Jason Anrico
CSC 400 Updated Project Proposal
August 29, 2019

Github Repo: https://github.com/anricoj1/CSC400

The Goal

The idea that I have in mind right now is to basically make a website that allows you to manage all your social media in one place i.e (Twitter, Twitch, Youtube, Facebook, Github). Profiles are created by a user choosing a local account with a username or logging in with Google+ (passport-local and passport-google-oath). Each **profile** will contain:

- A Header Photo
- Profile Picture
- Recent news feed posts
- Sub navbar that shows what accounts are linked, under each tab it will show their recent posts and statistics like follow counts / friends counts etc.

You will be able to follow / unfollow users on the site. You can choose to have a **public** or **private** account. **Public** Accounts will not require you to request to follow and anyone can view your profile. **Private** Accounts will need a follow request to be accepted and your account is only viewable to people you who are following you. I would really like for the website to have a realtime feed that you see on social media sites. As users you follow post statuses and share posts, the feed will be updated. You may leave comments on posts, like them, and share them. I also want to incorporate a messaging feature like Messenger on Facebook to contact others along with a Notification system.

Motivation and Needs

My motivation behind this project is that growing up I have always loved video games and the whole scene of Youtube and Twitch caught my attention very quickly. I know that in the current year of 2018 these platforms are no secret. People use them daily, and people even make careers off of them. I just would like to see a way for them to all come together. I also want to create a challenging learning experience for myself. I have used Nodejs a little bit and have started this project over the summer, but

I definitely want to push my experience further with the use of API's. I know the basics of HTML/CSS and Javascript, but I feel like I could definitely improve those skills by taking on a big project myself. Now we can get into the fun part.

Tools and Methods

Nodejs
- npm
- Javascript

Framework
- Express
- Express-Session
- View-Engine – ejs
- Bootstrap
- HTML/CSS

Database
- MySQL

Passport
- passport-google-oauth
- passport-local
- passport-twitch

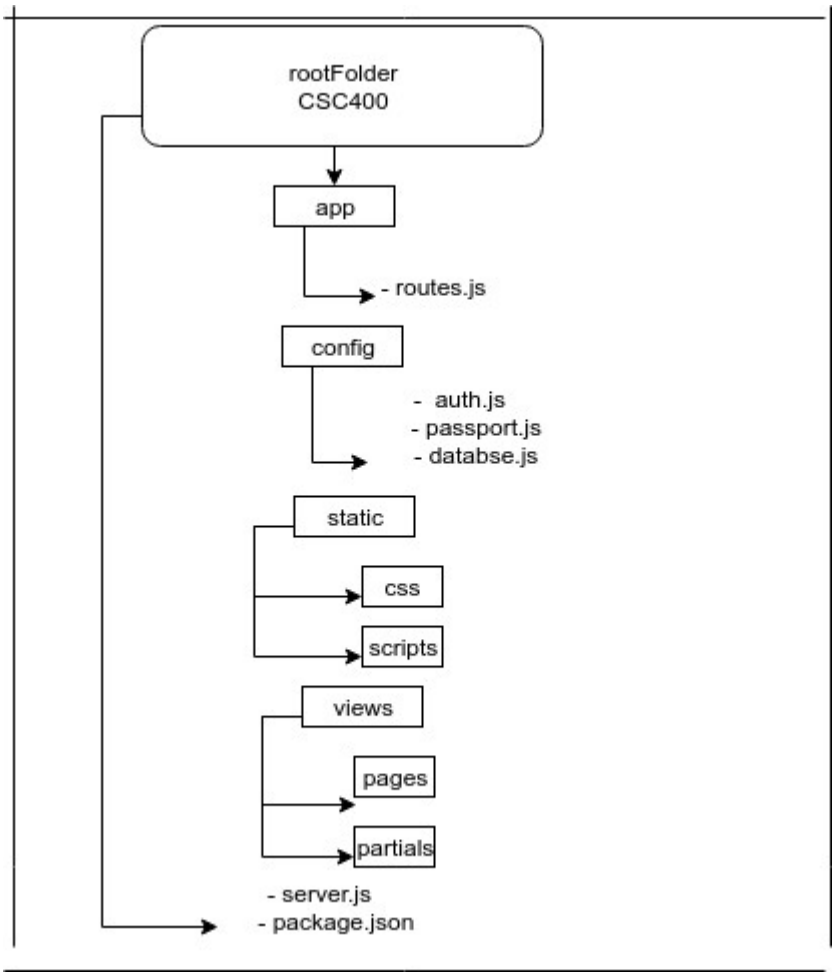
API's
- Youtube API v3
- Github API v3
- Google+
- Facebook
- Twitch api v5
- Twitter
- Instgram

Hosting
- Google Cloud

Each API will gather basic user information. I will go over each one here.

Youtube API v3 fetch a user to get recent uploads and descriptions along with their subscriber account. Many of people like to document their projects in video form. This would give site viewers the opportunity to view someones thought process on projects. I think this is something interesting to look at from a viewer standpoint, it gives you an insight as to how someone thinks. This also adds a more personal connection to a viewer.	**Github API v3** GitHub has become a very fun and useful tool throughout my college experience. Being able to save projects on the web is huge. What I plan on using this API to fetch a users public repositories. Their repositories would be inserted into a database and updated frequently via a cronjob. These would be able to be viewed by anyone if their repository is public.
Facebook API I would like for the api to fetch a users profile or as Facebook calls it Wall Posts. This will contain your friends count, groups / events you are a part of, likes, and shares, making a status along with the users profile info that they have made public.	**Twitter API** The Twitter API will fetch a users profile just like the Facebook one. You can post a tweet, view your account stats (followers, following, likes, tweets, bio, name, screen_name, created date, etc.) You can view your recent timeline.
Twitch API The Twitch API will fetch your account just like the previous. You will be able to view account stats such as (display_name, name, bio, created date, logo, follows, following). I would like to have the user be able to watch the streams on the site as well just like youtube videos.	**Instagram API** The Instagram API will work just like the previous ones as well. I want to display their following, followers, username, name, and posts to instagram.

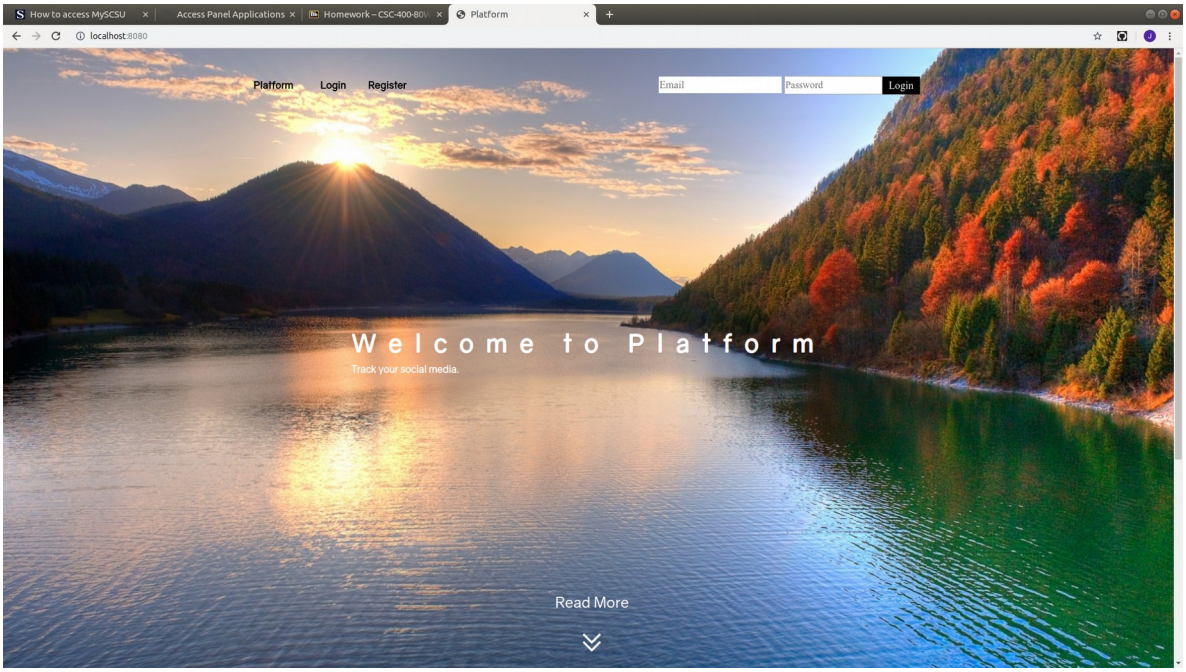
File Structure (Diagram)



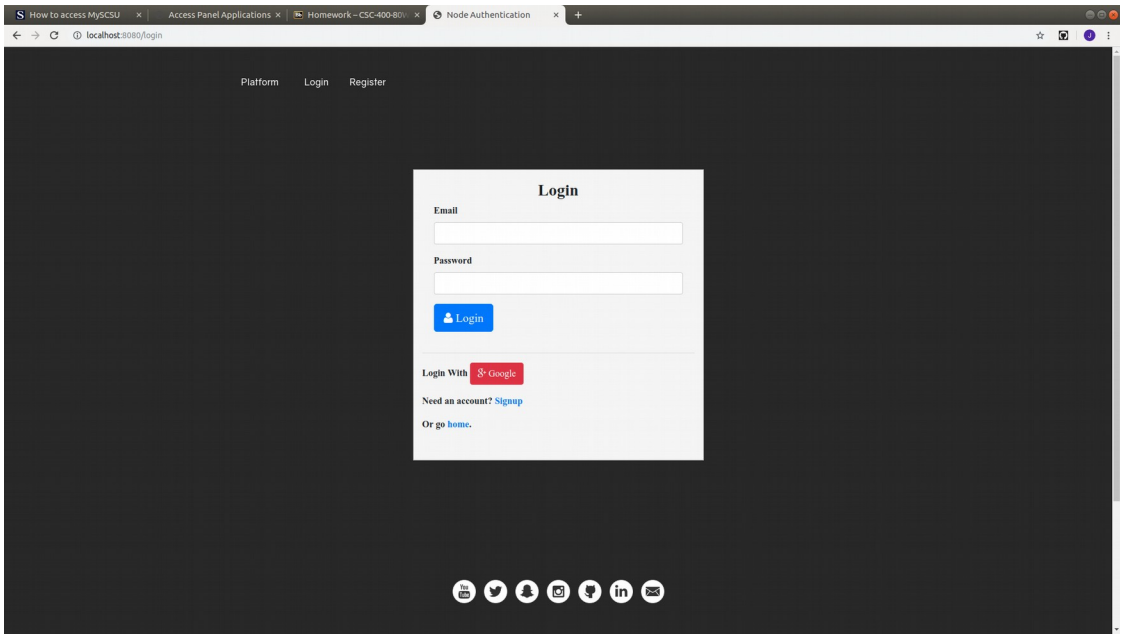
Visualization

Over the summer I have taken it upon myself to get started on things and I will have screenshots to go along with what I have done.

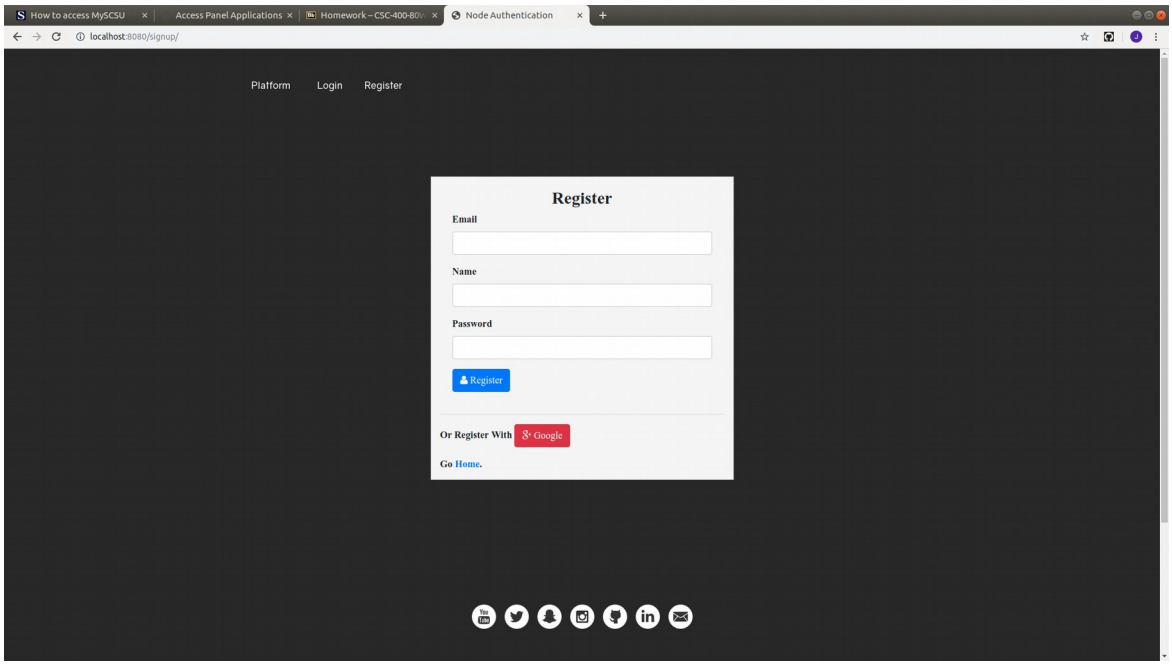
Index.ejs



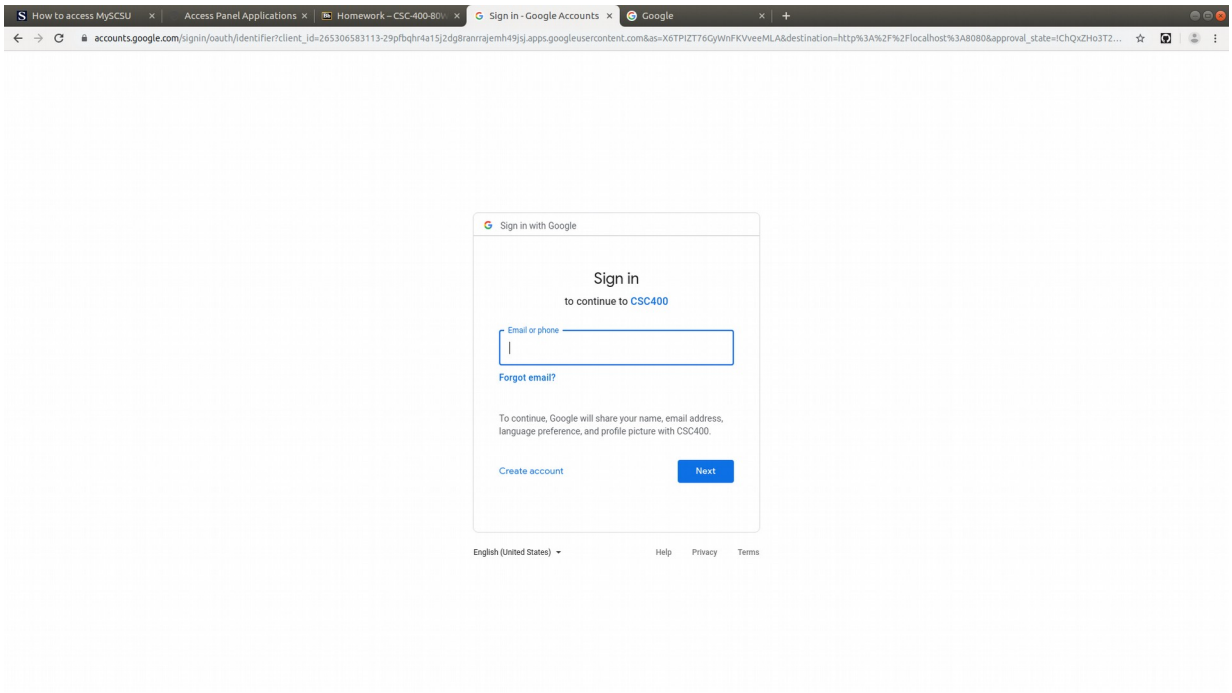
login.ejs



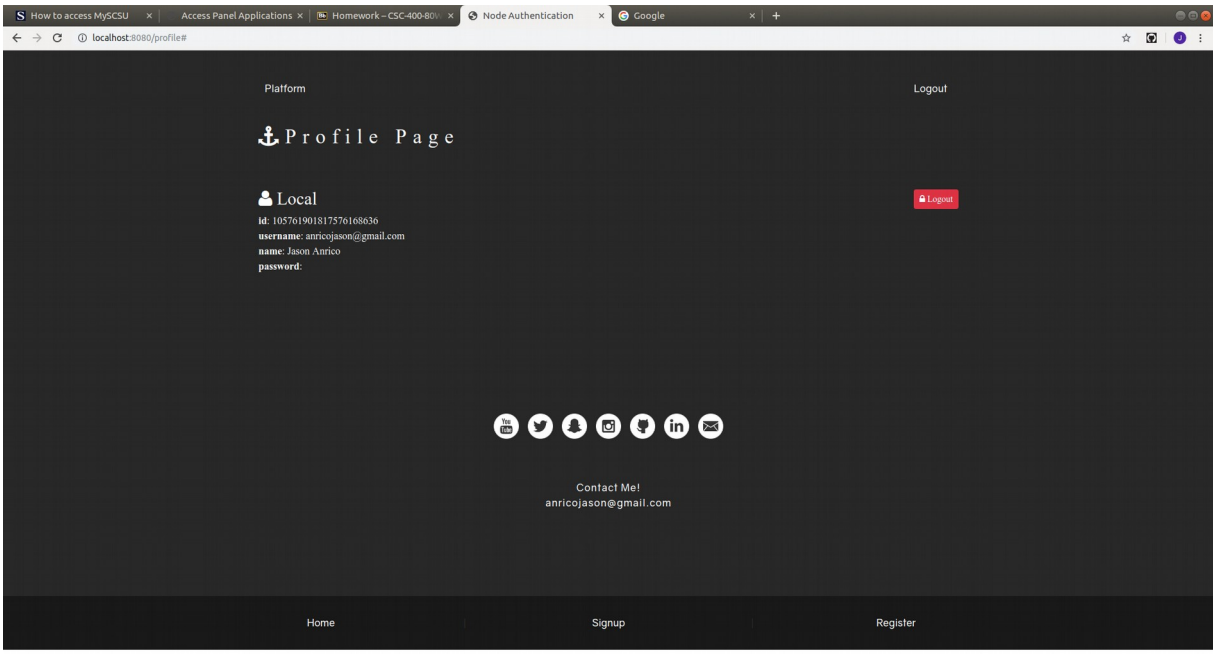
register.ejs



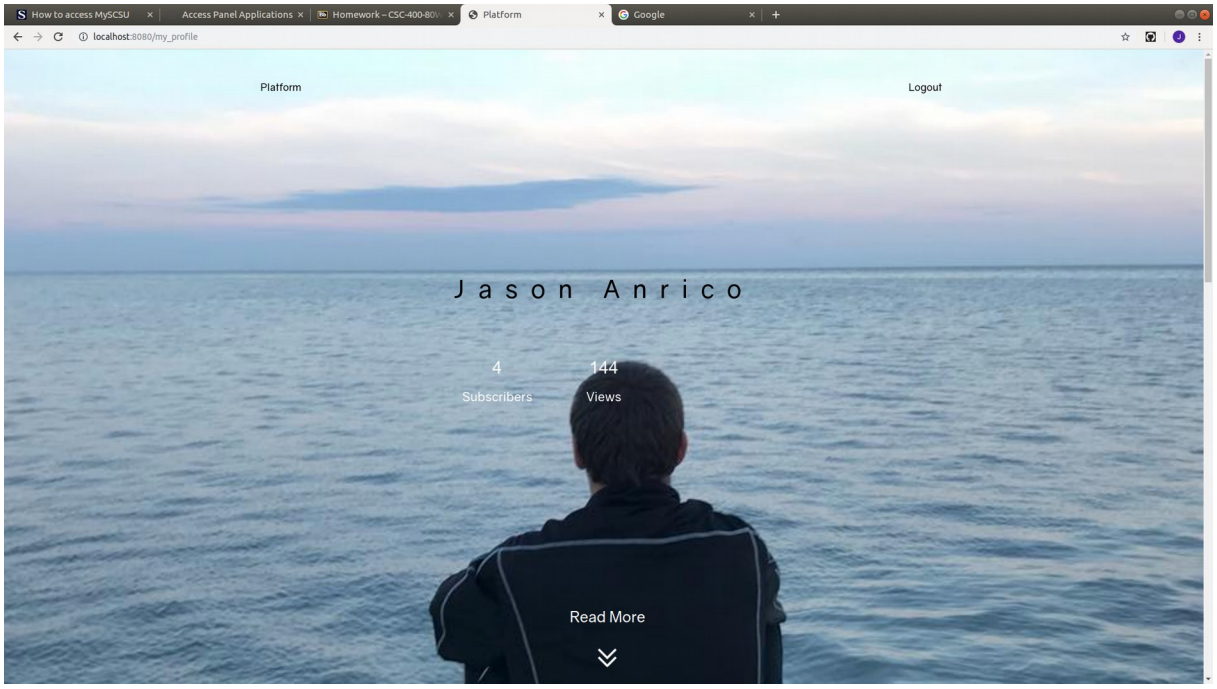
/auth/google



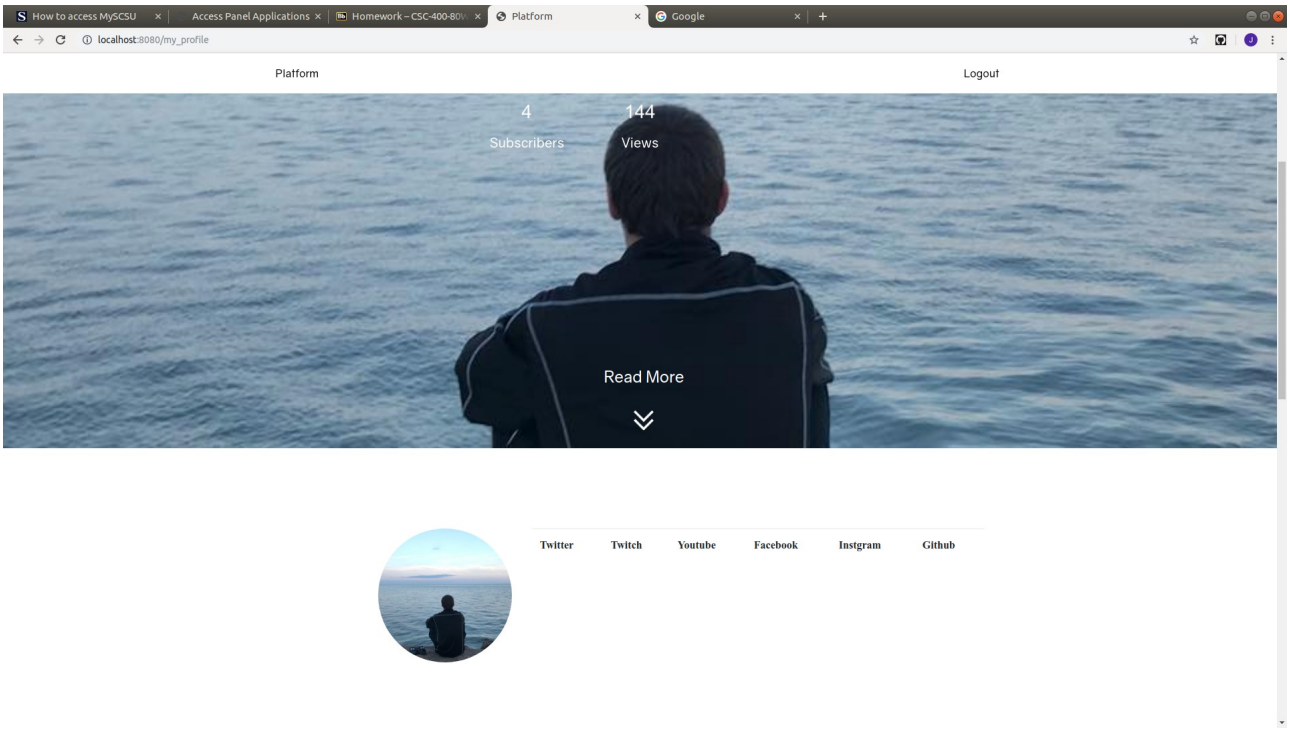
user data profile (just for development). Currently redirected after successful login to here. In the future it will be there actual profile page (next)



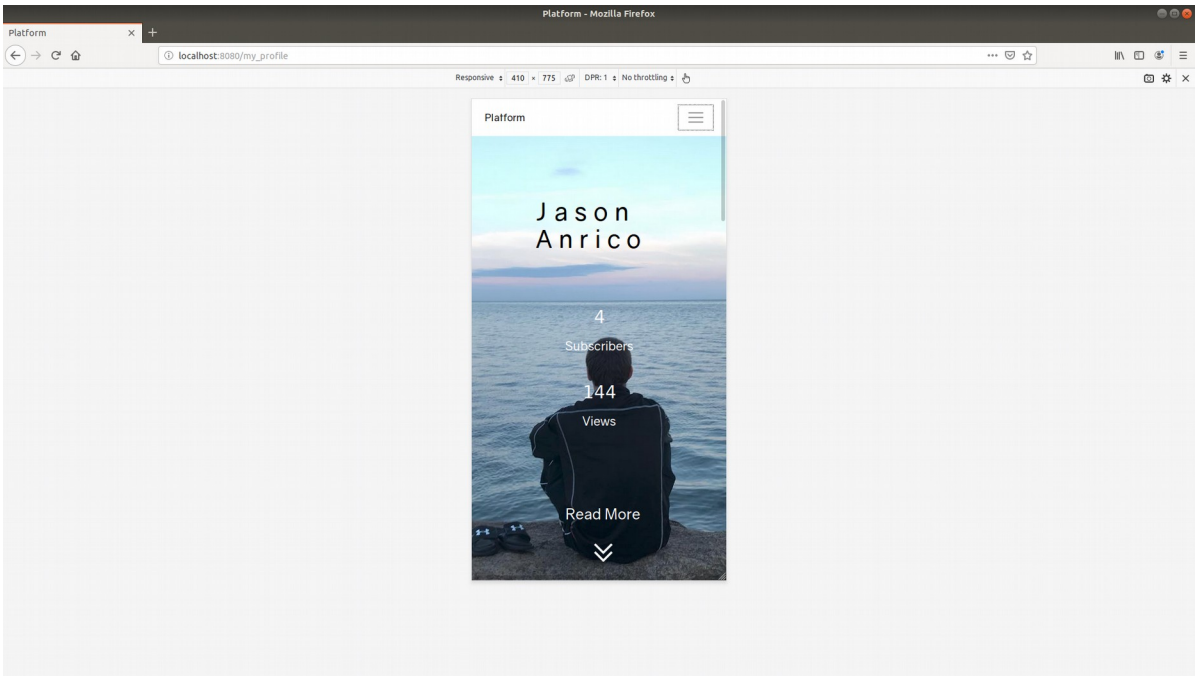
profile.ejs

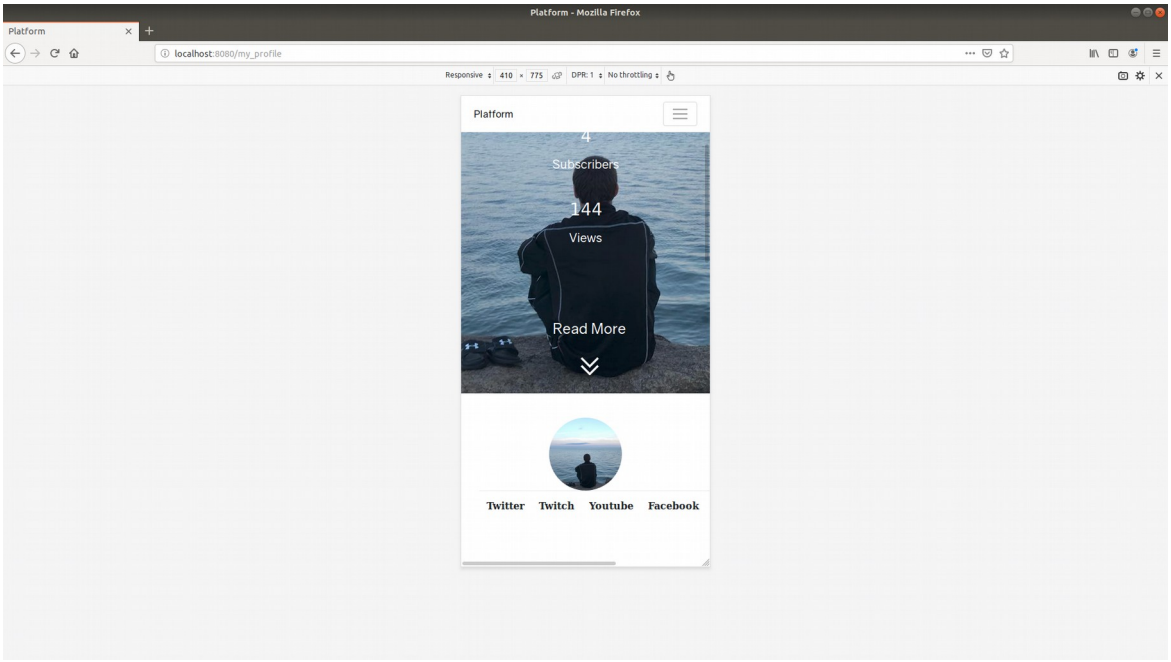


profile.ejs (scolled)



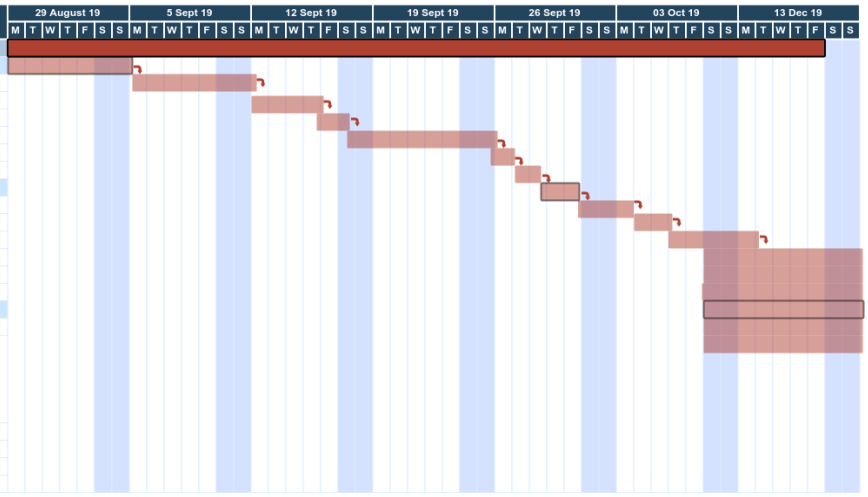
Responsive web design (getting device width + height)





Time Plan

	Task Name	Duration	Start	ETA
1	Complete project execution	3 months	8/29/19	12/13/19
2	Base HTML	7 days	8/29/19	9/5/19
3	Server / Client Programming	7 days	9/5/19	9/12/19
4	More HTML	4 days	9/12/19	9/16/19
5	Scripts (Data Analytics)	2 days	9/16/19	9/18/19
6	API's Authorization	10 days	9/18/19	9/28/19
7	In Class Meetings?	1 day	9/29/19	9/30/19
8	Testing	1 day	9/30/19	10/1/19
9	Notifications	2 days	10/1/19	10/3/19
10	Real Time Feed	3 days	10/3/19	10/6/19
11	Testing for bugs	2 days	10/6/19	10/8/19
12	Messaging	5 days	10/8/19	10/13/19
13	File Server (For Uploads)	5 days	10/13/19	10/18/19
14	Testing	2 days	10/18/19	10/20/19
15	Clean up Code	2 days	10/20/19	10/22/19
16	Testing	1 day	10/22/19	10/23/19
17	Deployment	1 day	10/24/19	TBA



Dependencies (package.json / node_modules)

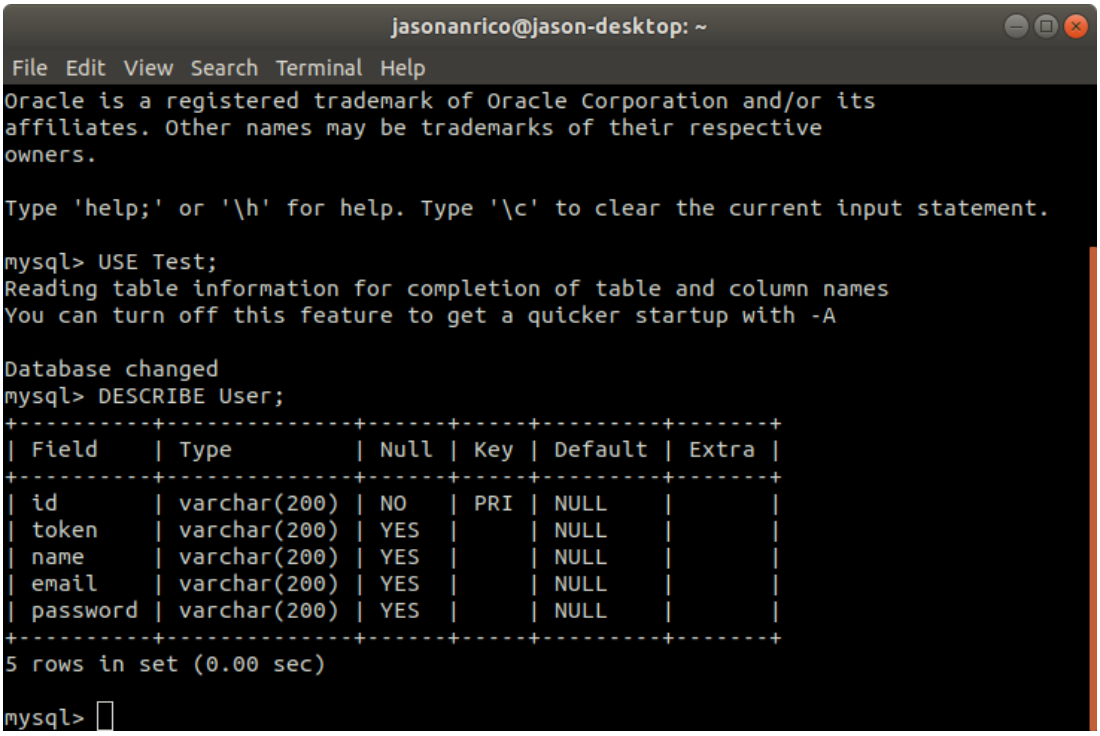
```
npm install express --save
npm install ejs --save
npm install cookie-parser --save
npm install express-session --save
npm install request --save
npm install request-promise --save
npm install morgan --save
npm install mysql --save
npm install body-parser --save
npm install passport --save
npm install connect-flash --save
npm install passport-google-oauth --save
npm install passport-local --save
npm install passport-facebook –save
npm install passport-twitch
npm install uuid --save
npm install bcrypt –save
npm install twitter --save
```

Challenges / Solutions

At first I didnt know much about Nodejs, and im still definitely no expert but I have certainly learned a lot by reading up on it over the past few months. My initial thought was to get a basic understanding of how node works and how I could use modules to their fullest potential. Over the summer I had a few goals.

- Get a Base HTML
- Login / Register Locally or with Google +
- Start Learning API’s

In which I did complete as you can see from the screenshots earlier. Obviously it did come with some challenges. One of which was deciding what kind of database I wanted to use. I had seen that with google-oauth many people use mongodb but since I am comfortable with MySQL I choose that. Which was a little tricky as first but ended up working out. I currently just have one table for Users.



I am still excited to keep working on this project and think I have a pretty good foundation to start the semester off with. The API's are a bit tricky as well, but what ive come to learn is to basically make an /auth/<api_name> (ex: /auth/google/, /auth/twitch) and then a callback url /auth/<api_name>/callback (ex: /auth/google/callback).

Example API Response