

TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS

Title: Web-programmer Consultant	Duty Station: <i>Consultant should be home-based and will not have assigned desk or office space.</i>
Purpose of Activity/Assignment: Provide technical support to strengthen the development of Climate Risk Assessment Tool in the WASH sector	
Background: <p>UNICEF, in collaboration with the National Development Planning Ministry (Bappenas), is spearheading the development and publication of a Framework for Strengthening WASH (Water, Sanitation, and Hygiene) Climate Resilience. This framework is designed to offer comprehensive principles and guidelines to policymakers and stakeholders at national, sub-national, and local levels. The goal is to enhance the climate resilience of various entities within the WASH sector, safeguarding them against the increasing risks posed by climate hazards.</p> <p>A critical component of this initiative is the PERIKSA tool, an Excel-based climate risk assessment instrument developed by UNICEF. PERIKSA assists authorized entities in conducting climate risk assessments, a vital step in identifying potential climate hazards that could impact the provision of WASH services. While the tool's simplicity is beneficial, its Excel-based nature presents challenges for scaling up its implementation.</p> <p>To overcome these challenges, UNICEF seeks a web-programmer/developer consultant to transform the PERIKSA tool into a web-based platform. This transformation will involve enhancing data management, analysis, and visualization capabilities, ensuring the tool's scalability and accessibility. The consultant will collaborate closely with Bappenas to integrate the web-based tool into Bappenas' systems, ensuring its long-term operability and sustainability. Additionally, the consultant will train designated Bappenas operators to manage and troubleshoot the tool, ensuring smooth and continuous operation. The consultant's work will be overseen by UNICEF's WASH Specialist, with regular progress reports required.</p> <p>Scope of Work: The consultant will be responsible for the full stack development of System PERIKSA, including but not limited to:</p> <ol style="list-style-type: none"> 1. System Design and Development: <ol style="list-style-type: none"> a. Analyse the current Excel-based system to understand data structures and workflows. b. Provide detailed design for web based PERIKSA, including front-end and back-end design c. Develop a web-based application with user-friendly interfaces for data entry, processing, and reporting. d. Implement access control mechanisms and authentication protocols to ensure data security. 2. API and Backend Development: <ol style="list-style-type: none"> a. Develop and maintain RESTful APIs to support front-end functionalities and integrations with other systems. b. Optimize the backend for performance and scalability, ensuring seamless data handling and processing. 3. Data Migration and Integration: <ol style="list-style-type: none"> a. Plan and execute the migration of existing data from Excel to the new system, ensuring data integrity and consistency. b. Integrate the new system with existing Bappenas information systems and databases on water, sanitation, and hygiene (WASH). c. Assist the operators assigned by Bappenas to ensure the domain hosting of the web-based PERIKSA tool within the Bappenas system. 	

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4. Testing and Quality Assurance:
 - a. Conduct comprehensive testing to identify and fix bugs, ensuring the system meets all functional and non-functional requirements.
 - b. Provide documentation and training to users and technical staff for effective system utilization and maintenance.
 - c. Incorporate tool's guidance/manual to ensure users can easily understand questions within the tool.
 - d. Provide knowledge transfer to Bappenas' assigned operator on the operation of this web-based tool and solve the immediate problem related to the operation of this tool.

5. Ongoing Support and Maintenance:
 - a. Offer technical support post-deployment, including monitoring system performance and implementing necessary updates or fixes.
 - b. Collaborate with the Bappenas team to continuously improve the system based on user feedback and emerging needs.
 - c. Participate in relevant workshops, meetings and other activities related to the development and socialization of this web-based tool.
 - d. Perform other tasks relevant to the core responsibilities and duties assigned by UNICEF.

QUALIFICATIONS:

1. Educational Background: A bachelor's degree in information technology, Information Management, Statistic, Data Engineering, or a related field.
2. Professional Experience: A minimum of 2 years of experience in full-stack development, with a strong background in both front-end and backend technologies.
3. Technical Skills:
 - a. Proficiency in programming languages such as PHP, Node.js, Golang, and SQL, or other related language.
 - b. Extensive experience in developing RESTful APIs and web applications.
 - c. Familiarity with cloud environments, particularly AWS or Google Cloud Platform, and version control systems like Git.
4. Additional Requirements:
 - a. Ability to work both independently and collaboratively in a team setting with minimal supervision.
 - b. Experience working with more than 4 years in the public health sector or with government health data systems is highly preferred.
 - c. Strong analytical and problem-solving skills, with attention to detail and a commitment to quality.
 - e. Good analytical, communication, and report writing skills.

Supervisor: Urban Development Specialist, and T4D Officer	Start Date: 1 Oct 2024	End Date: 30 December 2024	
Work Assignment Overview			
Tasks/Milestone	Deliverables/Outputs	Timeline	Estimate Budget
Preparation and design	Detailed design for web based PERIKSA tool, including front-end and back-end design	15 Oct 2024	10%
Development, Testing, Quality assurance, Final Version	<ul style="list-style-type: none"> • Develop web based PERIKSA tool prototype (beta version) which incorporates tool's guidance/manual • Testing results which identify bugs and error function to be fixed • Final and ready-to-use web based PERIKSA tool 	15 Nov 2024	50%

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Capacity development and transfer	<ul style="list-style-type: none"> • Document Guideline on how to use the system (Manual Book, PPTX, etc) • Domain hosting of the web based PERIKSA tool within the Bappenas system. • Training session for Bappenas' assigned operator • Activity report (documentation of training activities) 	15 Dec 2024	20%
Go Live and Maintenance Support	<ul style="list-style-type: none"> • Go Live • Maintenance support based on work hour (7 days = 56 hours) 	30 Dec 2024	20%