • Excellent management skills.

8. Duration

It is expected that the work will have a total duration of 18 Months.