

**Project Phase II**

**Topic:**

**System Requirements**

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# System Requirements

# Functional Requirements:

1. User Authentication and Authorization:

* Users must be able to create accounts and log in securely.
* Teachers should be able to create and manage classes.
* Students must be able to join classes and access learning materials.

## 2. Personalized Learning Paths:

* The system shall provide tools for teachers to create personalized learning paths for each student based on their needs and abilities.
* Students should be able to view their learning paths and progress.

## 3. Real-time Feedback:

* Teachers must be able to provide real-time feedback on students' assignments and assessments.
* Students should receive notifications and feedback in a timely manner.

## 4. Collaboration Tools:

* The system shall offer collaborative features, such as discussion boards and group projects.
* Users should be able to interact with each other and teachers through messaging and chat.

## 5. Content Accessibility:

* Learning materials, including documents, videos, and assignments, should be accessible from anywhere with an internet connection.
* Content should be organized and easy to search.

## 6. Assessment and Grading:

* The system must allow teachers to create quizzes and assessments.
* Students should receive automated grades and performance reports.

# Non-Functional Requirements:

## 1. Performance:

* The system must respond to user interactions within 2 seconds.
* It should support a concurrent user load of at least 1000 users.

## 2. Security:

* User data and learning materials must be stored and transmitted securely.
* The system should be resistant to common security threats such as SQL injection and cross-site scripting.

## 3. Scalability:

* The system must be scalable to accommodate future growth.
* It should handle an increasing number of users and courses without a significant drop in performance.

## 4. Reliability:

* The system should have a minimum uptime of 99.9%.
* Regular backups and disaster recovery procedures must be in place.

# Quality Requirements:

## 1. Usability:

* The user interface should be intuitive and user-friendly.
* User training should not take more than 30 minutes for teachers and students.

## 2. Compatibility:

* Learnova should be compatible with modern web browsers (Chrome, Firefox, Safari, and Edge).
* It should work on various devices, including desktops, tablets, and smartphones.

## 3. Maintainability:

* The system should be easy to maintain and update without causing disruptions.
* Code and database changes must be well-documented.

## 4. Compliance:

* The system should comply with relevant education and data protection regulations, such as FERPA and GDPR.
* Accessibility standards (e.g., WCAG) must be followed for inclusive learning.

These requirements provide a comprehensive framework for the development and evaluation of the Learnova learning management system, ensuring that it functions as intended, meets performance expectations, and delivers a high-quality educational experience.