
Project Title: AI-Driven Course Material Generation Platform

1. Background

In alignment with Bangladesh's Vision 2041 and the Sustainable Development Goal 4 (SDG-4) — "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" — the Ministry of Education (MoE), in partnership with the a2i programme under the ICT Division, is launching a national initiative to transform the education landscape through AI-powered solutions.

This initiative aims to develop a secure, intelligent, and multilingual platform that can automatically generate and personalize educational content aligned with the national curriculum. The platform will be accessible via a web portal, as well as dedicated mobile applications for iOS and Android, with a focus on reaching underserved and rural communities across the country.

2. Objective

To design, develop, and sustain a secure, scalable, and intelligent digital ecosystem capable of:

- Generating AI-based, curriculum-aligned educational content.
- Delivering personalized learning experiences based on student profiles.
- Ensuring accessibility via a responsive web portal and mobile applications for iOS and Android.

The project duration is 30 months, encompassing design, development, pilot implementation, national rollout, and maintenance.

3. Scope of Work

Core Modules

AI Content Generation Engine

- Automated creation of curriculum-aligned texts, questions, summaries, visuals, and quizzes.
- Personalization by grade level, subject, language preference, and learner capability.

Web Platform

- Teacher and admin dashboards.
- Content review and approval workflows.
- Integrated analytics for user engagement and platform performance.

Mobile Applications (iOS & Android)

- Student-centric interfaces with offline accessibility.
- Parental communication and monitoring tools.

Additional Components

- Full multilingual support with Bangla as a mandatory language.
- Smart tagging for curriculum content and advanced search features.
- Seamless integration with NCTB and national education MIS databases.
- Real-time push notifications and updates.
- Secure authentication via National ID/Smart Education ID.
- Accessibility features for students with disabilities (e.g., screen readers, font scaling).

4. Deliverables & Timeline

#	Deliverable	Timeline
1	Inception Report & Work Plan	Month 1
2	Curriculum Mapping & AI Architecture	Month 4
3	AI Engine (Text & Question Generation)	Month 9
4	Web Portal Alpha (Admin + Reviewer)	Month 12
5	iOS & Android App Beta	Month 15
6	Platform Integration & Security Audit	Month 18
7	National Pilot Implementation	Months 19–24
8	Final Deployment & Go-Live	Month 25
9	Capacity Building & Documentation	Months 26–28
10	Maintenance & Optimization Phase	Months 29–30

5. Required Team Composition

Mandatory Role: Lead iOS Developer

- Minimum 10 years of experience in iOS development.
- Proficiency in Swift, SwiftUI, and CoreML.
- Proven track record with at least three high-impact AI or education-related apps.

Other Key Personnel

- **AI/ML Engineer** – Expertise in NLP and generative models.
- **Android Developer** – Skilled in Kotlin/Java and offline-first architecture.
- **Full-stack Web Developer** – Experience in React and Node.js or PHP.
- **DevOps Engineer** – CI/CD, security, and cloud deployment proficiency.
- **UI/UX Designer** – Accessibility and Bangla typography expertise.

- **QA Specialist** – Manual and automated testing.
- **Educational Content Specialist** – Curriculum alignment expertise.
- **Project Manager** – Agile and public sector project management experience.

Note: All team CVs and reference projects must be submitted at the Expression of Interest (EOI) stage. Substitution of key personnel requires written approval from MoE.

6. Project Timeline & Phases

Phase	Duration	Activities
Planning & Research	0–4 months	Requirement gathering, curriculum analysis, AI design
Core Development	5–18 months	AI engine development, platform build, feature implementation
Pilot & Testing	19–24 months	Field trials, stakeholder engagement, performance evaluation
National Deployment	25–26 months	Full-scale rollout, user onboarding, training
Maintenance	27–30 months	System optimization, technical support, reporting

7. Budget & Payment Structure

Payments will be milestone-based and subject to verification by the Ministry's steering committee:

Milestone	Payment (%)
Inception & Planning Completion	10%
AI Engine Delivery	15%
Platform Alpha (Web + Mobile)	20%

Final Deployment	25%
Training & Documentation	10%
Maintenance & Reporting	20%

8. Evaluation Criteria

Evaluation Metric	Weight
Technical Expertise & Track Record	30%
Team Qualifications & Experience	25%
Project Methodology & Risk Plan	25%
Financial Proposal	20%

Important: Proposals lacking a Lead iOS Developer with the required 10-year experience will be automatically disqualified.

9. Risk Mitigation & Governance

- **Data Security:** End-to-end encryption, audit trails, and version control.
- **Content Accuracy:** Expert validation to ensure curriculum compliance.
- **Connectivity Challenges:** Offline modes and bandwidth-optimized content.
- **Ethical AI Use:** Transparent model training with explainable outputs.

The project will be monitored by a governance board comprising MoE, NCTB, a2i, and the Directorate of Primary Education, with regular milestone reviews.

10. Sustainability & Localization

- Full government ownership of source code, AI models, and intellectual property.

- Partnerships with local firms for long-term updates and support.
 - Capacity-building initiatives for NCTB content managers and education officers.
 - Bilingual documentation (Bangla and English).
 - Deployment on cloud infrastructure based in Bangladesh, where feasible.
-

11. Legal & Intellectual Property Rights

All project outputs—including source code, AI models, content generation logic, UI/UX assets, and databases—will be the exclusive property of the Government of Bangladesh.

Vendors must sign a Non-Disclosure Agreement (NDA) and adhere to strict data confidentiality protocols. Reuse or redistribution of any part of the system without written permission from the Ministry is strictly prohibited.