

TERMS OF REFERENCE (TOR)
INDIVIDUAL CONSULTANT TO FACILITATE DEVELOPMENT OF A
SCHOLARSHIPS AND GRANTS INFORMATION MANAGEMENT SYSTEM

Project Name: Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology (RSIF)

Reference No: KE-ICIPE-006/2023-CS-INDV

Grant No.: D347-3A

Expected duration: 12 Months

Expected start date: 01/10/2023

Application deadline: 11/08/2023

A. Background

The Regional Scholarship and Innovation Fund (Rsif) is the flagship program of the Partnership for skills in Applied Sciences, Engineering and Technology (PASET) established by African governments to address systemic gaps in knowledge and skills necessary for long-term, sustained economic growth in sub-Saharan Africa (SSA).

The Rsif aims to (a) support competitively selected African host universities (AHUs) to establish high-quality PhD training, promote research excellence and improve innovation environments in the universities; (b) provide a model for inter-Africa student exchange and international collaboration in training and research; (c) develop transformative technologies to tackle the continent's most pressing challenges; and (d) build a critical mass of highly skilled leaders in science and engineering, and (e) support more women in science. The priority sectors for Rsif are ICTs including big data and artificial intelligence; food security and agribusiness; minerals, mining, and materials engineering; energy including renewables; and climate change.

Rsif is funded by African governments. Other key partners and contributors are the World Bank and the Government of South Korea. The International Center of Insect Physiology and Ecology (*icipe*) located in Nairobi, Kenya is the Regional Coordination Unit (RCU) of the Rsif.

icipe as the Rsif RCU is seeking the services of a consultant to undertake development of a Management Information System to improve the current processes (Windows 1,2 &3).

B. Objectives of assignment

The objective of this assignment is to develop a fully functional scholarship and grants Management Information system for the Rsif RCU. The consultant is expected to deliver a web portal (translatable to English, French and Portuguese) and a backend application that will enhance the scholarship and grant awardee management process. The application should be three (3) tiers with separation of presentation, application, and data layers.

C. Scope of Assignment

The consultant is expected to develop a Management Information System that improves the current grant processes for Rsif Windows 1,2 and 3 by:

1. Defining requirements for an integrated online three (3) tier scholarship and grants management information system accessible to different stakeholders across the globally with varying levels of access, to enhance accessibility to PASET Rsif services/programs.
2. Designing and developing the system that enables management of the scholarship and grants awardees and the RCU as well as reporting on the same.
3. Design and development of a reporting and dashboard system on Key Performance Indicators (particularly for grants management).
4. Implementation of a robust notification system for all user levels.
5. Clearly defining roles and responsibilities for the system users identified as key stakeholders; and
6. Building the capacity of the relevant staff to manage the system on a sustainable basis through specific training, help documents and tutorials.

D. Description of the Assignment

The Consultant's key tasks are to:

1. Review Software Requirements Specifications (SRS) document and map out the solution product.
2. Prepare all necessary design documents as per the development methodology proposed.
3. Develop a relevant prototype(s).
4. Facilitate data migration and verification.
5. Maintain an inventory of deliverables, arising bugs and mitigation measures when developing the system.
6. Develop an online 24x7 management system, to facilitate submission, management, reporting, monitoring, evaluation, and learning (MEL) from anywhere for grants and scholarships awardees.
7. Enable grants and scholarships performance and progress tracking for awardees.
8. Develop an online dashboard for key performance indicators.
9. Enable the key stakeholders at different levels to access the data online for verification and other purposes.
10. Design the architecture and modules of the proposed system.
11. Provide an Application Programming Interface (API) for interlinkage to other internal software systems.
12. Provide relevant training for different users on how to use the system. These will be complemented by training modules, help systems and technical documents prior to handover.

E. Roles of the Consultant

More Specifically the system should have the following functionality.

1. Existing Modules – incorporate the existing scholarship and grants application system as a base solution and enhance with management features.
2. Role-based user dashboards with easy-to-use data visualization and highlighting role-based tasks that require attention.
3. Reporting – parameter related view of reports, graphs, and ad-hoc custom reporting capabilities for both the awardees and management staff.
4. Data capture and management (including Monitoring Evaluation & Learning-MEL processes); and
5. Communication and notifications – Interlinkage with mailing systems to enable process level notification to system users or on key programme updates.

The system features should include:

1. A web-based front-end portal using appropriate and efficient web technologies for all data interactions.
2. Have relevant import / export capabilities to enable content/attachment addition as well as data export to templates or external databases.
3. Present dashboards showing progress towards various issued funding categories.
4. Provide administrators with tools for monitoring status change as well as communication with the registered users.
5. Provide a database administration module, allowing for advanced user management, with a staggered set of privileges for different users as well as user authorization, audit trail/tracking/authorizing changes to data workflow status processes and their monitoring-based features; and
6. Provide integration capabilities to other existing systems and,
7. Support the Rsif RCU to manage the scholars and grantees efficiently through:
 - a. Grant Management Module
 - b. Scholar/Student Management Module
 - c. Monitoring and Evaluation Module

F. Deliverables and Timelines

The assignment will be spread over a 6-month period with the following deliverables.

1. An inception report highlighting how the task will be implemented including:
 - system analysis satisfactory mapped from the Systems Requirements Specification document
 - Functional Specification document.
 - System and Database Physical Design
 - Prototype model and report
2. A fully functional system with features and modules stated above and specified from the Systems Analysis report and System Requirements Specification documents delivered in an agile / modular manner.
3. Available API that is fully functional.
4. Training report for the different users on system interactions, training modules, help systems and technical documents, and handover completed.
5. A final report to the satisfaction of the Rsif RCU including:
 - user manuals and source code on the stated deliverables.

The consultant will deliver the assignment as follows and payment done upon achievement of each deliverable/milestone:

S/No	Deliverable/Milestone	Timelines	Payment %
1	Project Inception, Scope out and Analysis Diagram requirements for initial sprint (Inception Report, System Analysis Report, System Requirements Specification)	Within 1 month after contract signing	5%
Sprint Based Development (Module based delivery), with training for each module: 5 months as follows:			
2	Grants Management	Within 1.5 Months	25%
3	Scholar Management	Within 1.5 Months	25%
4	Monitoring & Evaluation	Within 1.5 Months	25%
5	Final Report, user manuals and API documentation	Within 0.5 month	10%
6	Support (Post Implementation)	6 Months	10 % of Contract Value

G. Qualification and experience

Academic Qualification

- Relevant Bachelor's degree in IT or relevant field.

Experience

- At least five (5) years of progressive experience with open-source software development environment (PHP, Java, Python and/or .Net)
- A solid understanding of web apps, API interfacing, relational database design and User Interface design
- Expertise in Structured Query Language (SQL), and other high-end Database Management suites.
- Expertise in Linux and Windows based operating systems.
- Strong understanding of the web development cycle and programming techniques and tools

H. Reporting and supervision:

The consultant will report to the Manager, Regional Coordinating Unit (RCU) of the Rsif and his designate RCU-icipe staff.

I. Time Frame

The individual consultant will be contracted for a period of **12 months**. He/she will develop a work plan covering the project scope.

J. Application guidelines

Interested applicants should submit the following documents to rsiftenders@icipe.org by **Friday, 11th August 2023 at 1100hrs** East Africa Time.

A. Technical proposal

- i. Detailed cover letter expressing interest in this assignment, including full contact details (name, tel. e-mail), and physical address.
- ii. Consultant's detailed CV including the following:
 - Evidence of undertaking similar consultancy work during the last 5 years attach at least three (3) for reference.
 - A brief methodology to be used during the assignment.
 - Clear understanding of the assignment/interpretation of the TORs and methodology to be used during the assignment.
 - Work plan clearly indicating the maximum time and duration required for the assignment.
 - Email and telephone contacts of at least three (3) relevant references.
 - Should be in English language.

K. Criteria for selection of the best offer

The Consultant will be selected in accordance with the criteria laid down in “Selection Based on qualification and experience as stated above in paragraph G, as set out in the World Bank’s Procurement Regulations for IPF Borrowers November 2020, which can be found at the following website: www.worldbank.org