**FUNCTIONAL AND NON FUNCTIONAL REQUIREMENTS DOCUMENT**

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**Project Name:** Digital Learning Platform

**FUNCTIONAL REQUIREMENTS**

**1. Introduction**

This document outlines the functional and non-functional requirements for the Educational Platform Enhancement project, aimed at improving the digital learning experience for both students and teachers through enhanced features and tools.

**2. Functional Requirements**

**2.1 Assignment Management**

**Requirement:** Teachers must be able to manage assignments directly on the platform.

**Details:**

- Upload Assignments: Teachers can upload assignments directly to the platform, simplifying the task distribution process.

- Set Deadlines: Teachers can assign due dates to ensure students are aware of deadlines.

**2.2 Result Metrics**

**Requirement:** Students should have access to a visual overview of their performance.

**Details:**

- Score Visualization: Display student scores for individual assignments using a bar graph for easy comparison.

- Course-Specific Analysis: Allow students to view detailed performance metrics within specific courses, helping them track their progress effectively.

**2.3 Resource Support**

Requirement: The platform must provide comprehensive resource support for students.

Details:

- Upload Study Materials: Teachers can upload lecture notes, reading lists, and supplementary content directly to the platform.

- Enhanced Learning: Resources are curated to support and enhance the learning experience, ensuring students have all necessary materials.

**2.4 News Section**

Requirement\*\*: A section for updates and announcements is required.

\*\*Details\*\*:

- \*\*Announcements\*\*: Provide a centralized area for news, updates, and announcements relevant to students and teachers.

#### \*\*2.5 AI Tutor\*\*

\*\*Requirement\*\*: Implement an AI tutor to assist students with their queries.

\*\*Details\*\*:

- \*\*Interactive Query Resolution\*\*: The AI tutor allows students to ask questions and receive immediate responses, improving understanding and clarity.

- \*\*Enhanced Engagement\*\*: Facilitates interactive learning by allowing students to freely engage and ask questions they might hesitate to ask in a traditional setting.

#### \*\*2.6 Professor Resources\*\*

\*\*Requirement\*\*: Provide a dedicated space for professors to manage their resources and materials.

\*\*Details\*\*:

- \*\*Resource Management\*\*: Professors can upload, update, and manage course materials and resources efficiently.

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### \*\*3. Non-Functional Requirements\*\*

#### \*\*3.1 Usability\*\*

\*\*Requirement\*\*: The platform must be user-friendly and intuitive for all users.

\*\*Details\*\*:

- \*\*Intuitive Interface\*\*: Designed for ease of use, ensuring both tech-savvy and non-tech-savvy users can navigate effortlessly.

- \*\*Cross-Platform Accessibility\*\*: Optimized for use on both desktop and mobile devices, ensuring accessibility from anywhere.

#### \*\*3.2 Performance\*\*

\*\*Requirement\*\*: The platform must perform efficiently under all conditions.

\*\*Details\*\*:

- \*\*High Responsiveness\*\*: Quick loading times and smooth interactions, even with high user volumes.

- \*\*Peak Load Management\*\*: Ensures stability and speed during peak usage times, such as assignment deadlines.

#### \*\*3.3 Reliability\*\*

\*\*Requirement\*\*: The platform should ensure maximum uptime and dependability.

\*\*Details\*\*:

- \*\*High Availability\*\*: Robust infrastructure to minimize downtime, particularly during critical academic periods.

- \*\*Dependable Operation\*\*: Continuous availability supports trust in the platform for important academic tasks.

#### \*\*3.4 Scalability\*\*

\*\*Requirement\*\*: The platform must be scalable to accommodate growth.

\*\*Details\*\*:

- \*\*Support for Growth\*\*: Capable of handling an increasing number of users, resources, and data without degradation in performance.

- \*\*Flexible Architecture\*\*: Supports both horizontal and vertical scaling to adapt to changing demands.

#### \*\*3.5 Interoperability\*\*

\*\*Requirement\*\*: The platform must integrate seamlessly with other systems.

\*\*Details\*\*:

- \*\*Cross-Platform Compatibility\*\*: Ensures compatibility with various operating systems, browsers, and devices.

- \*\*Multilingual Support\*\*: Offers multiple language options to cater to a diverse user base.

- \*\*Integration Capabilities\*\*: Facilitates easy integration with other educational tools and platforms for a connected learning experience.

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### \*\*4. Tech Stack\*\*

\*\*1. Front End\*\*

- HTML

- CSS

- JavaScript

- TypeScript

- Angular

\*\*2. Back End\*\*

- Java

- Spring Boot

\*\*3. Database\*\*

- MySQL