UCEP Program Management Information System (UPMIS)
Underprivileged Children Educational Program (UCEP), Bangladesh
Terms of Reference
August 2022

Assignment	: Hire Firm/Organization for developing web-based program department's data management information system of UCEP Bangladesh
Contract Type	: Service Contract
Duration	: Three (3) months starting from 30 August 2022, but the date will be finalized after finalizing the hiring process

Background of UCEP Bangladesh

The Underprivileged Children's Educational Programs (UCEP) Bangladesh is a registered non-governmental and non-profit organization providing basic education and training for children and youth from poor marginalized communities in mainly urban and peri-urban areas of Bangladesh. It is registered under the department of Social Welfare as a voluntary social development organization in the year of 1990. UCEP Bangladesh also registered with NGO Affairs Bureau under Office of the Prime Minister in the year of 1984.

UCEP Bangladesh was founded by Mr. Lindsay Allan Cheyne, a New Zealander who came to Bangladesh on a British relief mission after a tornado devastated the country in 1970. In 1971, the Liberation War broke out. The plight of the affected children, especially working children, had a significant impact on him so he decided to quit his job to stay in Bangladesh. He developed the project "Underprivileged Children's Educational Programs (UCEP) Bangladesh" in 1972 aiming to address the issue of child labor and provide basic education and training of working children but could not find donors for the project. Nevertheless, he was determined, so he initiated the project with his own savings, involving 60 urban working children. He reached out to Dhaka University's Social Welfare Department and started using the corridor and three of its classrooms in the evening. He continued to approach various donors and travelled to different countries with some of his students for raising funds. He was able to develop a successful education and training model provided working children opportunities for better jobs. By the end of 1974, he was able to mobilize external support and set up one hostel and several schools in Dhaka. But the organization was in crisis after his death in 1986. Several local elites including government came forward during that time and provided necessary funds, land, infrastructure, equipment's, and strategic guidance for its continuity. They formed the UCEP Bangladesh Association which took the initiative to nationalize the organization and take over its governance and management responsibilities. Several donors and patrons have supported it to grow and develop since.

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At present UCEP has an enrollment of over 30,000 children in its 35 technical Schools, 10 TVET, 8 outreach centers, 2 Polytechnical institutes in Chittagong, Khulna, Rajshahi, Barisal, Sylhet,

> Technical School-35, TVET-10, Polytechnique- 02, Outreach TVET-08, Training Institute-02, Student=around 30,000, Teacher= around 600, Project= around 19

Rangpur, Gazipur, Sherpur and Bogra. The Technical Schools of UCEP operates 37 trade courses correspond to the demand of the employment markets.

UCEP is acknowledged as a leader and innovator of educational and training approaches and recognized nationally and internationally as a center of excellence of human resource development. The success of UCEP programs makes it unique in the Technical and Vocational Education and Training (TVET) sector of Bangladesh.

Web based data management system

At the organizational level, use of technology is increasing for data collection and reporting purposes. With the benefit of real-time reporting and ensuring accuracy of data, UCEP Bangladesh strongly feels the need to strengthen its data management system for generating evidence and learning to improve program quality and deepen impact.
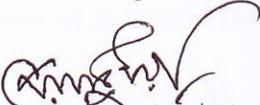
At present primary data is collected manually from field level by using different commercial software, e.g. MS Excel, are being used for storage and analysis. Cost-effectiveness remains a major concern due to the geographic and data spread, requiring longer time, human and financial resources in collation while also risking data authenticity and quality.

Considering the above challenges, UCEP Bangladesh underscores the significance of a common/standardized web-based database platform (electronic database system) that will allow free and dynamic information flow with real-time and authentic data and result in multi-level accountability, cost-effectiveness and cost-efficiency in planning, evidence-based decision-making, and program quality. Such a strong and quality monitoring system will also enhance UCEP Bangladesh credibility to the donors/funding agencies and attract funds, leading to financial sustainability. And as part of this initiative, UCEP Bangladesh has been decided to launch online based data collection process by using smart technology where all concerns can provide information and can use information directly from the system.

Objectives
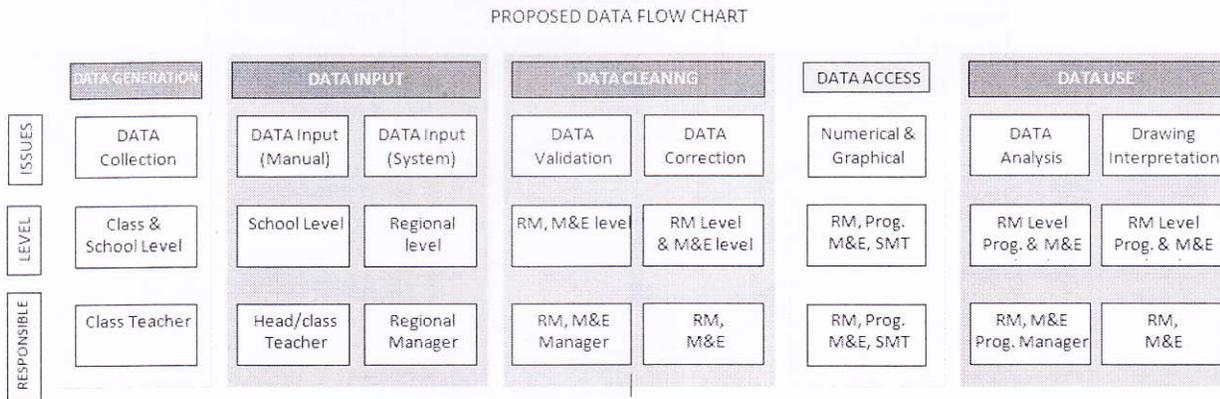
The objectives of the assignment will be to-
- Develop online based program data management system and dynamic reporting system.
- Synchronize/migration existing data into the proposed web-based program department's data management system.

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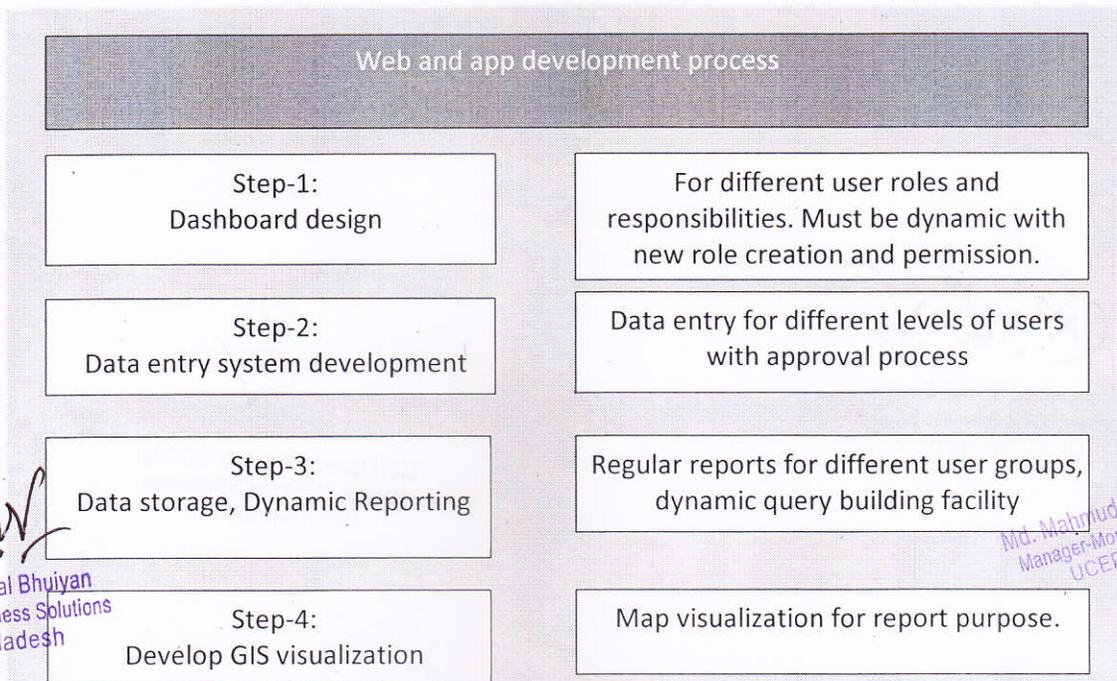
Proposed Improvement plan

UCEP has been keen to adopt an <u>Automated Data Framing System</u> which will provide meaningful flow of data with processing all the way from Data Generation to Data Input, Data Cleaning, Access, and up to the Data Use level as illustrated below:

PROPOSED DATA FLOW CHART

	DATA GENERATION	DATA INPUT		DATA CLEANNG		DATA ACCESS	DATA USE	
ISSUES	DATA Collection	DATA Input (Manual)	DATA Input (System)	DATA Validation	DATA Correction	Numerical & Graphical	DATA Analysis	Drawing Interpretation
LEVEL	Class & School Level	School Level	Regional level	RM, M&E level	RM Level & M&E level	RM, Prog. M&E, SMT	RM Level Prog. & M&E	RM Level Prog. & M&E
RESPONSIBLE	Class Teacher	Head/class Teacher	Regional Manager	RM, M&E Manager	RM, M&E	RM, Prog. M&E, SMT	RM, M&E Prog. Manager	RM, M&E

Expected Benefits of using web-based data management system

- With this system, reporting will be faster than usual time. Since based on the data in the system, report production will be dynamic (as required).
- With this system, it will be possible to measure accuracy by checking data entries in real time. In addition, there will be no need to use papers forms as it is digitally collected data.
- It will strengthen the data management system of UCEP Bangladesh and credibility of the data as well.
- There will be the opportunity to make options in mobile data collection process.

Proposed steps for UPMIS automation

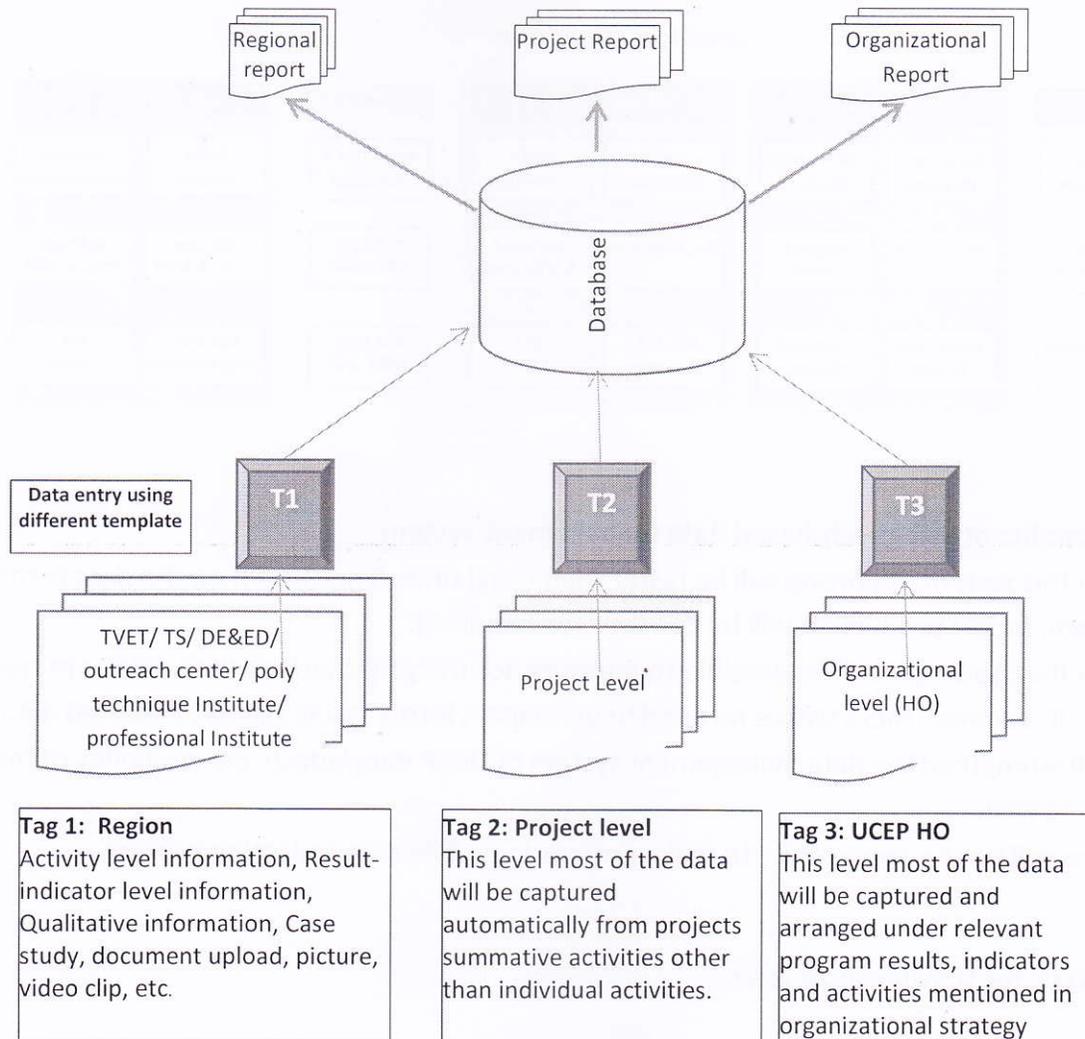| Web and app development process	
Step-1: Dashboard design	For different user roles and responsibilities. Must be dynamic with new role creation and permission.
Step-2: Data entry system development	Data entry for different levels of users with approval process
Step-3: Data storage, Dynamic Reporting	Regular reports for different user groups, dynamic query building facility
Step-4: Develop GIS visualization	Map visualization for report purpose.

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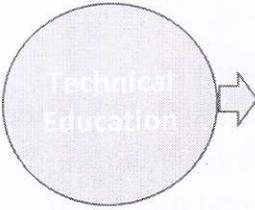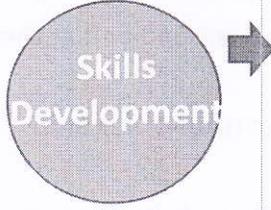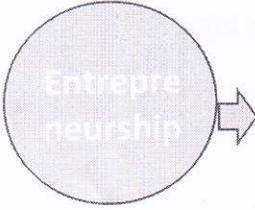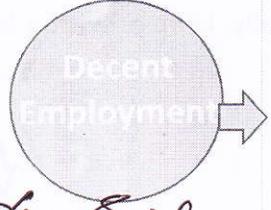## Skeleton/ flow chart of the database:

The flow chart of the web-based data management system will be as following

Tag 1: Region	Tag 2: Project level	Tag 3: UCEP HO
Activity level information, Result-indicator level information, Qualitative information, Case study, document upload, picture, video clip, etc.	This level most of the data will be captured automatically from projects summative activities other than individual activities.	This level most of the data will be captured and arranged under relevant program results, indicators and activities mentioned in organizational strategy

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Important Indicators at a glance

THEMATIC AREA	INDICATORS	SEGREGATED BY
Technical Education	Promotion	
	Enrollment	
	Drop out	
	Move out	
	Attendance	
	Completion of education	
	Public Exam Result (JSC &SSC)	
Skills Development	Enrollment	
	Drop out	
	Completion	
	Attendance	Male, Female, PWD, Ethnic Minority, Transgender
	Attend in summative assessment	
	Competent in summative assessment	
Entrepreneurship	Trainee completed EP training	
	Started own business	
	Financial linkage support	
Decent Employment	Competent in summative assessment	
	Employment (self, wage)	
	Apprenticeship	
	Continue Education	
	NEET	
	Job lost	
	Re-employment	

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These are only important indicators and after appointment of the winning firm need to do preparatory meeting to chalk out the detail indicators requirement.

Basic features of the system

1. Web based platform
2. The system should be compatible with cross-browser, and mobile view compatible. The system must have adequate standard features so that the authority can manage their functions in a user-friendly manner and more efficiently using this system.
3. User-end data input and query mechanism inputs etc.
4. Comprehensive Report generation
5. Web based Admin Panel for insert/delete, user permission or any features.
6. Central Server based software and the online application need to be distributed to the concerned administrator unit with secured communication system integration
7. Auto generated dashboard in tabular and graphical format for different user group
8. Manually customized pivot and graph generation
9. Export/download tables and graphs in excel, CSV and pdf formats
10. Align data and graphs with GIS map
11. Data correction mechanism should be inbuilt
12. Input template, reporting template, multiple search option, graphs, tables
13. The system shall have strong security features that can maintain and ensure the security of the contents, data, resources, and user's privacy in the front end and at the back end of the system.
14. The system should have strong Access Control List (ACL) to manage users/roles and their activity in a dynamic manner.
15. The consulting firm will make the necessary arrangement to provide website security with the appropriate Secure Sockets Layer (SSL) provider with the capacity to provide security to all subdomains.
16. Compatible with future extension for both technology and business logic

Specific tasks of the Assignment

Language: English

A. Data entry option and reporting template:
  o Create data entry templates (Plan and achievement). Additionally, keep provision for activity wise qualitative information.
  o Create reporting templates (Plan and Achievement). Additionally, keep provision for activity wise qualitative information.
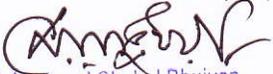 o View/ Edit/Delete/print option

B. Reporting Mode
  o Report can be converted to Excel, instantly
  o Available/dynamic search option has to be enabled

C. Information Management system
  o User based permission for data entry, view, edit in different level
  o System should support any browser like IE Explorer, Edge, Google Chrome, Mozilla, Safari, others, etc.

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- o Facilitated development of new features into forms from admin panel
- o Ensured Data security from outsider.
- o Individual Records/logs who are generated report from system
- o User Management-The solution should provide different levels of access to the application: administrator, read, write.

D. **Search management**
- o Dynamic search option for reporting
- o Search various data as per levels mentioned above
- o Search with predefined filters

E. **Analytical and graphical presentation**
- o Summary table of the findings with detail list
- o Show analytical data in graphical view (Pie chart, Graph etc.)

F. **Integration with another database:**
- o Linked with UCEP Bangladesh Student database

G. **GIS presentation**
- o View Basic Maps with data up to institute level
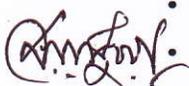- o Maps with basic filters option

Deliverables of the assignment

1. The Consulting firm will submit an inception report with two weeks of signing the agreement;
2. The consulting firm will submit software requirement specification (SRS) and overall system design document to the authority and present before the IT team and take approval;
3. The external consulting firm will deliver the developed data management system as per timeline;
4. The team will suggest required hardware system for installation and will help the UCEP IT team to install and configure the system for smooth operations;
5. Provide Test report and perform User Acceptance Test (UAT).
6. Deliver Operational and user guideline/manual of the MIS in both English and Bengali.
7. Provide ToT training to technical team of UCEP Bangladesh so that this team will cascade necessary training at field level.
8. Provide Specific Business Continuity Plan along with system security plan.
9. Submit a Task Completion Report/Final Report
10. Support and maintenance for 12 months after successfully delivering the MIS.

Shortlisting Criteria

Interested Consulting firms should provide information demonstrating that they have the required qualifications and relevant experiences to perform the Services. The short-listing criteria are:

- • Core business & years in business
- • Relevant Experience (Similar assignments of compatible size, complexity, and

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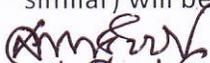
technical specialty in the required area)
- Technical and managerial capability of the firm, Institutions and/or Organization.
- Financial capacity/soundness of the firm (Turnover, Net worth, Profit etc.)

Consultants are requested to submit the following supporting documents in support of the above-mentioned criteria:

a) Registration documents including brief description of the firm (s);
b) Letter of intent (if applicable);
c) Audited financial reports for last three years;
c) List of relevant experiences
   (i) Should be supported by necessary document, i.e., completion certificate, contract agreement.
   (ii) Also encouraged to submit brief description of nature of job, total cost, total input in terms of man month, employer, location of service, description of service etc.);
f) Document related updated IT, VAT, Updated Trade license etc.;
g) Professional Strength, Support and Logistics Capacity;
h) Staffing and logistics of the firm;
i) Forwarding letter with detail address (i.e., mailing address, telephone, fax, email) and contact person for communication.
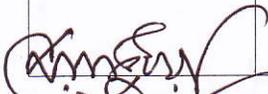
Qualification of the Consulting firm

1. The Consulting firm should have at least 10 (ten) years of working experience in the field of ICT Solutions in Bangladesh.
2. Experience on at least three similar projects for development and maintenance support services with training to end user. The project should be currently running and operating at least for 3 (three) years.
3. Should have record of working for project not less than 5 million Taka in a single Government software development project preferable under the ministry of education in last 3 (three years).
4. Should have record of working experience in geographic information system (GIS) and map visualization system
5. Experience of developing application software and/or mobile application for 10,000+ user environment.
6. The consultant firm should have experience on SMS gateway integration with web-based application.
7. The consultant firm should have minimum valid CMMI Level 3 Certification.
8. The bidder should have at least one web based application system handling large volume of data (at least 10GB on live system).
9. The firm should have membership of BASIS.
10. Firms having similar project experience with donor agencies (WB/ADB/WHO/UNDP or similar) will be given preference.
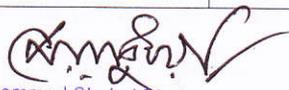
Expected staff composition and qualifications of the bidding firm/organization

Designation	Quantity	Key Qualification
Technical project manager	01	i. Minimum master degree in Computer Science/Engineering/MBA from any reputed University. ii. Must be graduated in computer science/ICT/CSE from any reputed university. iii. Should have minimum 10 years of general experience in ICT sector. iv. Should have minimum 3 years of experience in managing software development projects. Experience in education sector will be preferable. v. Must have minimum 5 ICT enabled software project management experience in the field of software project manager / team lead / system analyst / software architect. vi. Communication skills including excellent presentation skill will be added advantage, expertise in office tools also required.
Sr. system analyst	01	i. Minimum master degree in Computer Science/Engineering/MBA from any reputed University. ii. Must be graduated in computer science/ICT/CSE from any reputed university of Bangladesh. iii. Should have minimum 10 years of profound experience in the field of System analysis and design for ICT based application and Software Development project. iv. Must have experience in software development project in the field of system analysis and/or software architecture design. v. Experience in LMS / e-Learning / e-Government application (for analysis/design/planning) project is preferable. vi. Should have necessary communication skills and expertise in office tools.
System analyst	01	i. Must be graduated in computer science/ICT/CSE from any reputed university of Bangladesh. ii. Should have minimum 5 years of profound experience in the field of System analysis and design for ICT based application and Software Development project. iii. Must have experience in software development project in the field of system analysis and/or software architecture design.
Sr. software engineer	01	i. Minimum graduate in computer science/CSE from any reputed University. ii. Should have minimum 6 years of profound experience in the field of web-based software programming / coding / scripting for Software development or ICT based application. Experience in e-Government application/ Digital Service application (as developer) will be considered as a preferred skill and expertise. iii. Must have ICT enabled application or software or applications projects experience the field of web-based software programming/coding/scripting as a core development team member. iv. Experience in LMS / e-Learning / e-Government application / Digital Service application project is preferable

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		v.	Should have necessary communication skills and expertise in office tools.
Software engineer	02	i.	Minimum graduate in computer science/CSE from any reputed University.
		ii.	Should have minimum 3 years of profound experience in the field of web-based software programming / coding / scripting for Software development or ICT based application. Experience in e-Government application/ Digital Service application (as developer) will be considered as a preferred skill and expertise.
		iii.	Must have ICT enabled application or software or applications projects experience the field of web-based software programming/coding/scripting as a core development team member.
UI/UX expert	01	i.	Minimum graduate in Computer Science and Engineering/ICT or any relevant subject from any University.
		ii.	Should have minimum 5 years of profound experience in the field of user interface design.
		iii.	Experience in project for the LMS / e-Learning Platform / e-Governance application Project is preferable.
		iv.	Proof of necessary experience has to be submitted.
		v.	Should have necessary communication skills and expertise in office tools.
Sr. QA engineer	01	i.	Minimum graduate in Computer Science and Engineering/ICT or any relevant subject from any University.
		ii.	Should have minimum 5 years of profound experience in the field of softwareQuality assurance in web-based application or Software development.
		iii.	Experience in project for the LMS / e-Learning Platform / e-Governance application Project is preferable.
QA engineer	01	i.	Minimum graduate in Computer Science and Engineering/ICT or any relevant subject from any University.
		ii.	Should have minimum 2 years of profound experience in the field of softwareQuality assurance in web-based application or Software development.
Deployment expert	01	i.	Minimum graduate in Computer Science and Engineering/ICT from any reputed University.
		ii.	Should have minimum 4 years of experience in the field of system Deployment installation, configuration, should have experience on large scale data backup and user management system or equivalent.
		iii.	Must have ICT enabled application or software project experience in the field of System administration.
		iv.	Experience in project for the LMS / e-Learning Platform / e-Governance application Project is preferable.
		v.	Should have necessary communication skills and expertise in office tools.
Database specialist	01	i.	Minimum graduate in computer science/ICT/CSE from any University.
		ii.	Must have (DBA) Certification in the field of database administrator or database management.

		iii.	Should have minimum 5 years of profound experience in the field of database design, data normalization, data analysis, database management and administration for ICT based applications or Software project. Experience in e-Government application / Digital Service application (For Database design, administration and planning) with the Govt. database related experience will be considered as a preferred skill and expertise.
		iv.	Must have experience in ICT enabled application or software or applications projects experience in the field of Database related skills.
		v.	Experience in the e-Government application /Digital Service application (For database design and planning) project is preferable.
		vi.	Should have necessary communication skills and expertise in office tools.

The expected firm should provide 01 support maintenance engineer after completion of the work for next 12 months.

Duration of the Assignment

The assignment is planned to take place from 30 August 2022 to 30 November 2022. However, this contract will go into effect from the date of signing the agreement by both parties and it will be continued till to finish.
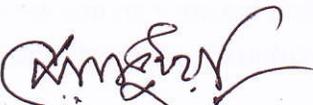
Payment

UCEP will deduct applicable amount of VAT and income TAX as per the rules of GoB and will be deposited to treasury of GoB.

The payment will be done according to the following time frame/arrangement:

Instalments	Amount	Timeline
1st instalment	20% of the total amount	Within five (5) working days of the agreement
2nd instalment	40% of the total amount	After completion of app development, orient the relevant staffs and after hand over the website along with guideline both in English and Bangla.
Final payment	40% of the total amount	After one year of support and maintenance.

Note: 10% security money will be deducted from the total bill and it will be refunded after 02 years upon successfully operationalized of the software.

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Manager-Monitoring & Evaluation

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Other Expenses:

No other expenses will be provided. If the team needs to move at field for providing any orientation or technical assistance, UCEP will bear all cost related to these services.

Confidentiality

The output produced by this assignment will be treated as UCEP property and consequently confidential. So, the above-mentioned output used or reproduced not permitted in any manner by the assigned organization / individual without prior permission from UCEP.

Key contacts and report:

Respective Deputy Director-P&I, M&E manager and IT manager of UCEP will be the contact person on behalf of UCEP.

Supervision:

Firm/team will work under the supervision of technical team of UCEP.
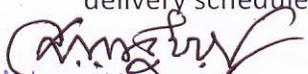
Copyright and ownership of data:

UCEP reserves the copyright of all information, findings and the final report produced through this review process. Software codes, Databases and documents need to transfer to UCEP Bangladesh. Copyright of the web-based app shall lie with UCEP Bangladesh, but UCEP Bangladesh will not be responsible for piracy and other types of copyright and patent issues regarding design, template, etcetera.

Confidentiality

All the outputs e.g. reports, documents, information etc. produced during this assessment will be treated as the property of UCEP. So, the above-mentioned outputs or any part of it cannot be sold, used, or reproduced in any manner by the assigned evaluator/team without prior permission from UCEP.

Other terms and conditions

1. Assignment will not be sub-contracted to anyone.
2. If, additional time is required to complete the contract, over and above that previously agreed to, without changing the scope of work, then it has to be agreed by UCEP in writing.
3. In case of any change made, in the scope of work by UCEP Bangladesh because an increase or decrease in the cost or time under the contract, equitable adjustment in the contract price, delivery schedule, or both will be amended in writing.
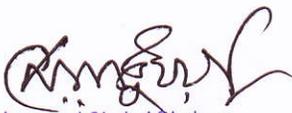
4. The expected consulting team/individual is expected to sign and abide by UCEP Bangladesh values and compliance statement and key policies (including Anti-Sexual Harassment Policy, Child Protection Policy etc.).
5. The bidder shall mention server systems costs for web-based apps.
6. The bidder shall mention the subscription cost [should be mentioned monthly or yearly basis] for any system/sub-system/add-ons (if using any) for the web-based app.
7. The bidder shall mention the Detailed Service Level Agreement (SLA)/ Annual Maintenance Cost (AMC), including deliverables and cost [should be mentioned monthly or yearly basis] to continue the system for at least five years. SLA/AMC would be extended upon getting a satisfactory report from UCEP Bangladesh management.

Expiry of agreement and negotiable flexibility

Considering the initiative as proactive and responsive, activities can be amended and elaborated based on the properly documented negotiation between the two parties. The Agreement will be invalidated after expiry of duration unless further extension is made by UCEP Bangladesh. UCEP Bangladesh also reserves the right to amend or change or cancel the Agreement at any time.
For any clarifications, please write to Executive Director, UCEP, Bangladesh.

Application process

Apply with technical and financial proposal in separate envelop in the tender box located at 1st floor UCEP Head office, plot-2&3, Mirpur-2, Dhaka-1216. (Please submit your proposal on or before 21st August 2022). For details please browse: http://tender.ucepbd.org or contact with Mr. Mahmud Hassan Talukdar, Manager, Monitoring and Evaluation, Cell: 01755649833, UCEP Bangladesh.

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