Wayfinder

Showcase

Introduction

The Team

Matthew Logan
Team + Backend Lead

Dallas Richmond
Frontend Lead

Tyler Maloney
Frontend Developer

IMB

Meghan
SCRUM Coach

Adam
DevOps Mentor
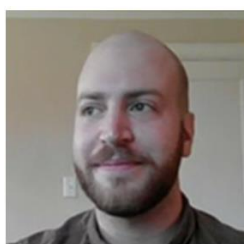
Jesse
UX Designer

Robert
Product Owner

What Is Capstone?

Capstone provides a learning opportunity to produce a "proof of concept" that contributes to the knowledge and understanding within the IMB through the adoption of Full Stack and DevOps best practices

Matthew

Team Position:
Team Lead, Backend Developer

What were you doing before this?
Previously a red seal chef of 8 years in Victoria, BC.

What contribution are you most proud of?
Creating the API and using TypeScript as our development language.

Thoughts on the product you've built together.
It was a great opportunity to work collaboratively with my peers, and onboard with CITZ IMB.

Dallas

Team Position:
Lead frontend developer

What were you doing before this?
Pursuing a bachelor's degree in Astronomy and Physics.

What contribution are you most proud of?
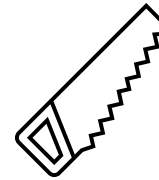Implementing and maintaining Wayfinder's State management.

Thoughts on the product you've built together.
I'm extremely happy with how much progress we made in such a short amount of time.

Tyler

Team Position:
Frontend Developer.

What were you doing before this?
Woodworking for Brent Comber Originals.

What contribution are you most proud of?
The mapping component, and the extracted tile-set it serves to users.

Thoughts on the product you've built together.
I am over the moon! The process of developing a full app has been an incredible boon to our collective knowledge set.

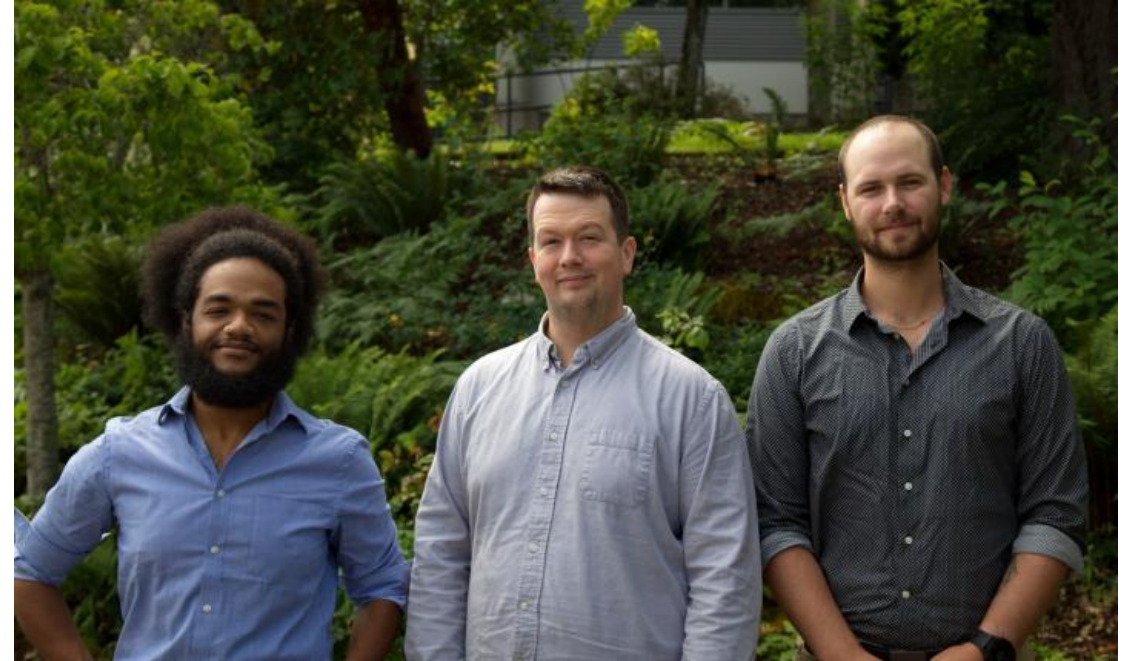# The Process

How was the team selected?

What is Capstone?

How did we choose the project?

How did you balance work & life?

As a team of College students
We want to grow in-demand skills
So that we can we can showcase ourselves to employers

Considerations

App Foundation	- Developing our way of work (Team Contract) - Data driven decision making - Mobile Development Issues (Battery / Device CPU)
User Experience	- Reducing Cognitive Load (Thank you Todd and SDPR) - Guiding Citizens to Services & Locations (Extensible, Scalable) - Providing a trusted source of information - Let users submit feedback - Allowing Users to report events as they're happening - Respecting user's privacy - Taking the experience with you (Accessibility)
Analytics	- Providing usage insights - Guiding development and focus - Find service deserts - Protecting user privacy (Authentication / Anonymity)

"As a Wayfinder App User
I want to find the services nearest to me
*So that I can get the assistance I need"*

App Foundation

Goals	Team Outcomes	Objectives	Achieved by...
Create a useful app	**Adopt design system thinking**	Understand the User Journey	User Stories
		Build for Accessibility	Iterative Features
Produce a high- quality product	Adopt Agile	Manage Workload	Correctly sized tickets
	Adopt Engineering Approach	Utilize Decision Logs	Selecting the right Frameworks
Ensure high productivity development	Adopt DevOps	Benefits of Containerization	Deployment Pipelines

Value	Lens	Method
Locations (online/offline)	Coordinates	Cellular, GPS
Offices	Maps	Tiles
Services	Information	JSON
Reporting	Events	Analytics

User Experience
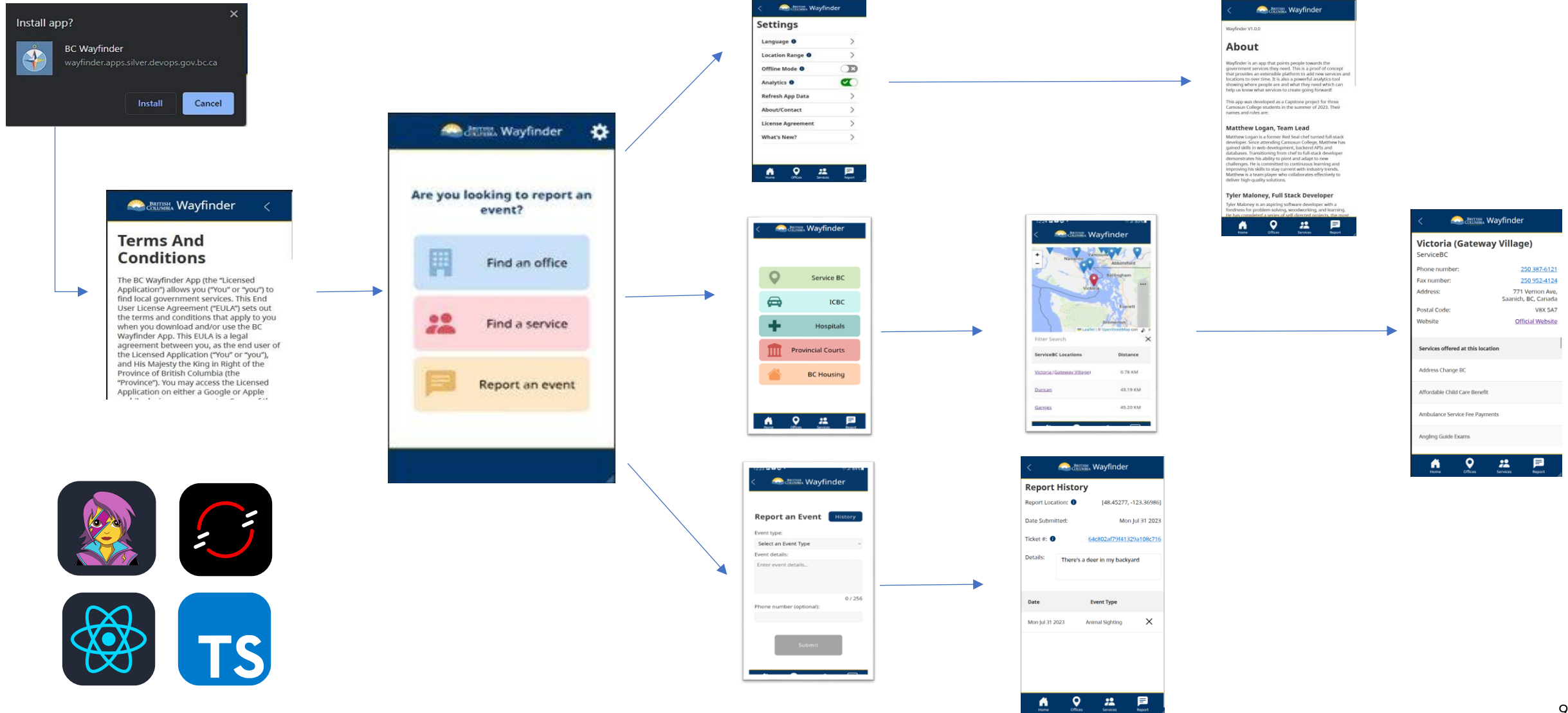
Find a Location

Features:

- Visualizes office location data

- Sorts listed office locations by distance

- Pre-filtered to reduce CPU cycles
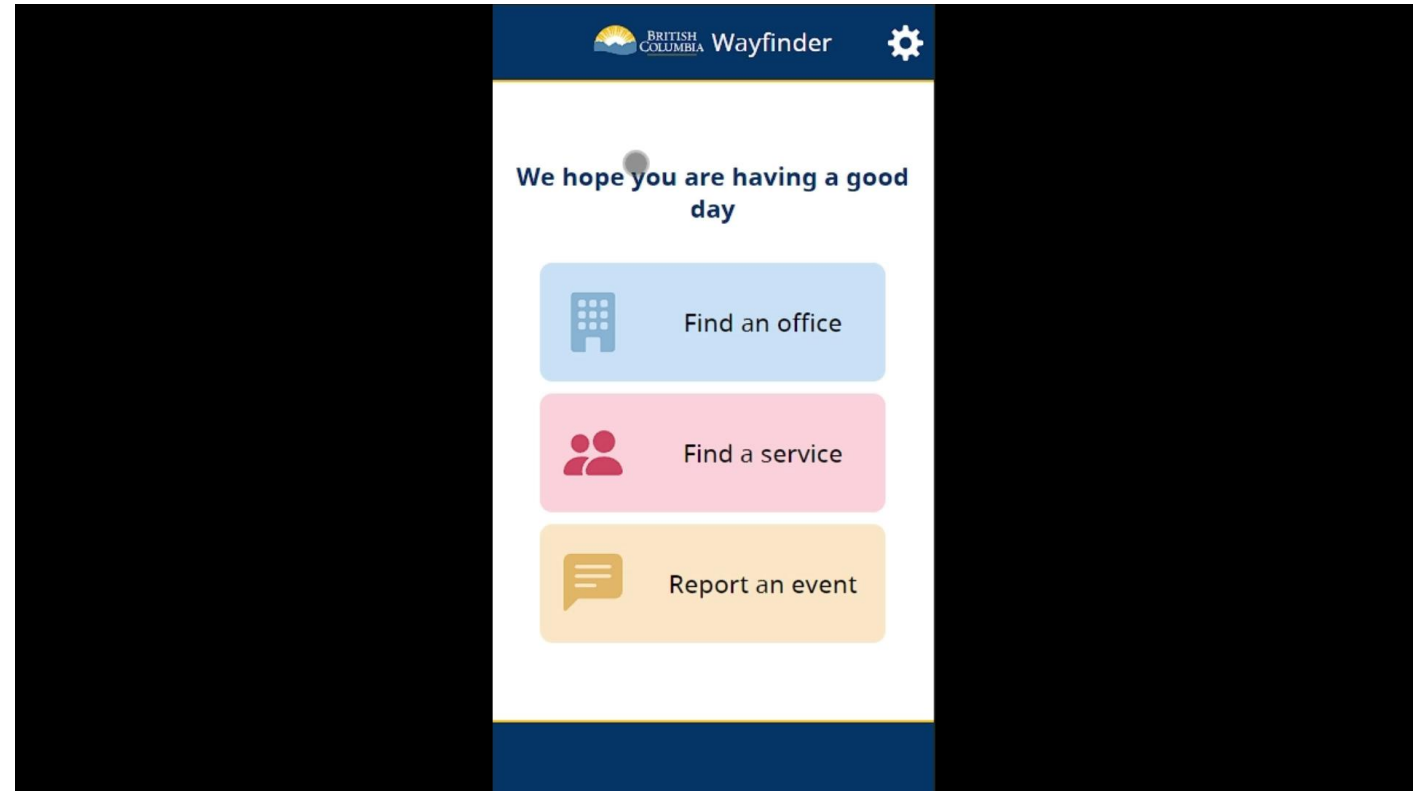
Find a Service

Features:

- Visualizes offices where the specified service is offered

- Provides a list of all services
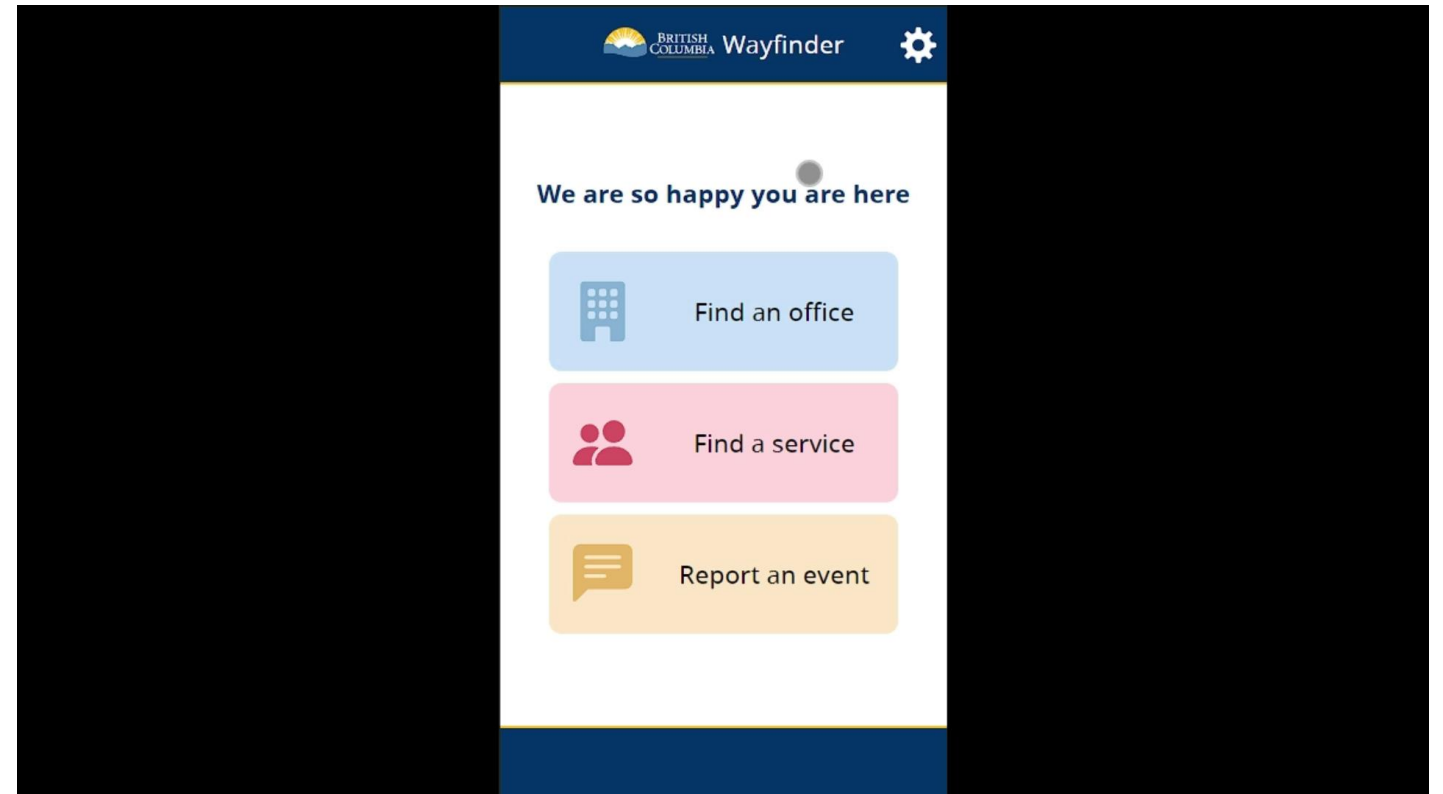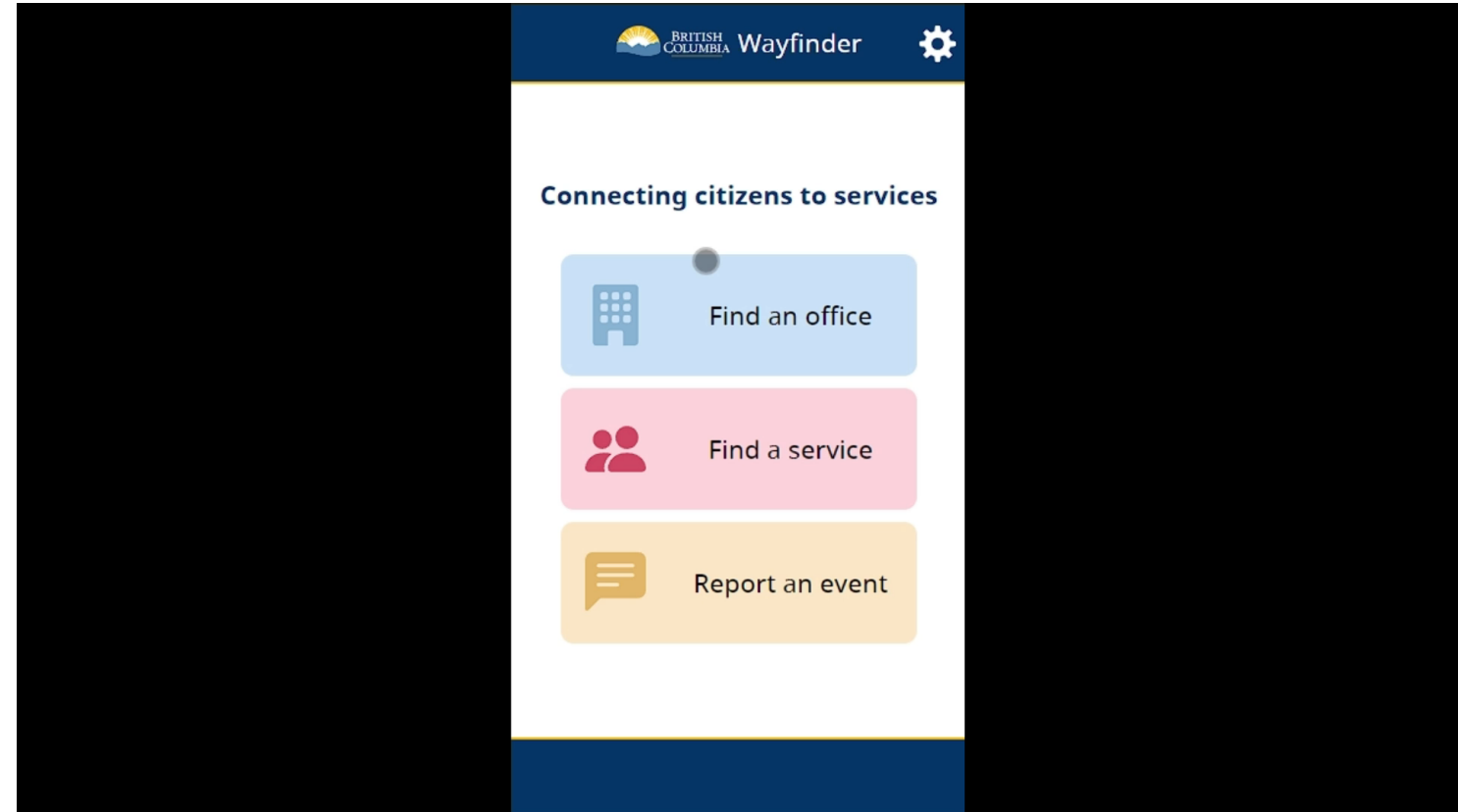
Report an Event

Features:

- Allows user to report witnessed events

- Offers form validation

- Leverages user location to assist report accuracy
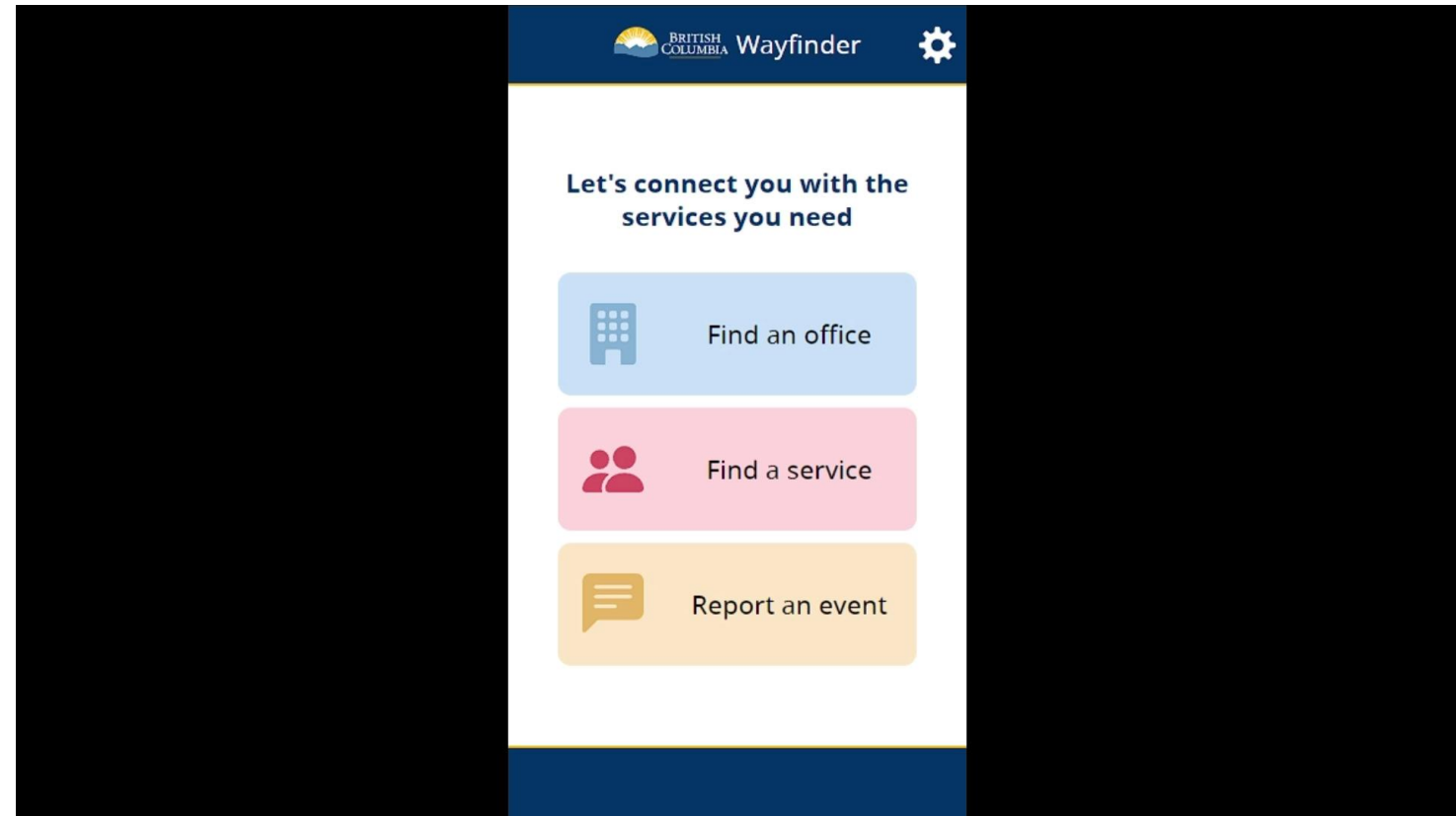
Settings

Features:

- Allows user to customize their experience

- Similar feel to a native application

- Tooltips provide additional information

Working with Map Data

Online Layer

- Served from a public-use tile server

- Tiles are not cached from this source (limitations of public server)

- Allows the highest level of zoom, offering more detail

Offline Layer

- Saved to the browser/PWA cache on install

- Offers a lower level of zoom due to size constraints

- Manually styled and extracted from larger set

Routing

- Requires significant dedicated server resources

- Routing file is not typically stored to device, but served from a network

- Routing file is between 5GB to 250GB, outside PWA storage constraints
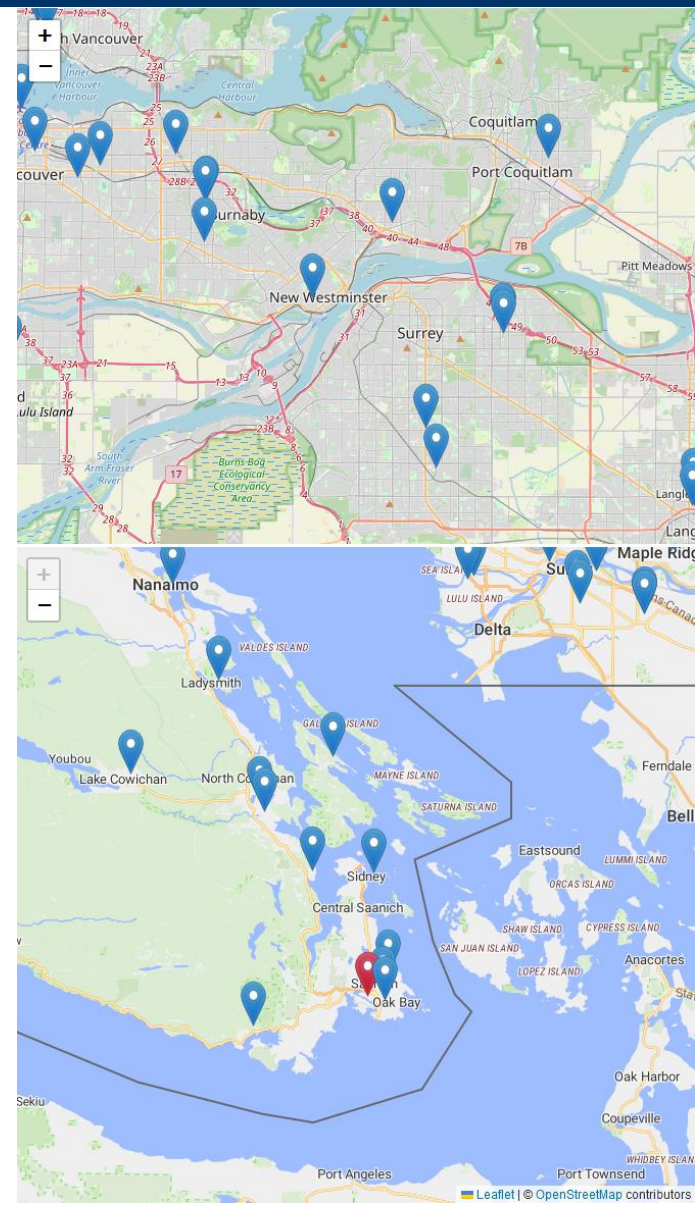
Under the Hood

Service-Worker

- Acts as intermediary between browser and network

- Saves site assets to cache

- Replaces saved assets with updated assets

Mapping Component

- Displays a series of map tiles

- Works both online and offline

- Offline map excerpt is minified

Local Storage

- Saves Application data and state

- Stores deferred reports and analytics

- Installation detection

Under the Hood

API

Account		Analytics		Health
Create Account	🔒	Get Analytics	🔒	Health Checks
Delete Account	🔒	Receive Analytics		
Update Password	🔒			
Create Admin	🪙			

Locations		Reports	
Get Locations		Get Reports	🔒
Get Updated Locations	🪙	Receive Reports	
Update Location Data			

As a Wayfinder app user
I want the most recent information
So that I'm directed to the correct location
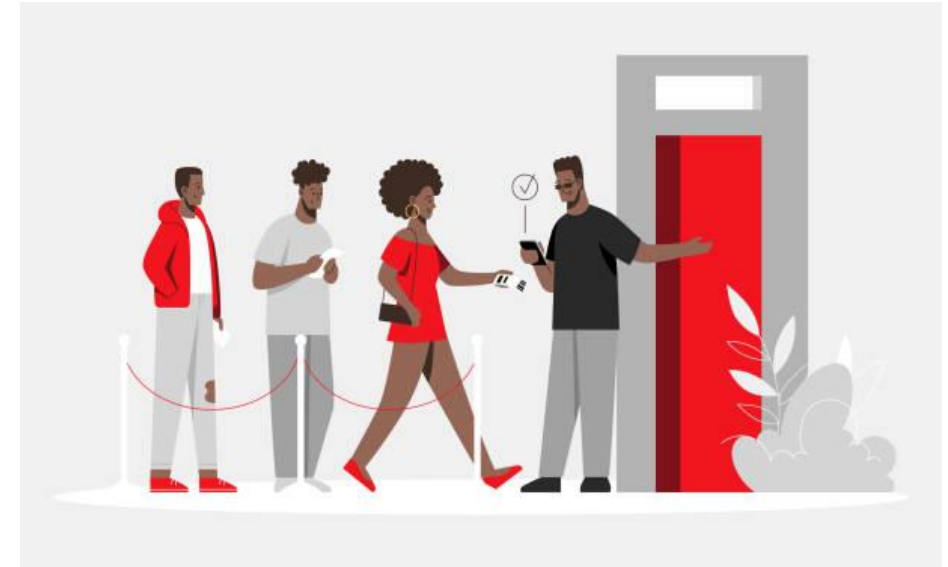
Location Data

/locations

- Sending Seed Data

- Sending *New* Data

- Updating Stored Data

The ETL Process Explained

Extract
Retrieves and verifies data from various sources

Transform
Processes and organizes extracted data so it is usable

Load
Moves transformed data to a data repository

Analytics

Answering the questions	
Who	is using our Application?
What	are users using the application for?
Where	is the application being used? Are there services near them?
When	When is the app being used? Weekends? Days? Nights?
Why	are users using our application?
How	is the app being used? Are users customizing their experiences?

As a data analyst
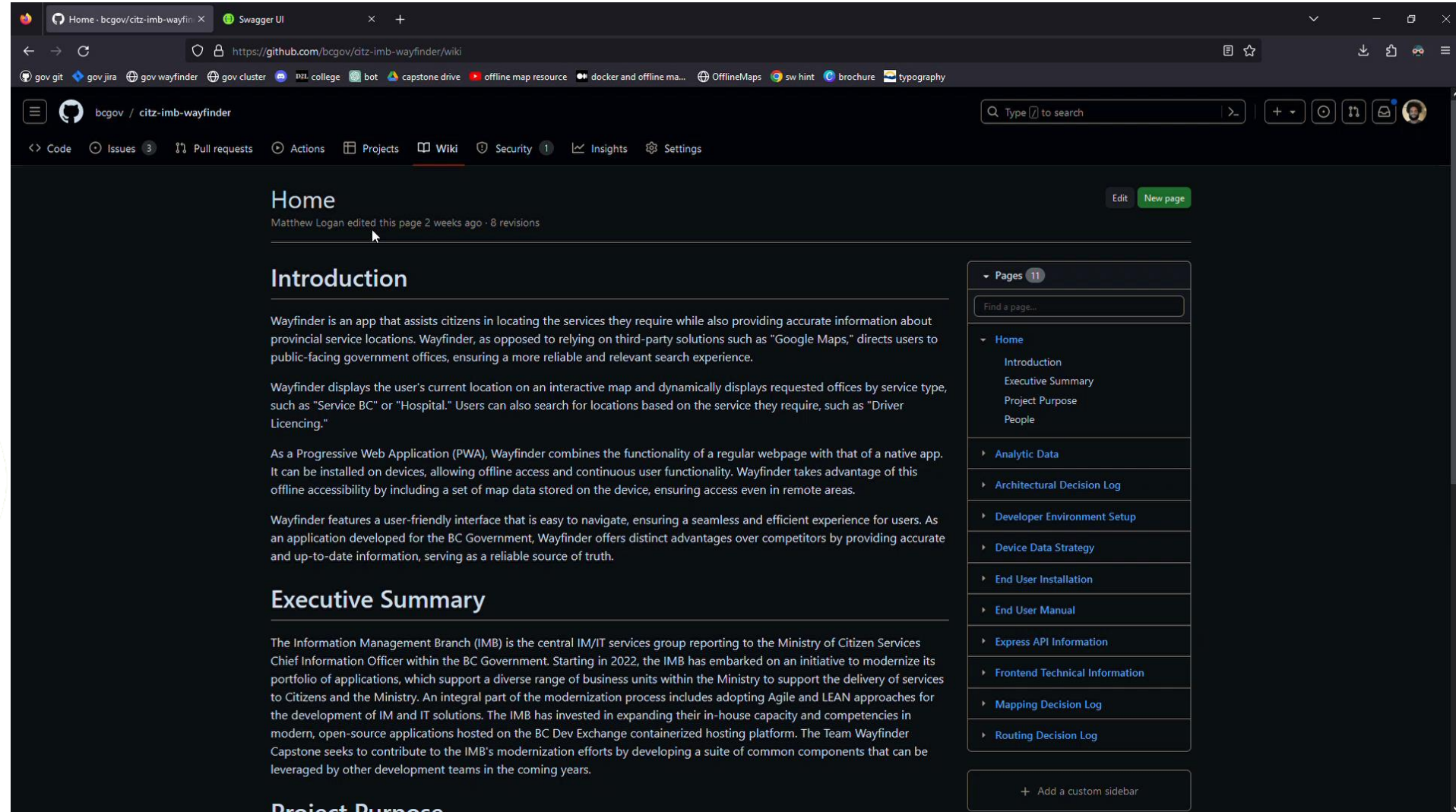*I want useful analytic data*
To help guide future decision making

A Demo with PowerBI

Documentation, Documentation, Documentation...

*As a Wayfinder App Developer
I want meaningful documentation
So that I can understand the tool
I'm working with*

Lessons Learned

- Collaboration

- Value of Code Reviews

- Jira

- Agile Methodologies

- Mapping data is difficult to source

- Working with Docker

- How to deploy to OpenShift

- GitHub Branch Management strategy

- Utilizing PowerBI

Audience Participation

Questions ?

- *How did you make that?*
- *Did you consider doing _____?*
- *Could you clarify what you said about ____ ?*
- *Can I see a demonstration of _____ feature?*
- *What's a Schema?*

Feedback?

- *I really like how you made that work!*
- *That's a great consideration for _____!*

As a Wayfinder Showcase Participant
I want to ask questions
To deepen my knowledge of the application

Matthew
Logan

Dallas
Richmond

Tyler
Maloney

QR code below links to
our application!

Thank You, from Team Wayfinder!

Contact us : wayfinderdevelopers@gmail.com

Application URL : wayfinder.apps.silver.devops.gov.bc.ca/