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Rush

(Greek Life Social Media Hub)

Overview

Rush will be a multi-platform app, similar to many things like GroupMe, Google Calendar, Point Solutions, and more. We plan to combine all of these into one place, a hub for Greek Organizations to streamline communication and bring it all to one platform. The idea originated from going through the voting process recently and realizing how much of a pain it could be, as well as finding all the events you need to attend on multiple different apps; in general, keeping things more organized.

Market Context

While many platforms exist that can do a single task from this, in our personal lives we all know the trouble of needing to download 10 different apps for one specific purpose. We also want to create a platform that can allow members of organizations to easily join, access information, and communicate with each other. With the initial goal of just covering our business fraternity, we hope to create a platform for all of UTK and then even more schools further down the line.

Team Background

Grayson Gill: Skills in C, C++, C#, and Python, with more experience on the backend side and machine learning. Worked on a project hosted by the NFL to predict presnap plays based on formations.

Joe DiSalvo: Skills in C++ and Python, has worked on multiple full-stack applications like a Wordle dupe and a Fitness App.

Aidan Feyerherm: Skills in C++, Java, Python, and Dart, has worked on a Fitness App in conjunction with Joe, and another program to help find clientele for criminal defense attorneys.

Jeffrey Chen: Skills in C++ and Java, worked on a Fitness App in conjunction with Joe and Aidan, as well as a Soduku app, well versed in full-stack programming.

Features

1. Calendar for Events with RSVP and attendance checking
2. Channels similar to Slack or GroupME
3. Polls for voting on Decisions
4. Cloud Based for easy communication and connectivity
5. Accounts Database for Credit Tracking

Implementation

Frontend: Flutter, Dart

Backend: Firebase, Python, Node.js

Cloud & Database: Firebase Hosting

Rotating Roles

A: UI/Frontend Dev

B: API/Backend Dev

C: Messaging and Cloud Dev

D: Admin/User Account and Analytics Dev

Schedule

Sprint 1: UI & Frontend Setup *(Weeks 1–2)*

Goal: Build the core interface and navigation flow.

Tasks:

- Set up Flutter project and folder structure.
- Build login/registration screens with Firebase Auth.
- Create navigation flows for calendar, messaging, and profile.
- Implement event calendar UI with RSVP buttons.
- Add basic user profile functionality and profile pictures

Deliverables:

- Working calendar view.
- User authentication working.
- Basic navigation across core pages.
- Profile picture displays

Sprint 2: Backend & Database Systems *(Weeks 3–4)*

Goal: Set up APIs, databases, and core logic.

Tasks:

- Initialize Firebase Authentication & Firestore.
- Design a database for users, events, messages, and credits.
- Build a Node.js API for user auth, events, and messages.
- Implement event RSVP and attendance tracking logic.

Deliverables:

- Working login/auth API.
- Event and message storage in Firebase.
- Basic credit tracking logic.

Sprint 3: Messaging & Notifications *(Weeks 5–6)*

Goal: Implement chat and real-time updates.

Tasks:

- Set up real-time messaging with Socket.IO and Firebase Firestore.
- Build group chats for exec boards, committees, and new members.
- Integrate push notifications via Firebase Cloud Messaging (FCM).
- Implement event reminder notifications.
- Test messaging performance across devices.
- Ensure profile pictures are stored in Firebase

Deliverables:

- Working messaging interface.
- Notifications for announcements and event reminders.
- Message history stored in Firestore.
- Profile pictures stored in database

Sprint 4: Admin Dashboard & Credit Tracking *(Weeks 7–8)*

Goal: Create an admin interface and implement tracking logic.

Tasks:

- Build React-based admin dashboard.
- Display event attendance and credit reports.
- Implement downloadable credit reports for chapter execs.
- Add user roles (Admin, Member, New Member, Alumni).
- Test and fix bugs from previous sprints.

Deliverables:

- Functional admin dashboard.
- Accurate credit tracking.
- Event attendance insights available to admins.

Constraints

- Our largest constraint will be the timeline of the project in conjunction with our other course load. With only 4 team members and lots of tasks to accomplish the work split is pretty much 1 person working on 1 task at a time.
- Another constraint will be the cloud server's storage and bandwidth given the budget we are working with, free servers don't have nearly as much storage as paid.
- Security will be another constraint given the time frame due to the fact that our emphasis is on implementing as many features as possible in the short time frame.
- Performance will more than likely be another constraint, only 1 team member has taken CS360 or worked on any program with multithreading and parallelism.

Descoping

Too Much Time

- We would like to implement emerging technology with things like AI and machine learning. The inclusion of AI will help separate positive mentions from negative ones and can shorten the time needed when selecting who will be allowed in the organization. Also things like suggestions for events you should attend for credits and making matches to people you are friends with.

Running out of Time

- Given the short timeline and turnaround for this project, it is more than likely that we will run out of time for the project. We would like to at least have a baseline app that can store and create profiles, display profile pictures, and take in information about potential new members. Given our high interest in this project, we would more than likely continue to work on this project outside of CS340.
- Our baseline implementation of an offline mode would allow users to access and interact with the application without an active internet connection. If we don't make it to the cloud implementation, at the bare minimum, this could be beneficial for viewing event calendars, messages, and profiles of users in your organization.