Subject:CP3407

JAMES COOK UNIVERSITY
SINGAPORE

Project Plan

Group 10

Subject: CP3407

Professor Name: Dasheng Liu

Content

1.0 Project management

Using git hub to manage this project

Git hub link: https://github.com/cp3407group10/CP3407

group members: Jiahao Song, Jiale Tan

Jiahao Song: build Project Plan, Project description, Project planning and scope, Architectural design, Iteration， Programmer, Project manager

Jiale Tan: Project description, Interface Design, Project development and release ICT infrastructure

2.0 Project description

2.1 Project background and requirements

2.1.1 Project background

With the rise of distance education and network education, traditional classroom learning can no longer meet the needs of students. Therefore, we plan to develop a user-friendly and powerful online learning platform to provide students and teachers with a more convenient and flexible learning and teaching environment. Existing solutions on the market often face the following problems: Complex user interfaces: Many platforms are designed to be complex, not intuitive, and have a poor user experience. Lack of integration: Many platforms can only handle a single function, such as chat or order processing, and cannot provide a comprehensive solution. Data security risks: Some platforms have vulnerabilities in data protection and privacy security, which can easily lead to data leakage

2.1.2 market requirements

When conducting market and ICT technology research, we first conducted a survey and analysis of the online learning market. According to the survey results, the global online learning market is growing rapidly, driven by the demand for distance learning. The online learning market is expected to continue to expand in the coming years.

2.1.3 ICT solutions available

In our market and ICT technology research, we have identified some simple and common technology trends and solutions that are applicable to the development of online learning platforms:

- Cloud computing services: Cloud computing services provided by cloud platforms (such as AWS, Azure, and Google Cloud) can achieve flexible resource management and high availability, reducing infrastructure construction and maintenance costs.

- Open source framework: Use open source frameworks (such as React.js, Vue.js, etc.) to quickly build front-end user interfaces, simplify the development process and improve development efficiency.

- Server-side technology: Use lightweight server-side technology such as Node.js, combined with frameworks such as Express.js, to realize the development of back-end logic and API interfaces, and quickly build scalable server applications.

- Relational database: Use MySQL, PostgreSQL and other relational databases to manage student information, course materials and other data to ensure data consistency and persistence.

- Front-end framework: Use front-end frameworks such as Bootstrap and Materialize to achieve responsive design and mobile compatibility, and provide a good user experience.

- Integrated Development Environment: Use Visual Studio Code, Atom and other integrated development environments to provide code editing, debugging and version control and other functions to simplify the collaboration and management of development teams.

By adopting these simple and proven technologies, we can quickly build a stable and reliable online learning platform to meet the learning and teaching needs of students and teachers.

2.2 Project goals

2.2.1 Goals overview

The overall goal of the project is to develop a fully functional and user-friendly online learning platform that provides a quality learning and teaching experience for students and teachers.

2.2.2 Spcific Goals

Provide a wealth of teaching resources, including video courses, textbooks, quizzes and exercises.
Support online discussion and interaction to facilitate communication and collaboration among students.
Provide a personalized learning experience and recommend relevant courses and resources based on students' learning progress and abilities.
Implement teacher management functions, including course publishing, assignment and grade management

3.0 Project planning and scope

3.1 user story

User story

Title: sign up **Estimate:** 3 days **Priority:** 10	**Title:** information fill **Estimate:** 1 days **Priority:** 10	**Title:**create course **Estimate:** 3 days **Priority:** 20
Title: login in **Estimate:** 2 days **Priority:** 10	**Title:**release tasks **Estimate:** 2 days **Priority:** 20	**Title:** online courses **Estimate:** 5 days **Priority:** 20
Title:feedback **Estimate:** 2 days **Priority:** 40	**Title:** select video lesson **Estimate:** 4 days **Priority:** 30	**Title:** compete tests **Estimate:** 4 days **Priority:** 30
Title:data record **Estimate:** 2 days **Priority:** 10	**Title:**improve system **Estimate:** 3 days **Priority:** 50	**Title:**adjust functions **Estimate:** 2 days **Priority:** 50

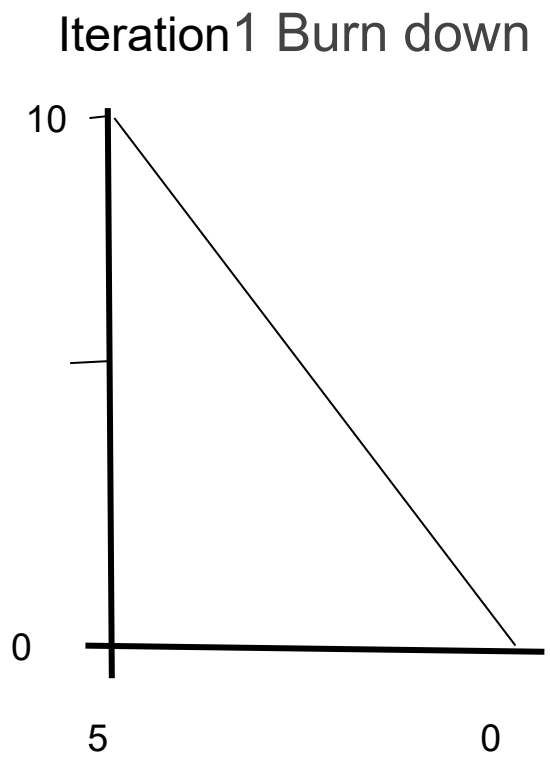
3.2 Iteration

Iteration1:Realize student registration and login function.

Title: sign up **Estimate:** 3 days **Priority:** 10	**Title:** login in **Estimate:** 2 days **Priority:** 10	**Title:** information filling **Estimate:** 1 days **Priority:** 10

Title: data record **Estimate:** 2 days **Priority:** 10

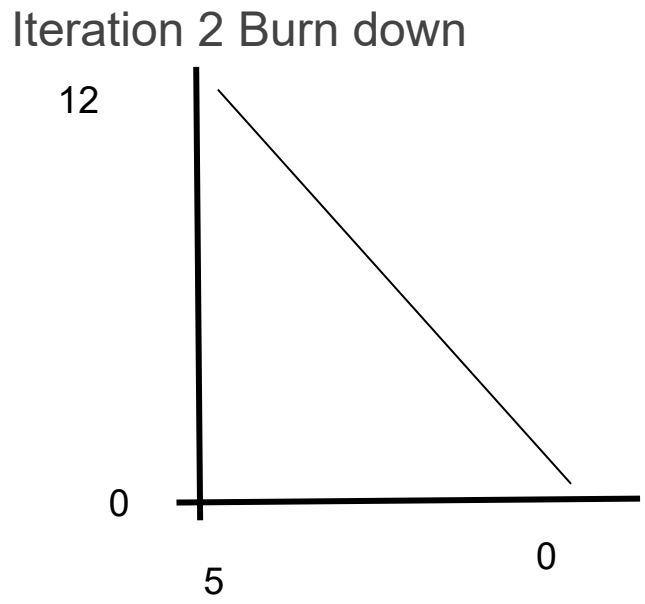
Total days: 8 divided by 2 developers:4



Iteration2: realize function of teacher manage course and homework

Title:create course **Estimate**: 3 days **Priority**: 20	**Title:**release tasks **Estimate**: 2 days **Priority**: 20	**Title:** online courses **Estimate**: 5 days **Priority**: 20

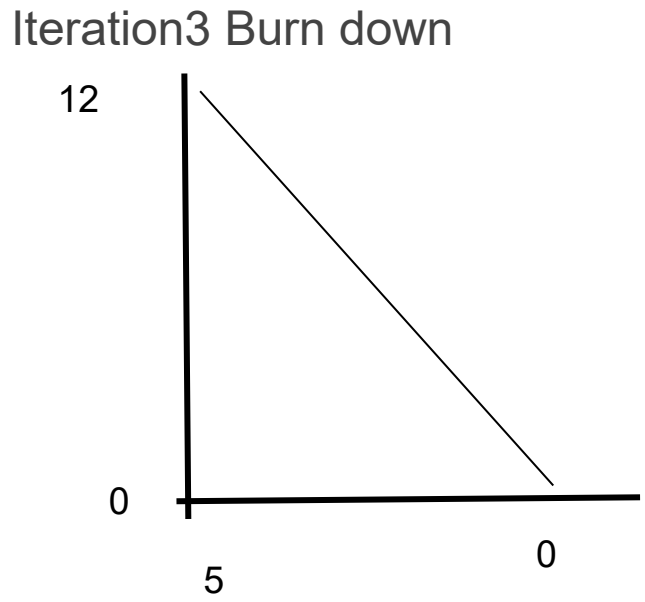
Total days: 10 divided by 2 developers:5



Iteration3:Realize the function of students watching video courses and completing tests.

Title: select video lesson **Estimate**: 4 days **Priority**: 30	**Title:** compete tests **Estimate**: 4 days **Priority**: 30	**Title:**feedback **Estimate**: 2 days **Priority**: 40

Total days: 10 divided by 2 developers:5

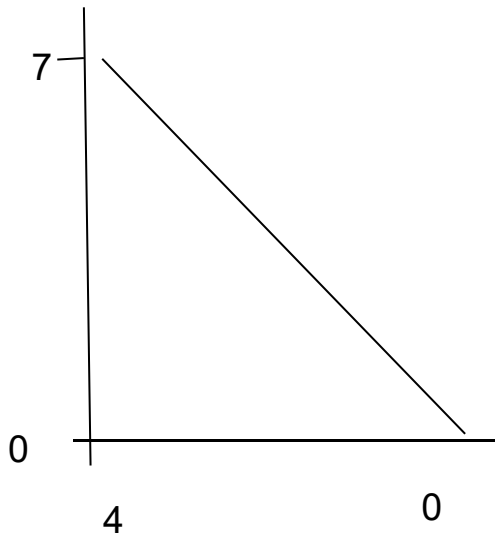


Iteration4: improving system and function

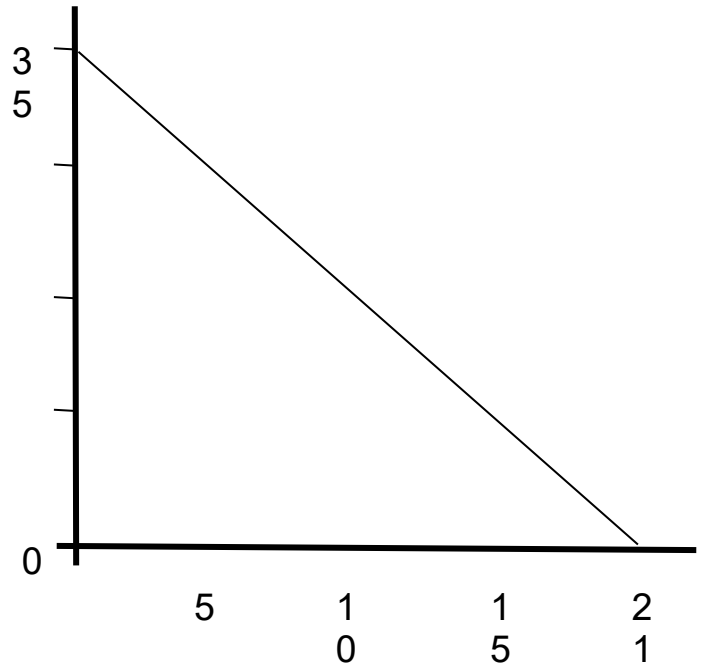
Title:improve system **Estimate**: 3 days **Priority**: 50	**Title:**improve system **Estimate**: 3 days **Priority**: 50

Total days:6 divided by 2 developers:3

interation4 Burn down

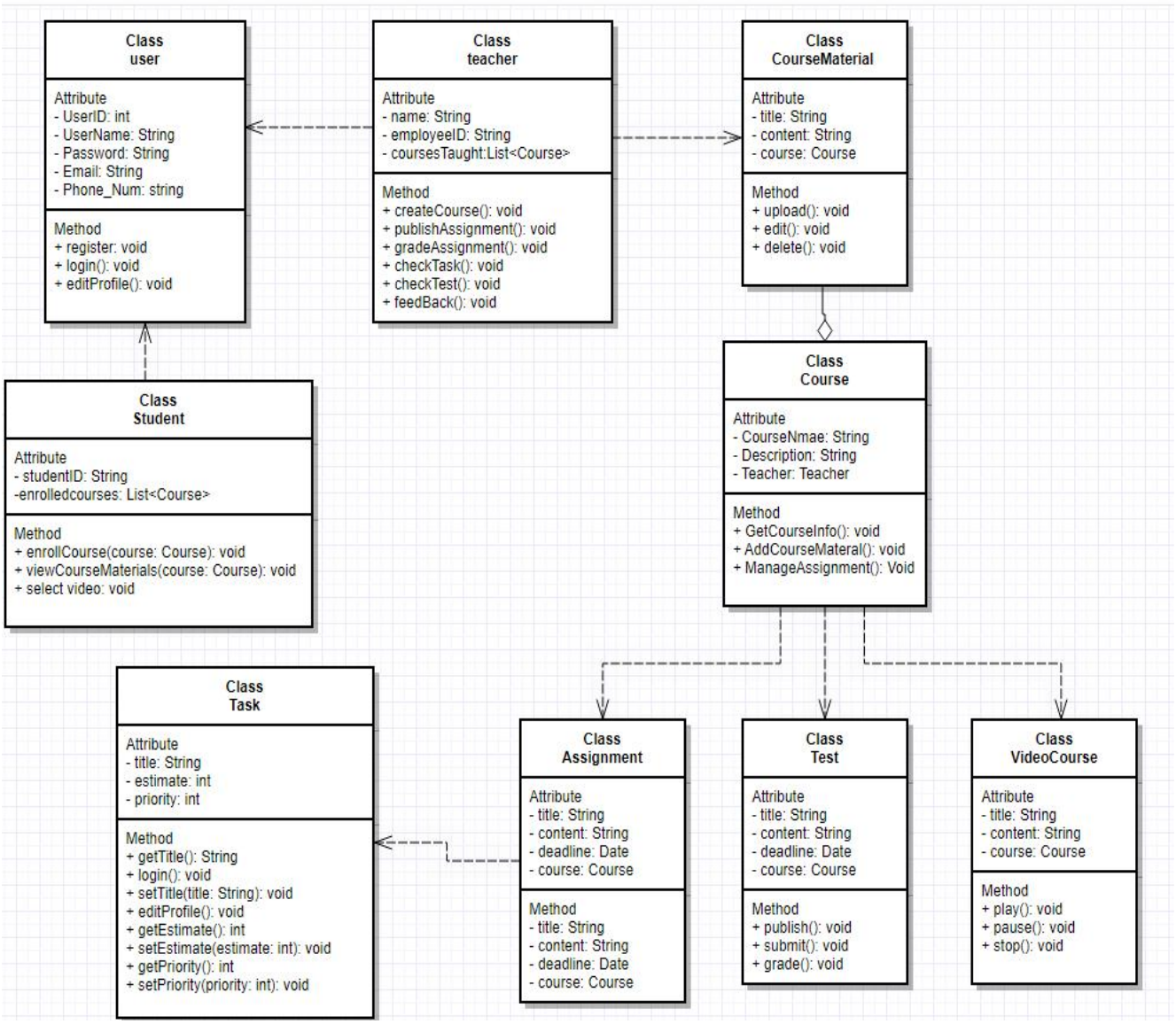


All interation burn down

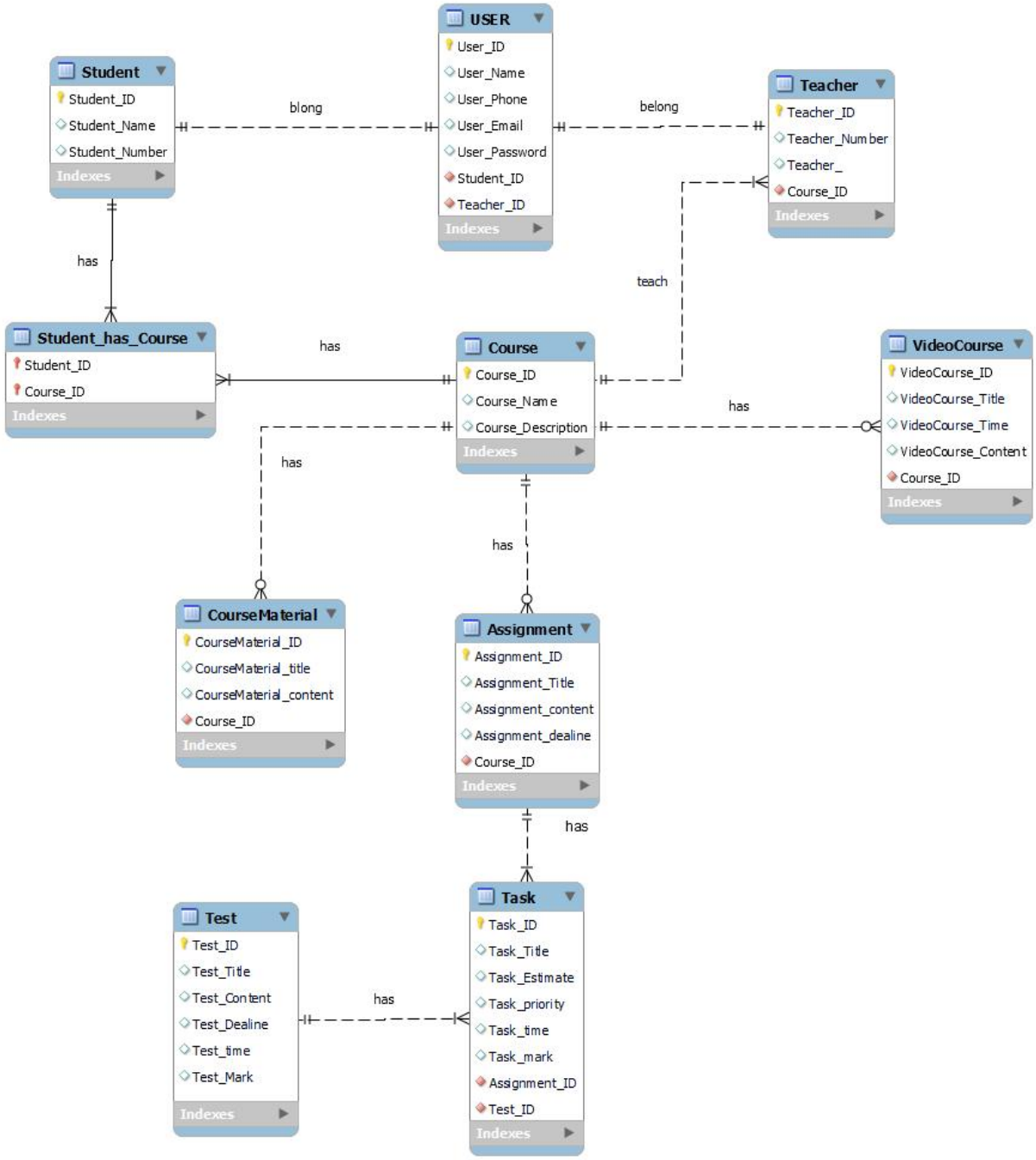


4.0 Project Design

4.1 Architectural design



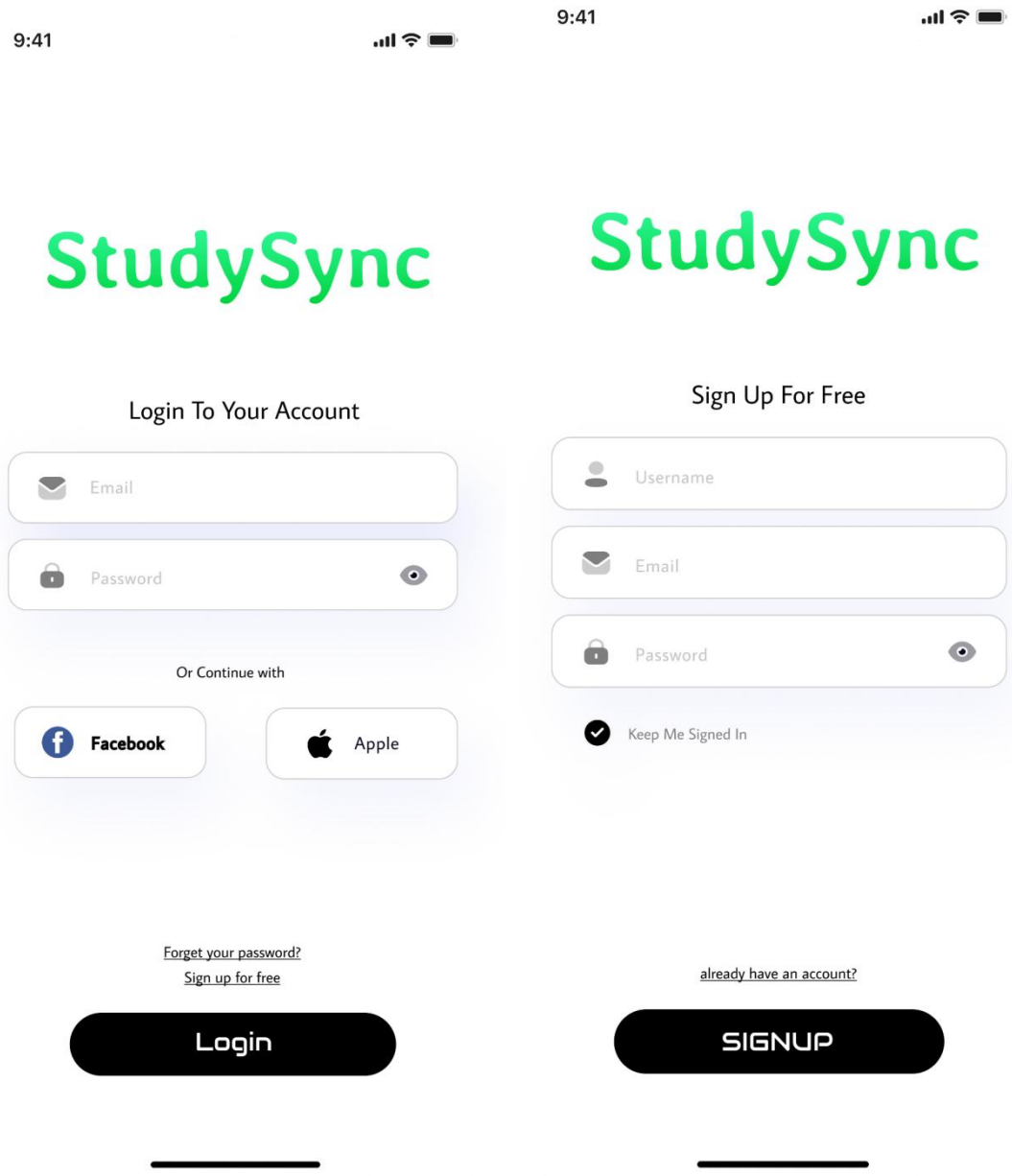
4.2 Database designs



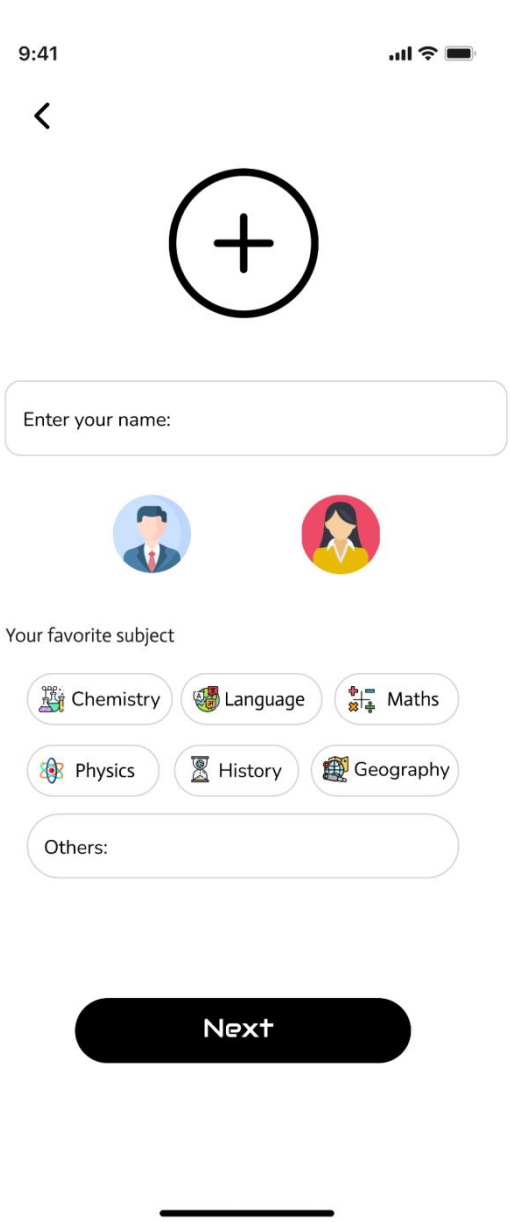
4.3 Interface design

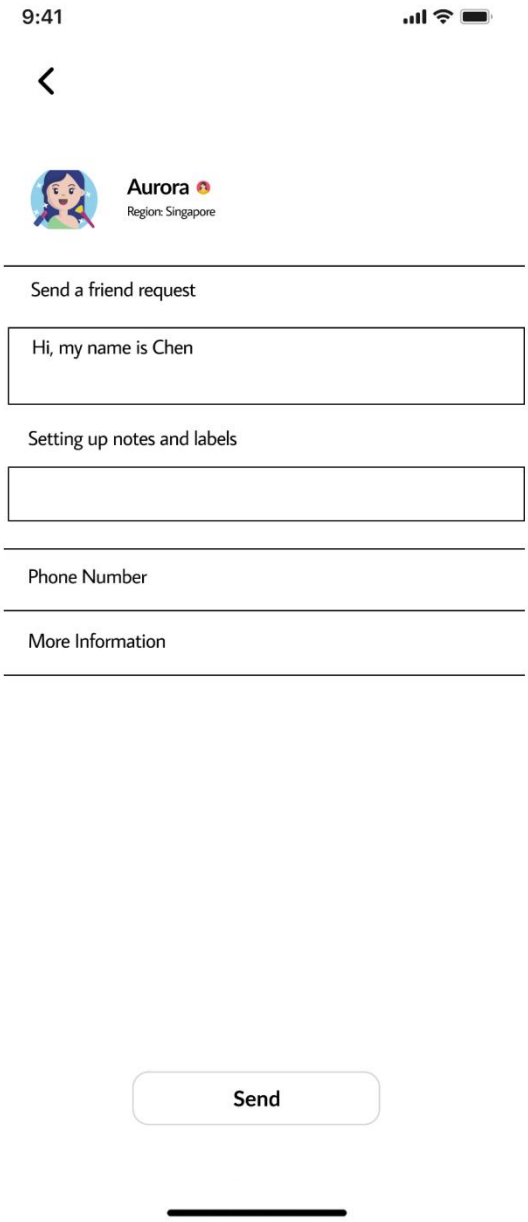
https://www.figma.com/design/x5H44M9Qn34B1flDiPB7gV/CP3407?node-id=0-1&t=J5QMXXerU4TbwwtP-0

Login in and Sign up interface design

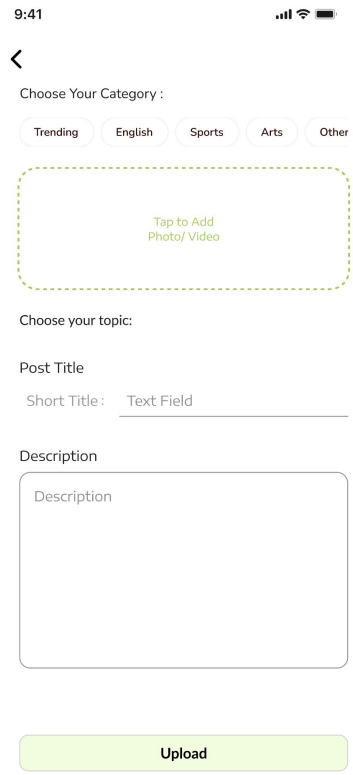


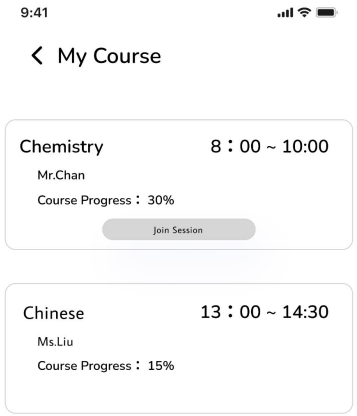
Information fill interface design

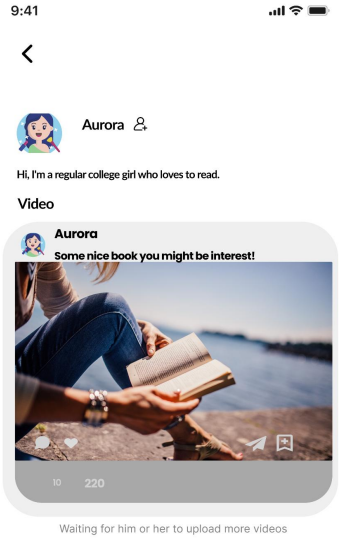




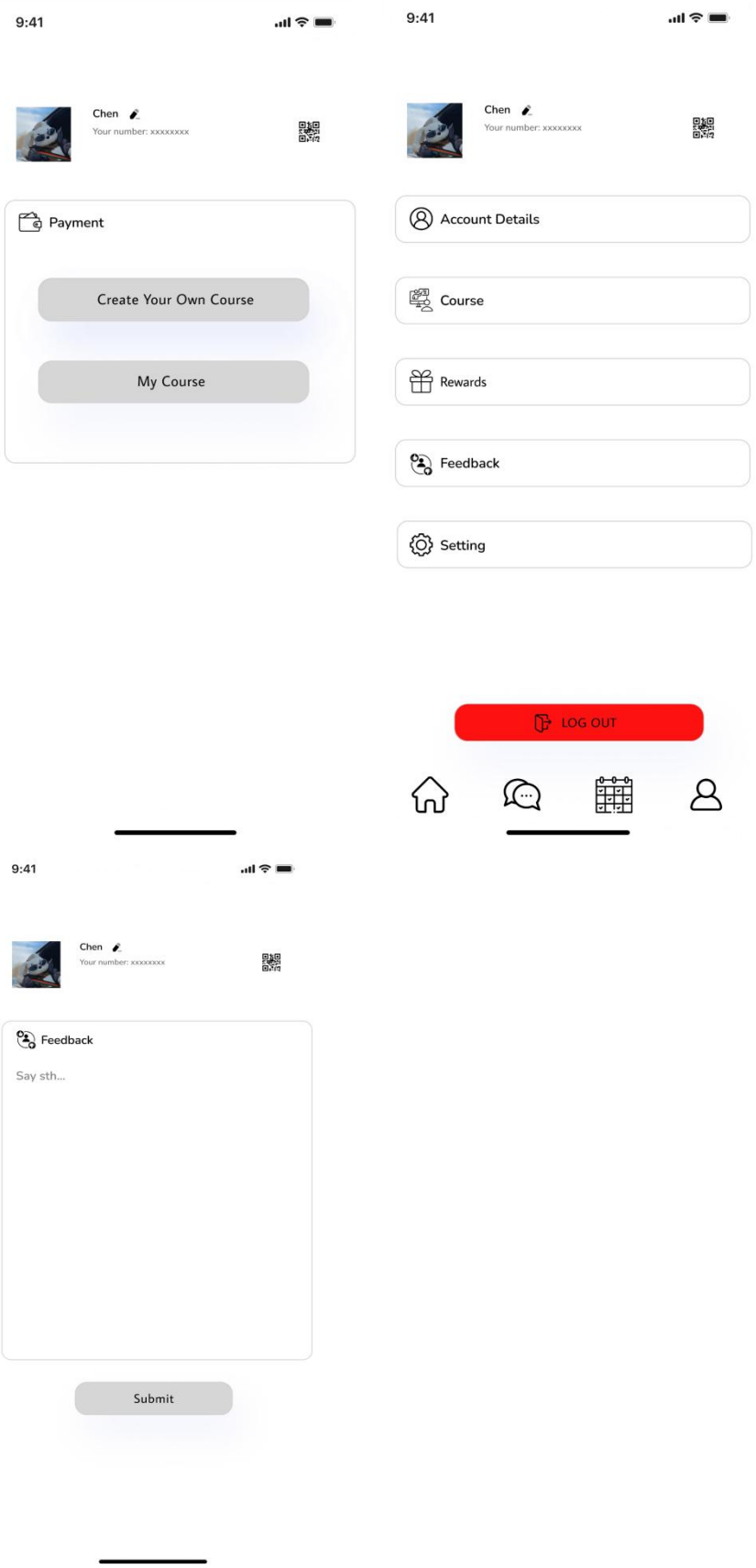
Select video, online course interface design







Feedback and other function



5.0 Project development and release ICT infrastructure

5.1 Development Environment

For development environments, we plan to use Visual Studio Code to finish our tasks. It is because we have learned basic knowledge about the VSC in CP1406. It can help us create consistent environments across our development team.

5.2 Programming language and framework selection

Front-end:

- **Programming Languages**: HTML, CSS, JavaScript.
- **Frameworks**: React.js or Angular.js for building dynamic and responsive user interfaces.

Back-end:

- **Programming Languages**: Node.js (JavaScript) or Python
- **Frameworks**: Express.js (for Node.js) or Django (for Python) to handle server-side logic, RESTful APIs, and database interactions.

Database:

- **Relational Database**: PostgreSQL or MySQL for structured data storage.
- **NoSQL Database**: MongoDB for flexible and scalable data storage options.

5.3 Source Code Management

using github to manage code resources and setting just team member can access.

Github URL:https://github.com/cp3407group10/CP3407

5.4 Project collaboration tools

We decided to use Discord and Wechat as our project collaboration tool. Because it ensures that all team members have access to project specifications, design documents, and user guides.

5.5 Prototype Demonstration

Figma: For designing UI/UX prototypes, we will use Figma to finish the prototype.

Prototype Development: Develop a minimum viable product (MVP) for our learning website. This involves creating a basic version of the site with essential features to demonstrate its feasibility and gather early user feedback.