

# **THE UNIVERSITY OF THE WEST INDIES**

## **DIGITAL TRANSFORMATION PROJECT**

### **TERMS OF REFERENCE**

#### **CONSULTANCY SERVICES FOR THE DEVELOPMENT OF AI AGENTS and CHATBOTS FOR THE UNIVERSITY OF THE WEST INDIES**

##### **1. BACKGROUND**

1.01 The University of the West Indies (UWI) was established in 1948 and is the largest and longest-standing higher education provider in the English-speaking Caribbean. The university comprises five campuses, namely, the Mona Campus in Jamaica; St. Augustine Campus in Trinidad and Tobago; the Cave Hill campus in Barbados; the Five Islands Campus located in Antigua and Barbuda; and the Global Campus, which offers multi-mode teaching and learning services through virtual and physical site locations across the Caribbean region; and. UWI's Regional Headquarters (RHQ) is located in Kingston, Jamaica, which houses the offices of the Vice Chancellery, including the Chancellor, Vice Chancellor, University Registrar, University Bursar, and the University Chief Information Officer. UWI's mission is "to advance learning, create knowledge and foster innovation for the positive transformation of the Caribbean and the wider world."

1.02 As part of its modernization programme, UWI has embarked on a digital transformation programme which seeks to assist in achieving UWI's strategic goals as outlined in its Triple A Strategy (2022-2027). The digital transformation programme will enable a shared services operating environment which will allow UWI to provide consistent and reliable services to all stakeholders. It will also enable the University to achieve greater operational efficiencies and economies of scale. As part of the digital transformation programme, UWI requested support from the Caribbean Development Bank (CDB) for a regional UWI Digital Transformation Project to strengthen the institution's delivery of teaching, learning and research as well as its operational efficiency, resilience and global competitiveness. UWI Digital Transformation Project will include, among other things, the provision of expanded and upgraded technology platforms for teaching and learning, the provision of hardware to support administration and management, and consultancy services to assist UWI with harmonizing business processes.

1.03 Artificial intelligence (AI) is transforming workplaces across industries, and higher education is no exception. From revolutionizing teaching and learning to optimizing administrative operations, AI offers immense potential to enhance efficiency, improve outcomes, and create new opportunities. It is envisioned that AI has the potential and the UWI should embrace its transformative capabilities.

Administrative efficiency is critical for higher education institutions like UWI, which manage vast volumes of data and complex processes. AI can streamline these functions, freeing staff to focus on strategic priorities. AI also has the ability to deliver personalized learning experiences.

1.04 The UWI digital transformation project will support the development, implementation and training for AI Agents that will ensure transparency and harmony in the delivery of services to all staff and students of the University across all its Campuses.

## **2 OBJECTIVE**

- 2.01 The objectives of the Consultancy are
- a. To develop AI Agents and Chatbots
  - b. To train UWI staff to maintain the AI Agents and Chatbots.

## **3 SCOPE OF SERVICE**

- 3.01 The Consulting firm will carry out all technical studies, research, analyses, and related work required to attain the objectives described above.
- 3.02 The Consulting firm will be expected to:
- a. Develop an AI agent that supports Academic Advising.
  - b. Develop student services Chatbots that provide 24/7 assistance for common inquiries, such as course registration, financial aid, and campus facilities.
  - c. Develop AI Tutors for personalized learning and on-demand support. The Virtual tutors provide on-demand assistance, helping students with specific concepts.
  - d. Develop staff services – Create a chatbot that supports staff requiring assistance with common human resources inquiries.
  - e. Develop staff services - Create a chatbot that supports staff requiring assistance for common financial and procurement inquiries.
  - f. Bridge accessibility gaps by developing AI agents that make higher education more inclusive by breaking down barriers for students with disabilities example, AI-powered tools for speech-to-text software and real-time transcription to enhance learning for students with disabilities, real-time translation tools to facilitate cross-cultural communication and access to global content.
  - g. Develop an AI agent that supports Q&A availability in the Libraries.

### 3. **METHODOLOGY**

3.01 The methodology of the Consultant will include the application of participatory research methods where relevant and include but will not be limited to desk review of secondary data; focus group discussions; and consultations. The Consultant is expected to work closely with staff at various levels of the university to gather information pertinent to the development of the AI agents and Chatbots. The proposed approach for this Consultancy will include, but not be limited to the following tasks:

#### **3.02 Review of documentation:**

- (a) UWI Triple A Strategy 2022-2027.
- (b) UWI Brand Identity Manual
- (c) Faculty Booklets
- (d) Financial Code
- (e) Procedures Manuals
- (f) Procurement Guidelines and Manuals

#### **3.03 Stakeholder Engagement**

- (a) Consultations with UWI's Vice Chancellery, UWI Marketing & Communications, UWI Registry and Bursary and other senior management and campus staff.
- (b) Conduct focus groups and workshops with key stakeholders, including students, faculty, and administrative staff, to gather requirements and understand user needs.
- (c) Administer surveys and interviews to identify common pain points and prioritize features for the AI agents and Chatbots.
- (d) Create a stakeholder feedback loop to validate assumptions and refine requirements.

#### **3.04 Portal Development**

- (a) Utilize Agile development methodology to enable iterative design, prototyping, and testing of features.
- (b) Establish sprint cycles to deliver incremental updates and improvements based on stakeholder feedback.
- (c) Conduct usability testing with a representative sample of users to refine the agents and chatbot interface and functionality.

#### **3.05 Pilot Testing**

- (a) Deploy a pilot version of the agents and chatbots at one or more campuses to validate performance, usability, and system compatibility.
- (b) Collect and analyze feedback from pilot participants to identify issues and areas for improvement.
- (c) Address identified issues and incorporate enhancements into the final version of the applications.

### **3.06 Implementation and Handover**

- (a) Roll out across all UWI campuses in a phased approach to minimize disruptions.
- (b) Provide comprehensive training sessions for end-users and administrative staff to ensure smooth adoption.
- (c) Develop and hand over detailed documentation, including user manuals, technical guides, and a maintenance plan.

### **3.07 Post-Implementation Support**

- (a) Establish support mechanisms to address technical issues and user inquiries.
- (b) Monitor performance and user satisfaction to identify opportunities for continuous improvement.
- (c) Plan for regular updates and enhancements to keep the AI agents and chatbots aligned with evolving user needs and technological advancements.

## **4. INPUTS AND EXECUTING ARRANGEMENTS**

- 4.01 Through the Project Coordinator (PC), UWI will establish a OneUWI AI-Team, comprising representatives from the Registry, Faculty and administrative departments, Campus IT departments and other relevant personnel involved in support of student activities and services. The PC will coordinate meetings with the OneUWI AI-Team for the review of the Draft and Final products of the Consultant and will coordinate the submission of comments by CDB and UWI on the reports of the Consultant. The PC will make available all relevant policies, guidelines and other documentation required by the Consultant; assist with arranging meetings between the Consultant and staff and management of UWI; and will act as liaison between CDB and the Consultant.
- 4.02 The implementation will be anchored by virtual consultations with staff and management of UWI and other key stakeholders.
- 4.03 The OneUWI AI-Team will receive the training under this consultancy and will be responsible for the continued support and maintenance of the applications following completion.

## **5. REPORTING REQUIREMENTS**

- 5.01 The Consultant will report directly to the PC. The Consultant will be required to prepare and submit two copies (one hard copy and one electronic copy in Microsoft Word) of the following documents to UWI within the time periods indicated:

- (a) **Inception Report** providing details of the work programme, and the nature and intended timing of all activities to be undertaken in accordance with the Terms of Reference within two weeks of contract award.
- (b) **Draft Design** within four weeks following acceptance of Inception Report by UWI.
- (c) **Progress Reports** Monthly updates highlighting project milestones, challenges, and solutions. Include summaries of completed and upcoming tasks.
- (d) **Technical Documentation** Detailed system architecture and integration design. User manuals for students, faculty, and administrators.
- (e) **Pilot Testing Report** Document findings from pilot testing, including user feedback and system performance.
- (f) **Final Report** Comprehensive overview of the project, including outcomes, challenges, and recommendations, including post-implementation support plan within two (2) weeks after final sign-off.

## 6. **QUALIFICATIONS AND EXPERIENCE**

6.01 The consultant firm must have a minimum of 5 years experience in developing AI Agents and Chatbots and training client staff to maintain the AI Agents and Chatbots. The firm must have successfully completed a minimum of two projects developing AI Agents and Chatbots and training client staff to maintain the AI Agents and Chatbots of similar or greater complexity than the requirements set out in the Scope of Services. Any experience working in the Caribbean Region is beneficial and should be stated. Any experience working with universities, public bodies or on Development Bank funded projects would be an asset.

6.02 If selected to submit a Proposal, the Consulting Firm will be required to appoint a qualified team of key and non-key experts, as appropriate, to ensure the successful implementation of the assignment.

The Consulting Team must include a minimum of two (2) key experts, one of which can be the team leader. The key experts should have the following minimum qualifications and experience:

### **Key Expert 1 – Team Leader**

The Team Leader shall possess the following minimum qualifications and experience

- Bachelors and/or Masters degrees in Computer Science or Engineering
- Programming
- Database Modelling, Data Warehousing and Data Processing
- Machine Learning
- Knowledge of Intelligent User Interfaces (IUI)
- Problem Solving

### **Key Expert 2 – AI Agents and Chatbots Development and Training Specialist**

The Team Leader shall possess the following minimum qualifications and experience

- Bachelors and/or Masters degrees in Computer Science or Engineering
- Programming
- Database Modelling, Data Warehousing and Data Processing
- Machine Learning
- Knowledge of Intelligent User Interfaces (IUI)
- Problem Solving

All team members are expected to possess the following:

- a) An excellent coordination and communication skills.
- b) Strong interpersonal and motivational skills and sensitivity to the regional and local environments as well as the ability to work with minimal supervision.

### **7. DURATION**

The consultancy assignment is expected to be implemented over a period of 90 working days over a five (5) months duration.