Software Engineering Course S24CS6.401

Project 3 Proposal - Team 23

EduMerge - Where Courses Converge for Your Education Journey!

1. Description of the Use Case

- **Overview of the problem:** All-in-one platform where users can seamlessly explore, purchase and review courses from any field which are conducted by experts in our platform as well as from popular sites such as Udemy, Coursera, Internshala, NPTEL, Leetcode, Youtube etc.

- **Stakeholders affected by this problem:** Our platform focuses on course creators, learners and partner online course platforms such as Udemy, Coursera, Internshala, NPTEL, Leetcode, Youtube etc.

- **Significance of the problem:** Learners often struggle to find the best online course available for a given topic. Our platform solves the problem by uniting all course platforms which enables a learner to explore, learn and review courses all in one place.

2. Key Functionalities

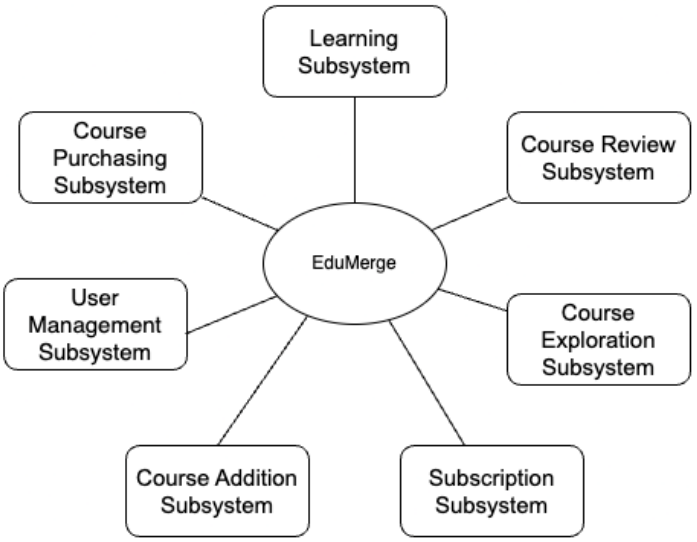
- **Core Features: Subsystems**
  1. Course Addition Subsystem: Course creators can add, update and remove their courses in EduMerge platform
  2. Course Exploration Subsystem: Learners can find, explore and compare courses available in EduMerge as well as partner platforms
  3. Learning Subsystem: Learners can learn from the online courses and earn verifiable certificates.
  4. Course Review Subsystem: Verified learners can add reviews for all their courses.
  5. Course Purchasing Subsystem: Learners can purchase paid courses
  6. Subscription Subsystem: Learners can subscribe to premium features to avail paid courses from different platforms for monthly or yearly subscriptions

- **User Interaction:** The stakeholders can interact with the platform using Web Application

- **Technical Highlights:** Frontend: ReactJs, Server: Python, Database: NoSQL

- **Design Patterns:** Adapter Pattern, Strategy Pattern, Factory Pattern, Singleton Pattern, Facade Pattern, Observer Pattern

- **Subsystems Diagram:**



3. Expected Time to Build a Prototype

- **Research and Planning (4-5 Days):** Research APIs, data collection, and prioritize core features like search, pricing, reviews, and progress tracking.

- **Design (5-6 Days):** Creating a user-friendly interface. Designing system architecture and other necessary details like algorithms, db schemas, etc.

- **Development (14-15 days):** Building the user interface using web development technologies like HTML, CSS, and Javascript frameworks like React. Developing backend modules using Python to connect to APIs of various platforms. Creating functionalities to display course information, ratings and reviews, pricing, etc. Developing a system to track user progress.

- **Testing (2-3 days):** Rigorous testing of all features, especially search, course display, pricing/enrollment options, and progress tracking.

- **Refinement (2-3 days):** Based on testing results and user feedback, identify areas for improvement and iterate on the design and functionalities.

4. Domain - Education

Our project falls within the domain of education, specifically focusing on revolutionizing the way individuals access and engage with online courses. Our platform addresses the challenge of navigating multiple learning platforms by providing a centralized hub for accessing courses from various sources. This streamlines the learning process, making it more accessible and efficient for users. Additionally, our platform fosters community engagement through user reviews and ratings, enhancing the overall learning experience.