StudyBuddy

Team 5:

Jared Pek (U2220146G)

Barry Ng (U2222267H)

Gary Leo (U2222411L)

Abhinav (U2223031L)

Shrutikhaa (U2223972L)

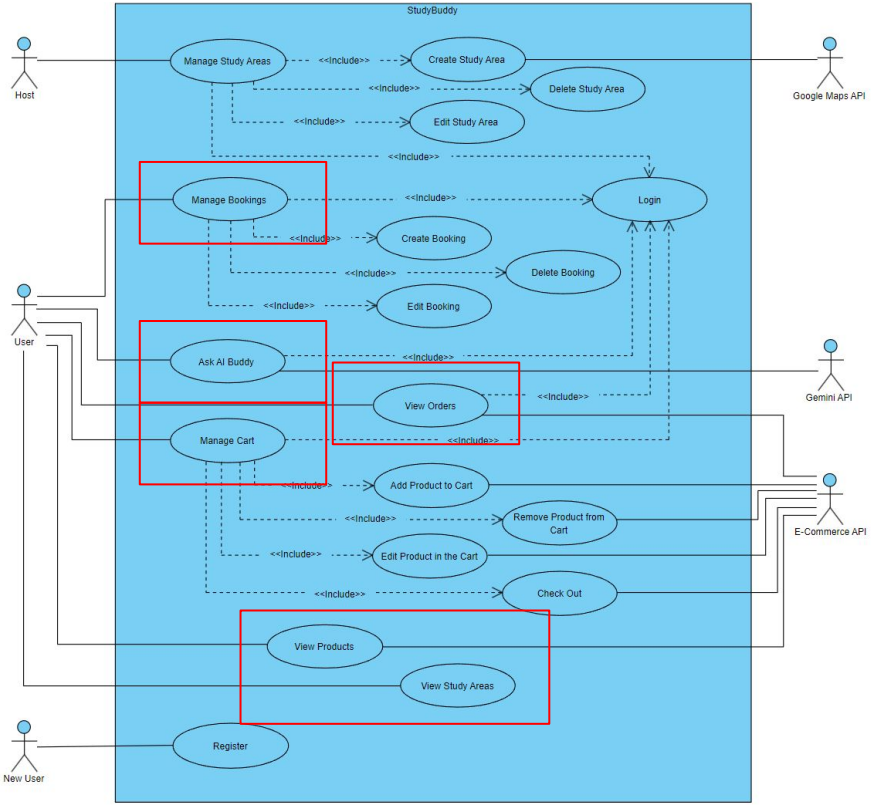
About StudyBuddy

Conducive Study Areas

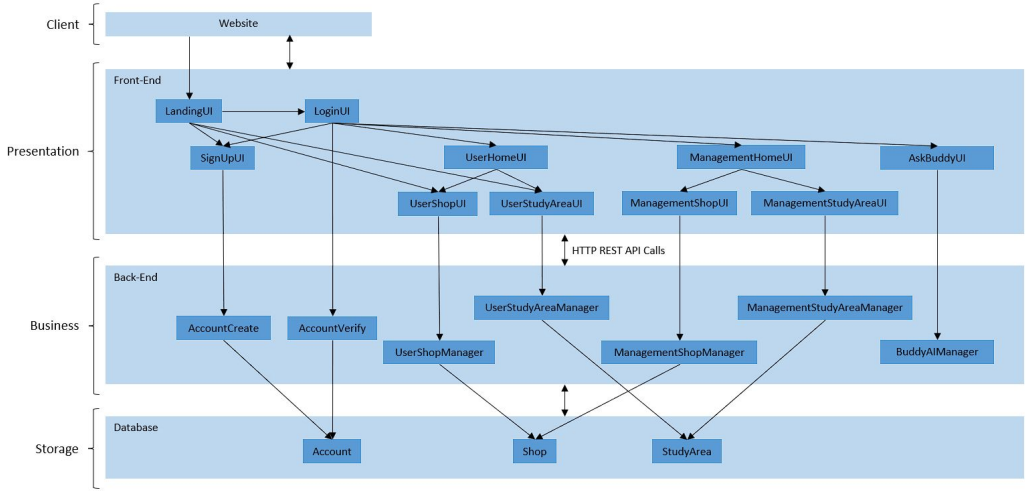
Effective Study Materials

AI Study Helper

Use Case Diagram



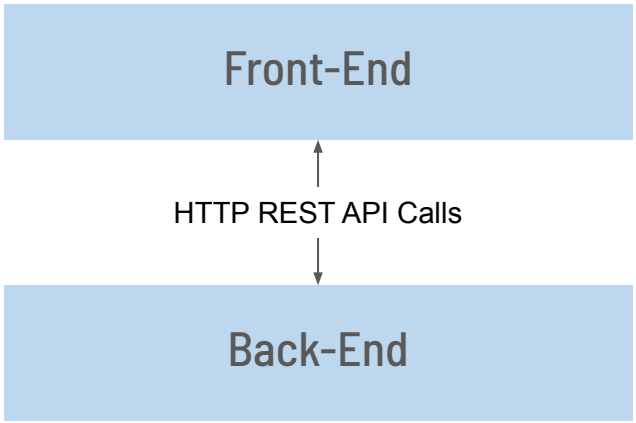
System Architecture → Layered



- Decouple front-end and back-end → **Secure**
- Independent development of both layers → **Faster**
- Implementation of multiple front-ends with the same back-end → **Scalable**

LIVE DEMO

Design Principles and Patterns → Architecture



Principle of Least Knowledge

- Layers **not concerned** with exact implementation of others
- **Only needs to know** what the other layer provides

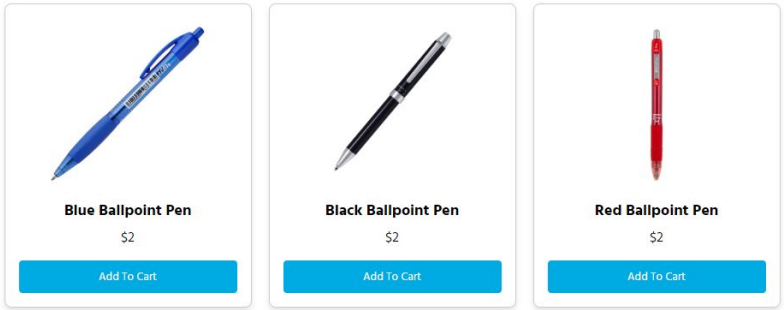
Design Principles and Patterns → UI / Front-End

Facade Pattern

- Simple interface to access features within a more complex system

DRY Principle

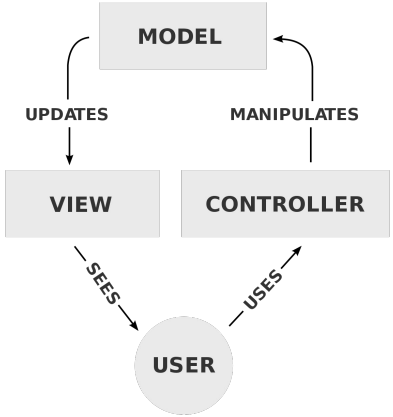
- Reusable components that can simply be called whenever needed
- No need to rewrite the same code



Design Principles and Patterns → Back-End

MVC Pattern

- **Model** → Data Structure
- **View** → Request Response
- **Controller** → Control Logic
- Minimize coupling between features



Single Responsibility Principle

- Each API endpoint only has 1 reason to change
- Easy to debug and test all API endpoints

Software Engineering Principles

- Frequent Refactoring
  - Consistently optimize and clean our code
  - Maintain efficiency, readability, maintainability

- Version Tracking
  - Track development iterations
  - Easily revert to previous version

- Pair Programming
  - At least 2 developers working on the same feature
  - Enhance debugging

- Agile Methodologies
  - Biweekly sprints
  - Product backlog

THANK YOU!