**Problem Definition and Functional Requirements**

**Problem Description**

An Online learning has become a crucial aspect of education, but many systems fail to keep students interested, provide individualized experiences, and successfully assess progress. Owing to a lack of interactive elements, students frequently lose motivation, and educators struggle to evaluate performance and engagement. Furthermore, without a well-structured and user-friendly system, course management can be unpleasant.

**Causes of problem**

Reasons for the Issue Disorganised Learning Approach: Students keep track of assignments and due dates using a variety of platforms, including notebooks, calendar applications, and learning management systems. Lack of Intelligent Study Advice: A lot of students struggle to effectively manage their study time. Absence of Integrated Collaboration Tools: Dispersed communication makes it difficult for students to oversee group tasks. Inadequate Accountability & Tracking: Students are unable to identify areas for improvement in the absence of performance tracking.

**Impact to problem**

Academic Challenges: Poorer marks because of inefficient study techniques and missing deadlines.

Stress and Overwhelm: Students struggle to manage their coursework and feel disorganised.

Decreased Cooperation: Ineffective group project management causes misunderstandings and delays.

Wasted Study Time: Students spend either too much or too little time on subjects when their schedules are not optimised.

**The need for a solution**

To solve these difficulties, the Smart Learning & Productivity Management System (SLPMS) aims to offer a more engaging, customized, and user-friendly learning environment. By including gamification, progress monitoring, and collaboration capabilities, this platform will make learning more engaging and successful for both students and instructors.

**Core Functionalities:**

**User Registration and Authentication -** For secure access, users can sign up using their email or social network accounts. **Course Management System -** Educators may develop, post, and manage courses in a variety of media, such as text, video, audio, and quizzes. **Personalized Learning Paths:** The system proposes courses and resources depending on the user's choices and progress. **Progress Tracking and Analytics -** Dashboards with extensive insights enable both students and teachers to monitor progress and performance. **Gamification and Achievements:** Users may earn badges, levels, and awards to make learning more enjoyable and engaging. **Collaboration and Community Engagement -** Features such as study groups, conversations, and shared successes promote interactive learning. **Mobile Compatibility -** A completely responsive design allows for simple access on all devices.

**Prioritization of Functional Requirements**

| **Priority** | **Feature** | **Justification** |
| --- | --- | --- |
| High | User Registration & Authentication | Essential for user engagement and tracking progress. |
| High | Course Management System | Core functionality for learning content creation and distribution. |
| High | Progress Tracking & Analytics | Helps learners and educators assess performance. |
| High | Gamification & Achievements | Increases motivation and engagement. |
| Medium | Personalized Learning Paths | Enhances the learning experience with tailored recommendations. |
| Medium | Collaboration & Community Engagement | Encourages interactive and social learning. |

**Who Will Benefit from This System the role the user will play in the system**

Students

Make use of the system for teamwork, study schedules, and task management. keeps them organised, enhances their study techniques, and allows them to monitor their progress.

Instructors

Assign homework, monitor students' development, and offer comments. makes tracking student performance and handling assignments easier.

Administrators

Control user accounts, maintain system settings, and guarantee seamless operation. guarantees the system's safe and effective operation.

Academic Advisors

Evaluate students' progress and provide academic assistance. gives pupils information to assist them develop better learning techniques.