SOUTH EASTERN UNIVERSITY OF SRI LANKA
Accelerating Higher Education Expansion and Development (AHEAD) project

WALK - IN – INTERVIEW

Freelance Development Assistant (Mobile) on contract basis

Prospective candidates are invited for a walk-in interview scheduled to be held on **19th of November 2021 (Friday), 03.30 PM onwards** at the Operations and Technical Secretariat (OTS), AHEAD Operations, SEUSL, Oluvil for the Post of Freelance Development Assistant Contract to the AI Enabled System and Methods for the Local Retail Sector (AHEAD/RA3/UBL/SEU/OVAA18) University Business Linkage Cell South Eastern University of Sri Lanka.

1. Required Qualifications & Experience

- Bachelor level education in computer/electrical and electronics engineering.
- Prior exposure to mobile application development - Java/C++/flutter.
- Prior exposure to web application development - Java. rest API.
- Prior exposure to microcontrollers and electronic prototyping - ESP 8266/32.

2. Required Professional Competencies

- Ability to transform a set of requirements into generic design.
- Ability to handle multiple programming languages and programming frameworks.
- Ability to perform electronic design and simulations.

3. Method of Selection

This is a hired freelance service. The Contract of Appointment shall be for the period of assignment of tasks. Selection will be made on a structured walk-in interview. The walk-in interview will be held on 19th of November 2021, 3.30 PM onwards at the OTS office, SEUSL.

4. Background

The development of the higher education sector is of central importance to enable Sri Lanka to make the transition from a Lower Middle-Income Country (LMIC) to an Upper Middle-Income

Country (UMIC). Recognizing this, the Government of Sri Lanka (GoSL) and the World Bank have agreed to support the higher education sector through a Bank funded Accelerating Higher Education Expansion and Development (AHEAD) operation.

The University Business Linkage Cell / Tech-Transfer Office (UBL/TTO) of South Eastern University of Sri Lanka as a dedicated body operating to promote Research, Development, Innovation and Commercialization of research outcomes from the university to industry and vice versa. During its existence, the UBL has taken steps to identify and promote research and innovation in the university. Parallelly, the UBL assists university researchers in increasing collaboration with professional expertise in technology transfer and business model development, establishing open innovation spaces and business incubators, and enabling academics and students to obtain professional business advice and training.

Accordingly, this TOR is meant for obtaining a resource person for freelance development assistance for the AI Enabled System and Methods for the Local Retail Sector.

5. The Operation

Recent advancement in machine learning and algorithm optimization techniques can be used to reduce hardware requirements thus reducing the cost. For example, instead of expensive specialized barcode readers, cheap off-the-self CMOS imaging sensors can be used to read barcodes. These techniques also can be used to improve the usability of the devices. For example, advanced artificial intelligence-based techniques can be used to reduce the number of steps necessary to complete a task by the user. One widely known example is one-touch fuzzy logic option available in the modern washing machines to eliminate manual entry of wash parameters from the operator.

AI Enabled System and Methods for the Local Retail Sector project aims to develop system and methods for retails sector specially in the area of checkout assistance technologies by using artificial intelligence, hardware and algorithm optimization techniques and extensive usability research to increase the usability while reducing the cost.

6. Objectives of the Freelance Development Assistant Contract

To hire a freelance development assistant to the research project AI Enabled System and Methods for the Local Retail Sector under the AHEAD operations.

7. Scope of the Freelance Development Assistant Contract

The project aims to develop Artificial Intelligence enabled systems and methods for the local retail sector. Under this project, the selected resource person is expected to perform the following objective,

- Development of a low-cost barcode reader prototype using low-cost SOCs or MCUs.

8. Key Tasks and Related Activities

The key tasks of the resource person are:

Key Task	Required Deliverable	Time Frame
Setting up a remote development environment using multiple options and multiple service providers.	Identification of the most cost effective and usable setup in terms of university research projects.	60 days
Developing the mobile user interface for image processing applications.	An implementable demonstrated mobile user interface design in terms of underlying constraints of the android mobile platform.	
Identify a suitable cross platform technology and re implement the user interface design.	Discuss and inform the relative ease or difficulty and other tradeoffs of cross platform technology to the PI on a continuing basis.	
Development of image processing applications.	Software code for the application.	

9. Duration of the Freelance Development Assistant Contract

The duration of the contract will be on successful completion of the assigned tasks from the date of signing the contract to 60 days.

10. Mode of Payment

Payment shall be made on successful completion of assigned tasks as mentioned in section number 05.

11. Payment Terms

The payment for the assignment will be made as full of LKR. 80,000.00 (Eighty thousand rupees only) including all on successful completion of the assignment and submission and acceptance of the reporting obligations mentioned in the TOR.

12.   Approval of the Payments

For services rendered pursuant to TOR, the client shall release the payment to the Freelance Development Assistant upon the approval of UBL Advisory Board.

13. Reporting Obligations

The resource person shall closely coordinate and report to the primary investigator and the Director - UBL. The resource person shall submit the following reports/documents as per the requirement.

- Continuously inform the PI on progress of prototype development and attend weekly progress meetings arranged at South Eastern University of Sri Lanka.
- Activities conducted and working hours.

14. Ownership of the Assignment

This assignment is funded by the Ministry of Higher Education via AHEAD-OMST under the program component of AHEAD/UBL. As such, the University shall be the owner of the assignment and will reserves the Intellectual Property Rights for all deliverable of the assignment under the terms and conditions given in the IP policy of the University. The resource person will have no right of claim to the assignment or its outputs once it is completed and **no rights** to use **Data and Information** gathered through the assignment for other purposes without written permission from the Vice Chancellor of the SEUSL. Any Reports/ Data/Information produced as a part of this assignment shall be handed over to the Client in soft and hard formats.

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