**Project Title:**

**Project Description:**

### The **Student Learning Management System (SLMS)** is an online platform designed to simplify course management, student enrolment, content delivery, and academic tracking for educational institutions. The system will serve multiple user roles, including Admins, Instructors, Students, and Customer Support staff, with each role having different privileges and functionalities tailored to their needs. **System Overview:**

The SLMS will consist of the following core features:

* **Admin Panel**: Admins can manage users (students, instructors), create and assign courses, view financial reports, manage customer support, and oversee course performance.
* **Instructor Panel**: Instructors can create courses, upload learning materials (videos, PDFs), create assignments, grade students, and track performance.
* **Student Panel**: Students can browse and enroll in courses, view and download learning materials, submit assignments, track progress, and make payments for courses.
* **Customer Support Panel**: Customer support staff can manage queries raised by students, respond to issues, and escalate unresolved cases to admins.

**Development Environment:**

**Front End:**

**Language:** Python 3

**Package:** Streamlit

**Back End:**

**Language:** Python 3

**Package:** Pymongo

**Database:** MongoDB

**Testing:** Pytest

**Version Control:** Git with GitHub

**Project Management Tools:** Trello

**Initial Planning:**

**Phase 1: Planning & System Design ()**

* Define system requirements, features, and goals.
* Finalize the technology stack and tools.

**Phase 2: Frontend Development ()**

* Develop a login page with full functionality.
* Develop user interfaces for Admin, Instructor, Student, and Customer Support.

**Phase 3: Database Operations ()**

* Database Development Inserting the required data.
* Querying for required fetches for each application of Frontend.

**Phase 4: Backend Development ()**

* Integrating the Database.
* Final User Acceptance Testing and Debugging.

**Phase 5: Testing and Deployment ()**

* Unit Testing by each member of their developed component.
* Integration Testing using PyTest
* Deploy the Database and Streamlit app to Streamlit cloud.

**Gantt Chart**:

| **Phase** | **Start Date** | **End Date** | **Duration** |
| --- | --- | --- | --- |
| Phase 1: Planning & System Design |  |  | 1 week |
| Phase 2: Frontend Development |  |  | 3 weeks |
| Phase 3: Database Operations |  |  | 2 weeks |
| Phase 4: Backend Development |  |  | 3 weeks |
| Phase 5: Testing and Deployment |  |  | 1 week |

**Risk Management:**

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| --- | --- | --- | --- |
| **Risk** | **Monitoring** | **Re-evaluation** | **Contingency Plan** |
| **Development Delays** | Weekly progress updates, task tracking tools, milestone tracking | Bi-weekly sprint reviews, reassessment of resource allocation | Reallocate resources, adjust scope (MVP), buffer time |
| **Integration Issues** | Continuous integration testing, frequent synchronization, API documentation | Frequent testing, end-of-sprint demos | Mock services, API versioning, rollback mechanism |
| **User Acceptance Testing Failure** | User Feedback and Changes accordingly | Mid-project feedback, adjust features based on user reviews | Focus on core functionality, iterate on feedback |
| **External Dependencies** | Monitoring third-party services, SLAs, updates | Reevaluate reliability based on service changes | Backup services, local alternatives |

**Roles in the Project:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Top preference** | **Not my top preference, but happy to help** | **I’d prefer for someone else to take the lead on this role** |
| Project Management Lead |  |  |  |
| Requirements Lead |  |  |  |
| Design Lead |  |  |  |
| Implementation Lead for front end |  |  |  |
| Implementation Lead for back end |  |  |  |
| Configuration Management Lead |  |  |  |
| Testing Lead |  |  |  |
| Documentation Lead |  |  |  |
| Demo and presentation Lead |  |  |  |
| System Administrator Lead |  |  |  |
| Other: |  |  |  |

**Roles in the Report:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Member name** | **Contribution description** | **Overall Contribution (%)** | **Note**  **(if applicable)** |
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