Capstone Project Proposal Submission
On

LearnIt: An Exclusive Learning Platform

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Abstract:

LearnIt is a web-based educational platform that helps students learn better by understanding their unique learning styles, based on Howard Gardner's Multiple Ways of Teaching and Learning (MWTL). It's designed for primary and secondary students in Bangladesh. LearnIt will collect data to figure out how each student learns best and then provide content that matches those styles. Features like real-time query support, personalized content recommendations, and gamified learning make learning more fun and engaging.

Literature Review:

The idea of personalized learning has been explored by many educational platforms. Below is a comparison of key projects and how LearnIt stands out:

Project	Features	Limitations	LearnIt's Benefits
Khan Academy	Videos, quizzes, progress tracking	Doesn't focus on learning styles	Matches content to individual learning styles
Edmodo	Social learning, assignments	Limited adaptive content	AI-driven learning style classification
Duolingo	Language learning, gamification	Only for language learning	Covers a broader range of subjects
Coursera	Wide variety of courses	Primarily for higher education	Tailored for school students in Bangladesh
BYJU's	Interactive content, quizzes	Expensive, limited rural access	Affordable and accessible for all regions

Objectives:

- Identifying Learning Styles: Using algorithms to understand how each student learns best—whether visually, through listening, hands-on, or otherwise.
- Tailor Content: Provide content in the format that works best for each student.
- Gamifying Learning: Adding points, badges, and leaderboards to make learning more motivating.
- Instant Query Support: Allow students to ask questions and get immediate help from teachers or chatbots.
- Personalized Paths: Continuously adjust learning recommendations as students progress.

Methodology:

1. **Data Collection:**

   - Students will fill out quizzes and surveys to show their learning preferences.
   - The platform will track how students interact with different types of content.
   - Past performance data will be used to improve learning style predictions.

2. **Learning Style Classification:**

   - Machine learning algorithms will analyze collected data to classify students by their preferred learning style.
   - AI models will get better over time with more data and feedback.

3. **Content Development:**

   - Multiple types of content (videos, audio, interactive diagrams, etc.) will be created to suit different learning styles.
   - Content will be culturally relevant and based on the local curriculum.

4. **Personalization:**

   - Learning paths will be adjusted based on each student's progress and engagement.
   - The system will recommend materials that target areas where students need the most help.

5. **Feedback and Continuous Improvement:**

   - Students can give feedback on the content and how well it helps them learn.
   - Regular analysis of student performance will guide content improvements and adjustments.

Implementation Process:

Planning and Research:

   - Talking to students and teachers to understand their needs.
   - Studying other educational platforms to identify best practices.

Design and Prototyping:

   - Creating simple visual designs and mockups of the platform.
   - Building a database to store student data and learning materials.

Core Development:

   - Developing the learning style assessment feature using machine learning.
   - Creating a content management system for uploading and managing materials.

Personalization and Messaging:

   - Building an AI-based recommendation system to personalize content.
   - Adding a messaging feature so students can ask questions at any time.

Gamification Integration:

   - Developing fun features like badges and points to encourage learning.

Testing and Optimization:

   - Testing the platform with real students to ensure it works smoothly.
   - Fine-tuning the platform to improve speed and learning style accuracy.

Deployment and Launch:

- Launching the platform on cloud servers.
- Providing training sessions to help students and teachers use the platform.

Technology Stack:

- Frontend Development: HTML, CSS, JavaScript
- Backend Development: JavaScript
- Database Management: MySQL
- Machine Learning: Python
- Cloud Hosting: Github

Future Scope:

- AI Enhancements: Making learning style predictions even more accurate.
- Content Expansion: Adding more subjects and content formats.
- Mobile App: Creating a mobile version of LearnIt for easier access.
- Parental Features: Adding options for parents to monitor and support their child's learning.

Conclusion:

LearnIt is here to transform the way students in Bangladesh experience learning. By focusing on what makes each student unique and how they learn best, LearnIt will provide personalized content and support to make education more engaging and effective. With the help of technology and educational research, LearnIt will break down barriers and make learning accessible to all. It's not just about improving academic performance—it's about helping students develop a deeper love for learning and giving them the tools they need to succeed. Ultimately, LearnIt will contribute to a brighter, more inclusive future for education in Bangladesh.

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