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Request for Quote for an Online Test Infrastructure

1   Requirement

The office of laboratory safety and environmental heath (OLSEH), Indian Institute of Science wants to create an online portal where institute members can take a safety test. The test will be hosted online a continuous basis, i.e. students should be able to attempt the test 24x7. This tender is to identify a vendor who can help us implement the test. The scope includes:

1. Infrastructure and manpower to host the website where the questions are hosted. The infrastructure to maintain both the front-end and back-end.
2. Manpower to populate the question bank and update it on the directions of OLSEH, as when required. During the initial settling in period, several changes/edits may be required. However, after the system is setup, we don't expect the content to change more than once a month.
3. The front-end/back-end of the website.
4. This tender is for 1 year of service, which can optionally extend to 3 years.

1.1   Content of the Test

The scope does not include content. The content of the test (i.e. questions) will be provided by OLSEH. Just for information, description of the test content is being provided here. The test will have 7 modules, each module will generate a separate "safety certificate". The module on general safety will be mandatory for all the users. Specialist modules will be optional, to be taken by members if their work demands it. Each certificate will have a finite validity (typically 1 year), after which the test must be taken again. The modules are:

1. General safety: Mandatory for all institute members. Expect 10000 unique test-takers. Passing generates a safety certificate that is valid for 365 days starting from the date of the test. 50 questions to be randomly selected from a bank of 150 questions.
2. Chemical Safety: Optional specialist module that will be accessed by upto 6000 unique test-takers. Passing generates a safety certificate that is valid for 365 days starting from the date of the test. 25 random questions in each test to be randomly selected form a bank of 75 questions.
3. Gas Safety: Optional specialist module that will be accessed by upto 3000 unique test-takers. Passing generates a safety certificate that is valid for 365 days starting from the date of the test 25 random questions in each test to be randomly selected form a bank of 75 questions.
4. Radioactive Safety: Optional specialist module that will be accessed by upto 1000 unique test-takers. Passing generates a safety certificate that is valid for 365 days starting from the

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Page 1 of 4

date of the test. 10 random questions in each test to be randomly selected form a bank of 25 questions.

5. Laser Safety: Optional specialist module that will be accessed by upto 3000 unique test-takers.. Passing generates a safety certificate that is valid for 365 days starting from the date of the test. 25 random questions in each test to be randomly selected form a bank of 75 questions.

6. Bio Safety: Optional specialist module that will be accessed by upto 3000 unique test-takers. Passing generates a safety certificate that is valid for 365 days starting from the date of the test. 25 random questions in each test to be randomly selected form a bank of 75 questions.

7. Electrical Safety: Optional specialist module that will be accessed by upto 3000 unique test-takers. Passing generates a safety certificate that is valid for 365 days starting from the date of the test. 25 random questions in each test to be randomly selected form a bank of 75 questions.

1.2   Technical Features

Mandatory features that the online test must satisfy are:

1. The system should be built on a dedicated "test" engine that runs on the backend. The engine must be fully operational for the last 3 years. The engine must be continuously maintained with regular bugfixes.

2. The front-end should have 3 levels of access, preferably using an LDAP server, to grant access to test takers (minimal access), test administrators (moderate access), and OLSEH (highest level of access).

3. Informs the test-taker: a) whether they have passed the test or not, b) the score, and c) the validity of the safety certificate. This information must be send to their email.

4. A database of all the test-takers who have taken the exam, scores, list of valid safety certificates, dates, etc. to be available online for test-administrator and OLSEH to access. The data base should be downloadable.

5. Some authentication to ensures the database is secure. We prefer a LDAP based system.

6. If the user fails the test, the test can be taken again, but no more than 2 times/month.

7. Some features that prevent or detect cheating should be integrated in the test engine. For e.g. the test should be timed; should not allow context switching or googling; should be immune to bots; etc.

8. The vendor should be qualified as per the requirements listed in "Vendor Qualification."

1.3   Vendor Qualification

1. Vendor must show proof of the developed test engine. The features of the engine must be highlighted.

2. The test engine must have a track record of hosting and conducting tests with experience of conducting 1 million tests.

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Page 2 of 4

3. Vendor should demonstrate ability to design a good front end. Examples of previously hosted or designed websites must be presented. Websites must be specifically designed to host online tests.
4. The vendor should provide proof of being in business for 5 years of more.
5. To demonstrate financial health, the vendors should have an annual turnover of 1 Cr or more. The vendor should be profitable.
6. The vendor should provide atleast 5 references of clients who have accessed similar services. The clients can be corporates or universities which have conducted >10000 assessments using the vendor's test engine.
7. The vendor must demonstrate the capability to maintain the front and back-end needed for this tender. This can be done by listing out the resources at disposal, e.g. manpower, servers, etc.
8. Vendor should have national presence with a head-office in India. A local contact in Bangalore is required.

1.4 Other information

Some information about IISc, which might help:

1. IISc user population: Steady-state ~5000. The actual number keep changing because a large portion of users are short-term: interns, project staff, post-docs, etc. Given the turn-over, plan for 10000 unique users who can access the online test in a year. Each user might need multiple attempts to pass a module.
2. Payment: Via six-monthly invoice.
3. IISc uses Microsoft Azure cloud platform (domain: iisc.ac.in). The LDAP server can be used to access control the website.

2 Tender Procedure

1. Vendors will be required to submit a technical proposal and a commercial proposal in **two separate sealed envelopes**. Only vendors who meet the technical requirement will be considered for the commercial negotiation.
2. **The deadline for submission of proposals is the 10th of December 2019, 5:30 pm Indian Standard Time.** Hardcopy of the proposals should arrive at the OLSEH office, Old Digit building Room No-25, Near Choksi Hall, Indian Institute of Science, Bangalore 560012, India, by the above deadline.
3. The decision of purchase committee will be final.
4. The technical proposal should contain a compliance table with 5 columns. The first column must list the technical requirements, as listed in 1.2, and vendor qualification, as listed in 1.3. The second column should describe your compliance in a "Yes" or "No" response. If "No" the third column should provide the extent of the deviation (please provide quantitative responses). The fourth column should state the reasons for the deviation, if any. The fourth column can be used to provide context, compare your offering with that of your competitors or provide more details.
5. Any additional capabilities or technical details, that you would like to bring to the attention of the purchase committee, can be listed at the end of the technical table.

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Page 3 of 4

6. Vendors are encouraged to highlight the advantages of their assessment engine over comparable tools from the competitors.
7. As an option, please provide itemized cost for any *suggested* add-ons that may enhance the usability, capability, accuracy or reliability of the website. Vendors are encouraged to quote for as many add-ons as their portfolio permits.
8. In the commercial bid, please provide an **itemized cost of the service for 1 year**. Taxes and optional features to be listed separately. The quotes should be CIF Bangalore, India.
9. Please provide a cost to optionally extend the service by another 2 years (3 years total).
10. For immediate questions/clarifications contact Dr. Sushobhan Avasthi, TF-06, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India. (savasthi@iisc.ac.in). Copy the email to the OLSEH office (safety@iisc.ac.in)

Thanks,

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Page 4 of 4