CANS: Construction Alert Notification System

A solution to road construction delays

Presented by

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Project Overview

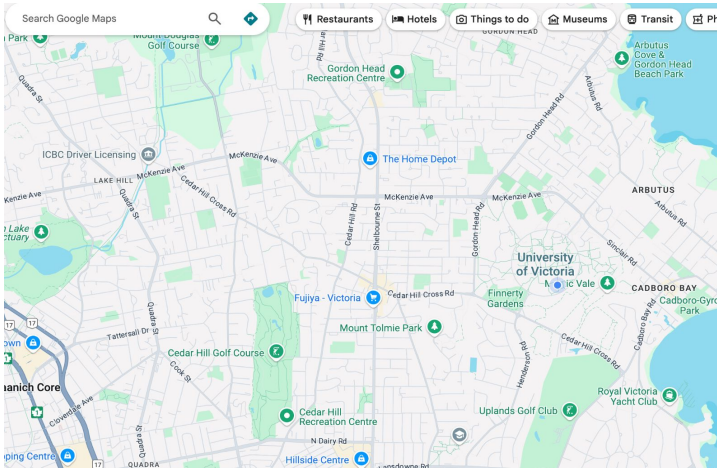
- Aim to design a website with notification alert system that can relay road construction information to users in advance.
- The website allows users to create an account and sign in, as well as input self information such as daily routes and departure/arrival time frame.
- Users are able to choose their preferred method of notification, such as Email or text message.
- Alert messages on road construction will be sent to users, customized by matching their inputs with data from official sites.
- The messages cover both ongoing and future projects, provide details such as location, date and level of road closure.

Brief Related Work

What Already Exists?

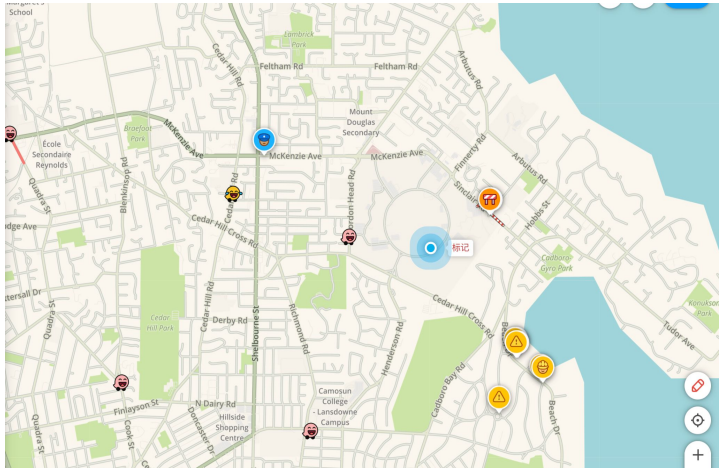
Google Maps

No personalized construction alerts



Waze

Crowdsourced data—can be unreliable or outdated



Key User Research Findings

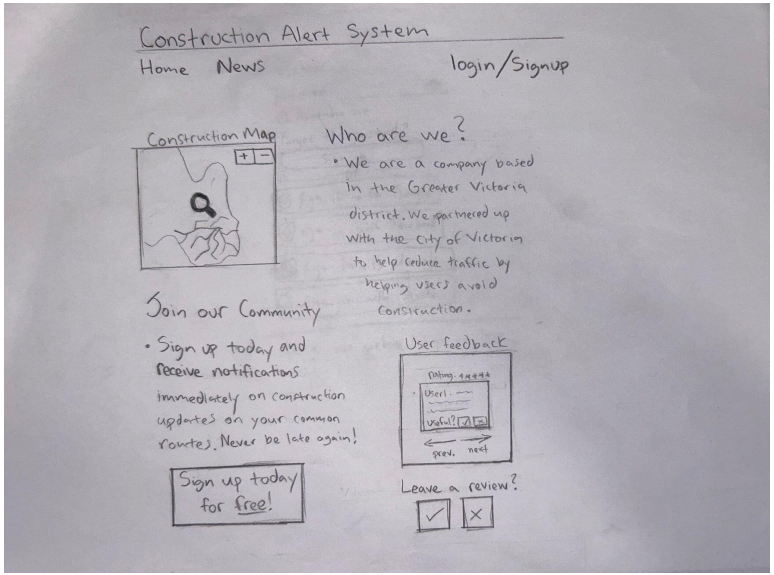
- Road delays due to construction led to frustration
- Construction delays can affect those that don’t drive (buses, rideshare)
- Users often found construction information was often too general
- Tough getting informations through multiple municipalities
- Not personalized to their individual commutes
- Users wanted a intuitive way to get the information easily

Prototype Evolution

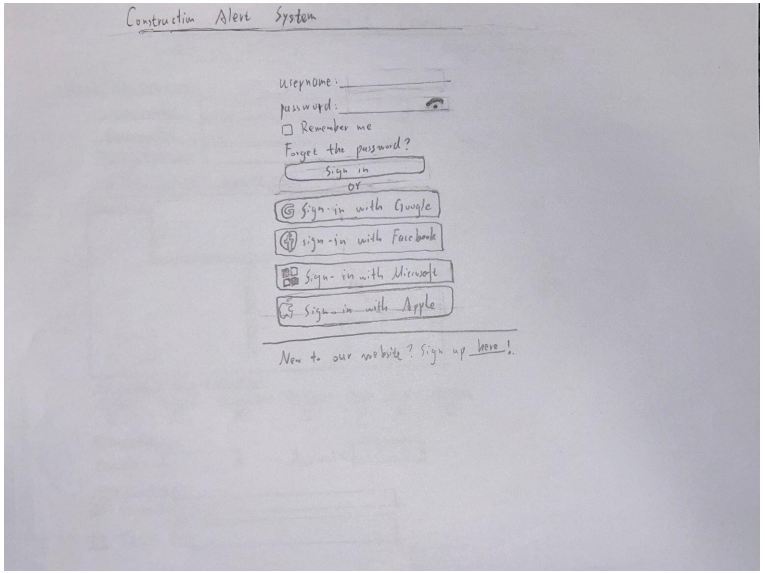
Low Fidelity: Paper Prototype

- Created a mock website
- Very limited functionality
- Created the foundation of what our website aimed to achieve
- Helped us improve on the design

Low Fidelity Prototype

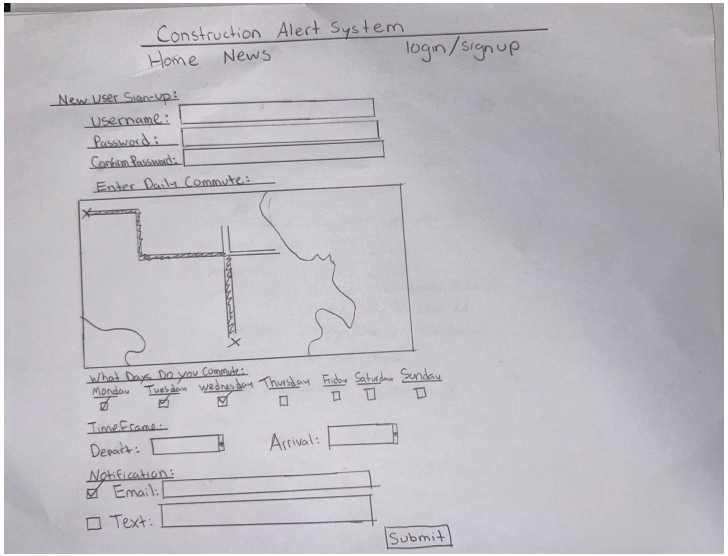


1. Landing Page

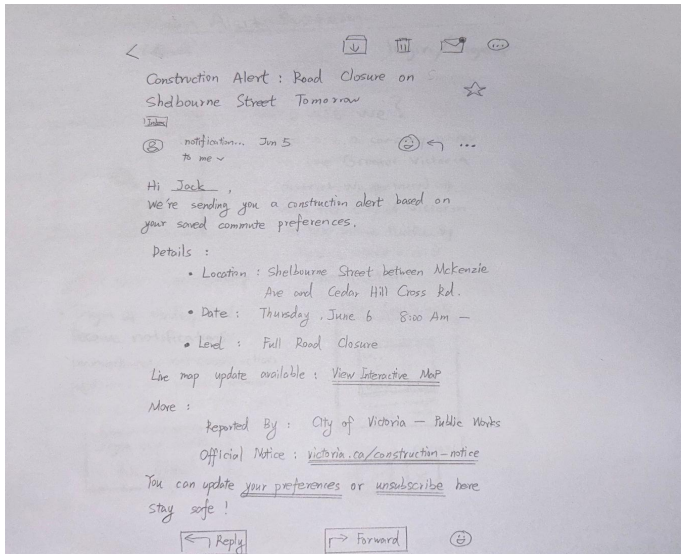


2. User Signup/Login Page

Low Fidelity Prototype



3. User Enters Details



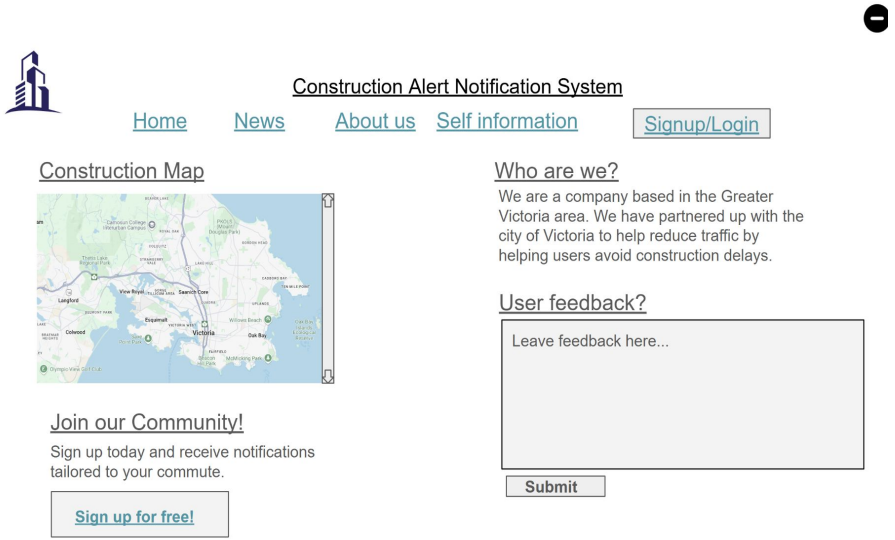
4. Email Notification

Prototype Evolution

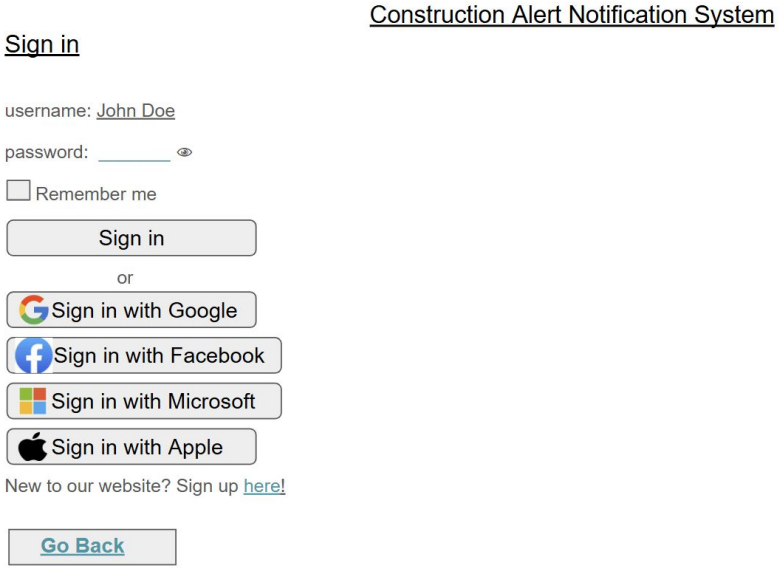
Slides Prototype Evolution

- Currently much more dynamic than previous iterations
- Accurate representation of a website
- Has clickable links now and checkboxes and features of a website
- Took advice from pilot session and final study to create better functionality
    - Ex) In the pilot study we realized that the Login/Signup feature in the navigation bar is hard to see.

Medium Fidelity Prototype

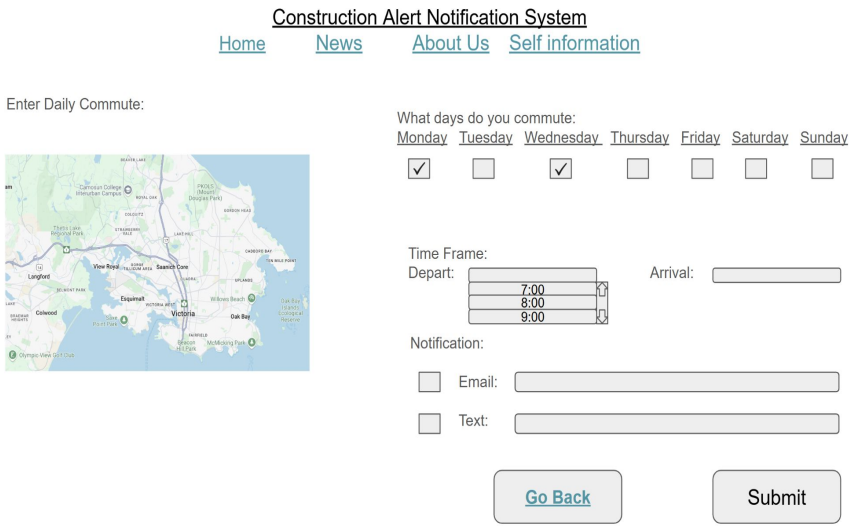


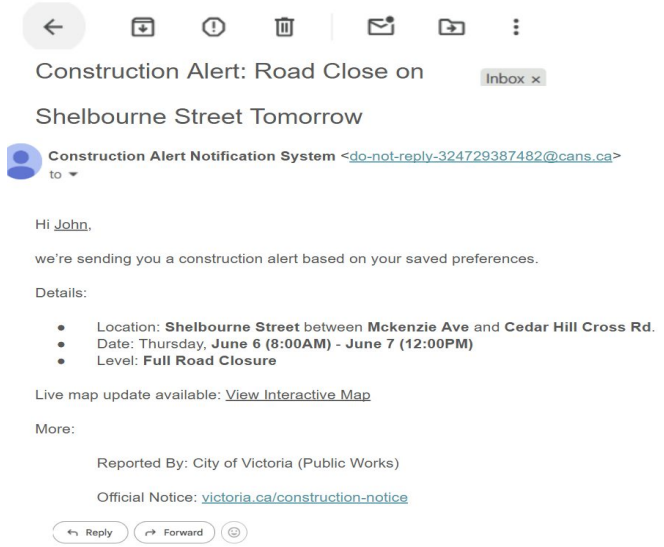
1. Main page of CANS website



2. Login or sign up for an account

Medium Fidelity Prototype cont..





3. Enter details once account created or logged in

4. Receive alerts via preferred method

Key Final User Evaluation Results

Quantitative results:

Participant	Time to Complete	Number of Clicks
1	2 minutes 10 seconds	35
2	1 minute 23 seconds	29
3	1 minute 30 seconds	36
4	1 minute 16 seconds	28
Pilot	1 minute 30 seconds	26
Average:	1 minute 34 seconds	31

All participants successfully completed the key tasks within reasonable amount of time/clicks and reported that the process was generally intuitive.

Key Final User Evaluation Results

Qualitative results:

Organizing Themes	**Basic Themes (codes)**
Opinions on the aesthetic and visual design of the website.	Simple design, good logo
	Clean design, clearly free
	Easy to navigate
Issues and feedback about the sign up and account management process	No progress status, multiple sign up buttons
	Unclear link, Confusion around process
	lack of customization options
Features that users want to be added	Mobile version, more options
	Maps integration, always up-to-date
	Sign up instructions, progress bar

Lessons Learned

- what did you learn new?

  We learned the importance of user feedback in usability issues that aren’t obvious during design.

- What was surprising?

  A small design change can drastically impact user understanding.

- What worked well?

  Our simple and clear task flow make it easy for users to complete their goals.

- What would you improve if you had more time?

  We will add more features and beautify the interface

Future Work

- The **About Us** and **News** sections remain under development.
- We lack a real-time integration system, which make a challenge for the system timely updates.
- Our system also does not yet include **GPS**, which limits its ability to provide **real-time location-based alerts**.
- We plan to allow **users** to contribute construction information.

Conclusion

Our project shows that even a simple alert system can make commuting more predictable and less frustrating.

By focusing on user needs and using real construction data, We closely link government information with citizen transportation, and use alert system to help people plan better.

This idea could easily be expanded to other cities or used as a model for future public information systems.

Thank you for your attention!

Any questions?