PROG2007 - Group 35

Project title: StudyGroup

Group Members with Roles:

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- Isak Edlund Halmrast (Product managment)
- Sander Solberg (Tech lead)
- Marta Flatsetø Gausland (Product designer)

Project Description: (3-5 paragraphs)

The project will be developing an application aiming to motivate student-to-student assistance, alleviate the pressure on lecturers and potentially provide universities with topics students struggle with. It aims to create study-groups based on subjects that students are having issues with and/or can assist with. It matches, and creates study-groups so students can assist each other across social circles, study-programs and semester.

Students can register as a user, and register which subjects they are taking or have had. Users can view posts (issues) posted by other users taking the same subject, as well as make their own posts. An example of this could be during an obligatory assignment: A student might be having a specific issue, and can then create a post about it. Other users can view the post and answer if they can assist or not, if they'd like assistance with the same topic, or choose to skip. Based on this information, the application will match users and create groups of people that want, and can, provide assistance. The groups can then organize how and where they should meet up in the application.

The purpose of this application is to create a platform where students can help each other, regardless of their social circles, study programs, or current semester. To achieve this, users are made anonymous to each other, shifting the focus towards the ability to assist and common challenges. It aims to minimize emails etc with lecturers and TA's, allowing them to focus on "their job", by motivating students to help and learn from each other.

Project Scope: (1-2 lines):

Users (students) can post and view issues in order to create study-groups where attendees decide on a time and place to meet, to get and provide assistance to each other.

Target Audience:

The target audience is university students.

Core functional requirements:

1. Post academic questions/challenges
    a. Main categories: By subject
    b. Sub categories: Assignment/subject-related topic
    c. Can set a date for “meetup needed before”.
    d. Posts need to have an expiration date.
    e. Posts can be set as “visible only to users with gps coordinates close to them”.
2. Interact with posts
    a. tilt left: I can assist
    b. tilt right: I *need assistance as well*
    c. swipe up: Skip post
3. StudyGroup creation:
    a. When someone can help with an issue, a study group can be created
        i. After a study group has been created, people who interact with the post will be grouped into “Helpers” and “Attendees”, based on who needs help and who can help.
        ii. Helpers or attendees may post a time and place that is suitable to get help (either online or in person)
4. Receive notifications and updates:
    a. When a question you asked gets interacted with
    b. When a user can help with your question
    c. When a time and place have been agreed on
5. User accounts are anonymous to other users.
6. Sensors we will use: accelerometer and GPS

Non-Functional Requirements:

1. Compatibility: The app will support android mobile devices

2. Performance: The app should handle at least 1000 concurrent users without noticeable delays
3. Scalability: The system should be able to be implemented with docker so it's able to scale to support increasing numbers of users and posts over time. The system should be
4. Usability: The interface should be intuitive and easy for students to navigate without formal training
5. Availability: The app should be accessible 99.995% of the time, with minimal downtime for maintenance.
6. Maintainability: The code should follow coding standards
7. Backup: User data should be backed up, with a recovery mechanism in case of system failure or hackers. Firebase and SQLite.

Input methods:

The primary input method includes buttons for navigation and interactions, such as creating posts, joining groups or confirming meeting times. We will also use text fields for entering information like post description and subjects.

We would also like to add swipe gestures, where the user can swipe left, right or up to interact with posts. Additionally, the app will use motion-based controls through accelerometer sensor (or/and gyroscope for more precise control), allowing users to tilt their phones to indicate whether they can assist, need help, or want to skip a post.

Form factors:

The app is going to primarily be designed for Android smartphones, using a responsive layout that automatically adjusts to different screen sizes and resolution.

Database:

Our application will use two databases: Firebase and Room.

Firebase will serve as the external database, storing user accounts, posts, study group information, and other data that need to be synchronized across devices in real time.

Room will serve as the local database, which will be used for storing temporary or offline data such as messages, meeting schedules, and group creation details. This is to allow users access to essential information, even without internet connection.

Offline/Online aspects:

The application shall be designed to function online, and offer some features offline.

When online, users can create, view and interact with posts, schedule meetings and synchronize their data with Firebase through an API. This is to allow users to see real-time updates such as new study groups, meeting times, and responses to their posts.

When offline, users can access data available through the Room local database. This can be data such as scheduled meetings.

Competitors: Name/list similar apps available in the market.

These are the online platforms we found that offer study sessions and academic support. However, almost none of them are available as a mobile application, and we were unable to find any app that provides the same features as our product is planned to include.

- StudyStream (https://www.studytogether.com/study-stream) | also an mobile app
- Circlein (https://www.circleinapp.com)
- Perusall (https://www.perusall.com/)
- talkcampus (https://www.talkcampus.com)
- peerceptiv (https://peerceptiv.com/)

Your Contributions (novelty): What sets your app different from the existing ones?

What sets our application apart from the existing solution is its strong focus on peer-to-peer academic support, mobile-first design, and group matching features that promote collaboration across study programs, semesters and social circles.

Unlike apps such as StudyStream, which primarily provides virtual study rooms, or CircleIn, which focuses on social motivation and rewards, Studygroup is going to be built to actively connect students who need help with those who can provide it.

Additionally, our application can provide value to universities by offering access to anonymized data and insight that can help identify common areas where students struggle. It aims to help students now, and help universities improve over time.

Financing of Application: *How will you make money? (max 1 paragraph)*

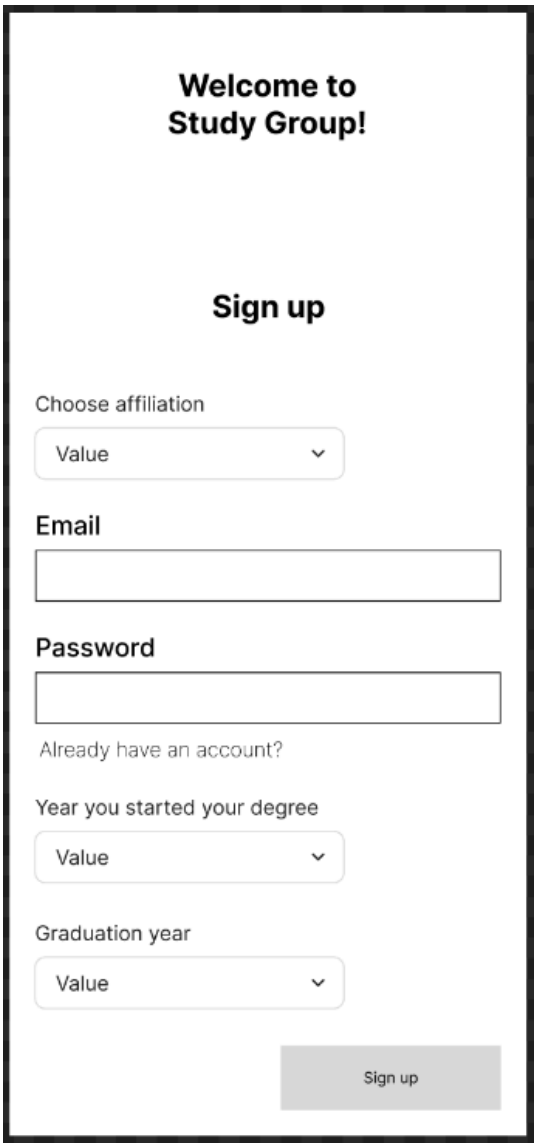
To generate money, we plan to provide it as a service to universities. In this arrangement, the university would pay for their students to be able to create users with their university

email. In exchange, the universities can be provided with anonymized data on the students' needs in different subjects, assignments or courses. This information can be used and analyzed by the university, where they can identify areas where students struggle the most, and potentially implement relevant improvements/changes. This approach allows us to secure financial support while increasing visibility among our target audience and help universities to improve their programs.

Mock-ups (Screen Shots):

1. Sign in

2. Sign up



3. Create a post

4. Answer a post

5. Schedule meeting