

## PUI Final Project Write-Up

### Part 1

My application is called “Know Your ‘Burgh”. It is focused on **highlighting underrepresented local history** and spots that people can walk and bike to, to encourage nonmotorized transportation use. I incorporated a physical aspect as well, placing posters with QR codes linking to the progressive web app(PWA) around the city and campus with prompts to learn more about specific topics. This drew together many of my interests: community engagement, transportation, mobile apps, and web development so I was excited to make the project applicable to things I am passionate about and hopefully get people excited about our awesome city!

The target audience as of now was CMU students as I put the posters up around campus and featured a relevant fact about one of our own HCII professors in the app. The hope is that in the future it could expand to include even more people and areas of reach, but a lot of students come to Pittsburgh not knowing much about the city and without the time or money to really explore. I was hoping this could be a quick way for people like this to feel more connected to Pittsburgh and learn information that might not be shared in our classes.

To make the website interesting and engaging, I worked to design posters with eye-catching coloring and phrases that would draw people in to learn more. I kept the information short and concise and utilized Pittsburgh’s sports teams’ colors to relate it back to our city and its unique characteristics. By being a progressive web app, I made sure that after the first load of the app the response time will be quick due to a service working caching items to local storage. This will increase user engagement so there are not long wait times even if offline.

### Part 2

- View local facts on “learn” page
  - Click “learn” tab in bottom tab menu or you may be already on it
  - Tap on one of the cards with a photo or scroll to view more
- Read information on card
  - Click “close” to close out
  - Or click on the URL to go to an external site to view more information about the topic
- View a map of pittsburgh that is pinchable and zoomable
  - Click “map” in the bottom tab menu
  - Pinch and swipe around on the map to view different parts of the map
- Learn more about the app’s origins
  - Click on the “about” tab in the bottom tab menu
  - Read about the application and submit any feedback you have to me :)

### Part 3

i. Tools: Google Maps API, Ionic with React, Firestore Database, Firebase

ii. I chose to use these tools because they were all things I hadn't worked with before and wanted to get some experience in. I felt that a map would be appropriate for an app targeted toward getting to know a city better, and as someone who really sees the value in progressive web apps I was interested in seeing if it was doable to implement one in a new framework I had not used before. I don't have much experience with databases at all so using Firebase was really valuable and a great way to make my application more dynamic in the way content was displayed as well.

iii. I used Firebase to host my app, Firestore to store data and pull that into the app, Google Maps API to display a dynamic map on the UI, and Ionic + React to build out the front end and functionality of the application.

iv. My website wouldn't have worked without the use of these tools so it adds all the PWA functionality, mapping, dynamic content rendering, smooth UI from Ionic components, and hosting.

#### **Part 4**

I iterated a bit from my original mockup although the overall content and structure stayed mostly the same. I added more content after suggestions from my TA to make the application a bit more robust in the topics it covered. I had just pasted a screenshot of Google Maps from my phone's app in the wireframe, and actually implementing the API was a bit different than opening the Maps app so it behaves as more of just a scrollable map area than a navigation / routing tab as shown in the wireframe. Also, I changed the history modals to be overlays rather than new pages to ensure users didn't have to worry about navigating back and forth each time they clicked on one of the history cards.

#### **Part 5**

Building out this project actually took a **lot** longer than I expected it to! The Ionic framework has been out for a long time, but it was mostly Angular based, so there is a lot less documentation out there on using React with it. I didn't realize when choosing the framework either that it used Typescript in React, so there was a bit more of a learning curve there for me as well. Also, the Google Maps API had very little documentation for use with Typescript, so this added a bit of an extra roadblock as well - overall I learned a ton but still have a long way to go to being comfortable with this stack!