

Terms of Reference (ToR)

For:

**Development of a Learning Management System
(LMS) for Cybersecurity Training & Certification**

Issued by:

National Cyber Security Agency (NCSA)

FAP/23

1. Background

The National Cyber Security Agency (NCSA) is mandated to enhance Bangladesh's cyber resilience across government, industry, and critical infrastructure. To achieve this, NCSA requires a modern and scalable Learning Management System (LMS) that can standardize training, improve skills development, and certify officials and professionals in cybersecurity.

The LMS will serve as a centralized digital platform to manage training content, deliver courses, conduct proctored certification exams, and foster collaboration. It must also incorporate Bangla-language support, AI-enabled learner assistance, and interactive features such as live classes and peer-to-peer engagement.

2. Objectives

The main objectives of this LMS initiative are to:

- **Deploy a secure and scalable LMS platform** with full NCSA branding to ensure trust, reliability, and long-term sustainability.
- **Support bilingual content management and delivery** of cybersecurity training modules in both Bangla and English.
- **Establish structured certification pathways** at multiple levels (Awareness, Practitioner, Auditor/Advanced) to standardise skills recognition.
- **Integrate assessment mechanisms** including mock exams, AI-generated practice questions, and proctored certification exams with automated grading.
- **Provide live class and blended learning capabilities** to support diverse training formats.
- **Enable feedback collection and analytics** to measure learning effectiveness and drive continuous improvement.
- **Incorporate an AI-powered chatbot** to guide learners, address FAQs, and provide personalised learning support.
- **Foster a collaborative learning community** for peer-to-peer knowledge sharing, discussion, and professional networking.

- **Leverage AI for content enhancement** by supporting automatic generation, refinement, and preparation of training materials with manual verification to ensure quality.
- **Develop a Master Trainer database** by tracking performance through online practice classes and certification exams.
- **Evaluate trainer performance** through participant surveys to ensure high-quality instruction and continuous improvement.
- **Develop scalable comprehensive trainee management system**

3. Scope of Services

According to ToR/SRS (May be discussed between NCSA and selected firm for more clarification) the selected firm will be responsible for:

System Setup & Customization

- Deploying LMS in a secure cloud or on-premises environment.
- Customizing platform with NCSA branding and accessibility standards.
- Role-based access control for learners, trainers, administrators, and examiners.

Content Management & Delivery

- Upload, organise, and manage cybersecurity training and other contents.
- Supporting multiple content formats (PDF, PPT, video, SCORM).
- Deliver content bilingually in Bangla and English.

Course & Certification Management

- Create structured training pathways aligned with certification levels.
- Configure mock exams, practice assessments, and certification exams.
- Implement proctored exam features, including webcam monitoring, secure browser enforcement, and AI-based supervision.
- Generate digital certificates with QR-code verification for authenticity.

Interactive Features

- Live class functionality with video streaming, chat, and digital whiteboard support.

FA/10/28

- Collect learner feedback through post-training surveys and trainer evaluations.
- Integrate an AI-powered chatbot to provide learner support and answer FAQs.
- Social community features (discussion forums, peer-to-peer interaction).

Analytics & Reporting

- Real-time dashboards for monitoring learner progress, exam performance, feedback.
- Generate exportable reports in CSV and PDF formats.
- Admin analytics for system monitoring and decision-making.

AI-Powered Services

- Automate content creation, refinement, and preparation for new practice courses.
- Generate automated mock questions and practice exams tailored to each course.
- Personalised learning recommendations based on learners' progress and skill gaps.

4. Deliverables

- Fully functional LMS instance customized for NCSA.
- Basic IT Skills and Cybersecurity training content uploaded and organized.
- Certification exam workflow with proctoring activated.
- Training Management System linked to Job Portal
- An AI chatbot integrated into the learner dashboard.
- Live class module tested.
- The trainee feedback system is functional.
- Social learning community feature enabled.
- Final deployment report with recommendations.

5. Duration

The LMS must be developed, deployed, and piloted within twelve (12) months from contract signing.

6. Eligibility of the Firm

- Minimum 7 years of experience in ICT, e-learning, or LMS development.

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- Demonstrated experience in government or enterprise training platforms.
- At least three successfully completed LMS or e-learning projects with certification/exam modules.
- Team of qualified experts, including LMS developers, instructional designers, cybersecurity trainers, and UI/UX specialists.

7. Key Personnel Requirements

- **Project Manager:** Should possess a strong academic background, preferably in CSE, with proven expertise in instructional design and digital learning systems. A Ph.D. in CSE or a related discipline will be considered a significant advantage. The Project Manager must have a solid understanding of **online education pedagogy** and be capable of designing and structuring **progressive learning pathways**—ranging from basic cybersecurity awareness to advanced auditing, for example. Additionally, he/she should ensure that the LMS content and instructional strategies are fully aligned with **NCSA’s training and certification objectives**.
- **LMS Specialist:** Experience in deploying, configuring, and customizing enterprise-grade LMS platforms.
- **Certification & Exam Expert:** Expertise in digital examination systems, proctored exam solutions, and certification workflows.
- **Content Developer (Bangla/English):** Skilled in preparing, digitizing, and localizing cybersecurity training materials for both Bangla and English audiences.
- **AI/Chatbot Engineer:** Proven experience in integrating conversational AI for learner support within LMS environments. Experience with RAG and AI Agents is preferred.
- **Community & UX Specialist:** Expertise in designing learner-centric interfaces and developing social learning communities to foster peer-to-peer engagement.

8. Technical Requirements

The LMS must include:

- Secure deployment (cloud/on-prem).
- User authentication (SSO with govt. ID desirable).
- Multi-format content support.
- Mock exam + proctored exam functionality.

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- Digital certificates with secure verification.
- AI chatbot integrated.
- Live class module.
- Trainee feedback tools.
- Social learning community features.
- Mobile-responsive design.
- Admin analytics dashboard.

9. Reporting & Coordination

The firm will report to the **Director (Admin)**, NCSA, and coordinate with NCSA's technical and training divisions.

10. Budget

The estimated budget for the development, deployment, and piloting of the Learning Management System has to be quoted. The financial proposal submitted by the firm should provide a detailed cost breakdown.

11. Proposal Submission

Interested firms are invited to submit a proposal that includes:

- Understanding of NCSA's needs and proposed methodology.
- Workplan and timeline for a **12-month implementation**.
- Profiles of key personnel.
- Organizational track record in LMS/e-learning.
- Budget and financial proposal.

Proposals must be submitted in sealed form, addressed to:

Director (Admin)

National Cyber Security Agency (NCSA)

ICT Tower, Level-12, Agargaon, Dhaka.


Farzana Afroz
Director (Admin)
National Cyber Security Agency

