NuraHealth: A Web-Based Health Application
CSCI 3308
University of Colorado Boulder

Undergraduate Students
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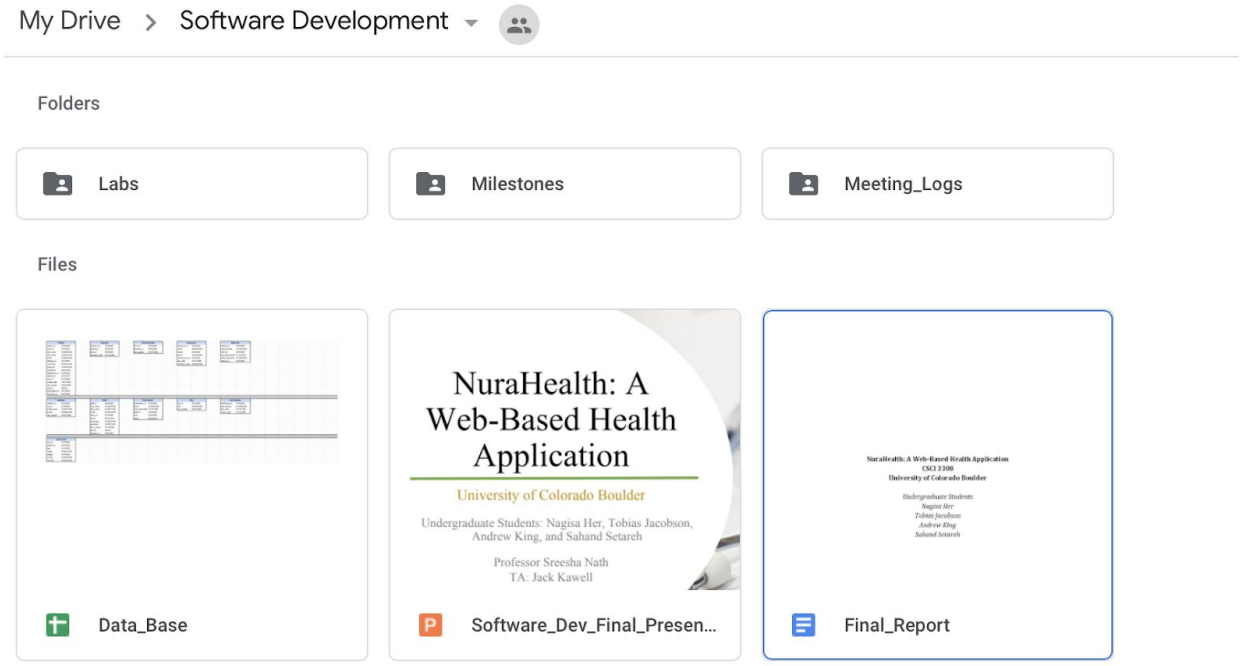
1. Project Description

1.1. Today, patients are constantly hindered by obligations and scheduling conflicts that would allow them to dedicate extensive amounts of time to their healthcare needs. NuraHealth is a web-based health application that will provide healthcare centers with an easy way to manage their patients' information as well as allow patients to view their diagnostics and pay for medical bills, all from the convenience of their personal device. We wanted to create seamless functionality that went hand-in-hand with user experience, geared towards ease of access for the patient as well as making it powerfully intuitive. The application's user interface will be made in a general way in order to allow each healthcare center to customize the application to their liking. The application is deployed using Google Firebase and relies on one of Firebase's databases, Cloud Firestore, a non-dynamic database that was relatively easy to implement. This database was found to meet the team's needs and knowledge more than Firebase's dynamic database. Cloud Firestore stores patient information such as their personal physical attributes as well as any prescriptions they have or are using as well as any specialists that they have seen. The application makes use of user original authentication instead of the given Firebase authentication system.

2. Project Tracker

2.1. Google Drive



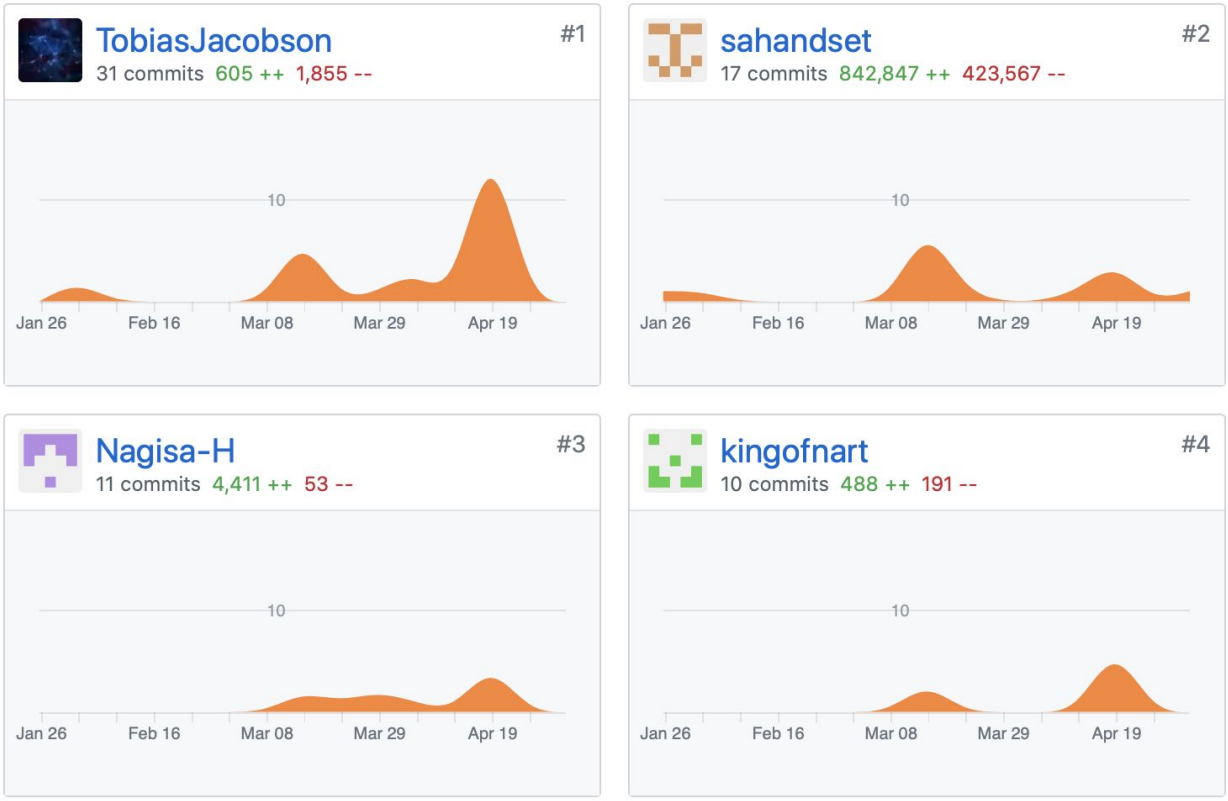
In order to track our project, we utilized Google Drive. We had meeting logs to keep track of where the team was at and found that Google Drive was one of the easiest ways for the team to all collaborate on a document at the same time.
GoogleDrive Link:
https://drive.google.com/drive/folders/1wKZxsXCKIb2v8YRakSfgiw9gVUakZWMZ?usp=sharing

3. Version Control System

3.1. Link to GitHub:

https://github.com/sahandset/CSCI-3308---Software-Project-103-2-

4. Member Contributions



4.1. Nagisa Her

4.1.1. For this project, I worked on creating part of the front end of the website. This included the patient profile, prescription, billing, insurance, lab results, vaccinations, and the referral form pages. For the backend, I first created tables for our data for the purpose of using Postgres. However, when we switched to MongoDB, I also changed our data to be held in documents. And then, when we finally switched to Firebase FireStore, I put our patient data into another set of documents as well. I also worked to make the login for the website somewhat usable. On the non-technical side, I helped to put together milestones as well as the short powerpoint used in our presentation.

4.2. Tobias Jacobson

4.2.1. During this project I contributed to the front end development, middleware, and the deployment of the website itself. For the front end I created the user login page, the appointment scheduling page, and the error 404 page. For the middleware I contributed a great deal to the javascript file which had all the function calls used in calling and connecting our database to the front end. For the deployment I first worked on actually hosting our website using Firebase, making sure

all the files were in the correct places to be able to reference them and deploy them. I then helped figure out how to retrieve data from our database on Firebase Firestore and then use that data in our front end on all the patient profile pages.

4.3. Andrew King

4.3.1. For this project, I helped with the front end of the project by creating the account creation page. For the back end of the project, I initially helped with the Postgres database before we switched to the end product database, Firebase Firestore. I created the relations between the tables for Postgres. When we switched to MongoDB I helped with the javascript file for connecting to the MongoDB database and then also helped with connecting to Firebase Firestore later on. I helped showcase our initial project during our first presentation to our TA as well. When connected to Firebase, I continued to help the team by manually testing the build code by continually deploying the web application in order to see how edits made impacted the final product.

4.4. Sahand Setareh

4.4.1. For the project I helped create the Homepage and general frontend structure, miscellaneous contributions across the project as well as coach the team on the technologies and overall strategy of building the app, including coaching the general design of the backend using nodeJS and server-side integration with the frontend. Later, I designed a user authentication system using bcryptJS for user log-in and registration that was to hash user passwords so as to prevent unauthorized access to user accounts. With the change in databases that occurred later in the project's life, we had to drop the previous authentication method we were employing and use a new method. With a lot of structural changes happening later in the development cycle, I helped pivot the team to more integration-friendly technologies such as Firebase / Firestore. I also helped coordinate the group's effort to employ Firebase as our deployment platform in the final stages of the project.

5. Deployment

5.1. Link to website: https://nurahealth-70126.web.app