San Francisco State University
CSC 648 - 04
Milestone 1
Section 04 Team 06 [Check With Manuel]
StudyBuddy
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Team Members

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History Revision Table

Version	**Date:**	**Notes:**

Executive Summary:

Many students and individuals have trouble finding others to study with in a way that would suit them best, like complete silence, actively talking, or friendly check-ins. Our vision for StudyBuddy is to support students who would like to achieve a common goal of having a deeper understanding of what is being learned.

StudyBuddy aims to help connect individuals with others who want to study specific subjects or classes by offering online and in-person options as well as filtering people by school, area, or major. First-year students, seniors, and professionals alike need a community of people who can inspire and motivate them in the way that works best for them. Our unique tag groups, like what study methods are preferred, allow for a customizable experience tailored towards what each individual wants and needs. Additionally, verified users-only spaces are available as a safety feature for those who are wary of strangers.

StudyBuddy's team is well-rounded and has an open environment where all opinions are valued and appreciated. Each member has their own area of expertise, making it an ideal team to provide the best experience.

Data definition:

Our choice of database for the project is MongoDB. A group of entities in a non-relational database is known as a collection and each entity is known as a document. We have three different types of collections: users, groups, and messages. Their schemas are listed below:

1. Users
    a. Username
    b. Password
    c. Email
    d. Tags
    e. Friends
    f. History
    g. isVerified
    h. isGuess
    i. ID
2. Groups
    a. Name

    b. Members
    c. ID
3. Messages
    a. Participants
    b. Contents
    c. ID

Each user document holds information about that specific user. Each group will have a group name, a list of group members, and the group's ID. Each message will have a list of participants, their chat content, and message ID.

Personas and User Stories

1. Second year: Michelle Romero

- 19-year-old college sophomore
- Likes Marvel movies
- Dorms with two other girls
- Moved across the country to study biology at San Francisco State University
- She's made a couple of good friends on campus, but none of them are in the same major as her
- She has a biology internship, and is in such good standing with the organization that they'll heavily consider hiring anyone she recommends
- The organization requires a 4.0 GPA and Michelle's struggling with her classes
- Paranoid about hackers so only use secure websites
- She finds herself too nervous when trying to ask teachers and classmates for help in person
    - To fix this issue, she wants to find biology students who go to San Francisco State to get more comfortable with studying with others
        - She's paranoid about meeting people on the Internet so she will only want to talk to those who are verified
- Constantly on her phone and computer

2. Senior: Tim Wilson

- 21-year-old senior at San Francisco State University who's almost finished with his degree in biology
- Is a dog person
- In his first couple of years, he was failing a lot of his classes, but over time found his passion in biology and caught up

    - His college experiences let him empathize with those who are early in their college career and having a hard time
- Is always eager to help classmates with their work
- Stays in Antioch, 1-2 hours away from campus depending on traffic with his parents, so he's only on campus for classes
- During senior year, he finds it more difficult to stay focused on studying so he's looking to try new methods
- Despite almost being done with school, he has no future jobs or internships lined up
- Doesn't have much money
- Despises being spammed in online chatrooms
- Paranoid about his online privacy so he never makes new accounts unless he needs to
- As his time in college winds down, he wants to find a space where he can network with his peers and find opportunities for a job while not having to travel all the way to campus

3. Parent: Sandra Star

- 43-year-old, loving mother of two, never attended college
- The youngest named Patty (12) is in middle school, the older one is named Ricky (22) and is in college
- Very strict parent, doesn't allow either child to own a new phone where they can do anything else other than calling or texting but does allow them to own a computer
- Her husband Patrick is out at work all day, so leaves most of the parenting to Sandra
- Sandra talked Ricky out of skipping college to go straight into the workforce, but Ricky is struggling hard to keep up with his studies
- Instead of doing homework, Ricky likes to sleep and play video games when he gets home
- Sandra notices that he stays engaged with his homework when he is in the same room as someone, or on the phone with one of his friends
- Determined to help her eldest child, she is searching for ways online to engage him in his studies despite her limited knowledge of the internet
- Does not like to share personal information online so will be avoiding sites that require account creation
- She wishes to find a platform where she can easily match Ricky up in a chat room of sorts with his peers so he can get help studying
- The family lives 10 minutes away from Ricky's campus, but he prefers to go straight home after school and doesn't like going to office hours
- Would rather discuss issues he has in class with classmates

4. Teacher: Joan Washington

- 51-year-old chemistry professor who's been teaching for 20 years at her university
- Has three cats and is an animal lover
- Passionate about teaching, genuinely cares about her students, and always checks up on those who have fallen behind
- Stays up to date with the newest devices and online tools
- Finds that a lot of her newer students have lower test scores and notices they like to be on their phone or laptop during lectures
- There aren't any organized chemistry clubs or tutors at her school
- Wants to provide students with a space to study outside of class where they can focus on a subject, while also staying digital

5. Self Learner: Brian B Dan

- 22-year-old fast food worker who went straight into the workforce from high school
- Finds it difficult to keep a job so decided to pursue a new career path
- Lost a lot of money from attempting to trade stocks so can't afford school at the moment
- Decided to take up programming, and is learning from scratch
- Studies using free college courses online, but the lack of a real-time person to help him with his questions like a teacher or classmate hurts his studying a lot
- Likes to spam pictures in the chatrooms he is in
- He's looking to gather material he can study with at a later date so he needs a platform that will let him save files and messages that are sent to him
- First impressions are everything to him, so if he doesn't like the first interaction, he won't want to talk to them again

Initial List of Functional Requirements

- User Management
    - Users should be allowed to create an account using an email/ password
    - Users should be allowed to log into their account using an email/ password
    - Users should be able to anonymously sign up to use the site without creating an account
    - Users should be able to create and edit personal profiles, preferred study methods, and interests like school, major, or class subjects.

    - Users should be verified through the school email verification system to confirm users' affiliations.

- Social Management
    - Users should be able to engage in real-time chatting with other users or groups
    - Users should be able to create private and public groups for study sessions
    - Users should be able to add people to study groups and save these groups
    - Users should be able to schedule and join study sessions and integrate sessions with external calendars

- Discovery Management
    - Users should be able to search for study groups or sessions based on filters like school, major, or class subjects
    - Users should be able to tag and categorize their study preferences for better matchmaking with study groups or sessions.

- Safety and Privacy Management
    - Users should be able to report inappropriate behavior or content
    - Users should have the option to block/ unblock other users to maintain personal safety and privacy

- Future Features/ Functionality
    - Users should be able to share images and documents within group or user discussions
    - Users should have access to live video function for real-time study sessions
    - Users should receive some form of verification badge or status upon successful email verification, giving access to special features
    - Users should be able to review and rate their experience with study sessions or groups, contributing to a community reputation system.

List of non-functional requirements

Performance:

- Response Time: Ensure the application responds to user interactions within 5 seconds under normal usage conditions.

Usability:

- Intuitive Design: The interface should be user-friendly, allowing new users to navigate and use the app without requiring a tutorial.
- Accessibility: Aim for basic accessibility features, such as clear labels for buttons and the ability to zoom text.

  Storage:
- Efficient Use of Space: Optimize storage of user data, ensuring the database does not exceed 1GB under the project's scope.

  Compatibility:
- Device Support: The application should work seamlessly on the latest versions of Android and iOS for mobile, and Chrome and Firefox for web.
- Responsive Design: Ensure the web interface adjusts to different screen sizes, from mobile phones to desktop monitors.

  Security:
- Password Protection: Implement hashed passwords and basic encryption for user data storage.
- Data Privacy: Ensure user data is not shared without consent, adhering to basic data protection principles.

  Code Management:
- Version Control: Use Git for version control, with a simple branching model that includes a development branch and feature branches.
- Code Reviews: Encourage peer code reviews before merging feature branches to the development branch.

  Scalability:
- Simplicity Over Scale: Design the application to support up to 100 concurrent users, focusing on functionality over scalability for the project's scope.

  Reliability:
- Basic Error Handling: Implement error handling to provide users with clear messages in case something goes wrong.

  Maintainability:
- Code Documentation: Document major functions and modules within the codebase to facilitate understanding and future modifications.

Competitive Analysis

	StudyBuddy	MoocLab	StudyVerse	StudyTogether
Study Groups	✅	✅	✅	✅

No Registration Needed	✅	✅	✅	
Verified Users	✅			
Create Groups	✅	✅	✅	✅
Filter based on the subject	✅			
Filter based on preference of study method	✅			

StudyBuddy includes tags and sorting based on preferences that are not commonly seen among other competitors. While most competitors are focusing on study groups that are geared towards silent studying and joining random people, StudyBuddy is centered on individual preferences and comfortability that are not possible with bigger groups of unfamiliar people. Big study groups are still available for those who prefer that, but StudyBuddy also has a more personalized approach based on study needs and wants, including adding people as study buddies and verified users section for safety.

High-level system requirements

- Server Host
  - Oracle Cloud Infrastructure (2vCPU, 1GB RAM)
- Operating System
  - Ubuntu 22.04.3
- Database
  - MongoDB Atlas (Version 6.0.13)
- Web Server
  - Nginx
- Front-End Framework
  - React
- Server-Side Programming Language
  - JavaScript
- Web Application Framework
  - Express
- Integrated Development Environment (IDE)
  - Visual Studio Code
- Supported Browsers
  - Google Chrome
  - Mozilla Firefox

    - Apple Safari
    - Microsoft Edge

It's important to ensure compatibility and perform testing on the latest versions of these browsers, as they are frequently updated.

- Deployment Platform
    - Software: Oracle Cloud Infrastructure, utilizing an Ubuntu 22.04.3 operating system.
    - Server: Nginx is the web server, running on the Oracle Cloud Infrastructure.
- Additional Open Source Tools/APIs
    - Inspace

Checklist

Checklist Items	Issue	On Track	Done
Team found a time slot to meet outside of the class.			✅
Scrum Master shares meeting minutes with everyone after each meeting.			✅
GitHub master is chosen.			✅
Everyone sets up their local development environment from the team's git repo.			✅
Team decided and agreed together on using the listed SW tools and deployment server.			✅
Team ready and able to use the chosen back/front-end frameworks.			✅
For each technology (frontend/backend/DB/cloud), the team decides who will lead the study of each technology and what will be the specific goal of the study within one month from the M1 announcement.			✅
Team lead ensured that all team members read the final M1 and agreed/understood it before submission.			✅