

Project Deliverable 1

Team Name: Safe Haven

Team Members

(full name, student number, UTORid, email, photo + 150 word description)

Full Name	Student Number	UTORID	Email	Photo	Description
Yong Le He	1009046104	heyong4	yongle.he@mail.utoronto.ca		Hey there! I am a second-year computer science specialist at the University of Toronto Scarborough eager to explore the intersections between technology and innovation. With my strong passion for programming and problem-solving, I am excited to learn and grow in this field. From responsive frontend designs using TypeScript and React to fast and efficient backends with Go, I am well-versed in creating full-stack web and mobile applications. Beyond the code, I revel in the elegance of command line interfaces and have a particular fondness for Neovim. When I am not immersed in the digital realm, you will find me hitting the gym or the badminton court. Let's connect and build something extraordinary together!

Erin Lam	1007953083	lamerin2	erinj.lam@mail.utoronto.ca		<p>Hello there, I'm Erin! I currently attend the University of Toronto as a third-year software engineering specialist graduating in April 2025. Having mainly programmed in JavaScript, Python, C, C++, Kotlin, Java, and Typescript, I love working on web applications and full-stack development!</p> <p>As an advocate for women in STEM and computer science, I hope to learn and grow from leaders who carry this initiative while continuing my passion for lifelong learning.</p> <p>For any inquiries, please feel free to email me at erinj.lam@mail.utoronto.ca</p>
Jenna Jiang	1007681126	jiang786	jennajyq.jiang@mail.utoronto.ca		<p>Hey there! I'm a fourth year student at University of Toronto double majoring in Computer Science and Health Studies. My interests lie at the intersection of machine learning, software development, and health informatics. I love working with software tools and algorithms to solve real-world problems. I am technically proficient</p>

					in programming languages including Python, C/C++, Java, and data analytical tools like Rstudio, SQL, and SAS.
Alvin Cao	1009467970	caoalvi1	alvin.cao@mail.utoronto.ca		Hey! I'm a second year CS student specializing in software Engineering at the University of Toronto . I would describe myself as a collaborative and curious individual. Developing different softwares and solutions has been a joy of mine, being able to create new ideas and break a new idea into smaller parts to identify and resolve complex issues. And over the last year, I worked on several projects that used C, Python, JavaScript, and Java, in collaboration with technologies such as React, Android Studio and many more.
Miko Reyes	1009054942	reyeshir	hiromiko.reyes@mail.utoronto.ca		Hi! I'm a second year CS specialist and Music minor at the University of Toronto with a passion for creating. I'm interested in seeing how software can be used in collaboration with music or in cool visuals. I enjoy web dev projects and the process of translating an idea into something concrete. Regarding my past projects, I've had the opportunity to engage in the creation of several web apps and simulations using frameworks and tools such

					as: React, Pygame, Flask, and Android Studio.
Junyuan Deng	1008026654	dengju12	johnny.deng@mail.utoronto.ca		<p>Hi there! I'm a third year CS student at University of Toronto. I'm really passionate about using my knowledge in software engineering to create great things and solve problems as a team and I'm keen on further improving my knowledge in CS and software engineering. My experience at the University of Toronto has exposed me to many aspects of CS ranging from data structure and algorithm design to developing software projects as a team and I'm excited to bring my knowledge to the test. Outside of academics, you can find me on a road bike putting my legs to the test, indulging in scifi books or drawn into fun games.</p>
Isaiah Huska	1008883807	huskaisa	isaiah.huska@mail.utoronto.ca		<p>Hello! I'm Isaiah, a second-year CS student here at UofT with a passion for coding, data science and learning. With experience with a number of programming languages such as React Native, Python, Java, JavaScript, and C I love creating algorithms and applications both for fun and for practical purposes. Whether it's for the sheer pleasure of solving a complex problem or</p>

					designing a practical solution for real-world issues, my passion drives me to explore the vast landscape of technology. My journey started back when I was in grade 9 when I created my first iOS application and since then my curiosity and eagerness to learn have only grown. As I advance in my studies and career, I am eager to engage in more complex projects and opportunities that not only test my capabilities but also contribute to my growth as a technology enthusiast.
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Personas

1. Persona 1: Alex Thompson - The On-the-Go Professional

Name: Alex Thompson

Age: 32

Occupation: Sales Executive

Health Condition: Crohn's disease

Tech Savviness: Moderately tech-savvy

Lifestyle: Constantly on the move due to work commitments

Goal: Find easily accessible and clean washrooms during frequent business trips and client meetings.

Pain Points:

- Limited time for restroom breaks during hectic schedules.
- Need for real-time updates on washroom availability.
- Desire for a reliable app to aid in planning routes with restroom stops.

Scenarios:

- Alex wants the app to provide real-time updates on nearby washrooms during a busy day of client meetings.
- While traveling, Alex needs the app to suggest alternative routes in case of disruptions or closed washrooms.
- Alex appreciates a rating system to ensure the cleanliness and hygiene of chosen washrooms.

Unique Features for Alex:

- Emergency Washroom Locator for urgent situations.
- Integration with public transportation schedules for seamless travel planning.
- Ability to save frequently used washrooms for quick access.

2. Persona 2: Taylor - The Socially Responsible Explorer

Name: Taylor

Age: 30

Occupation: IT Professional

Health Condition: IBS

Background: Taylor works in the IT industry and is keen on leveraging technology to improve efficiency in his daily life. As someone who suffers from IBS, he is always looking for the next app or gadget to help keep his health in check. He is a bit impatient so speed is always a concern to him.

Scenario:

1. Taylor is going to a conference in downtown Toronto with a few of his colleagues, while on lunch break, he suddenly gets the urge to use the washroom. Using GoHere's washroom finding capabilities, he is quickly guided to the nearest washroom alleviating any discomfort he might have had.
2. Since the conference is several days long, Taylor often frequents the same locations. He finds GoHere's "Add Your Washroom" feature quite convenient, allowing him to keep track of the washrooms he has used.
3. On a slow day of the conference, Taylor finds himself in a bustling shopping mall, feeling the onset of IBS symptoms, he urgently searches for a washroom. He opens up GoHere for available washrooms within the mall. On using one of the washrooms he notices that one of the dispensers is broken. He then reports it on the app to help bring the issue to light.
4. On an evening in Toronto, Taylor is having dinner with colleagues. Remembering how the first time he had ever used GoHere and how the people at the restaurant were so kind as to let him use the washroom. Taylor decides to visit the restaurant once again for dinner to thank them.
5. Scrolling through the app and the news feed, Taylor is mildly entertained by all the information. He takes notice of "Company A (A sponsor of GoHere)" who has a shop at the local mall nearby and he decides to visit to buy something.
6. On a later night, Taylor needs to take the TTC to his hotel. But on the way, he has the onset of IBS symptoms. Taylor rushes to the nearest washroom (as outlined by GoHere) in a more isolated part of town. Unfortunately the business had been shut down. He frustratingly makes a report that the displayed washrooms were wrong and is greeted by an apology message after his report takes place.
7. Talk about how when he goes home he sees that he can donate so he donates. On his way back home from the long conference, Taylor thinks about how useful the GoHere app was. Opening the app and seeing that he could donate, he did so to help other people living in similar conditions as him.

3. Persona 3: Sarah Jones - Small Business Owner

Name: Sarah Thompson

Age: 38

Occupation: Coffee Shop Owner

Background: Sarah is the proud owner of a cozy, family-owned coffee shop named "Brew Haven" located in the heart of a bustling city. With a passion for providing a welcoming environment for her customers, Sarah has successfully built a loyal customer base over the past five years. She is always looking for innovative ways to enhance the overall experience for her patrons.

Scenario: Sarah recently heard about the "GoHere" app, a revolutionary tool designed to help individuals with Inflammatory Bowel Disease (IBD) find accessible and clean washrooms nearby. Intrigued by the app's mission and recognizing the potential benefits for her business, she decides to explore the possibility of adding Brew Haven's restroom facilities to the app.

1. Sarah comes across an article highlighting the "GoHere" app's impact on the IBD community and its potential benefits for businesses. Intrigued by the idea of supporting a meaningful cause while gaining visibility, she decides to investigate further.
2. Sarah visits the "GoHere" website to learn more about how businesses can contribute to the app. She discovers the "Add Your Washroom" feature, allowing businesses to make their restroom facilities available to individuals in need.
3. Recognizing that Brew Haven's restroom facilities are well-maintained and easily accessible, Sarah sees an opportunity to contribute to the community and attract a broader customer base. She decides to submit her coffee shop to be included in the "GoHere" app.
4. Sarah fills out a user-friendly form on the app, providing essential details about Brew Haven's restroom facilities. She includes information such as operating hours, cleanliness measures, and accessibility features.
5. The "GoHere" app's administrative team receives Sarah's submission and promptly validates the information to ensure accuracy. This step is crucial for maintaining the trust of app users and ensuring that listed washrooms are genuinely available.
6. Sarah receives a confirmation email from the "GoHere" team, thanking her for contributing to the app's mission. The email includes details on how Brew Haven will be featured within the app.
7. As Brew Haven's restroom facilities become part of the "GoHere" app, Sarah notices an increase in foot traffic from individuals using the app. She also takes advantage of the sponsorship program to gain visibility and contribute to the cause of Crohn's and Colitis.

By participating in the "GoHere" app, Sarah not only expands her customer base but also demonstrates Brew Haven's commitment to inclusivity and community support.

4. Persona 4: James Lee - Supervisor

Name: James Lee

Age: 29

Occupation: Digital Systems Administrator

Background: James is one of the administrators of the Crohn's and Colitis website who has been at the Crohn's and Colitis foundation for 4 years. Recently, he earned a well-deserved promotion to the role of the Digital Systems Administrator. In this capacity, he oversees the development and maintenance of the website's news and article feed, and he is responsible for the managing of the sponsor's acknowledgements. James is deeply committed to the foundation's mission, fueled by personal ties as his uncle battles with the disease. His dedication extends to his family-oriented nature, as he regularly attends family gatherings and other events with his extended family. Recently, James has been exploring ways to enhance the accessibility of information about Crohn's and Colitis driven by a passion to make a meaningful impact

Lifestyle: avid sports enthusiast, particularly sports betting, spends quality time with family and friends on the weekends, plays video games in his downtime.

Goal: James aspires to make information about Crohn's and Colitis as accessible as possible. He aims to streamline the process of managing sponsors and desires an efficient solution for adding and updating news articles on the foundation's app

Frustrations:

- Manual entry of sponsor information for display in the current app.
- Lack of a news article section in the existing app.
- The need for a user-friendly, simple and efficient method to add and update news feed.
- It is challenging to strike a balance between his demanding role and his personal life.

Scenarios: A business wants to become a sponsor for the Crohn's and Colitis "GoHere" app. As the digital system administrator, James would greatly benefit from a system that automates the business sponsor entry process, reducing manual efforts and ensuring accurate and timely acknowledgments in the app. In addition, James would appreciate the implementation of a dedicated news article section within the app, providing users with easy access to relevant and up-to-date information. James would like to use a user-friendly content management system tailored to his requirements. Recognizing the need for greater accessibility, James aims to integrate the news and article section seamlessly into the foundation's mobile app. However, the current system poses challenges, and James requires a solution that ensures a smooth transition of content to the app, maintaining a consistent and user-friendly experience.

5. Persona 5: Brooke Dumas - Food delivery person

Name: Brooke Dumas

Age: 22

Occupation: Food delivery service driver

Tech savviness: Not tech savvy at all

Background: Brooke is a food delivery driver for a phone ordering/delivery app. She sometimes needs to work long hours delivering food to people across the city. Due to the nature of her job and her IBS implications, she is currently having a hard time finding washroom for herself while she is delivering food. She tries to find washrooms while she is driving to her next destination which makes it extremely dangerous for her and the people around her.

Frustrations: Finding washrooms takes a long time and they might not be open to her.

Goal: Being able to find washrooms open to her easily

Scenario: Brooke has just finished a delivery in a secluded and quiet neighborhood. As she is walking back to her car, she feels the need to look for a washroom quick. She pulls out her phone and opens up GoHere where she uses the map in the app to quickly find a washroom near her and with an intuitive click of a button, the fastest route is planned for her to that washroom. She gets back in her car and arrives quickly at the washroom she chose, demonstrates her needs with her easy to use IBS status card on GoHere to the receptionist and uses the washroom that she needs.

User Stories

Basic Functions (in no particular order):

- As a user, I should be able to show businesses my access card in EN/FR so that they see I am in need of a washroom and they let me use it.
- As a user, I'd like to find washrooms that are open to me on a map so that I know the location of available washrooms near me.
- As a user, I should be able to see a list of the closest washrooms to me so that I can choose one to go to.
- As a user, I want to see details about washrooms such as when they're open, so that I know if it is available for use.
- As a user, I should be able to save washrooms to a list so that I can go back to frequently used washrooms.
- As a user, I should be able to view my list of saved washrooms so that I can go back to frequently used washrooms.
- As a user, I should be able to search for an address and see the washrooms along the route so that I can make preparations.
- As a user, I should be able to view my previous search history so that I can go there again.
- As a user, I should be able to access the info tab and be given some information about the Go Here program and see the partners of the program.
- As a user, when I zoom in I am able to see the precise location of the washrooms and when I zoom out, I see the number of washrooms in the area rather than the location.
- As a user, I want to be able to click on a washroom, get directions to it and then be redirected to a map application of my choosing so that I get directions to the washroom.
- As a user, I want directions to washroom locations using various transport methods that are open to me on a map.

New Features:

- As an admin, I want to securely login to an admin website to perform actions that are restricted to admins

CCC01:

- As a user, I want to be able to easily fill out a form to add new washrooms to the app, so that other users can become aware of washrooms they could use.
- As an admin, I want to see a list of user-submitted washroom requests on the admin website so I can assess the integrity of their information.
- As an admin, I want to validate individual submitted washrooms on the admin website so that they can be added to the database.

CCC02:

- As a user, I want to easily report any maintenance issues or concerns about a specific washroom through the app.
- As a user, I want to notify others if a washroom is closed or if there are other discrepancies in the app info and real life.
- As an admin, I want to see a list of user updates on the admin website so I can assess the integrity of their information.
- As an admin, I want to verify user updates on the admin view so that the changes can be propagated to the database.

CCC03:

- As a user, I want to be able to provide feedback to the app, so that my feedback can be taken into consideration by the design team.
- As an admin, I want to be able to see a list of feedback and ideas users provide, so that I can take them into consideration for future updates.

CCC04:

- As a business, I want to be able to add my washrooms to the app using the app, so that more washrooms can be added into the database and I can get more customers.
- As an admin, I want to be able to see a list of washrooms that businesses submit, so that I can validate them so users know the washroom actually exists.

CCC05:

- As a user of the app, I'd like to be able to donate using my phone to help support the cause of Crohn's And Colitis so that I can help fund this app.

CCC06:

- As an admin, I want to assign businesses different tier levels for ad visibility using a Content Management System. (silver, bronze, gold)
- As a user, I want a way to see these sponsorship tiers so that I am more aware of companies funding Crohn's and Colitis.

CCC07:

- As an admin, I want to use a Content Management System to easily manage and update the news and articles feed within the app so that users can stay informed.

- As a user, I want to be able to see news and updates, so that I can stay informed about updates, news and articles.

Potential additional features:

- As a user, I want to be able to rate and review washrooms within the app.
- As a user, I want the app to have a dark mode option for better usability in low-light environments.
- As a user, I want the app to integrate with public transportation schedules, allowing me to plan washroom stops during my journey.
- As a business owner, I want the ability to offer exclusive discounts or incentives to app users who visit my washroom facilities.
- As an admin, I want to implement a gamification feature where users earn rewards or badges for contributing valuable information about washrooms.
- As a business, I want the option to showcase eco-friendly practices in my washroom facilities and receive recognition for sustainability efforts.
- As a user, I want the app to include a feature that estimates the waiting time at a specific washroom, helping me plan my visit accordingly.
- As a user, I want the app to feature an "Emergency Washroom Locator" that provides immediate access to the nearest washroom in urgent situations.
- As an admin, I want to implement a real-time chat or forum feature within the app for users to share tips and advice related to managing Crohn's disease.
- As a business owner, I want to receive analytics on the demographics and preferences of users who visit my washroom facilities for targeted marketing.
- As a user, I want the app to have a feature that suggests nearby cafes or restaurants with washroom facilities, creating a comprehensive restroom network.
- As a business, I want to be able to participate in sponsorship programs to support the app and gain visibility within the user community.
- As a business owner, I want to have access to a dashboard where I can track the performance of my sponsored campaigns and view user engagement metrics.
- As a user, I want the app to provide insights into the cleanliness and hygiene level of a washroom based on user reviews.

System Architecture Diagram

