**REQUEST FOR EXPRESSIONS OF INTEREST**

**(CONSULTING SERVICES – FIRMS SELECTION)**

**REPUBLIC OF ARMENIA**

**THE SOCIAL PROTECTION ADMINISTRATION II PROJECT**

**Credit 5398-AM**

**ASSIGNMENT TITLE: Implementation of Code Audit for the Application Management System of the RA MLSA**

**Reference No.: SPAP II-C-2-1-4**

**The Government of Armenia has received financing from the World Bank toward the cost of the Social Protection Administration II Project (SPAP), and intends to apply part of the proceeds for consulting services.**

**The objective** of the assignment is to examine through code audit the software platform - Applications Management System of the Social Protection sphere of the RA through hiring a relevant Consultant.

Code review shall ensure that the product is developed according to secure coding guidelines and standards based on the best international practice. The two main languages are used to develop the software: C# and React.JS, and the deployment is done using containers.

1. **Scope of services, responsibilities and expected deliverables**

а) Scope of services

Overall scope of the code audit will include the following points:

* Review the source code;
* Identify potential security vulnerabilities, software defect, compliance issues;
* Identify issues with the code's maintainability;
* Review the code according to the industry standards and best practices including the following, but not limited to:
	+ Microsoft's .NET Framework Design Guidelines
	+ C# Coding Conventions
	+ SOLID Principles
	+ OWASP Top Ten

b) Responsibilities

General steps to perform code audit are the following:

1. Define the scope: Identifying the parts of the codebase that will be auditing. This may involve looking at specific modules, functions, or entire applications. Identification should be carried out considering:
	1. Main business processes of the system reflected into modules/services.
	2. Critical modules/services related to security and data privacy with the support from MLSA.
2. Prepare the environment: Setting up the tools and environment needed for the code audit. This may include setting up a development environment, compiling the code, and installing necessary tools.
3. Reviewing the code: Reading through the code line by line, looking for any potential vulnerabilities or issues. Using tools such as static analysis or fuzz testing to help identify issues.
4. Verifying input validation: Checking for proper input validation to ensure that all user input is properly sanitized and validated.
5. Looking for security issues: Checking for potential security vulnerabilities, such as buffer overflows, integer overflows, and race conditions. If applicable, looking for issues related to cryptography, such as the use of weak encryption algorithms or incorrect key management.
6. Check for compliance: If the code needs to comply with certain regulations.
7. Conduct test coverage analysis to identify parts of the code that is not adequately tested, using automated tools (e.g., NUnit for C#, etc.) which can check the efficiency and effectiveness of the software code test coverage.
8. Conduct analysis and suggest improvement practices for code maintenance.
9. Conduct analysis and suggest improvements on the levels of access/security/protocols of the engineers on charge of the MIS code.

The implementation period **is about 70 calendar days but no later than 31 October, 2023.**

**The Social Protection Administration II Project** (SPAP II) now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services.

**The shortlisting criteria are:**

The Consultant should have:

* At least 5 years of experience in the code audit, technology audit and/or similar projects related to information security, IT audit.
* At least 5 successfully implemented code audit, technology audit and/or similar projects related to information security, IT audit within the last 5 years (2017-2022). The proof (contracts and delivery-acceptance acts) of at least 5 mentioned projects has to be provided.
* At least 5+ years of general programming experience in implementing projects on .NET and C#.
* At least 2 letters of recommendation/reference letters from previous clients? employers.
* ISO or other international certification on code audit and information system’s audit will be considered a plus.

The attention of interested Consultants is drawn to paragraphs **1.9** of the World Bank’s *Guidelines: Selection and Employment of Consultants under IBRD Loans by World Bank Borrowers* (“Consultant Guidelines”, [**https://thedocs.worldbank.org/en/doc/437671459190141620-0290022011/original/ProcurementConsultantHiringGuidelinesEngJan2011.pdf**)](https://thedocs.worldbank.org/en/doc/437671459190141620-0290022011/original/ProcurementConsultantHiringGuidelinesEngJan2011.pdf%29), setting forth the World Bank’s policy on conflict of interest.

Consultants may associate with other firms in the form of a joint venture or a sub consultancy to enhance their qualifications.

A Consultant will be selected in accordance with the (QCBS) method set out in the Consultant Guidelines.

Further information can be obtained at the address below during office hours from **09:00 to 18:00 (Yerevan time).**

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by e-mail) by **July 17, 2023, at 18:00 (Yerevan time)**

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