Mobile System for Stress Management of College Students

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Goal

Help students manage stress without interfering with their day-to-day lives, using a **mobile social chat app** and a **heart wrist sensor**.

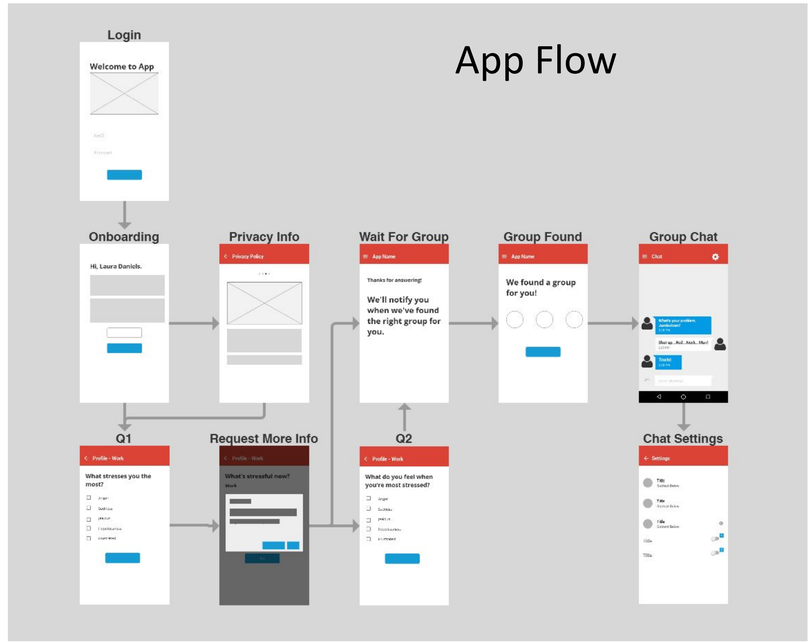
"Happy, relaxed Cornell students"

Approach

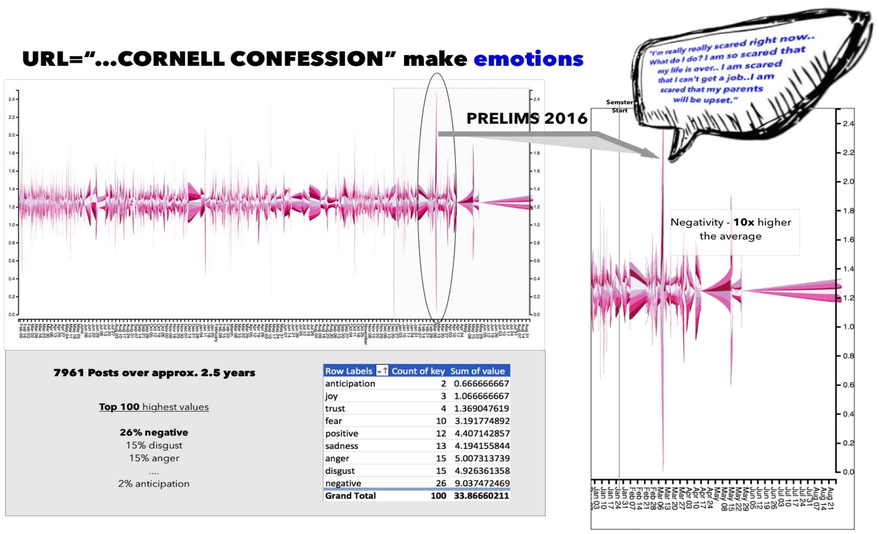
Social chat app using **React Native** and **Node.js** that:

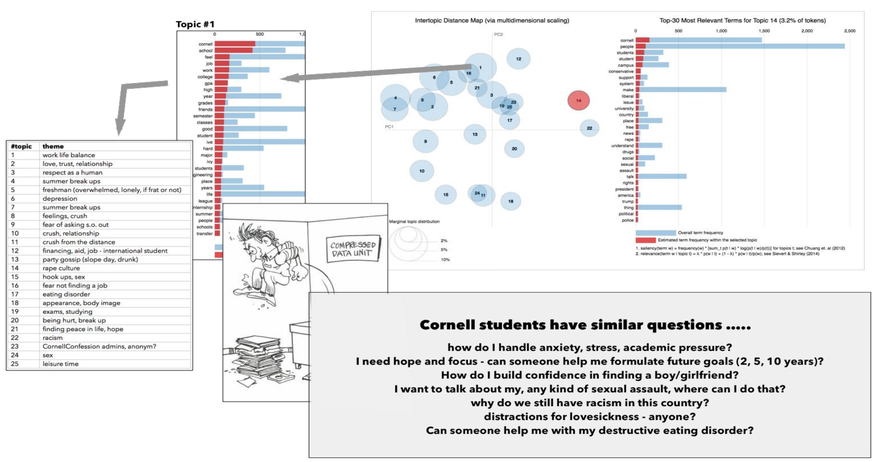
- Automatically **detects** if students are stressed through a wrist heart beat sensor and notifies students via push-notification
- Algorithmically **connects** students dealing with similar issues
- Provides anonymous peer chat groups and **supports** overall well-being.

Functionality

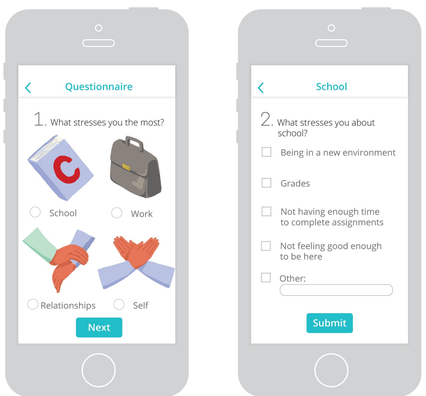


Onboarding





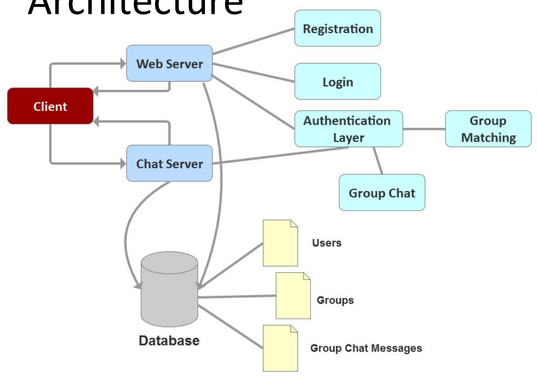
By extracting topics from Facebook groups such as "Cornell Confession" we found a set of possible topics for our onboarding process and **self-assessment**. Upon the onboarding input from users we will match students with similar issues.



Front-End: passing topic tags to back-end

Back-end:
group matching via kNN

Architecture



Features:
Socket.io Node.js to send messages to all users
Token-based authentication features to verify the authenticity of the user
kNN-based group matching algorithm to cluster users with similar experiences together.

Backend: deployed on Heroku, a cloud-based server, and connected with MongoLab, the database server that hosts the MongoDB instance.

Front-end: native mobile app written in React-Native.
Visualizes and syncs up with back-end for login, onboarding and group chat functionality.

Future Work

- Content analysis of chat messages (Python) to match students more efficiently
- Push notification (React Native)