John Hoff

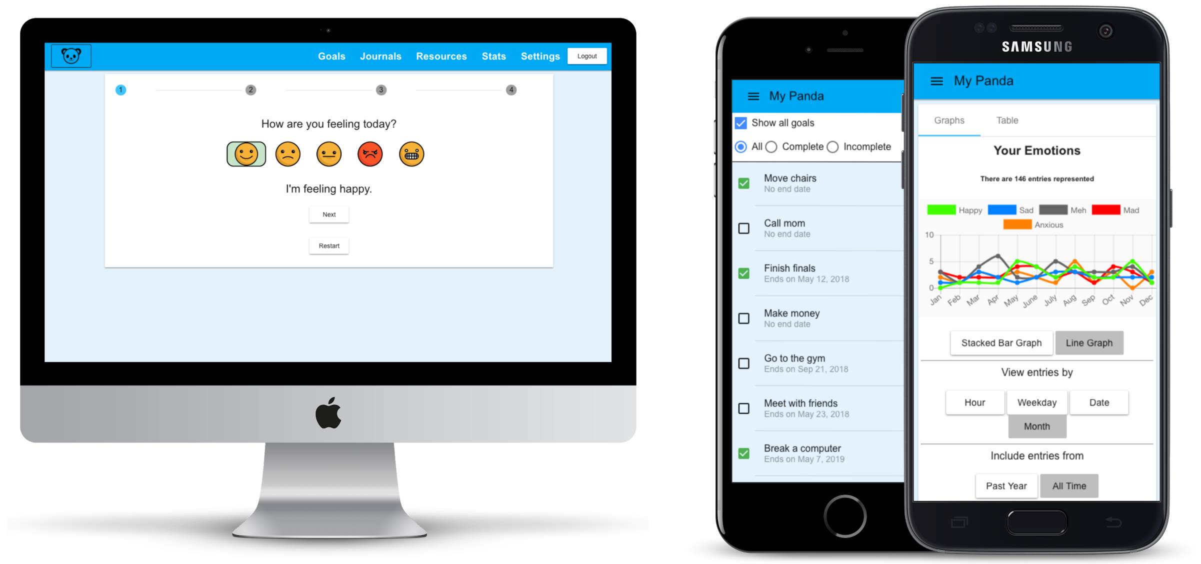
My Panda

The Project

My Panda is a web application designed to help users keep track of their daily emotions, goals, and written journals. My Panda uses this data to create personalized charts and graphs that show trends based on time, intensity, and frequency.

FEATURES

- **Emotion tracking** allow users to submit a response to represent their current emotion, intensity, and any additional details which returns a YouTube video playlist for support.
- **Goals** can be created to achieve personal ambitions or desired results that can be checked off when completed.
- **Journals** can be written to record thoughts, experiences, and observations.
- **Stats** show personalized charts and graphs from data collected by the emotion tracker.



- [✓] Move chairs — No end date
- [ ] Call mom — No end date
- [✓] Finish finals — Ends on May 12, 2018
- [ ] Make money — No end date
- [ ] Go to the gym — Ends on Sep 21, 2018
- [ ] Meet with friends — Ends on May 23, 2018
- [✓] Break a computer — Ends on May 7, 2019

LANGUAGES

- TypesScript
- HTML
- CSS
- Java

POWERED BY

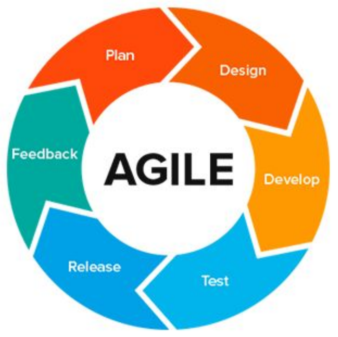
- Angular 5
- Angular Material
- Teradata Covalent
- MongoDB
- Spark
- DigitalOcean
- Cloudflare

TOOLS

- IntelliJ IDEA
- Travis CI
- Yarn
- Angular CLI
- JUnit
- Jasmine
- Karma

Agile Software Development

Our project was developed using agile methodologies over four two-week iterations. Teams started with four members then were incremented to six, seven, or eight for each new iteration.



Story Planning, Shopping, and Showcasing

Before each iteration, teams collaborated to create stories with point estimates to sell to the customer based on the features' prioritizations. A budget was set in place for the customer to limit how many points' worth of stories they could buy. At the end of each iteration, teams showcased their software products to the customer to receive feedback on progress for future development.

Teamwork and Communication

Teams used GitHub for version control. GitHub was integrated with ZenHub, an agile project management tool for tracking and planning stories. Travis CI was synced with GitHub for testing and deployment. Members' individual branches were continuously integrated into the master branch by making pull requests that were reviewed by other team members to ensure code quality. Slack was our primary form of communication.

Personal Contributions

Icon

I designed the icon used on our web app which displays on any browser, computer, mobile device, and homescreen if saved.

Web App Manifest

I implemented a web app manifest that enables our web app to act as a native app on mobile devices. The first time an android user visits our website, an add to homescreen button will appear.

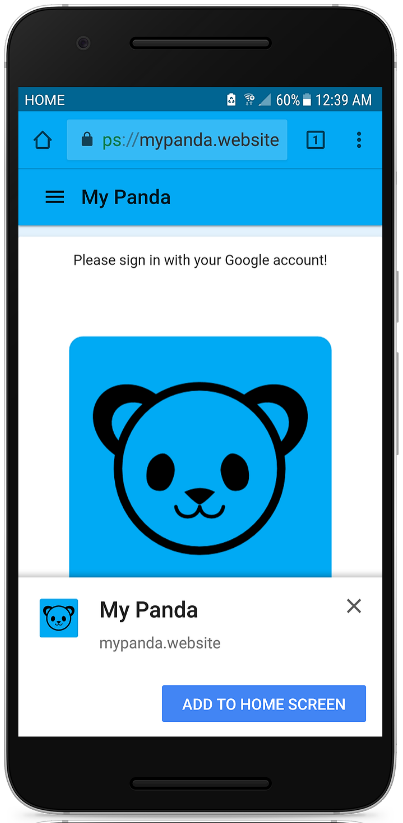
The web app manifest is dependent on a service worker that I also implemented. The service worker caches the app to help it load quicker and use less data. With cached data, My Panda can be used offline.

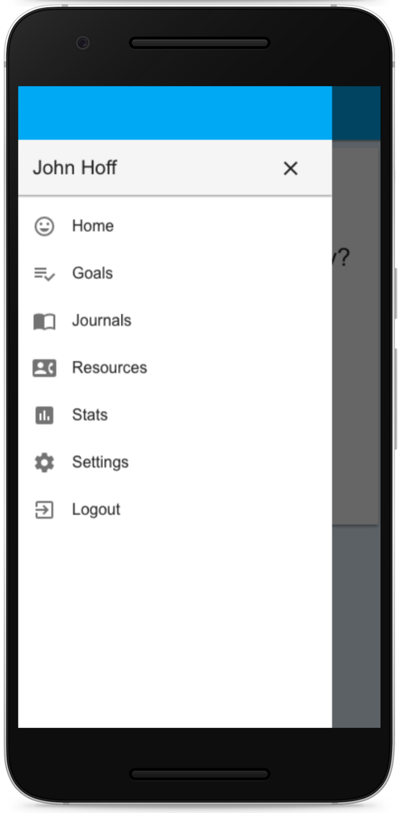
UX Design

I was the primary designer for the look and feel on the front-end. For the desktop view, I designed the navbar in addition to the goals, journals, and resources pages. On mobile devices, I was the primary contributor for the side-navigation menu and a secondary contributor to the goals and journals pages.

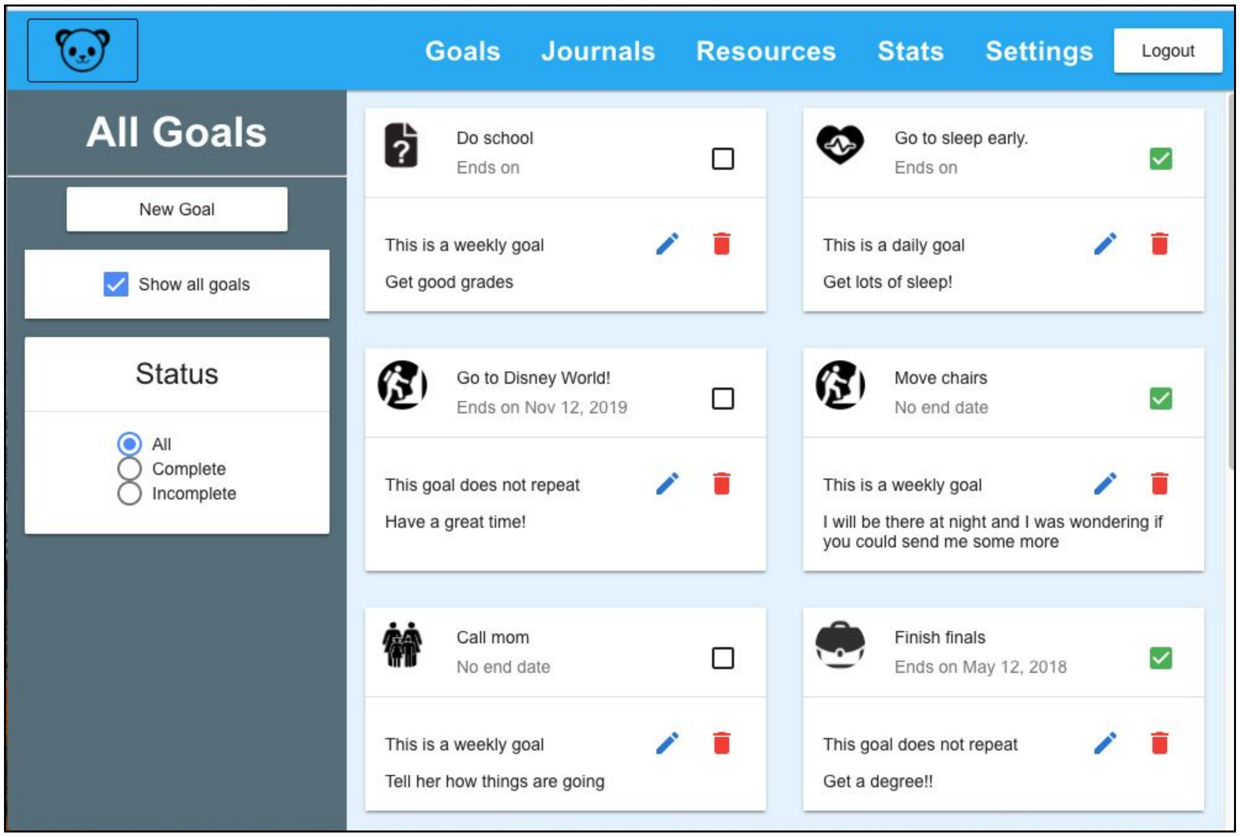
For quicker implementation, I created globally defined classes to be used in HTML and CSS. These kept colors and styles uniform across the whole project.

I set up the entire web app to dynamically resize when a user is on a mobile device.





Goals Page (on desktop view)



Do school
Ends on
This is a weekly goal
Get good grades

Go to sleep early.
Ends on
This is a daily goal
Get lots of sleep!

Go to Disney World!
Ends on Nov 12, 2019
This goal does not repeat
Have a great time!

Move chairs
No end date
This is a weekly goal
I will be there at night and I was wondering if you could send me some more

Call mom
No end date
This is a weekly goal
Tell her how things are going

Finish finals
Ends on May 12, 2018
This goal does not repeat
Get a degree!!

Live Project Deployment

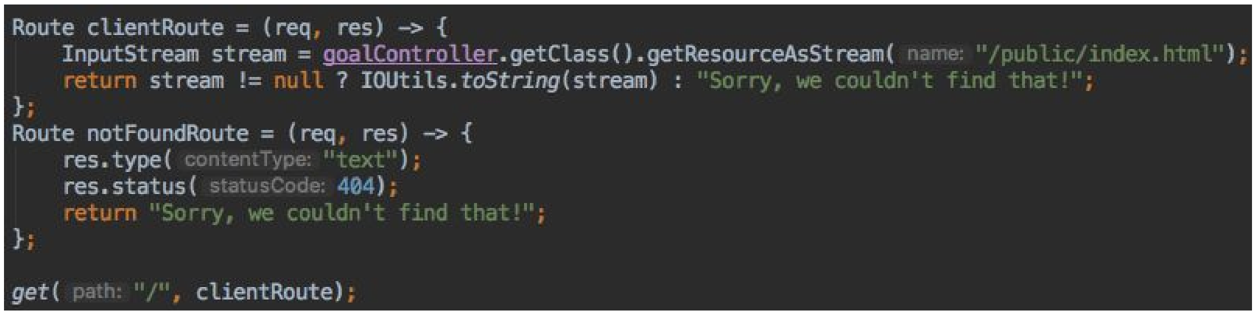
I took the initiative to purchase a domain name for our project from NameCheap, mypanda.website. Using DigitalOcean's web hosting services, I created a droplet and pointed our domain name to the IP address. Cloudflare was used for SSL protection.

Routing, Networks, and Databases

On the client, I helped set up functions in TypeScript that sent requests to the server to query the database. Our project used angular's routing and navigation, in which I helped with the router links and child routes by object ID.

In the server, our project uses Spark Java with MongoDB. In Java, I helped write database queries that allowed users to edit, delete, or modify their data by specified object IDs. I set up some of the API routes in Java that was connected to our database for get, post, and delete requests.

Client Route in Java

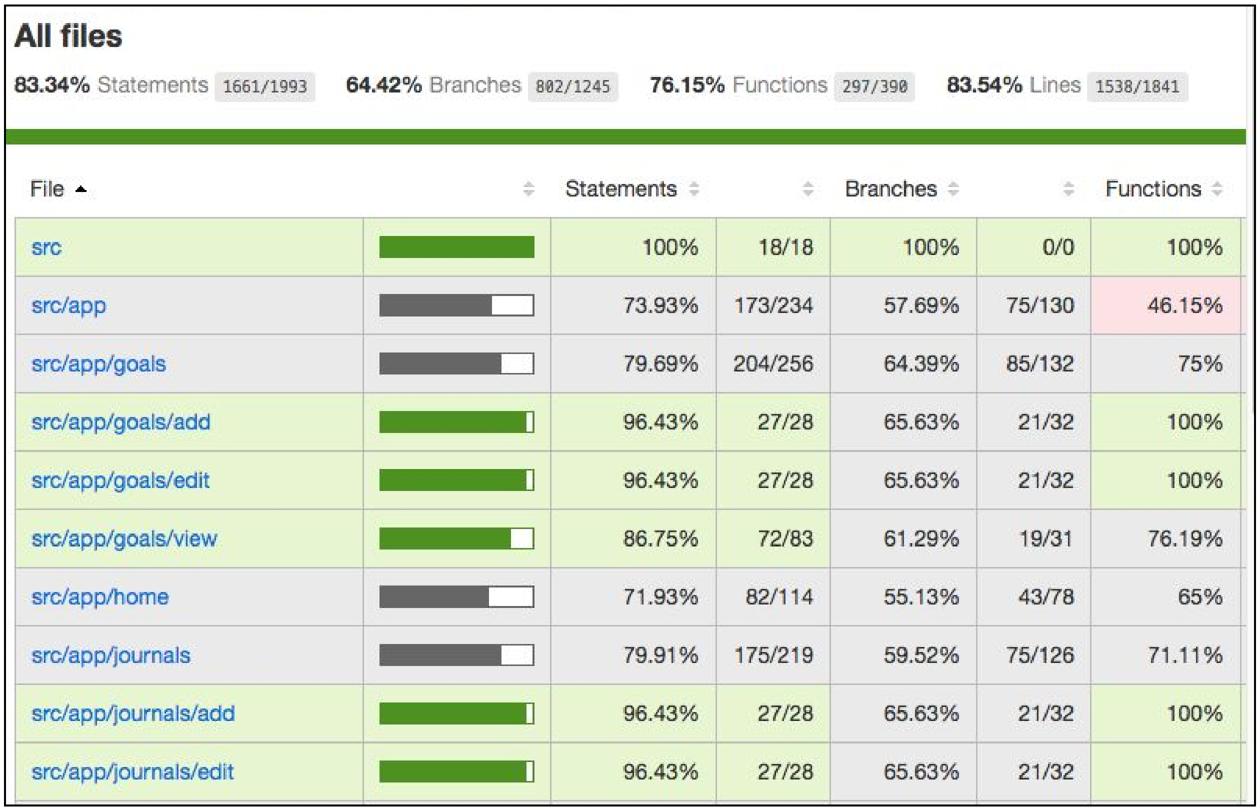


```
Route clientRoute = (req, res) -> {
    InputStream stream = goalController.getClass().getResourceAsStream( name: "/public/index.html");
    return stream != null ? IOUtils.toString(stream) : "Sorry, we couldn't find that!";
};
Route notFoundRoute = (req, res) -> {
    res.type( contentType: "text");
    res.status( statusCode: 404);
    return "Sorry, we couldn't find that!";
};

get( path: "/", clientRoute);
```

Testing

On the client for Angular, we used the Karma and Jasmine testing frameworks to ensure good coverage and quality of our components and services. I was a primary contributor in making sure that our functions were thoroughly tested. In addition to this, I helped write end-to-end tests that checked the usability of our web app.



All files

83.34% Statements 1661/1993 **64.42%** Branches 802/1245 **76.15%** Functions 297/390 **83.54%** Lines 1538/1841

File ▲		Statements		Branches		Functions
src		100%	18/18	100%	0/0	100%
src/app		73.93%	173/234	57.69%	75/130	46.15%
src/app/goals		79.69%	204/256	64.39%	85/132	75%
src/app/goals/add		96.43%	27/28	65.63%	21/32	100%
src/app/goals/edit		96.43%	27/28	65.63%	21/32	100%
src/app/goals/view		86.75%	72/83	61.29%	19/31	76.19%
src/app/home		71.93%	82/114	55.13%	43/78	65%
src/app/journals		79.91%	175/219	59.52%	75/126	71.11%
src/app/journals/add		96.43%	27/28	65.63%	21/32	100%
src/app/journals/edit		96.43%	27/28	65.63%	21/32	100%

In the server, we used test-driven development with JUnit. Alongside JUnit testing, I helped develop the controllers and request handlers that related to their spec files.