TERMS OF REFERENCE

Framework Agreement for Two Software Developer for Project Information Management System (PIMS+)

Location	Home-based with possible mission travel
Type of Contract	Individual Contract as Framework Agreement
Level	International Consultant
Language(s) Required	English
Duration	3 years (maximum of 723 working days in the period) dependent on demand for services and performance
Supervisor	Results Management and Evaluation Advisor

A. PROJECT DESCRIPTION

BACKGROUND

The BPPS Environmental Finance Unit supports UNDP Country Offices in the implementation of the UNDP Strategic Plan, and the broader achievement of the SDGs and 2030 development agenda. The Unit primarily focuses on securing climate and environmental finance resources from global trust funds to catalyze and unlock other types of public, as well as private financing, for sustainable development. The main global environmental and climate 'vertical funds'[1] for which UNDP is an accredited implementing entity are the Environment Facility (including the GEF TF, LDCF, SCCF, and NPIF), the Green Climate Fund, and the Adaptation Fund.

UNDP is at a strategic position to provide this support to countries using evidence-based policy making backed by data. The portfolio of projects overseen by UNDP, with financing from vertical funds, is immense – spanning more than 1,100 active projects across 140 countries. The data generated by these projects is equally immense. The BPPS Environmental Finance Unit's Project Information Management System (PIMS+) gathers project results and progress data from projects underway in 140 countries.

PIMS+ is a comprehensive project cycle management tool designed to support the Environmental Finance Unit in providing high-quality oversight services to the vertical funds.

Over the upcoming years, the Environmental Finance Unit is committed to improve PIMS+ dashboards for Country Offices and Regional Bureaux, and continue to build the overall system to support effective monitoring of the portfolio of projects to improve oversight, support, and reporting.

PIMS+ is a large-scale custom information system. Following is a summary of the technical stack of the

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[1] These funds are also sometimes referred to as 'vertical funds' as they focus vertically on a specific issue such as climate change adaptation or environment.

application:

- o Consists of three web app and one REST API Endpoint.
- o Built on PHP engine with Yii2 PHP Framework and libraries including PHPOffice (PHPExcel, PHPWord), HighCharts, MapBox, wkhtmltopdf, Select2, and AutoNumeric).
- o JS client-side scripting with jQuery
- o HTML, CSS with Bootstrap 3 and BEM (Block Embedding Methodology) SCSS framework
- o MariaDB Database Server - InnoDB Storage Engine File system storage for documents management
- o Elasticsearch for advanced search function
- o The system runs on 4 virtual servers (Centos 7), resources are managed with Pacemaker CRM
- o Other technologies and tools that require maintenance: Apache HTTPD Web server, SCM-Server hosting public Mercurial repository, Postfix & Dovecot mail components, Redmine

OBJECTIVE

UNDP is seeking to establish a Framework Agreement with two dedicated Software Developers, for:

- o Development of Additional Modules and New Features;
- o Maintenance, Support and Extension of the Existing Modules.

The consultants will work with the UNDP Task Managers and others involved in the project to deliver the required outputs in an efficient and timely manner. The consultants will be responsible for all aspects of the delivery of the platform. and will oversee both business and technical delivery aspects of the project, from establishing the foundation of the project through to the deployment of the solution.

The consultants will report to the BPPS Environmental Finance Team's Results Management and Evaluation Advisor. Delivery of outputs will be overseen by the Environmental Finance team's Directorate, including the Executive Coordinator and Director, the Results Management and Evaluation Advisor, the Chief – MPSU, and the Management and Programme Support Specialist (Project Manager). The consultants will be expected to present regularly progress updates to the BPPS-GEF Directorate and obtain their clearance for strategic programming and project decisions.

1. **Development of New Features:**
   - Advising and assisting UNDP on best practices in software development to achieve the desired goals in the most efficient manner (from its underlying system level to top level system architecture);
   - Work closely with system users and stakeholders to identify and test requirements during the user acceptance test phase, new feature releases and bug fix releases;
   - Work closely with the stakeholders and development team to achieve satisfactory user experience via a clean and understandable user interface;
   - Maintenance and extension of existing API endpoint for integration with other 3rd party information systems (within the UNDP and partner agencies), e.g. for content publishing on separate portals, maintenance of domain login - single sign-on, bi-directional data transfer between PIMS+ and 3rd party information systems;
   - Assist in the development of documentation including functional specifications, functional and non-functional test plans and test results analysis;
   - Work closely with project stakeholders to ensure that the final product matches the goals they wanted to achieve (including visual satisfaction with the look and feel of the delivered solution);
   - Constantly push to ensure that the visual aspect of the product is in line with current industry standards (responsive design, clear typography, pixel perfect design, intuitive and clean design, best practices and cutting-edge web design);
   - Develop conceptual design for key modules;

Ensure consistency between the various modules of the system.

Following are list of outstanding functional areas expected to be completed during the contract period:

Milestones/Timelines

- Create features to automatically update/maintain external Country Office roles;
- Develop milestones to request approval from the Resident Representatives (the head of UNDP in each Country Office) and Regional Bureaus;
- Improve the PTA (Principal Technical Advisor) clearance cycle to support 2-level clearance;
- Extension and refactoring of milestone action log for non-standard milestones, so that it is in compliance with the standard milestone action log (i.e. which user did which action on which object under which context);
- Comprehensive milestone to request project amendments;
- Selected milestones should utilize DocuSign for electronic signing of selected documents.

Project roles

- Extend the Project Roles Management Module to support bulk operations (i.e. roles re-assignment) based on dynamically specified criteria.

Login logs

- Extend the "Login Log" module so that it provides monthly statistics by users.

<u>Reports</u>

- Create a simplified user interface for reporting features;
- Country Office dashboard:
    - Allow filtering of delivery data by years;
    - Include budget comparison with the UNDP portfolio (additional chart);
    - Upgrade Country Office portfolio overview .pdf to include results data;
    - Create downloadable .pdf report for regional view.

<u>Finance</u>

Build and amend existing modules in PIMS+ that allow for:

- Reporting to the Trustee
- Simplified fee reporting
- Quarterly fee payment reporting
- Account analysis improvements
- Combined Resource Mobilization and Financial Components reporting
- Adding the Business Unit to the Atlas status change log
- Delivery forecasting
- Exceptions review before project closure
- Combined AWP (Annual Work Plan) for projects with multiple outputs
- Add additional account exceptions and reimport historical data for those account exceptions
- Upgraded financial reports
- IPSAS Revenue recognition milestones
- GCF (Green Climate Fund) project finance reporting
- Integration with Atlas/additional APIs

<u>Budget Planning Tool</u>

- Develop a fully automated procurement and budget-planning tool that would allow users to build up an Atlas-structured budget for GEF projects.

<u>Workspace</u>

- Build a Workspace within PIMS+, with the following features: File storage with access control management, which supports already built-in documents versioning and permanent links to resources (always pointing to the latest document revision);
- Allows users to create new pages.

<u>Staff Timesheets</u>

- Create reporting feature for BPPS GEF staff members;
- Reporting shall be on weekly level;
- Available for standard activities/linked to milestones in PIMS+;
- Available for standard activities/not linked to milestones in PIMS+;
- Create reports to compare with resource mobilization;

- Create analysis for costing purposes.

<u>Integration with 3rd party Information Systems</u>

- Further enhancements of existing integration with Atlas, GEF portal, GCF Climate Portal;
- Integration with GCF online project submission system;
- System adjustments in case of Atlas upgrade/other 3rd party information system upgrade.

<u>User Interface Enhancements</u>

- Identify parts of the system that are either not intuitive, or a source of common problems/misunderstandings and propose solutions (at the UI/UX or system level, etc.).

<u>Slow queries optimization</u>

Some queries such as reminders and overdue deadlines should be optimized. To prevent deadlocks and improve performance, some report queries should be queried against Slave database. Data consistency verification shall be automated.

2. **Maintenance, Support and Extension of Existing Modules**

- Optimizing the overall performance of the implementation, caching of the content and code refactoring;
- Providing recommendations for future enhancements and implementing agreed recommendations, in order to achieve a product that will have a positive and significant impact;
- Investigate and resolve reported user experience issues;
- Overall coordination and workflow management;
- Maintain, support and extend the following modules:
  Milestones/Timelines

  Finance/Master Fees/ASL (Authorized Spending Limit) Requests

  Reports

  - Personalized reports by PIMS+ ID and Atlas ID
  - Submission deadlines
  - Resource mobilization report
  - Delivery analysis
  - Workload management tool
  - Risk management dashboard
  - Co-financing report
  - Financial clearances report
  - Advanced text search
  Dashboards

  - Personalized dashboards
  - Database consistency dashboards

Integration with Atlas

Integration with GCF (Green Climate Fund) Climate Portal

Integration with the GEF (Global Environmental Facility) Portal

Country Office dashboard

Country Office timesheets

Country Office delivery projections

Admin Budget Management

- System Health, Integrity and Consistency:
  - o Monitor and improve overall system security
  - o Update and Maintain Technical Documentation
  - o Maintain the VPS (virtual private servers) with all running services, regular checks of system health (such as available resources, free hard drive space, take care of regular daily and quarterly backups)
  - o Support DNS entries management

C. INSTITUTIONAL ARRANGEMENTS

- The estimated level of effort is approximately 241 days per year per consultant, spread across various intermittent assignments. The maximum working days over the 3-year period would be 723 per consultant;
- UNDP does not warrant that any quantity of services will be purchased during the term of the Framework Agreement, as this will depend on forthcoming needs;
- IC as a Framework agreement is non-exclusive (i.e. it does not prohibit UNDP from entering into another such framework agreement with another individuals or entities);
- The Framework Agreement will be for fixed all-inclusive daily fee;
- Once the Framework Agreement is signed, if there is a specific assignment, the focal person(s) at UNDP would contact the consultants by email informing him/her of the specific assignment, deliverables, and timeline;
- The consultants must advise within 48 hours whether s/he is available to deliver the requested service;
- Thereafter a Purchase Order will be raised. Financial commitments will only be established each time the services are requested within the scope of the Framework Agreement through the transmitted email and purchase order;
- The consultants will work from home with possible mission travel;
- The consultants will report to, and be directly supervised by, the Results Management and Evaluation Advisor;
- The consultants will be given access to relevant information necessary for execution of the tasks under this assignment. Detailed documentation on PIMS+ will be provided upon the start of the contract;
- The consultants will be responsible for providing her/his own workstation (i.e. laptop, internet, phone, scanner/printer, etc.) and must have access to a reliable internet connection;
- The consultants are required to have all of the equipment, software packages, and necessary licenses to execute this assignment (i.e. licences for used IDEs, etc.);

- A comprehensive timeline (GANTT/PERT Chart or similar method) will be used at the project start to keep the project on track and updated as needed throughout the project or upon client request (when required). The consultants will need to keep his/her work and tasks tracked and updated in Redmine;
- Given the global consultations to be undertaken during this assignment, the consultants are expected to be reasonably flexible with his/her availability for such consultations taking into consideration different time zones;
- The consultants are expected to be available for consultations and be in reliable email contact;
- Payments will be made upon submission of a detailed time sheet and certification of payment form, and acceptance and confirmation by the Supervisor on days worked (with a "day" calculated as 8 hours of work) and outputs delivered. If the quality does not meet standards or requirements, the consultants will be asked to rewrite or revise (as necessary) the document before proceeding to payment.

D. TRAVEL

- Up to 15 missions to Bangkok, Thailand, New York, USA and other locations as needed may be required during the duration of the contract;
- Any necessary missions must be approved in advance and in writing by the Results Management and Evaluation Advisor;
- The BSAFE course must be successfully completed prior to commencement of travel;
- Consultants are responsible for obtaining any visas needed in connection with travel with the necessary support from UNDP;
- Individual Consultants are responsible for ensuring they have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director;
- Consultants are required to comply with the UN security directives set forth under https://dss.un.org/dssweb/;
- The consultants will be responsible for making his/her own mission travel arrangement in line with UNDP travel policies;
- All related travel expenses will be reimbursed as per UNDP rules and regulations for consultants. Costs for airfares, terminal expenses, and living allowances should not be included in the financial proposal.

Competencies

Corporate:
- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favoritism.

Functional:

Job Knowledge/Technical Expertise:

- Has good knowledge of best practices, software design and software architecture patterns;
- Understands and applies fundamental concepts and principles of a professional discipline or technical speciality relating to the position;
- Strives to keep job knowledge up to date through self-directed study and other means of learning;
- Solid understanding of the web development process, including the concepts of user experience, user interface design principles and conceptual design;
- Delivers high quality code including clean, extensible, modular, self-explanatory and easy to read source code;
- Application security conscious with knowledge of OWASP and others web security related;
- Is constantly up to date on current state-of-the-art trends and technologies used in the software development field, with the ability to recognize and adapt suitable technologies/approaches that can improve the efficiency of the software development process or have a positive impact on the final product and user experience while maintaining compliance to organizational standard;
- Is ready and interested in quickly learning about UNDP's complex set of project development cycles, and world-wide based actors involved in the Environmental Finance Unit's activities.
- Eye for design and attention to detail;
- Experience in project management with a track record of delivering at or ahead of deadlines.

Client Orientation and Professionalism:

- Researches potential solutions to internal and external client needs and reports back in a timely manner;
- Organizes and prioritizes work schedules to meet client needs and deadlines;
- Anticipates client needs and addresses them promptly;
- Generates new ideas and approaches
- Is a team player both as a leader and a contributor;

Required skills and experience

Education:

- A bachelor's degree in computer sciences, web resources development, web design, programming or other closely related field (P/F)
- Master's degree in computer sciences, web resources development, web design, programming or

other closely related field, is an advantage (max. 3 points)

Experience:

Required Experience

- 5 years or more of overall experience in development of robust Web 2.0 information systems (projects of large scale - database model larger than 200 relational entities, more than 200 domain dependent classes, more than 5 different user roles) (max. 6 points);
- 2 years of experience as full stack developer (frontend design - HTML5, CSS3, jQuery, backend development, Linux administration) (max. 5 points);
- Excellent knowledge of design and implementation of applications on relational database level - excellent knowledge of SQL; knowledge of MariaDB/MySQL is an advantage. (max. 6 points);
- 2 years or more of experience in software analysis and design, including knowledge of analytical methodologies and approaches such as Use-Case analysis and use of UML (e.g. class diagrams, sequence diagrams, activity diagrams, ER diagrams for both logical & physical database model, etc.) (max. 6 points);
- Expert level of proficiency in developing with PHP stack using Object-Oriented Programming (max. 5 points);
- Experience with PHP application framework – preferred Yii2 (max. 6 points);

Advantageous Experience

- Experience with Elasticsearch is a strong advantage (max. 6 points);
- Experience with Linux (experience with CentOS/RedHat is a strong advantage) and other system modules and tools used in PIMS+ (subnetting, Active IP Failover, Pacemaker, Apache HTTPD, MariaDB, Postfix, Dovecot, XFS filesystems) is an advantage (max. 5 points);
- Experience with real time high availability setups and business critical systems is an advantage (max. 3 points);
- Experience in continuous integration and continuous delivery including automated testing for the delivery of clean robust, reliable and extensible software solutions is an advantage (max. 3 points);
- Experience with integration of autonomous information systems (REST / SOAP web services, integration based on manual import of batch files) is an advantage (max. 3 points);
- Experience with modern software development tools chain including Git and automated test is an advantage (max. 3 points);
- Experience with mail processing (both sending of mails via SMTP as well as processing of mail inbox (IMAP/POP3)) is an advantage (max. 2 points);
- Familiarity with agile approaches to software development, experience with SCRUM methodology is an advantage (max. 3 points);
- Experience with project management tools for software development projects is an advantage (max. 2 points);
- Experience leading the software development and developer team (max. 3 points);

Language Requirements:

- Excellent oral and written communication skills in English language. (P/F)

F. EVALUATION METHOD AND CRITERIA FOR CONTRACT AWARD

- Only those applications which are responsive and compliant will be considered and evaluated;
- Offers will be evaluated based on Combined Scoring method where the technical criteria will be weighted at 70% and the financial offer will be weighted at 30%;
- The technical criteria (education and experience [max. 70 points] and interview [max. 30]) will be based on maximum 100 points;
- Only the top 5 candidates scoring 49 points or higher from the review of education and experience will be considered for interview;
- Applicants obtaining 21 points or higher in the interview will be deemed technically compliant and considered for financial evaluation;
- Financial score (max 100 points) shall be computed as a ratio of the proposal being evaluated and the lowest priced proposal of those technically qualified;
- The financial proposal shall specify an all-inclusive daily fee. In order to assist the requesting unit in the comparison of financial proposals, the financial proposal must additionally include a breakdown of this fee (including all foreseeable expenses to carry out the assignment). Costs for mission travel (round trip economy fare tickets, terminals, etc.) should not be included in financial proposal;
- The top two applicants receiving the Highest Combined Scores and who have accepted UNDP's General Terms and Conditions will be awarded the contract.

Documentation to be submitted:

- Applicants must submit a duly completed and signed UNDP Personal History form (P11) and/or CV including Education/Qualification, Professional Certification, Employment Records /Experience;
- Cover letter detailing why the applicant considers himself/herself the most suitable for the assignment (max 500 words);
- Applicants must reply to the mandatory questions asked by the system when submitting the application.

Kindly upload documents to this application (scan all documents in PDF or Word file to attach). File size cannot exceed the maximum limit of 10MB per file.

UNDP Personal History form (P11) required of all applicants:
http://www.undp.org/content/dam/undp/library/corporate/Careers/P11_Personal_history_form.doc

General Conditions of Contract for the ICs:
https://www.undp.org/content/dam/undp/library/corporate/Procurement/english/UNDP%20GCs%20for%20ICs%20-%20March2019.pdf.

Mandatory questions [to be filled out by the candidates in the eTendering system]

1. Please answer the questions about your experience succinctly:
    a. How many years of experience do you have as a full stack developer?

b.   What technologies have you used?

c.   What was the size of the database (how many tables did it involve) for the largest web information system project that you have directly developed?

2.   Which PHP frameworks did you work with and how many years of experience do you have in developing with PHP? Do you have any additional experience with object-oriented programming languages, and if so, how many years?

3.   I have read, understood and hereby accept UNDP's General Conditions of Contract for the Services of the Individual Contractors

4.   Have you submitted a duly completed and signed CV and/or UNDP Personal History form (P11)?

5.   Have you attached to your P-11 and/or CV Annex II duly signed and completed including your all-inclusive fee and all foreseeable expenses for this assignment? Your application will not be considered without submission of Annex II.