

POTHOLE PROJECT

Summary

The application is meant to help people report road damage in Charlottetown, PEI and help maintenance crew responses accordingly.

Pothole is still in development.

Programing Languages

HTML, CSS, JavaScript, PHP, SQL

Library

Leaflet JavaScript

Techniques

Fetch API, Google Maps Geocoding API, PWA, Camera capture and streams API, Cookie-based authentication

Issues

The application works best on Android devices. On iOS it is recommended to use Chrome to get all functions to work properly.

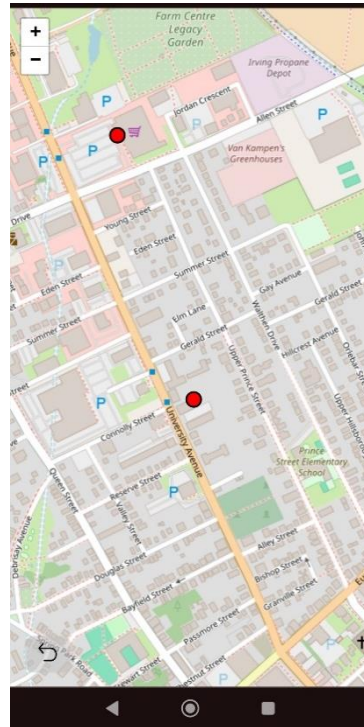
In PWA mode, on iOS, upon refreshing the main page to load cookies, camera access is no longer asked, resulting in no camera running.

DETAILS

There are 4 levels of users.

LEVEL 0

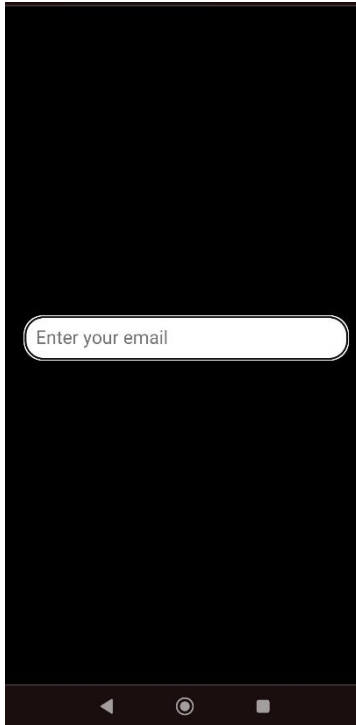
- Level 0 is for common users whose sole purpose is to report road damage to the city. Users take picture using camera on their phones. The picture and user's location will be saved in database.
- There is a Check duplicates button to check whether the same location has been reported by opening a map showing users' current location with markers of road damage plotted on the map.



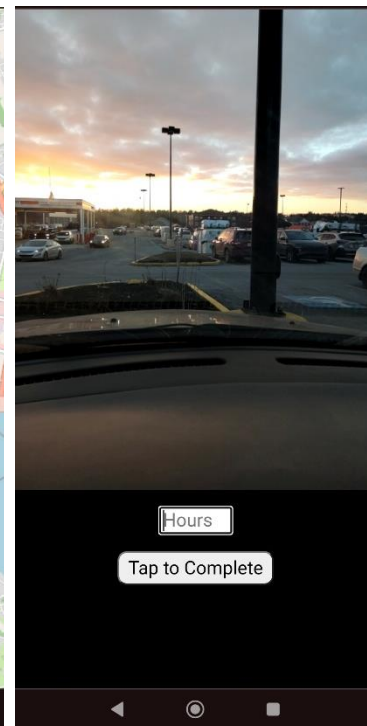
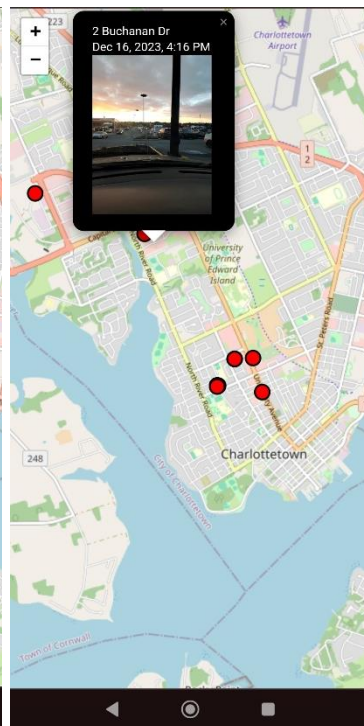
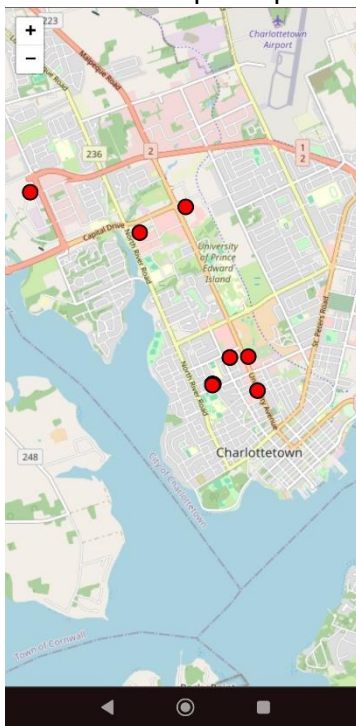
- Clicking on the popup will result in picture being opened in full screen.
- This is a progressive web application. Level 0 users can install it on their phones.

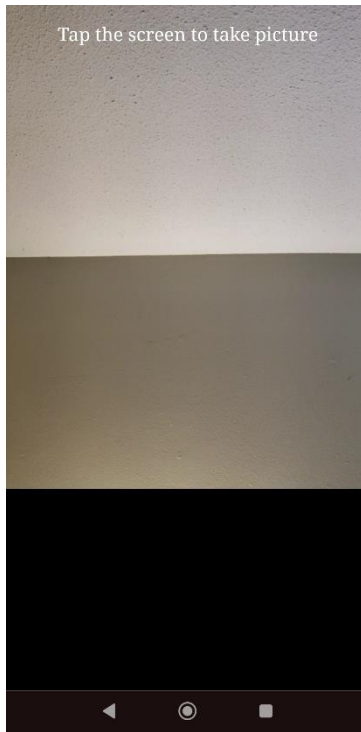
LEVEL 1

- Level 1 is for maintenance crew. The city will have to assign levels to crew personnels so that they can sign up using email address. Pothole will send email for verification and cookies are set on crews' devices.



- The crew levels in database will be changed to 1 (it is the same for level 2 and 3, and has to be done in database manually. Future modifications will allow changing levels using a table). The next time they open the application, they will be redirected to a map for maintenance.
- The maintenance map will show reported road damage in red markers with details of the location in a pop-up on click. When the job is done, the crew can add the duration of work in the pop-up window and tap complete button.

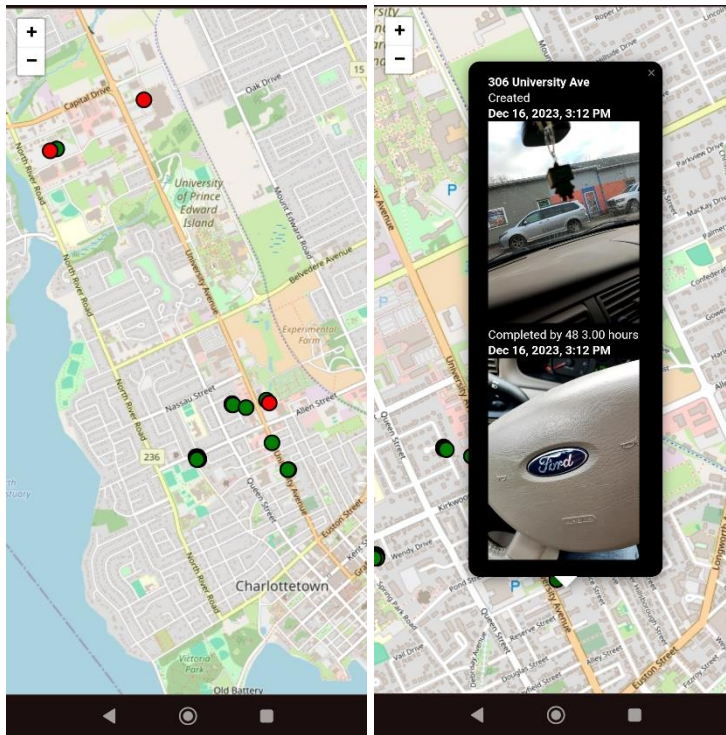




- After tapping the complete button, the app will require the crew to take picture of the location one more time.
- **IMPORTANCE:** The maintenance map requires cookies set during verification step to work properly.

LEVEL 2

- level 2 is for managing locations on a map. Users will be redirected to a map showing both completed jobs in green markers and uncompleted jobs in red markers.
- Each marker is a pop up on click with details about the location.
- Level 2 personnels also have to sign up before using the application.



LEVEL 3

- Level 3 is for administrators. Users in this level will be redirected to a table with detailed information about road damage such as Date Created, Address, Date Completed, etc.

	Date created	Address	City	Province	Country	Date Completed	Duration	Completed by	
	2023-12-16 13:37:36	202 Spring Park Rd	Charlottetown	PE	Canada	2023-12-17 15:19:45	4.00	48	
	2023-12-16 14:18:12	202 Spring Park Rd	Charlottetown	PE	Canada				
	2023-12-16 14:19:43	202 Spring Park Rd	Charlottetown	PE	Canada				
	2023-12-16 14:26:29	204 Spring Park Rd	Charlottetown	PE	Canada				
	2023-12-16 15:00:37	306 University Ave	Charlottetown	PE	Canada				
	2023-12-16 15:12:39	306 University Ave	Charlottetown	PE	Canada	2023-12-16 15:12:56	3.00	48	
	2023-12-16 15:20:37	360 University Ave	Charlottetown	PE	Canada	2023-12-17 14:23:36	1.00	48	