

Assignment 8
Final Project: Implementing a Web Portfolio/Tool Project

Part 1 - Project Description

My final project is a travel planning mobile application. This app is intended to make trip planning easier by allowing users to create their own itineraries with the guide of recommended destinations and restaurants.

After login, the user is presented with information regarding the current month, upcoming trips, and popular destinations. The month overview displays a calendar with any trips the user has planned during that month. The upcoming trips section displays cards for every trip the user has planned through the app. These cards link to full pages where the user can view(/edit) their itinerary and recommended activities and eats. The popular destinations section shows image cards of well-known travel destinations that could serve as inspiration for future trips.

This app is interesting and engaging because it centers around the user and what they want to make out of it. The app is simply a tool to help make the overwhelming process of planning a trip easier. To facilitate greater engagement, the user is prompted to answer questions about their travel interests after creating an account. Their answers to these questions would help tailor their recommendations accordingly for a more personalized experience. Furthermore, there is a bucket list feature that allows the user to input their travel goals, which is an engaging way to keep track of the activities that users hope to accomplish someday.

The target audience for this app would include any travel enthusiast, but in particular, young users who are more flexible and adventurous with their travel needs. Since this is a mobile app, it is perfect for on-the-go planning. Younger people are more familiar with mobile technology and are also more likely to travel, so the interface caters to this demographic by leveraging familiar design patterns from other mobile apps and fun colors/typography.

Part 2 - Interaction Flow

- Splash Screen (/Home.tsx)
 - Create an account: tap on “Sign Up” button
 - Create username and password: Type in input fields and press “Register” button
- Answer interest questions: Tap on dropdown arrow then tap checkboxes/radio buttons
- Move to next interest question/home page: Tap on “next” button

- Home page (/Dashboard.tsx)
 - View different months on calendar: Tap on arrows on calendar
 - View sections on home screen: Vertically scroll down
 - Look through “popular destinations” cards: Horizontally scroll
 - Start planning a new trip: tap on the add button or the “plan your next trip” text
 - Alternatively, tap on the schedule tab in the bottom navigation bar
- Schedule page (/calendar.tsx)
 - Select a destination: tap on “Where to?” input field and tap radio button
 - Open date selection widget to indicate your departure and return dates: tap on the fields below “Start Date” and “End Date” labels
 - Select the correct dates: scroll through months/days/years and tap on “done” in the widget
 - Move to the itinerary page: tap on “Start Planning” button
- Itinerary page (/Itinerary.tsx)
 - Add an item to your itinerary: tap on “add an activity” button
 - Check off items you have completed: tap on checkbox next to activity name
 - Scroll down to view/edit itineraries for different days
 - View recommended activities/restaurants: tap on “Recommendations” tab
- Recommendations page (/Recommendations.tsx)
 - View popular destinations: scroll horizontally through “Popular Destinations” cards
 - View recommended restaurants: scroll down to the “Recommended Eats” section and then scroll horizontally through image cards
- Bucket List page (/bucketlist.tsx)
 - Add a bucket list item: tap on plus (+) button in bottom right corner
 - Type in bucket list item in the “Add a bucket list item” pop-up
 - Tap on “Add” button in the “Add a bucket list item” pop-up
 - Check off completed bucket list items: tap on checkboxes next to item
- View/edit your bucket list: tap on “Bucket List” tab in the bottom tab bar
- Navigate back to home page: tap on “Home” tab in the bottom tab bar
- Plan a new trip: tap on “Schedule” tab in the bottom tab bar

Part 3 - External Tools

- I. Ionic React, Firebase, TypeScript
- II. I chose to use Ionic React because it was a framework we had learned in lab that is commonly used for mobile development. In particular, React helps save time both for the programmer by allowing reusable UI components and in terms of build time, as it only refreshes parts of a page instead of the whole page. Ionic React provides all of the same benefits of React and, additionally, supports easy implementation of iOS and Android UI

patterns. However, Ionic uses TypeScript as its primary language, which added another layer of novelty for me. Lastly, I decided to use Firebase to help with authentication and data management, since my app allows for multiple users to make accounts and input their custom trip data.

- III. The entire application is built using the Ionic React framework written in TypeScript. React components are used to carry data through different pages—specifically, the destination, departure date, and return date are stored when the user inputs this information on the trip planning page (Calendar.tsx) and able to be used on the itinerary page (Itinerary.tsx). Firebase is used to enable multiple accounts to be made on the app by storing users' login credentials and using this data to let them sign in to view their personalized information.
- IV. These tools helped add interactivity, engagement, and visual aesthetics to my app. Without Firebase, users would not have the capability to create their own accounts that display custom information input by the users themselves (i.e. their trip itineraries). This feature makes for a more engaging platform because users have greater control over their experience with the app. Furthermore, Ionic React provides many UI components that are commonly used across mobile applications, leveraging users' familiarity with these design patterns and making the app more intuitive.

Part 4 - Iterations

While implementing my app, I ultimately removed some functionalities that my original HW7 mockups had included. I omitted the last “interest question” prompting users to select their dream destinations, and instead, displayed general popular destinations on the user’s home page for inspiration. I also switched the order of the “Recommendations” and “Itinerary” tabs on the individual trip planning page, since the purpose of the app is for users to create an itinerary, and therefore, it should be the most visible feature on the page. Lastly, I omitted the specific details for each itinerary item—users can just custom input items to add to their itinerary and check them off as they are completed.

Part 5 - Challenges

As someone who had no experience with Ionic React, TypeScript, or Firebase, I experienced a lot of challenges trying to familiarize myself with the syntax and structure of these unfamiliar tools. I encountered many bugs while trying to cohesively link my pages together, style specific Ionic elements, and upload/access data to/from Firebase. For the future, I have learned to ensure that the scope of my project is reasonable for the given amount of time before diving too deep into the development process.

Accessibility (Wave screenshots of each page)

The following table summarizes the accessibility issues found by the WAVE tool across six different pages.

Page	Errors	Contrast Errors	Alerts	Features	Structural Elements	ARIA
localhost:8100/home	0	2	1	1	1	0
localhost:8100/login	0	2	1	1	1	0
localhost:8100/register	0	2	1	1	1	0
localhost:8100/interest_1	0	2	0	1	2	11
localhost:8100/interest_2	0	1	0	1	2	6
localhost:8100/interest_3	0	1	0	1	2	6

localhost:8100/dashboard localhost:8100/calendar localhost:8100/itinerary

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Styles: OFF ON

Summary

	Errors	Contrast Errors
Errors	0	7
Alerts	3	2
Structural Elements	5	147
ARIA	2	19

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Styles: OFF ON

Summary

	Errors	Contrast Errors
Errors	0	4
Alerts	0	1
Structural Elements	2	6
ARIA	19	20

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Styles: OFF ON

Summary

	Errors	Contrast Errors
Errors	0	4
Alerts	0	2
Structural Elements	6	20
ARIA	19	20

[View details >](#)

localhost:8100/Recommendations localhost:8100/bucketlist

powered by WebAIM

Styles: OFF ON

Summary

	Errors	Contrast Errors
Errors	0	3
Alerts	4	4
Structural Elements	5	15
ARIA	2	39

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Styles: OFF ON

Summary

	Errors	Contrast Errors
Errors	0	3
Alerts	0	1
Structural Elements	2	39
ARIA	19	20

[View details >](#)