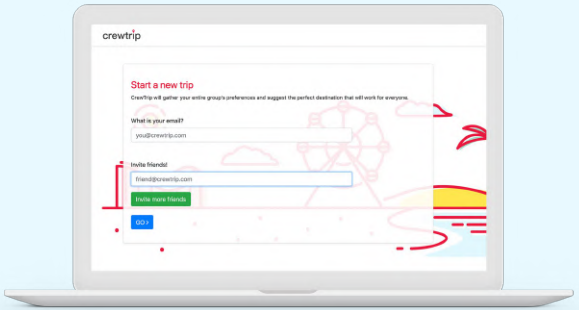
crewtrip

Web Science Systems Development Term Project

Natalee Ryan

Spring 2019



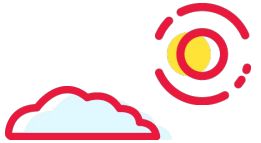
Challenge

Our team had a strict 8-week timeline to create a unique web application that would later be a functional API, outputting data that could be consumable and useful to another developer or company.

Planning a trip can be burdensome and increase in difficulty as the travel group size grows. From trying to coordinate availability to deciding what kind of excursion the group actually wants to go on, the whole process could benefit from some streamlining. Our challenge was to create an application for groups to decide trip details in an interactive, fun, and fair manner.

Ultimately, we created an API that outputs 3 objects: Average of the different preferences for the entire crew, suggested destinations and the place details, and group availabilities for traveling based on the input.

Overview of team & tasks



Backend Developers

Jon-Luke and Tony

- Researching APIs to use
- Implementing and integrating Server side application logic
- Designing and constructing database schema

Frontend Developer

Natalee Ryan (me) 👋

- Researching and implementing frameworks to use to successfully output desired API results

UX/UI Designer

Natalee Ryan (me again!) 👋

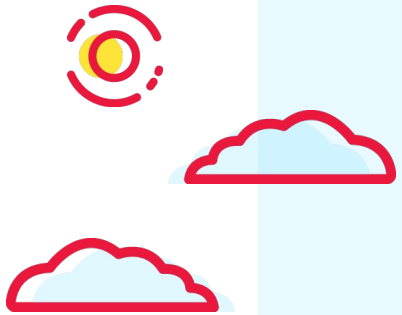
- Researching users
- Analyzing competitors
- Creating wireframes for all developers to follow
- Establishing design guidelines through CSS standards

Overview of timeline

1 week	1 week	2 weeks	4 weeks	
Understand	**Decide**	**Design**	**Build**	**Validate**
Users	Features	User flow	Frameworks	
Competitors	API outputs	Front-end feel	DB fields	
Technologies required	APIs needed	Database schema	Results	
		Iterate as needed	Testing	

Our approach

Our team of three had limited, but diverse, skill-sets within the web application development realm. I was eager to practice usings frameworks and APIs while actively leading backend developers to a seamless integration.

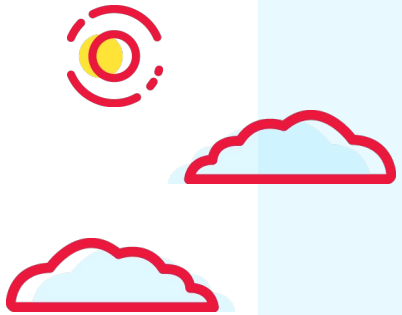


Decisions that had to have early direction included:

- Main features
- API data output and formatting
- APIs to use in our application
- Necessary form fields
- User audience and their goals

Understand through research

While research on technologies began, I worked through preliminary user research to hash out **features** and UI research for **design patterns** seen throughout similar travel-oriented applications for the smoothest user experience.



User research

After defining the user audience (travelers, vacationers, families, groups planning a reunion), exploring the wants and needs of the audience came next.

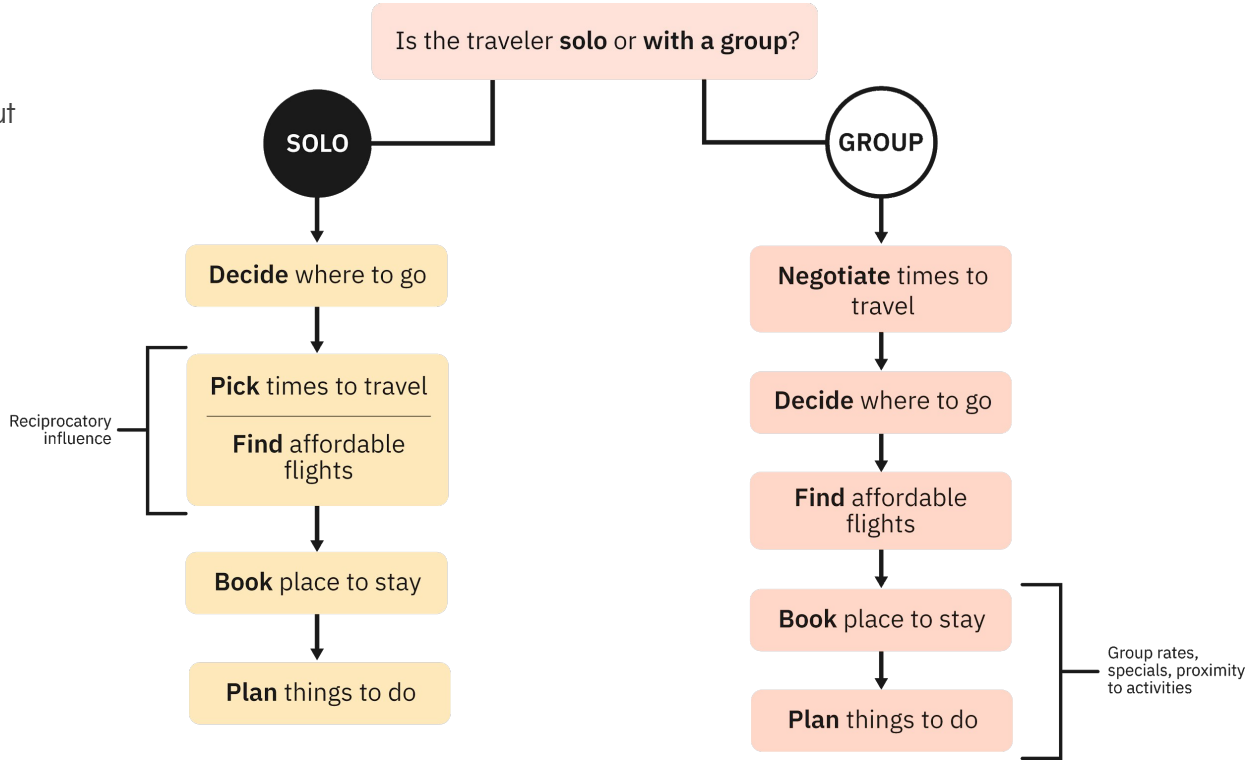
Research discussion questions –

- Have you planned a trip with 3 or more total people in the past year?
- How do you decide where to travel to for a trip?
- Which apps, if any, do you use to plan a trip or vacation?
- Do you plan on computer, laptop, or mobile device (or a combination)?
- Describe the process for deciding what activities to do during your vacation.

User research

With these questions answered by a group of 20 people, I began mapping out trends in a typical trip planning experience that predominantly utilizes technology.

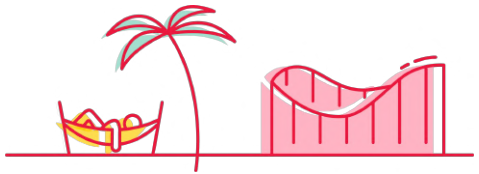
“Why is this important?”
Understanding the steps helped me sketch flows for our forms that would be natural and intuitive in the trip-planning thought process.



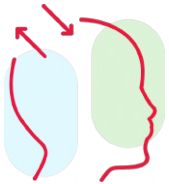
User research

Factors that **weighed heavily** on decisions through itinerary planning:

Are all group members on the same page of how they want to spend their time?



Do most people in the group prefer a chill or adventurous trip?



Is the group composed of primarily introverts or extroverts?

Some responses shared their comfort in all travelers booking separately to reduce liability in mistakes but also noted they would unknowingly miss out on group rates. We took this to heart when making sure autonomy was at the heart of the application.

Design

Because the design would evolve rapidly into a fully functional application, planning the MVP early was critical to our 8-week timeline.

From trying to coordinate availability to deciding what kind of excursion the group actually wants to go on, the whole process could benefit from some streamlining.

Current tools used for planning (as told by interviewees):
- **Google Trips, TripAdvisor** – activity ideas
- **WhenIsGood, Messaging group, polls** – figuring out group availability
- **Google Drive, spreadsheets** – organizing information and schedules

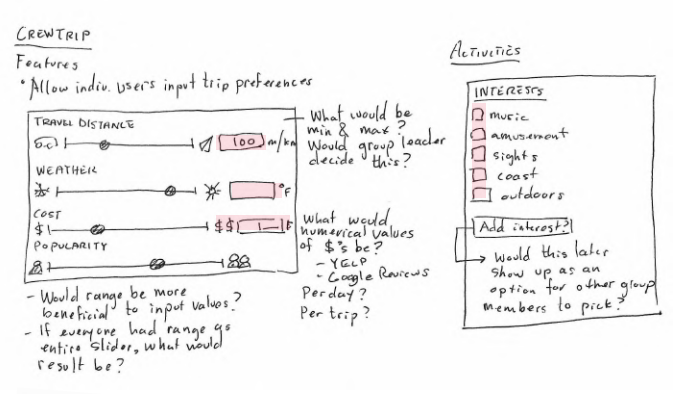
After our team compiled a list of desirable features our group-trip-planner could have, I started sketching because visualization was the easiest way for me to flesh out these ideas and get the simultaneous-database-construction rolling. 🚧

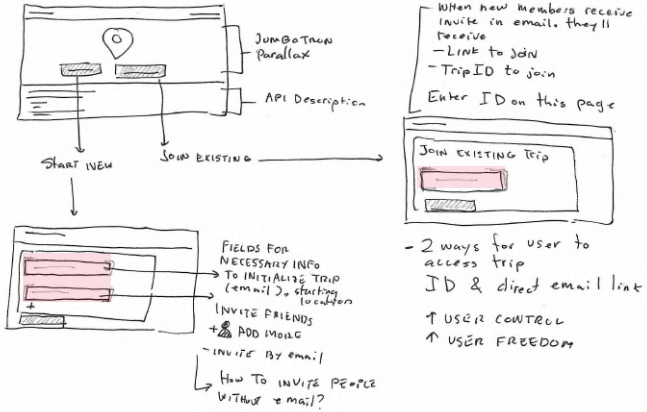
- Invite friends to join a virtual trip via email
- Unique TripID to join trips without email
- Each group member is able to input preferences for the trip (from destination to activities during the trip itself)
- Responsive and user-friendly interface
- Suggested destinations generated with the help of APIs, based on group preferences

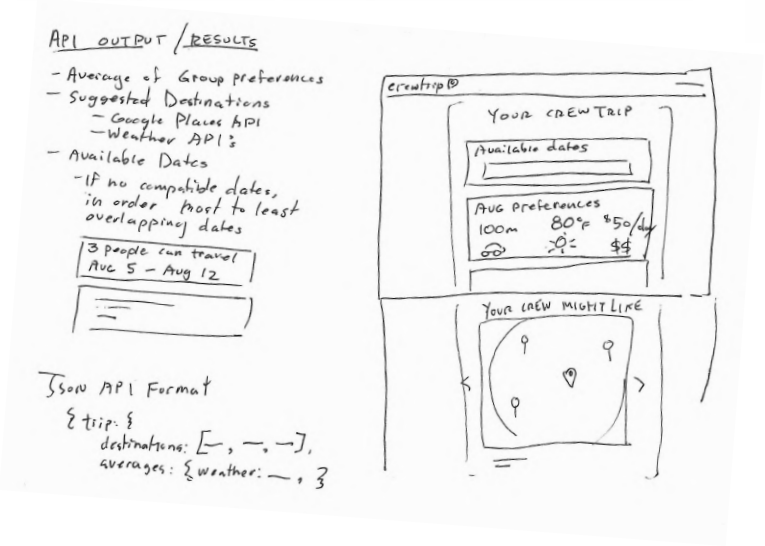
Design

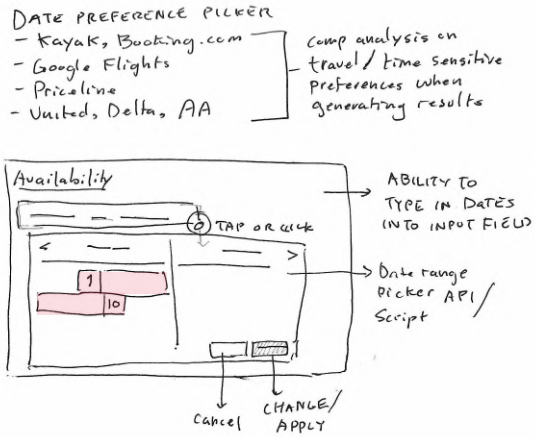
While sketching wireframes, I asked the team for input on necessary Angular form fields to make our features come to life.

With this information, I was able to quickly move forward with the development of the front-end and user interface designs.



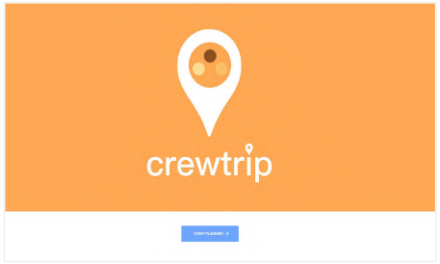


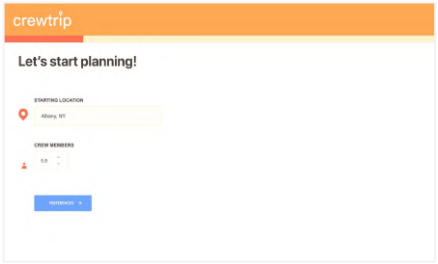


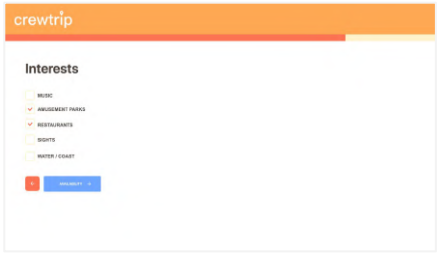


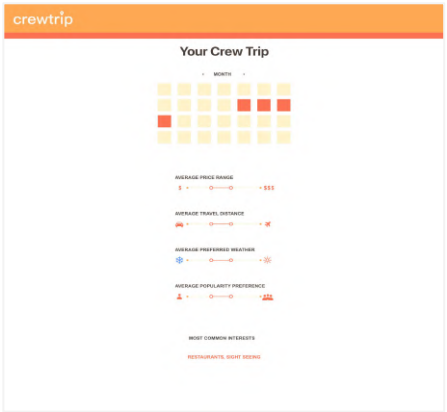
Design

After demystifying the flow and carving out functionalities to keep in scope, I began iterating designs. I started with simple screens that could be tweaked later so the backend devs had something to work with while I finalized graphics and color decisions.









Design

Although our goal was to minimally create an API, our team wanted to ensure the three object results of the group-planning app would be presented to the user in a clean visual format in the end. We wanted to brand our application to reflect a modern travel assistant.

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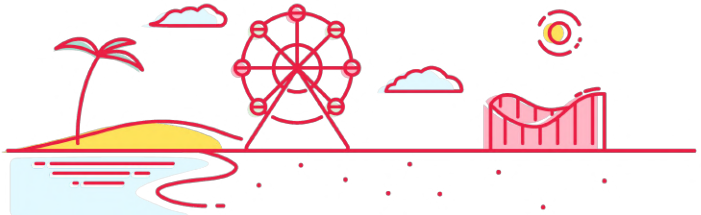


Tasks

- Creating color palette to implement into Bootstrap stylesheet
- Analyzing competitor colors to create a familiar-feeling experience
- Creating fun graphics to enhance the experience!

#ec193eff (h1, outlines for graphics, logo)

#157ffbff (main CTAs)

#a9e09cff (accent color)

#ffde05ff (accent color)

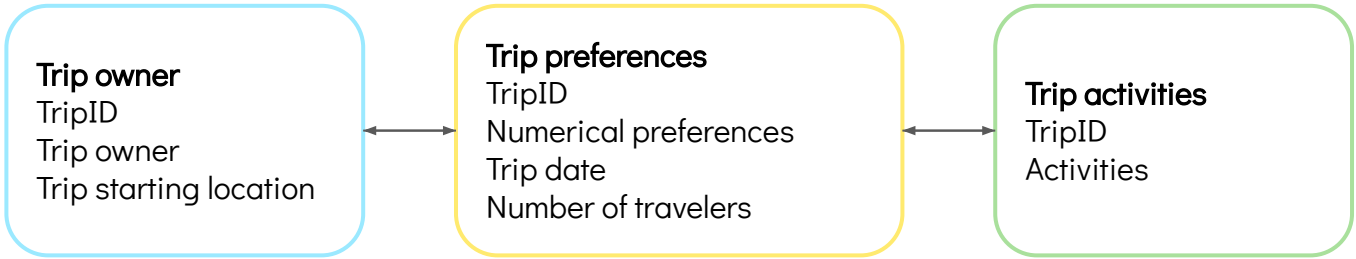
#9be9ffff (accent color)

Build

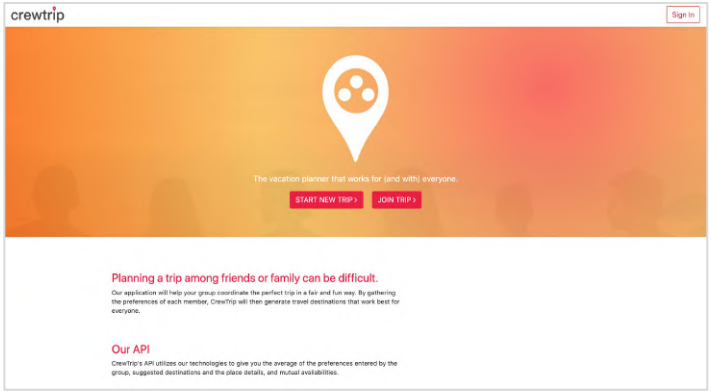
To have a functional MVP, our technologies utilized were as follows:

- MongoDB
- Express
- AngularJS
- NodeJS
- Bootstrap
- Google Places / Autocomplete API
- Weather API

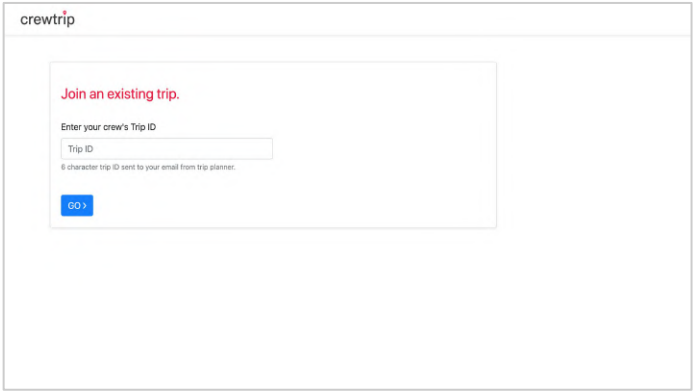
Our database design was a 3-document MongoDB collection, each object having a unique _id that would store trip specifics as API inputs later.



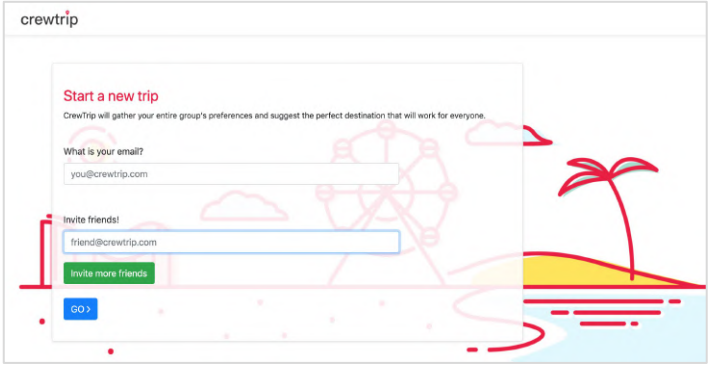
The final design



Landing page

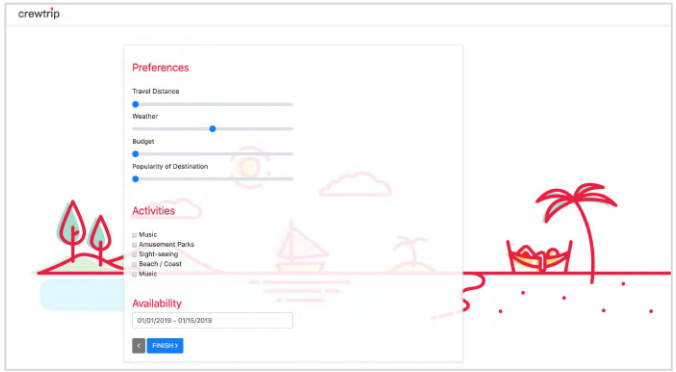


Join Existing Trip

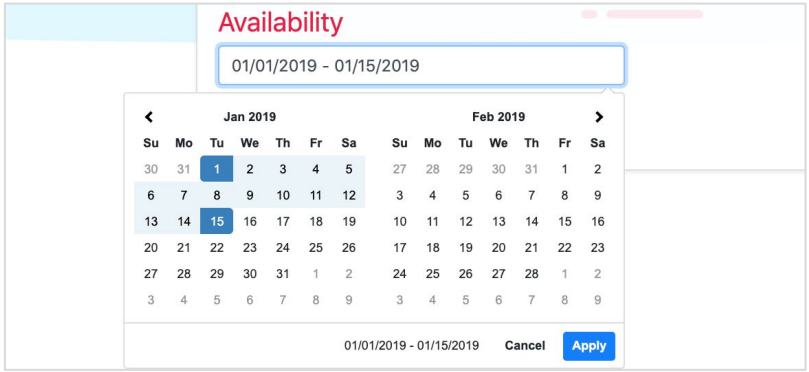


Start New Trip

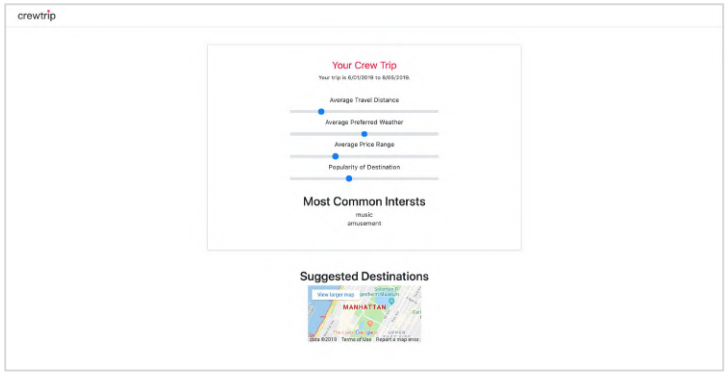
The final design



Preferences Form



Availability Calendar



Results Page

Reflection

Challenges

- Within a week of our main development spring, we lost our 4th teammate and had to rework all of our responsibilities
- This timeline moved quicker than anticipated, forcing us to to leave out some features that would've really made our application shine
- I learned about better UX practices throughout this project but wasn't able to implement them within our time constraints
- As a team, we experienced a large learning curve with the multitude of API result formats we had to construe to become valuable to us

Future state envisioning

- Scanning application for accessibility in frontend icons and use of hidden text
- Adding input field next to sliders
- Populated "Activities" from trends seen by other group members' responses.
- Use map to visually draw radius for travel destination preferences.
- Added security into each group session.
- Itinerary recommendations.

Final thoughts

This project put me in a great position to research new APIs, web development, best frontend + backend integration practices, and dabble in the world of UX.

I look back on this as a great beginning checkpoint in my journey through user-experience design.

Thanks for reading!