



NATIONAL EMPLOYMENT AUTHORITY

TERMS OF REFERENCE (ToR)

FOR CONSULTANCY SERVICES - IT FIRM FOR SOFTWARE DEVELOPMENT & INTEGRATION

NATIONAL EMPLOYMENT AUTHORITY (NEA) - SKILLCRAFT PLATFORM

1. INTRODUCTION

The **National Employment Authority (NEA)** seeks to engage a consultancy services firm specializing in **IT software development and system integration** to design, develop, and maintain the **SkillCraft** platform. This platform aims to enhance youth employability by providing job matching, skills assessment, and career guidance. The consultancy firm will also be responsible for ensuring seamless integration of SkillCraft with existing NEA digital platforms, particularly **NEAIMS (www.neaims.go.ke)**

1.1 Background

The Government of Kenya in Partnership with the World Bank is supporting youth employment in Kenya through the National Youth Opportunities Towards Advancement Project (NYOTA). The Project Development Objective (PDO) is “To increase employment, earnings and promote savings for targeted youth, at national scale.” The Project targets vulnerable youth aged 18-29 and 35 years for Persons with Disabilities (PWDs), with little or no education, who are unemployed, underemployed, or in low-tier employment with very low earnings. The project will be implemented in all 47 counties of Kenya.

The project aims to support better employment outcomes and improved savings through integrated interventions that address the multitude of constraints that individuals face.

Component 1 of the project focuses primarily on labour supply side constraints and offers skills training and intermediation related initiatives. The component also addresses child-care related constraints for young women. Component 2 focuses on the labour demand side constraints and facilitates youth with aptitude for entrepreneurship with training on core business skills and provides them with seed money to start their businesses. It also supports social enterprises to provide similar support to the hard-to-serve youth. Component 3 of the project focuses on helping increase opportunities for savings among targeted youth, and component 4 supports systems strengthening and project management.

The State Department for Labour and Skills Development will implement Subcomponent 1.2: Operationalization of labour market observatory and supporting intermediation. Specifically, the National Employment Authority (NEA), a state corporation under the State Department for Labour and Skills Development will deploy a skills assessment tool to support intermediation.

The World Bank team developed an assessment tool with partners and piloted it in 2020-2023 in South Africa called SkillCraft. SkillCraft is an open-source platform that provides a psychometrically sound assessment tool to profile job seekers' skills and match them with employment opportunities. It also enables career guidance and upskilling for vulnerable youth, facilitate linkages between training, job opportunities, and employment services, and, ensure real-time data collection and monitoring for program effectiveness. The SkillCraft platform was created to support vulnerable youth/beneficiaries through: skills profiling; defining career pathways; access to free online training resources; skills certification; and labour market linkages and employment opportunities. However, SkillCraft was initially developed for vulnerable youth in South Africa. To adapt it for the NYOTA project, an IT firm will be contracted to customize, deploy, and maintain the platform, ensuring it meets the specific needs of Kenyan users.

2. OBJECTIVE OF THE ASSIGNMENT

The objective of this assignment is to customize the SkillCraft platform for Kenya, ensuring it is user-friendly, secure, and aligned with the socio-economic context and labour market needs. This includes integrating relevant features, training NEA staff, and providing ongoing technical support.

3. SCOPE OF WORK

The Consultancy firm will be responsible for the end-to-end delivery of the platform, from design and customization to piloting, integration, and post-deployment support. The scope is divided into five (5) key technical areas:

3.1. Platform Customization & Development

The firm shall adapt the existing SkillCraft code to meet the specific requirements of the NYOTA project.

- **Assessment Logic:** Adapt the code to shorten or modify the assessment flow to allow for separate assessment pathways for **Wage Employment** and/or **Entrepreneurship**.
- **Questionnaire Adaptation:** Revise tasks and questionnaires based on findings from pre-pilots to ensure relevance to the Kenyan youth demographic.
- **Career Pathways Matrix:** Develop and integrate a revised **Occupational Matching Matrix** in the backend that reflects the Kenyan labor market reality.
- **Skills Certification:** Configure the system to generate and issue an adapted **Skills Certificate** upon successful completion of assessments.
- **Localization:**
 - Update all resource links to point to local Kenyan content and training providers.
 - Implement validation for **Kenyan phone numbers** (e.g., +254/07xx/01xx formats).
 - Ensure language and terminology are appropriate for the target audience.

3.2. AI & Intelligent Features

- **AI Chatbot Development:** Design and deploy an AI Chatbot to complement the assessment tool. The chatbot must be capable of asking the youth questions about themselves to facilitate profiling and provide customized recommendations.
- **Recommendation Engine:** Implement algorithms that use assessment data to suggest specific training programs, job opportunities, or entrepreneurship support available within the NYOTA ecosystem.

3.3. User Experience (UX) & Interface Design

- **Mobile-First Design:** Ensure the platform is fully responsive and optimized for mobile devices, considering that many vulnerable youth will access the internet via smartphones.
- **Accessibility:** Adapt the UI to be **interactive** and **bug-free**, incorporating findings from pre-pilots. The design must be accessible to Persons with Disabilities (PWDs) (e.g., screen reader compatibility, high contrast modes).

3.4. System Integration & Architecture

- **NEAIMS Interoperability:** Develop secure APIs (Application Programming Interfaces) to ensure seamless data exchange with **NEAIMS**. User profiles created in SkillCraft must be synchronized with the NEAIMS database.
- **Government Database Integration:** Provision for integration with other relevant government systems (e.g., Huduma Namba, TVET MIS) where applicable.

3.5. Security, Testing & Deployment

- **Data Security:** Implement industry-standard **encryption** (at rest and in transit) and secure **authentication protocols** (e.g., OAuth2, 2FA).
- **Legal Compliance:** Ensure the system architecture and data handling procedures comply strictly with **Kenya's Data Protection Act**.
- **Pilot Implementation:** Conduct a pilot rollout to a test group of users to identify bugs, refine the UX, and validate the assessment logic before full national deployment.
- **Maintenance & Support:** Provide post-deployment maintenance, including bug tracking, troubleshooting, and system updates for the duration of the contract.

3.6. Training & Knowledge Transfer

- **Staff Training:** Conduct comprehensive training sessions for NEA technical staff (admins) and operational staff (users) on system usage and management.
- **Documentation:** Develop and handover detailed **User Manuals, System Administrator Guides, and API Documentation**.

3.7. Maintenance & Support Period (SLA)

- **Submit a comprehensive Service Level Agreement.**
- **Commencement:** Starts immediately upon the conclusion of the Execution Period of the project.
- **Focus:** System stability, bug fixing, minor updates, security patching, and server monitoring and any other support required.

4. DELIVERABLES & TIMELINE

The assignment is structured into distinct phases with specific deliverables. The Consultant is expected to submit high-quality, professional documentation and software outputs for each milestone.

4.1. Phase 1: Project Execution

This phase covers the design, development, piloting, integration, and deployment of the system.

Milestone	Deliverable	Description & Acceptance Criteria	Timeline (Weeks)
1	Inception Report & Work Plan	<ul style="list-style-type: none"> Detailed project schedule (Gantt chart). Technical requirements specification (SRS). Risk management matrix. Stakeholder engagement plan. 	Week 2
2	System Prototype (MVP) & Architecture Development	<ul style="list-style-type: none"> Functional prototype of the customized SkillCraft platform. High-level system architecture document. Demonstration of the AI Chatbot logic. Initial API design for NEAIMS integration. 	Week 8
3	System Testing & Pilot Report	<ul style="list-style-type: none"> Report on pilot implementation findings (bugs, UX issues). <ul style="list-style-type: none"> Evidence of successful API handshake with NEAIMS. Security audit report (Penetration Testing results). Finalized "Occupational Matching Matrix" logic. 	Week 12
4	Full Deployment & Integration	<ul style="list-style-type: none"> Live deployment of the fully functional system. Validated integration with NEAIMS (two-way data sync). Final source code handover (Repository access). 	Week 16
5	Training & Final Handover	<ul style="list-style-type: none"> User Manuals (Admin & End-User). Completion of NEA staff training sessions. Final Project Closure Report. 	Week 20

4.2. Phase 2: Maintenance and Support

This phase commences immediately after the successful handover of Deliverable 5.

Milestone	Deliverable	Description & Acceptance Criteria	Frequency
6	Performance Reports	<ul style="list-style-type: none"> • Uptime Report: Evidence of 99.9% system availability. • Incident Log: Details of all bugs reported and resolution times. • Security Report: Confirmation of security patches and updates applied. • Backup Logs: Verification of successful data backups. 	Quarterly (Every 3 Months)
7	Final Sustainability Report	<ul style="list-style-type: none"> • Comprehensive review of system performance over 12 months. • Recommendations for future upgrades or scaling. • Final database handover. 	Month 12

5. ROLES & RESPONSIBILITIES

Consultancy Firm:

- Develop and integrate the SkillCraft platform.
- Provide periodic progress updates.
- Ensure compliance with **best practices in IT security and data protection.**
- Offer technical support and capacity building.

National Employment Authority (NEA):

- Provide relevant datasets, content, and access to **NEAIMS.**
- Facilitate stakeholder consultations and pilot implementation.
- Monitor and evaluate the system’s effectiveness.

6. QUALIFICATIONS & COMPETENCIES

A. COMPANY PROFILE

- 5+ years of track-record as Software Development Company, particularly on **job-matching and skills assessment platforms**.
- 5+ years of data collection experience using modern data collection tools and techniques
- Specialization in web/mobile custom software development with cross platform mobile development
- Expertise in **system integration and database management, preferable with multiple database platforms**.
- Compliance with **Kenya's data protection and cybersecurity regulations**.
- Availability of a **dedicated technical team including** Front-end and back-end developers, UX/UI designers, project managers, scrum masters, machine learning engineers and product development experts.

B. TEAM STRUCTURE & KEY EXPERTS (ROLES AND RESPONSIBILITIES)

The Consultant must provide a competent team with the necessary technical expertise to deliver a secure, integrated, and AI-enabled platform. The following **Key Experts** are mandatory, and their CVs must be attached because they will be evaluated during the technical review.

Key Position	Role & Responsibilities	Mandatory Qualifications & Experience	Level of Effort Time input
1. Project Manager / Team Leader	<ul style="list-style-type: none"> • Overall contract management and delivery assurance. • Primary liaison with NEA Director General. • Managing the "Execution" and "Maintenance" phases. 	<ul style="list-style-type: none"> i. Education: Master's degree in ICT, Project Management, or related field. ii. Certification: Valid PMP, PRINCE2, or Agile Practitioner certification (Mandatory). iii. Experience: Minimum 8 years managing large-scale ICT projects. 	360 HRS

		iv. Specific: Must have managed at least 3 similar projects involving government/public sector systems.	
2. System Architect / Technical Lead	<ul style="list-style-type: none"> • Designing the high-level architecture for NEAIMS integration. • Ensuring compliance with Kenya's Data Protection Act. • Overseeing security protocols (Encryption, Auth). 	i. Education: Bachelor's Degree in Computer Science, ICT, or Software Engineering. ii. Experience: Minimum 8 years in enterprise architecture. iii. Specific: Proven track record in System Integration (G2G) and database management. Deep knowledge of cybersecurity standards is required. customization and integrating government systems	360 HRS
3. Back-End Developer	<ul style="list-style-type: none"> • Core coding of the SkillCraft platform. • Developing the "Occupational Matching Matrix" logic. • Building secure APIs for NEAIMS interoperability. 	i. Education: Bachelor's Degree in ICT or Computer Science. ii. Experience: Minimum 5 years in backend development (Python/Django, Node.js, or relevant stack). iii. Specific: extensive experience in API development and relational database management.	180 HRS

4. AI / Machine Learning Engineer	<ul style="list-style-type: none"> • Designing and deploying the AI Chatbot. • Implementing the recommendation algorithms. • Ensuring the AI component supports the "Labour Market Observatory". 	<ol style="list-style-type: none"> Education: Degree in Data Science, AI, Computer Science, or Statistics. Experience: Minimum 5 years in Machine Learning/AI. Specific: Must provide a portfolio demonstrating successful deployment of Chatbots or Recommendation Engines. 	200 HRS
5. Front-End / UX Developer	<ul style="list-style-type: none"> • Customizing the UI for mobile responsiveness. • Ensuring accessibility for PWDs (WCAG 2.1 Compliance). • Implementing localized content (Language, Phone formats). 	<ol style="list-style-type: none"> Education: Degree or Diploma in ICT or related field. Experience: Minimum 5 years in web/mobile app development. Specific: Expertise in modern frontend frameworks (React, Vue, Angular) and UX Design. 	240 HRS
6. Training & Capacity Building Specialist	<ul style="list-style-type: none"> • Developing User Manuals and Technical Guides. • Conducting training workshops for NEA staff. • Facilitating knowledge transfer for system admins. 	<ol style="list-style-type: none"> Education: Degree in ICT, Education, or Social Sciences. Experience: Minimum 5 years in ICT training, curriculum development, and technical writing. 	1 Month

7. INTELLECTUAL PROPERTY, CONFIDENTIALITY

All data, documents and products produced under this contract will be the sole property of NEA.

The consultancy firm will be expected to maintain strict confidentiality regarding all aspects of the project and any information obtained during the course of the assignment.

8. REPORTING & COMMUNICATION

The firm will report to **NEA Director General and the NEA Project Coordinator**. Progress meetings will be held **bi-weekly**, with formal reports submitted **as per the milestones**.

9. DURATION & LOCATION

- Contract duration: **18 months**
- Location: **Remote & On-site (NEA Headquarters, Kenya)**.

10. CONTRACT IMPLEMENTATION AND PAYMENT DELIVERABLES

Payments will be milestone-based and subject to the approval of deliverables by the NEA Project Coordinator.

10.1. Project Execution Payments (Phase 1)

- **Inception Report & Work Plan** (Deliverable 1).
- **50%** upon approval of the **System Prototype development and Integration Architecture** (Deliverable 2).
- **20%** upon successful **Full Deployment, Integration & Pilot Report** (Deliverables 3 & 4).
- **30%** upon completion of **Training & Final Handover** (Deliverable 5).

11. SUBMISSION PROPOSAL

Interested firms are required to submit their Expression of Interest (E.O.I) to **The Principal Secretary**,

State Department of Labour and Skills Development through the following address:

The Principal Secretary,

State Department for Labour and Skills Development

P.O. Box 40326 - 00100

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