TERMS OF REFERENCE
Institutional Contract

Section:	Education	Date:	26 of September 2022
Title:	**Services for maintenance and development of MEHE ICT software for SIMS.**	Duty station:	Lebanon
Reporting to:	Atif Rafique (Chief of Education UNICEF) in coordination with Toufic Karam (Head of ICT MEHE)	Contract type:	Consulting and system integration services
Duration:	12 months	Start date:	November 1 of 2022

Section	Content
Objectives	The objective of the services being required are to ensure that the SIMS system is updated according to the MEHE needs and new requirements and maintained to provide the highest availability of the application.
Background	For more than seven years, the Lebanese Ministry of Education and Higher Education (MEHE) has been relying on the Oracle Database platform to host, maintain and operate its School Information Management System (SIMS) deployed in all Lebanese public schools. With the support of UNICEF, the ministry aspires to sign an agreement with Oracle to sustain and upgrade the provided services to align with the ministry's overall vision and strategic goals for the coming three years.
Scope of work	MEHE is looking for an Oracle Partner with experience in Oracle product deployment and migration to assist in the planning and execution of the migration of its Oracle database platform from windows environment to a Linux environment, the optimization, and tuning of the database performance, and ensuring the high availability of the new environment. Thereafter, the contractor must designate four engineers: 1. Oracle Database Administrator 2. Senior Software Analyst 3. Senior Software Developer 4. Software Developer The engineers' main responsibilities are to maintain, consolidate and optimize the Microsoft Enterprise SQL and/or Oracle 12c databases and applications, in addition, but not limited to the following tasks: ▪ Perform updates on MEHE's core business applications (SIMS, MEHENSL, Official Exams) and other existing applications ▪ Develop new applications as needed ▪ Maintain and develop new solutions hosted on the MEHE website and Mobile App ▪ Any additional request from upper management The terms of references of the four engineers mentioned above are further described in Annexes 1, 2, 3, and 4 respectively.
Deliverables and Schedules	The successful bidder shall include in its proposal the curriculum vitae of at least half of the proposed engineers to make up the definitive team, identifying the role the candidate will fill (i.e., Oracle database administration, senior software analyst, senior software developer, software developer), and commit to have a final selection of the full team immediately after the selection decision has been communicated. The vendor will also submit a proposal of the approach to coordinate the work with MEHE and the way their progress in the tasks requested by MEHE will be delivered and approved. An initial payment not to exceed 10 per cent will be provided against the signature of the contract. During the first month of work the successful bidder will develop a work plan with MEHE that

	indicates the expected progress by trimester (progress expected every third month). Payments shall be made every third moth according to demonstrated progress in the aforementioned plan.
Timing	12 months

Evaluation Process and Method	Bidders will be evaluated as follows:
	1) 30 points (30 per cent of the total score) for the proposal of the method of coordination with MEHE as per the following rating:
	    a. The proposal indicates how focal points will communicate in a regular basis (up to 10 points if mentioned and clearly described),
	    b. The proposal establishes roles and responsibilities for assignment of tasks, verification of quality, approving / validating deliverables or finalized tasks (up to 10 points if mentioned and clearly described),
	    c. The periodicity of communications is mentioned and justified (e.g., monthly, weekly or other) (up to 5 points if mentioned and clearly described),
	    d. A clear mechanism to establish goals for the engineers is indicated (up to 5 points if mentioned and clearly described),
	
	2) 40 points (40 per cent of the total score) against the fit of the proposed engineer or engineers to the job descriptions in Annexes 1 to 4. Each profile is to be evaluated at a maximum possible score of 10 points and only the profiles for which a CV has been presented will be assessed. If CVs for less than 2 of the engineers are presented, the company will be disqualified. Each CV will be assessed as follows:
	    a. The academic background level and relevance to the task (0 points if the academic background is not relevant; 1 point for a basic academic degree directly relevant; 2 points for an MA level or equivalent and directly relevant; 3 points if over MA or equivalent and directly relevant).
	    b. Professional experience (0 points for less than the minimum experience detailed in the Annex for the post being assessed; 1.5 points for the minimum experience detailed in the Annex or up to 2 years of the minimum experience detailed in the Annex; 3 points if more than 2 years over the minimum experience detailed in the Annex).
	    c. Alignment to the profile in the Annex that corresponds to the post under evaluation (0 points if less than half the elements / bullet points under the profile requirements section are met; 2 points if half or more of the elements / bullet points under the profile requirements section are met; 4 points if all elements / bullet points under the profile requirements section are met).
	
	Financial Evaluation Criteria:
	• *Bidders obtaining the minimum pass mark of 40 out of 70 in the technical evaluation will be considered for the financial evaluation.*
	• *The financial evaluation is composed of 30 points (30 per cent of the total score). The lowest financial offer will obtain 30 points.*
	• *The maximum score would be achieved by obtaining 30 points for the coordination proposal, 40 points for 4 CVs and 30 points in the financial proposal.*

Administrative Issues	**Management:** The Contract will be supervised by UNICEF Lebanon's Chief of Education Section. The activities will be carried out in close consultation with the Ministry of Education and Higher Education (MEHE) and the head of the ICT unit in MEHE will provide the evaluation and clearance of all deliverables before execution of payment. **Travel:** Any necessary travels, if any, shall be included in the costed proposal. All the meetings, consultations and interviews shall be organised by the Contractor and included in the costed proposal.

ANNEX 1 – Oracle Database Administrator

Title	Oracle Database Administrator
Objectives	The objective of those services is to ensure that the SIMS is updated according to the MEHE needs and new requirements.
Scope of work	The scope of the requested work in this document is related to enhancing the SIMS and fixing the existing bugs. Some of the needed services are: 1. Plan, analyze, design, implement, maintain, and control the organization's MS SQL Oracle databases. 2. Perform analysis; logical and/or physical database design and data modeling and/or mapping. 3. Perform performance monitoring and tuning, analyzing database metrics, and assisting with capacity planning. 4. Configure, install, and maintain Microsoft Enterprise SQL databases or Oracle 12c on Windows 2003/2008 environments, as well as upgrades and migrations. 5. Develop and implement reports, security standards, policies, and controls. 6. Advise on Microsoft SQL or Oracle DB best practices. 7. Develop backup & disaster recovery processes to ensure availability databases. 8. Produce documentation and develop reports for management. 9. Proactively monitor the database systems to ensure secure services with minimum downtime. 10. Provide trend analysis to the management team to enable them to make informed decisions regarding resource management. 11. Troubleshooting and problem-solving involving log shipping, mirroring, and SQL or Oracle clustering or Load balancing. 12. Work on recommended reporting tool for the specified DB. 13. Coding and developing specific procedures, functions, or applications. 14. Document all relevant tasks and work matters for proper handover through the issuance of technical documents such as User Guide, Administrator guide, etc. All required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare detailed requirements and clear time schedules for all deliverables. All the required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare a detailed requirement list which will cover the 30 working days with a clear delivery schedule.
Deliverables and Schedules	• Monthly written reports
Timing	The duration of the contract will be for a total of 12 months.

Reporting Requirements	• The supervision line is ICT Director
Profile Requirements	**Education:** Bachelor degree in Computer Science or any related field. **Language:** Excellent command of English and Arabic. Knowledge of French is an asset. **Experience and Skills:** • At least 7 years of experience in Oracle DBA and MS SQL. • In-depth SQL Server Database Administration experience with Oracle DB, MS SQL Server, Oracle Golden Gate, Oracle Clustering. • Advanced working experience with Oracle database security and management best practices, and architecture, MS SQL is a plus. • Web technologies • Reporting technologies • Monitoring methodologies • Proficient in writing and optimizing T-SQL or PL/SQL code and Stored Procedures. • Working knowledge of backup, replication, mirroring, and clustering. • Ability to design/develop/code/test stored procedures and reports. • Strong communication skills, written and verbal, with multitasking capabilities. • Oracle Certified (OCP), MCITP: Database Administrator is a plus. • Experience in data collection, analysis, and production of reports. • Strong training & facilitation skills.

ANNEX 2 – Senior Software Analyst

Section	Content
Title	Senior Software Analyst
Scope of work	The scope of the requested work in this document is related to enhancing the SIMS and fixing the existing bugs. Some of the needed services are: 1. Support planning and requirements for multiple complex software projects 2. Guide software projects through lifecycle from proposal stage through to start of design 3. Develop and implement of new functionalities 4. Review of source code and other deliverables produced by other teams 5. Produce user and technical documentation 6. Assist with deployment and configuration of the system 7. Assist with evaluating and testing products delivered by other teams 8. Participate in meetings 9. Solve reported incidents and reproduce reported bugs 10. Propose viable technical solutions 11. Work with the development teams to understand and determine application requirements and develop applications to specification. 12. Write SQL code (stored procedures, triggers, database scripts) to implement business logic, database maintenance, and sync process. 13. Own data as a product, building a data platform focusing on data structure, quality, usage and efficiency. 14. Build tailored data replication pipelines as our backend application is broken into microservices. 15. Participate in the update of SIMS/MEHENSL to improve existing functionalities including but not limited to teachers' contractual process, absence/attendance of school staff, VET public institutes, and hosting of 2nd shift schools' data. 16. Assist in developing and maintaining our ETL and ELT pipelines. All required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare detailed requirements and clear time schedules for all deliverables.

	All the required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare a detailed requirement list which will cover the 30 working days with a clear delivery schedule.
Deliverables and Schedules	• Monthly written reports
Timing	The duration of the contract will be for a total of 12 months.
Reporting Requirements	• The supervision line is ICT Director
Profile Requirements	**Education:** Bachelor's degree in computer science or any related field, masters' is a plus. **Language:** Excellent command of English and Arabic. Knowledge of French is an asset. **Experience and Skills:** • At least 9 years of experience in large-scale application development. • Strong experience with Microsoft ASP .NET, C#, .Net, VB.NET, Javascript. SQL, Web Services, HTML, CSS, XML • Knowledge of software development methodologies • In depth knowledge of application development life cycle and environment • Good knowledge of the design and development of web and multi-tier applications • Strong OOP knowledge, experience applying design patterns • Thorough understanding of clean code practices and design patterns • Experience in data collection, analysis, and production of reports • Expert in SQL language for relational and/or Big databases • Mastery of a BI solution such as Tableau Software, Power BI or QlikView • Experience using tools such as Jira and Confluence (or equivalents) for managing scrum projects • A first significant experience in a similar function is required. • Software testing experience is an asset

ANNEX 3 – Senior Software Developer

Section	Content
Title	Senior Software Developer
Scope of work	The scope of the requested work in this document is related to enhancing the SIMS and fixing the existing bugs. Some of the needed services are: 1. Help in gathering information and needs assessment of the requirement needs. 2. Work with the development teams to understand and determine application requirements and develop applications to specification. 3. Write SQL code (stored procedures, triggers, database scripts) to implement business logic, database maintenance, and sync process. 4. Update SIMS/MEHENSL to improve existing functionalities including but not limited to teachers' contractual process, absence/attendance of school staff, VET public institutes, and hosting of 2nd shift schools' data. 5. Develop in-house applications used by MEHE employees. 6. Develop web-based solutions hosted on the MEHE website. 7. Convert applications to new technology. 8. Create required reports in response to business user needs and various applications. 9. Document all relevant tasks and work matters for proper handover through the issuance of technical documents such as User Guide, Administrator guide, etc. All required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare detailed requirements and clear time schedules for all deliverables. All the required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare a detailed requirement list which will cover the 30 working days with a clear delivery schedule.
Deliverables and Schedules	• Monthly written reports
Timing	The duration of the contract will be for a total of 12 months.
Reporting Requirements	• The supervision line is ICT Director

Profile Requirements	**Education:** Bachelor's degree in computer science or any related field, masters' is a plus. **Language:** Excellent command of English and Arabic. Knowledge of French is an asset. **Experience and Skills:** • At least 7 years of experience in large-scale application development. • Experience using SQL, Oracle, and PL/SQL • Proficiency with fundamental front-end languages such as HTML, CSS, XML, JQuery, and JavaScript • Proficiency with frameworks such as MVC, Angular JS, React, and Vue. • Proficiency with server-side languages such as C#, Ruby, Java, PHP, and .Net. • Experience with Business applications such as Timesheet, Human Resources, Budgeting, School information system, etc. • Microsoft and/or Oracle Certifications are a plus. • Thorough understanding of clean code practices and design patterns • Experience in new technology (R, Python, etc.) is a plus. • Experience in data collection, analysis, and production of reports. • Strong training & facilitation skills.

ANNEX 4 – Software Developer

Section	Content
Title	Software Developer
Scope of work	The scope of the requested work in this document is related to enhancing the SIMS and fixing the existing bugs. Needed services: 10. Help in gathering information and needs assessment of the requirement needs. 11. Work with the development teams to understand and determine application requirements and develop applications to specification. 12. Write SQL code (stored procedures, triggers, database scripts) to implement business logic, database maintenance, and sync process. 13. Update SIMS/MEHENSL to improve existing functionalities hosting of 2nd shift schools' data and TVET public institutes. 14. Develop in-house applications used by MEHE employees. 15. Develop web-based solutions hosted on the MEHE website. 16. Convert applications to new technology. 17. Create required reports in response to business user needs and various applications. 18. Document all relevant tasks and work matters for proper handover through the issuance of technical documents such as User Guide, Administrator guide, etc. All required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare detailed requirements and clear time schedules for all deliverables. All the required services should be developed on the MEHE development environment and implemented on the testing environment before publishing a new version of SIMS. The expert should prepare a detailed requirement list which will cover the 30 working days with a clear delivery schedule.
Deliverables and Schedules	• Monthly written reports
Timing	• The duration of the contract will be for a total of 12 months.
Reporting Requirements	• The supervision line is ICT Director

Profile Requirements	**Education:** Bachelor's degree in computer science or any related field. **Language:** Excellent command of English and Arabic. Knowledge of French is an asset. **Experience and Skills:** • At least 4 years of experience in large-scale application development. • Knowledge of databases and operating systems. • Experience writing code in Java, C#, JavaScript, HTML, CSS, SCSS Experience using SQL, Oracle, and PL/SQL • Experience with .Net, MVC, and AngularJS frameworks • Experience with Business applications such as Timesheet, Human Resources, Budgeting, School information system, etc. • Microsoft and/or Oracle Certifications are a plus. • Experience with database management and security is a plus • Experience with R and Python is a plus. • Experience with React.Js, Node.JS is a plus • Experience in data collection, analysis, and production of reports. • Strong training & facilitation skills.