Terms of Reference (ToR)

REQUEST FOR PROPOSAL: RFP (OD-MENA-BA/ADMIN/2021/047) ESTABLISHMENT OF FRAME AGREEMENT(S) FOR THE PROVISION OF APPLICATION DEVELOPMENT AND SUPPORT SERVICES TO KNOWLEDGEHUB AND MYUNHCR PLATFORMS

BACKGROUND:

Data plays an ever-increasing role in the decisions made at The United Nations High Commissioner for Refugees (UNHCR). In order to best leverage this data, UNHCR needs to invest in a business analytics architecture that maximizes the ability to collaborate and innovate.

UNHCR has invested in the creation of multiple platforms and frameworks including 'Knowledge Hub', which is a CKAN based technology stack, and 'MyUNHCR', which is a NodeJS Saile based technology stack. Both are based on open-source technologies and tailored to UNHCR's needs. As with all technology platforms, these platforms require further strengthening, ongoing support and maintenance that includes software upgrades and minor to moderate feature development.

UNHCR is looking to establish Frame agreement(s) for one (1) year, potentially extendable for an additional two (2) years, with a capable software development and service support firm to provide an experienced team with a strong background in technology development and services support. The team will shoulder the responsibility for the overall day-to-day management of the various assignments under the two (2) platforms, including the enhancement of the platform's capability across UNHCR, and by providing direct bilateral support to DIMA and ICT units.

These applications are built by using a combination of several different technologies which are hosted on AWS cloud services. Below is a list of technologies used at UNHCR to support development of applications:

Common technology:

- AWS cloud application hosting
- Docker / docker-compose
- Git
- Javascript, JQuery, Ajax
- HTML, CSS
- Redis

KnowledgeHub technology:

- CKAN
- Python
- PostgreSQL
- Apache Solr
- Bootstrap
- Jinja
- Linux / CentOS 7

- PyTorch / TensorFlow

MyUNHCR technology:

- SailsJs v1.0+
- NodeJs
- Express
- MongoDb

OBJECTIVES OF THE PROJECT:

In consideration with the needs outlined above and to promote effective and tailored access to information during the contract duration, the contractor shall provide:

A) Qualified software professionals with expertise in the technologies as indicated above; in relation to the KnowledgeHub project and/or the MyUNHCR project, and disciplines as outlined in these Terms of Reference on a time and materials basis
B) Provision of application development and support services
C) Management of the development project including reporting on project results and outcomes
D) Coordination with the project team and other stakeholders

The number of software professionals that UNHCR may need to hire at any given time, as well as the duration of the assignment, would vary depending on the project initiative and the volume of work. A scenario with the estimated number of hours per professional is given in the financial offer in order to enable the contractor to have an indication of the projected requirements, however it does not represent a commitment that UNHCR will purchase a minimum quantity of services.

UNHCR expects professionals to work from remote locations. It would be the responsibility of the supplier to provide and setup any remote locations. UNHCR, however, would assist in setting up a VPN connection to let the contractor's personnel access its internal network, if needed. If in person service required, the service provider will solely be responsible for the coordination, logistic organization, visas arrangement and other administrative processes.

Software professionals will be responsible for all aspects of development and implementation, depending on the nature of the assignment. These steps include but are not limited to design, development, testing, configuration, and all related documentation. Design standards and functional specifications shall be provided per engagement. Agile development techniques will be used for rapid, short-cycle feedback to ensure specifications are well understood. The contractor is responsible for ensuring industry best practices for technology project management and quality control are used UNHCR team will maintain oversight, through regular meets, to ensure that those standards are implemented.

The contractor's personnel will work as needed with UNHCR's ICT and/or UNHCR's application owners to complete task orders. All UNHCR projects must be implemented within UNHCR's standard framework, including UNHCR's Azure Active Directory authentication services. All development activities will use GIT as the code repository.

DETAILED PROJECT SCOPE:

UNHCR expects the contractor to provide remote rates for the below profiles, all inclusive. The contractor shall clearly specify the skillset for which the proposed resource is qualified. The qualifications of each individual proposed shall match with each of the required skillsets.

Prior to the implementation of each phase of the projects, the contactor shall submit to UNHCR a plan with all deliverables, to be defined and labeled with a reference, and all resources. A detailed implementation time should be also included for each deliverable with breakdown for each professional.

All deliverables shall be in English and submitted in appropriate format, as per requirement of UNHCR.

Required key resources

In accordance with these terms and conditions, the contractor is expected to deliver a team that consists of the following project-based expertise/professionals in relation to either of the mentioned projects:

- Project Manager
- Business Analyst
- Developer / Database Administrator-MyUNHCR
- Developer / Database Administrator- KnowledgeHub
- Quality Assurance personnel
- DevOps staging and production deployment

Allocation of hours and the resources above should be specified and such that contiguous and continuous support is provided. At different phases of the project there should be the ability to scale up or down the Developer and/or Quality Assurance resource.

Required Project Management Skill Set:

- Post graduate degree in IT/management or any other related field from a recognized university
- Project Management Professional Certification or equivalent is an advantage
- Minimum of ten (10) years' experience in the field of Software / Product development
- Minimum of five (5) years' experience in management / supervision of operations and support for large scale IT Systems
- Adhere to coding standards, procedures and techniques while contributing to the technical code base including any required documentation
- Experience with git version and revision control practices and procedures
- Experience implementing and consuming web services
- Familiarity with project management methodologies and the use of their tools
- Participate in project planning sessions with applications development team to collectively analyze business requirements and design IT solutions
- Prepare project documents, develop plans and testing/implementation plans
- Hands-on experience in object-oriented design (OOD) and unified modeling language (UML)
- Develop end-user training material and training plans
- Full life cycle application development experience is a must
- Strong communication skills, both written and oral

Required Application Development Skill Set:

- A Degree in the field of ICT or in a field related to the scope of the assignment
- Minimum of seven (7) years' experience in the field of Software / Product development
- Minimum of two (2) years' experience in management / supervision of operations and support for large scale IT Systems
- Full software development lifecycle experience is a must, including strong design, coding, automated testing, documentation and debugging skills
- Use of reproducible, contained, debugable, automated testing environments is a must (i.e. use of docker-compose)
- Thorough understanding of Model-View-Controller (MVC) design patterns
- Advanced knowledge of ORM technologies
- Experience with responsive, multi-device application layout patterns
- Experience creating and running tests suites (unit, integration, end-to-end)
- Experience with git and effective branch management
- Experience with agile project tracking tools such as Azure DevOps that allow feature-code traceability.

The contractor shall provide relevant educational and certificate degrees by team members demonstrating the aforementioned skills as they pertain to the particular project (i.e., KnowledgeHub or MyUNHCR)

Development of a solution on a time and materials:

Time & Materials (T&M): where UNHCR will pay the provider based on the number of hours put into the project. T&M projects will nonetheless have an agreed budget before projects start and will require weekly progress and resource usage vs. plan reporting. The rate on time and materials projects shall be all inclusive.

A project could consist of a full development life cycle starting from understanding the specification, delivering a system design, using rapid prototyping methods, construction, testing, production release and postproduction support. A project could also consist of partial or full development on any part of the development life cycle of an existing UNHCR platform. In this case the contractor would need to develop an adequate understanding of the current implementations before providing the needed support. Each project deliverable must be defined and labeled, and all resources must be allocated with a time estimate. For any solution development, either on a time and materials of fixed bid basis, the contractor shall include project management and/or support as needed, at a specified rate or included in the fixed price.

Operating Requirements:

The contractor acknowledges and accepts each one of the following operating requirements:

- The contractor will be available for communication and consultation between the hours of 9:00 AM to 5:00 PM Amman, Jordan time (CTE+2 working hours) or according to other working schedules as agreed with the project manager.
- The contractor agrees to permit UNHCR to inspect all source code artifacts, documentation, scripts, tests, and the like at any point during the project. The contractor will provide UNHCR access to all code repositories related to the project, if not hosted by UNHCR.

- The contractor acknowledges and accepts that the deliverables and artifacts, including but not limited to source code, documentation, scripts, tests, and the like, are developed as "works for hire" and are the sole property of UNHCR from the moment they are created.
- At the termination of any task order under the FA, the contractor will transfer possession of all deliverables and artifacts developed under such contract to UNHCR, and will destroy all copies in the contractor's possession
- The contractor will designate at least one (1) person in each category proposed who can be available to begin working within two (2) working days upon the purchase order's (PO) issuance.
- The contractor will respond to requests for additional personnel within fourteen (14) days upon the request.

Lot 1: Feature Development Required for KnowledgeHub

Here in lies a list of minors to moderate feature to be included in development:

1. Upgrade underlying CKAN to 2.9.3 (from 2.8)
2. Implement functional unit parenting
3. User Management improvements
4. Improve user Bookmarking functionality
5. Create Map entity inside KnowledgeHub that mirrors Dashboards
6. Update the home page template with more user driven focus
7. Update the login workflow to make KnowledgeHub fully private
8. Be able to consistently filter attributes across KnowledgeHub
10. Create links between datasets, functional units and dashboards where appropriate
11. Fix tag case sensitivity
12. Allow image attachment to comments (both data request and dashboards/maps)
13. Remove any unused elements
14. Make labeling consistent (i.e. Activity Posts / News Feeds; Functional Units / Organizations)
15. Add Cancel buttons where appropriate
16. Improve search functionality

Lot 2: Feature Development Required for MyUNHCR

1. Use the dynamic API capabilities to communicate with ProGres V4 API, which requires application key id authentication.
2. Create a response mapping that will be able to display custom responses to users based on API results from submitted forms.

3. In the current dynamic forms module, implement proper form answer enumeration that provides consistent returned answers across multi-lingual form input.
4. In the current dynamic forms module, implement functionality that allow submission of forms without login
5. Implement admin user management that allows assigning multiple roles to existing admin users
6. Create a new public/private service type allows for resubmission of form with no scheduling
7. Functionality to allow users to change password and/or contact details or reset forgotten password using security questions and other verification parameters.
8. Develop functionality to allow exporting service requests to an excel file format.
9. Allow channel for direct multi-lingual communication with registered users.
10. Functionality to map dynamic forms to a specific entity (referred to as Reception entity) in an external dynamics CRM platform (proGres v4) to allow service requests to be written back to this entity whenever a service request is received).
11. Create prioritization of scheduling based on form answer scoring.
12. Allow for resource management to prevent double booking of resources (rooms /persons)
13. Implement a proper approval processes that allows an approver to view content for approval
14. Appropriate notifications throughout application (both admins and users), via text and email
15. Video conferencing support
16. Linking of existing forms to create a single compound form
17. Admin dashboards will be able to display relevant statistics which are interactive and allow application navigation
18. POC's will have intuitive view of all pending requirements / forms / documents / appointments
19. POC's will have ability to print all requirements / forms / documents / appointments
20. Support user polls
21. Support POC user management that will allow to view, activate, lock or remove users
22. UNHCR Active Directory support for admin users
23. Authentication log maintained
24. API call log maintained
25. Secure login functionality for POC's that integrates with UNHCR approved authentication protocols
26. Implement information campaign functionality that allow user / admin to share mass (emails and or SMS with POCs registered in the system or based on imported list from Excel)
27. Implement a spam resistant, anonymous feedback mechanism for POC

Timely Service and Communication

With correspondence initiated by UNHCR, initial receipt of contract's communication should be received within one (1) business day, while providing UNHCR with clear visibility on availability regarding the issue. All correspondence with UNHCR should be retained for future reference.

Technical support with regards to all aspects of the open-source code

The contractor shall provide direct technical support and insight with regards to the entire software stacks. Including how all components interact with each other.

The contractor shall provide direct technical support and insight with regards to UNHCR's production deployments. This includes but is not limited to addressing performance and security issues.

The contractor shall have the technical expertise to:

1. Deploy production environment on AWS in accordance with supplied document.
2. Create and apply a migration strategy to move data from current test environment to production.
3. Create a continuous delivery strategy for production. This must include a proper database migration strategy that will allow for up and down grades of database/application.
4. Proper data security and encryption

Verified and Timely Bug and Security Fixing

The contractor shall perform bug and security fixes requested by UNHCR in a timely and verified manner. If needed, the contractor shall provide the infrastructure for the code repository, bug tracking, communication and documentation. It is a requirement that Git is the code repository of choice for all bug fixing. All bug fixing must be compatible with UNHCR's current production and testing environments. (i.e. packaging / deployment methods).

Ability to Undertake Minor to Moderate Feature Development

The contractor shall independently perform minor to moderate feature development, as agreed upon with UNHCR. The contractor, if needed, shall provide the infrastructure for the code repository, development tracking, communication and documentation. It is a requirement that Git is the code repository of choice for all development work. All feature development must be compatible with UNHCR's current production and testing environments (i.e. packaging / deployment methods). Development work will include, but not be limited to the list of features contained in annex A for KnowledgeHub related issues and annex B for MyUNHCR related issues.

Ability to Improve Usability and Focus Functionality

The contractor shall use their accrued knowledge of the systems and related workflows to help focus functionality and improve the user experience. To improve the user experience, the contractor will aid in feature development as a direct result of user feedback. This will involve redesigning a more engaging home page and login interaction. This may involve user engagement exercises.

Ability to Create and Maintain Platform Documentation

The contractor shall use their accrued knowledge of the system and related workflows to help create and maintain supporting documentation surrounding both KnowledgeHub and MyUNHCR. This can include both technical documentation as well as user centric operating procedures.

Ability to Leverage Artificial Intelligence (AI) and Machine Learning (ML) for More Intuitive Information Access

The contractor will use their knowledge of AI/ML to better extract information from various UNHCR platforms and make available to the user. Much like when using Google, users on UNHCR platforms should be able to intuitively initiate searches to discover data, not simply search to find data or documents that are already known to exist.

Reporting

The contractor shall send weekly update on the progresses achieved against the originally submitted workplan.

Invoicing

Timesheets shall be submitted every month on the last working day for the approval of UNHCR Project Focal Point. Invoice shall be raised on the first working day of the following month.

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