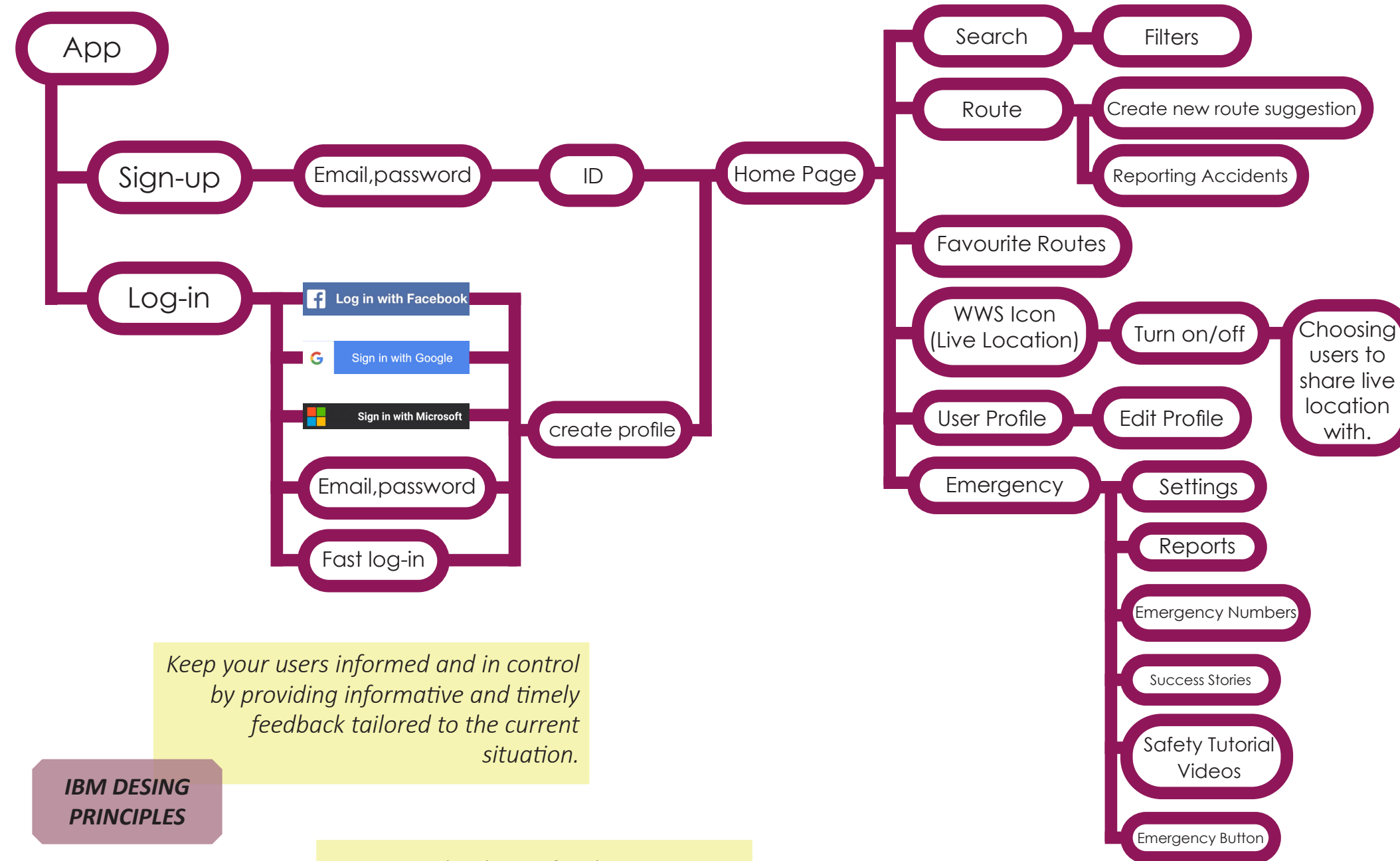


Problem Statement

“How can we make woman feel safer by empowering and helping them to go outdoors for exercising and everyday activities using technological solutions?”



Reflective Design Theory

Customization of Safety Preferences

- *Safety Filters:* Giving users the option to configure safety filters according to their preferences (such as avoiding dimly lit areas or streets with a high crime rate) provides them more control over their travels. Because of this personalization, the advice is more useful and the app becomes more integrated into the user's daily routines by taking into account their comfort levels and safety concerns.
- *Emergency Call Settings:* Within the app, users can pre-define their preferred alert methods (such as call, SMS, or app notifications) and emergency contacts. This tweak expedites the help-seeking procedure by guaranteeing that the app responds to the user's desires in an emergency.

Personal Empowerment and Confidence

- *Personalized Safety Tips:* By utilizing user information and preferences, the app is able to provide safety advice based on the user's unique concerns, preferred routes, and times of travel. Users are encouraged to feel more prepared and confident in controlling their safety as a result of the advice's increased relevance and actionability due to personalization.
- *Success Stories:* Users might feel motivated and empowered by hearing anonymous accounts of other users using the app successfully in a variety of scenarios. It draws attention to the app's usefulness and motivates users to interact with it more fully since they believe they are capable of acting in a similarly proactive manner.

Behavioural Change Theory

The Behavioral Change Theory, when utilized in the design and implementation of this app focuses on affecting and modifying users' actions towards safer practices while getting around, especially in potentially unsafe cities and environments. Many important psychological theories that support interventions for behavioral change can be used to analyze this approach.

The Theory of Planned activity (TPB) states that an individual's conduct is determined by their intention to carry out the activity, which is subsequently impacted by their mindset regarding the behavior, subjective norms, and their perception of behavioral control. WWS's objective is to improve women's perceptions of their control over their safety, by the features of this app, and favorably affect women's attitudes toward taking proactive safety measures and supporting them to go out more without any **hesitations in mind**.

IBM DESING
PRINCIPLES

Keep your users informed and in control by providing informative and timely feedback tailored to the current situation.

Optimize the design for the most frequent or important tasks.

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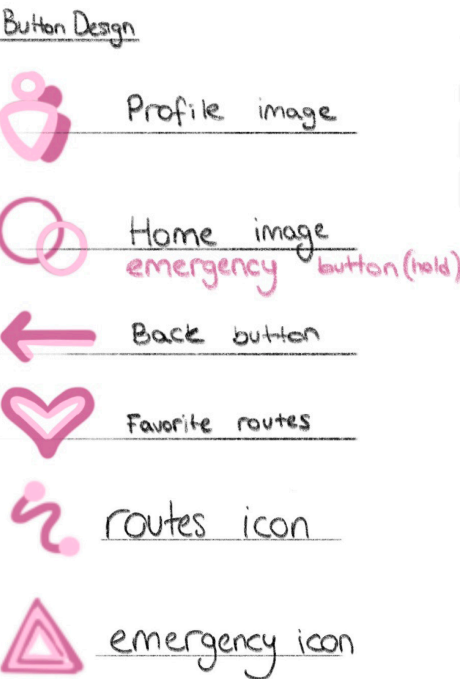
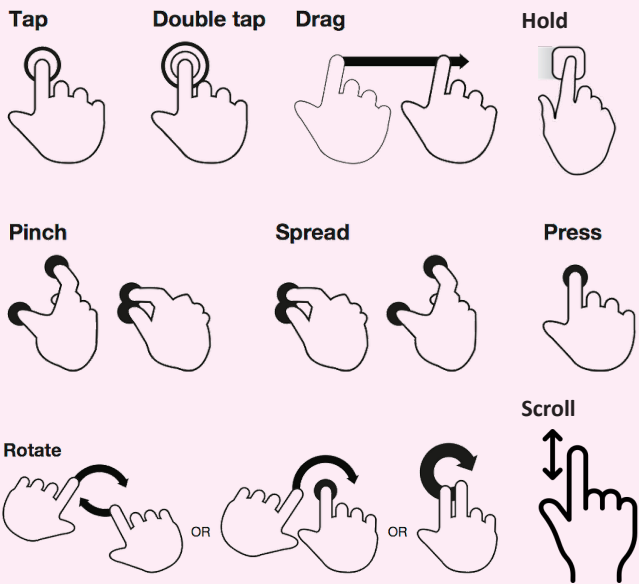
Make your application predictable by using industry standart user interface conventions wherever possible.

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Wireframes

UI Principles

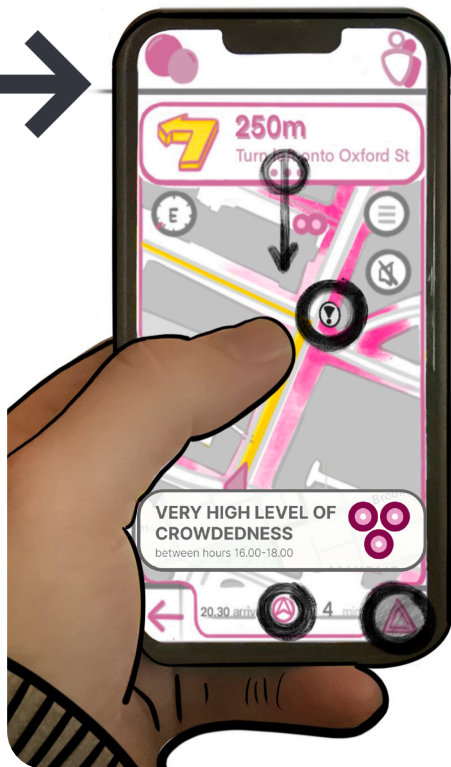
Gestures:



IBM DESING PRINCIPLES

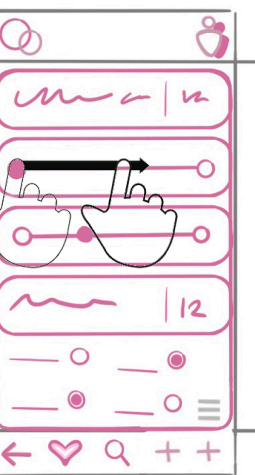
Keep your users informed and in control by providing informative and timely feedback tailored to the current situation

Risk Notifications



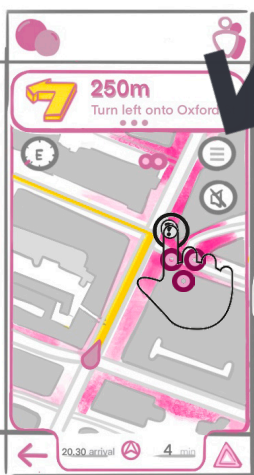
Make your application predictable by using industry standard user interface conventions wherever possible.

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Safety Filters

Gives users the option to configure route and safety filters according to their preferences (such as avoiding dimly lit areas or streets that are highly crowded at certain times) provides them more control over their travels.

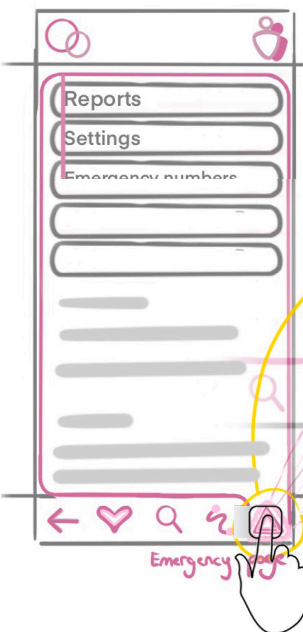


Journey Map

Map, let's the user know where they are, their route, and navigation instructions such as turns, distances, and street names. The user can also determine crowd density by the colors on the sidewalks or squares to avoid if desired.

Optimize the design for the most frequent or important tasks.

IBM DESING PRINCIPLES



convenient

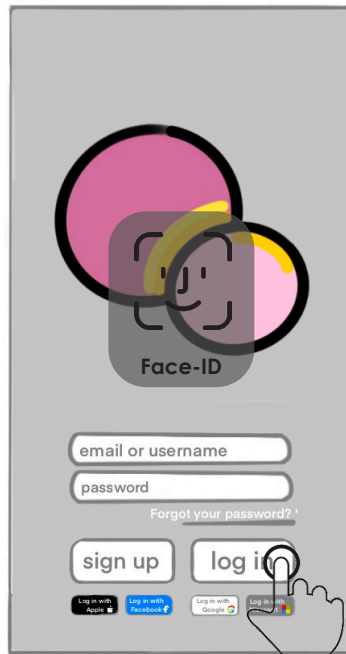
when hold emergency contacts get notified

Feedback icon gets bigger when hold while vibrates



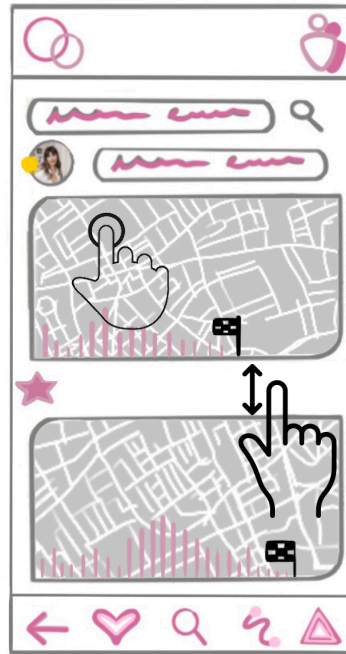
Emergency Feature

Press and hold for activating emergency, which will notify pre-selected contacts in the preferred way, whether it's a call or a message notification.



"Quick Log-in" & face recognition

There is a built-in "quick log-in" feature that uses the user's mobile phone's face recognition feature. Thus, it is much easier and more rapid to access WWS's emergency features in an urgent situation



ID check before Sign-Up

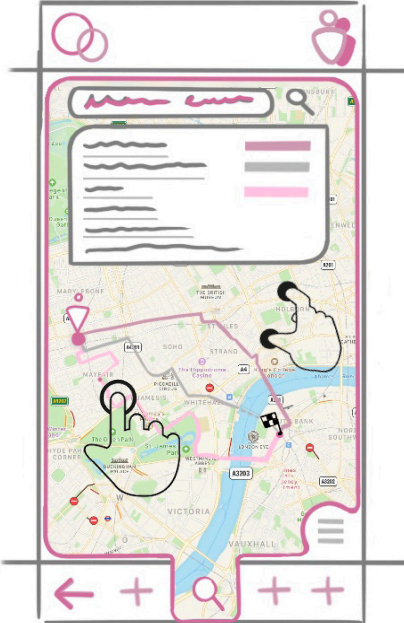
This lets the app determine the user's gender and age.



accessible

user friendly

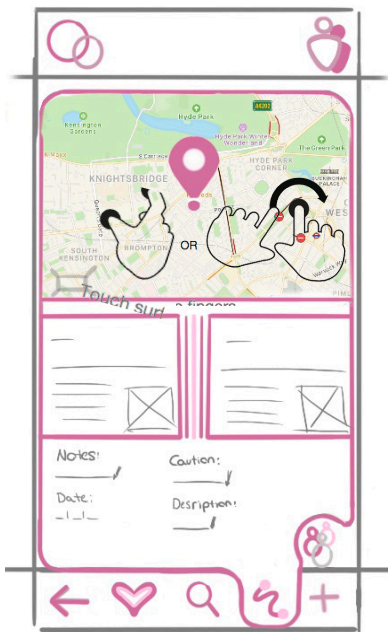
legibility



Finding New Route

The user can tap on the "Search" icon to search for a new route.

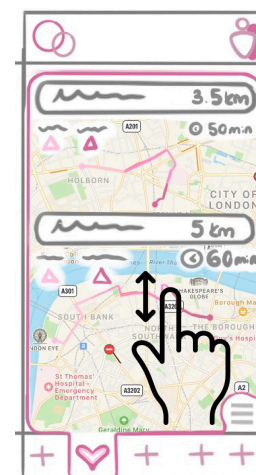
WWS will always provide the best-matched route according to every single user's security and other preferences.



"Route feature" & Pinning location

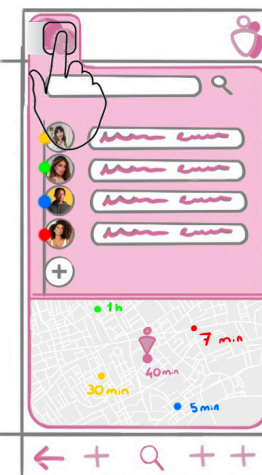
Route feature can be used for both sharing a new route with the desired users or for reporting an unsafe accident.

View of the map, and the zoom can be changed in the desired way for using pin location feature.



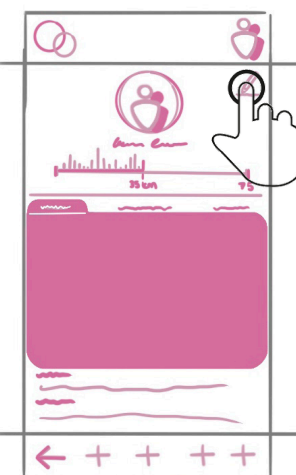
Favorite Past Routes

The user can scroll down and up for surfing around her favorite routes.



Live Location Sharing

By holding WWS icon the live location sharing feature gets activated, users can share their instantaneous location with the desired users of the WWS app.



Profile Page & Editing

User's can edit their profile by tapping on "edit" icon. They can add, their photos from exercises or edit their distance goals.

Evaluation

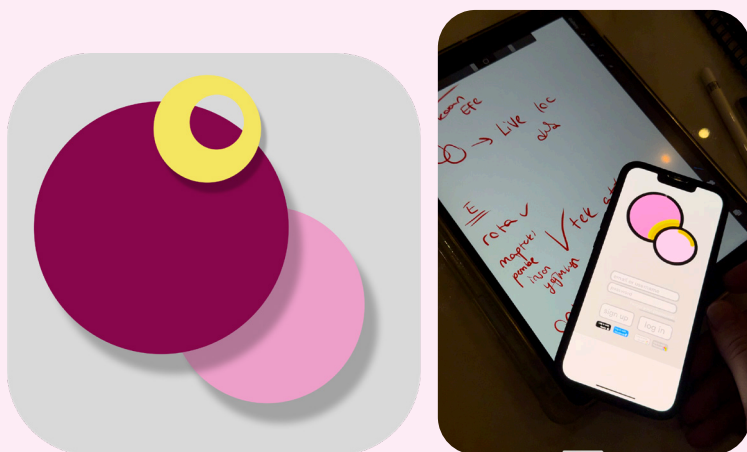
In order to evaluate the different features and usability of the app, a digital prototype made using both the "Figma" and "POP" apps has been given to three different users. They were asked to complete some tasks, and they answered some questions.

The evaluation was done using 3 frameworks; **usability**, **content**, and **efficacy**.

Here are the results and improvements made according to feedback!

Prototype used for Evaluation

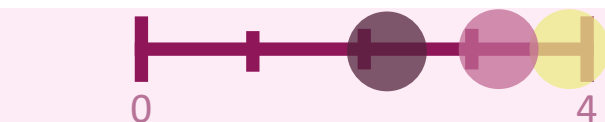
<https://marvelapp.com/prototype/1ae0j13j>



Heuristic Evaluation Results

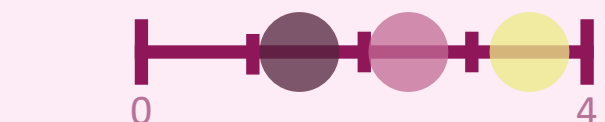
Usability

Task 1 Find a well-lit new route.



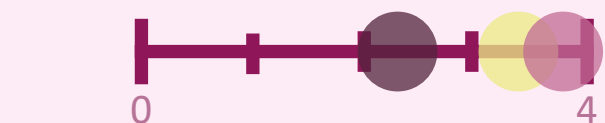
- "It did not take more than a minute!"
- "Filters are accessible and easy to understand."

Task 2 Turn your live location on.



- "It was easy to identify the icon, I even checked where my friend at!"
- "It took me a while to get used to turning it off and on."

Task 3 Edit your profile page.



- "Profile page icon is visible and looks similar with other apps I've been using daily."
- "Editing my profile page was uncomplicated."

Whats Missing?

- Pre-set filters for quicker route searching.

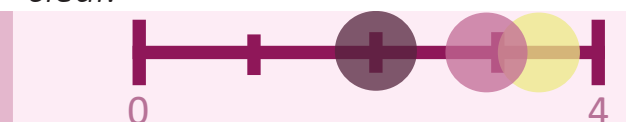
Content

Can you locate emergency buttton?



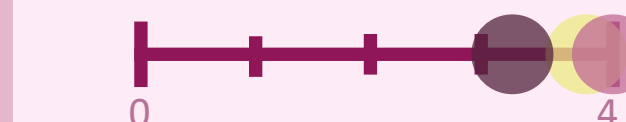
- "Yes, right bottom, i guess."
- "Fairly easy."

The information is comprehensible and clear.



- "Maybe a bit of more text would help some users with understanding."
- "Informations provided were enough for me to understand every feature of the app."

Can you locate favorites page?



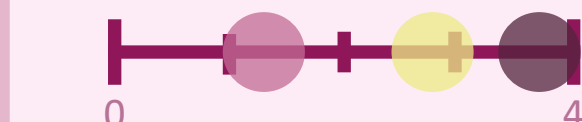
- "Yes, easily! The heart-shaped icon resembled a favorites page to me."
- "It is located at a familiar place."

Whats Missing?

- Back button should change places with WWS button.
- Tutorial page.

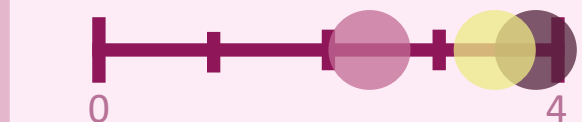
Efficacy

Do you think this app would motivate you to go out more?



- The anxiety associated with the potential risks of being out alone might decrease for me, knowing that the app provides real-time safety features and support.

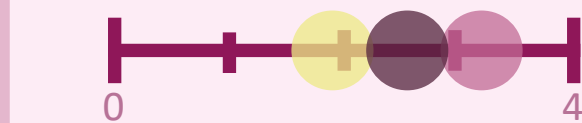
Would you feel safer when using this app when getting around?



- "Being able to communicate my real-time location with selected contacts would help me feel less alone in potentially dangerous situations. A reassuring safety net is knowing that someone I can trust can see where I am and can be notified or get called if I don't arrive at my location as planned or manually by emergency button."

- "I would definitely feel more comfortable"

Do you think that the user can customise their app experience enough?



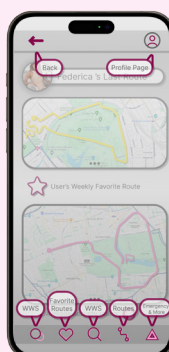
- "You can customize your security and and route preferences."
- "Choosing emergency contacts and how to contact them is a good example of how customizable this app is."

Whats Missing?

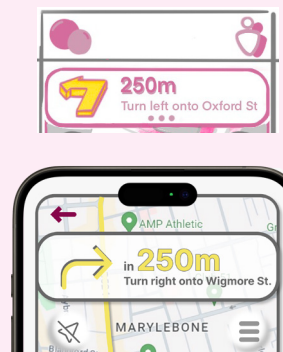
- Maybe there can be a dark theme of the app.

Solutions

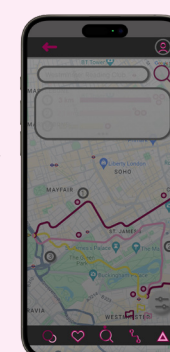
- There is now a mandatory tutorial slide after the first log-in and sign-up.



- The back button and WWS button have changed places in the final app view.



- A dark theme has been introduced for better user experience at night time.



HDI

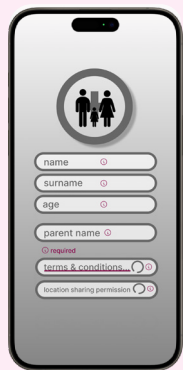
Negotiability



Live location sharing with family members or friends

App feature regarding;

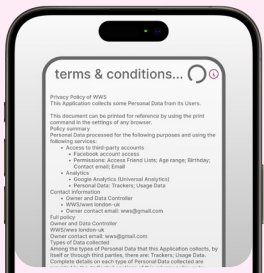
Live location is going to be asked twice to make sure that the user is willing to share their location data.



For users who are younger than 18 years old

App feature regarding;

- 1. Users who are underage can only share their live location with family members.
- 2. Parental permission signup should be sent to the underage user in order to sign up to the app. This ensures that the underage user can not share their live location with possible unfamiliar users.



Privacy policies and terms & conditions page

App feature regarding;

This page explains everything about this app's possible reach of data and usage of that data. This is essential for transparency, user trust, and legal compliance.

Legibility



Privacy policies and terms & conditions page and tick box

App feature regarding;

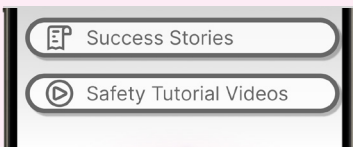
The user should read "Privacy Policies and Terms & Conditions Page" and tick the box for approval in order to sign up.



Choosing emergency contacts

App feature regarding;

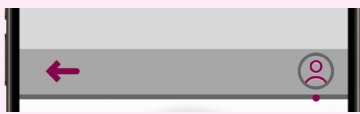
Choosing emergency contact previously lets the user know about whom they are going to call in case of an emergency.



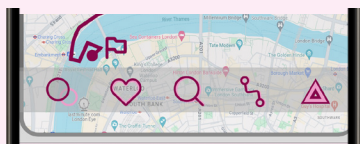
User education resources

App feature regarding;

Features such as success stories page and self defence video links has a significant impact on users' empowerment and knowledge of personal safety.



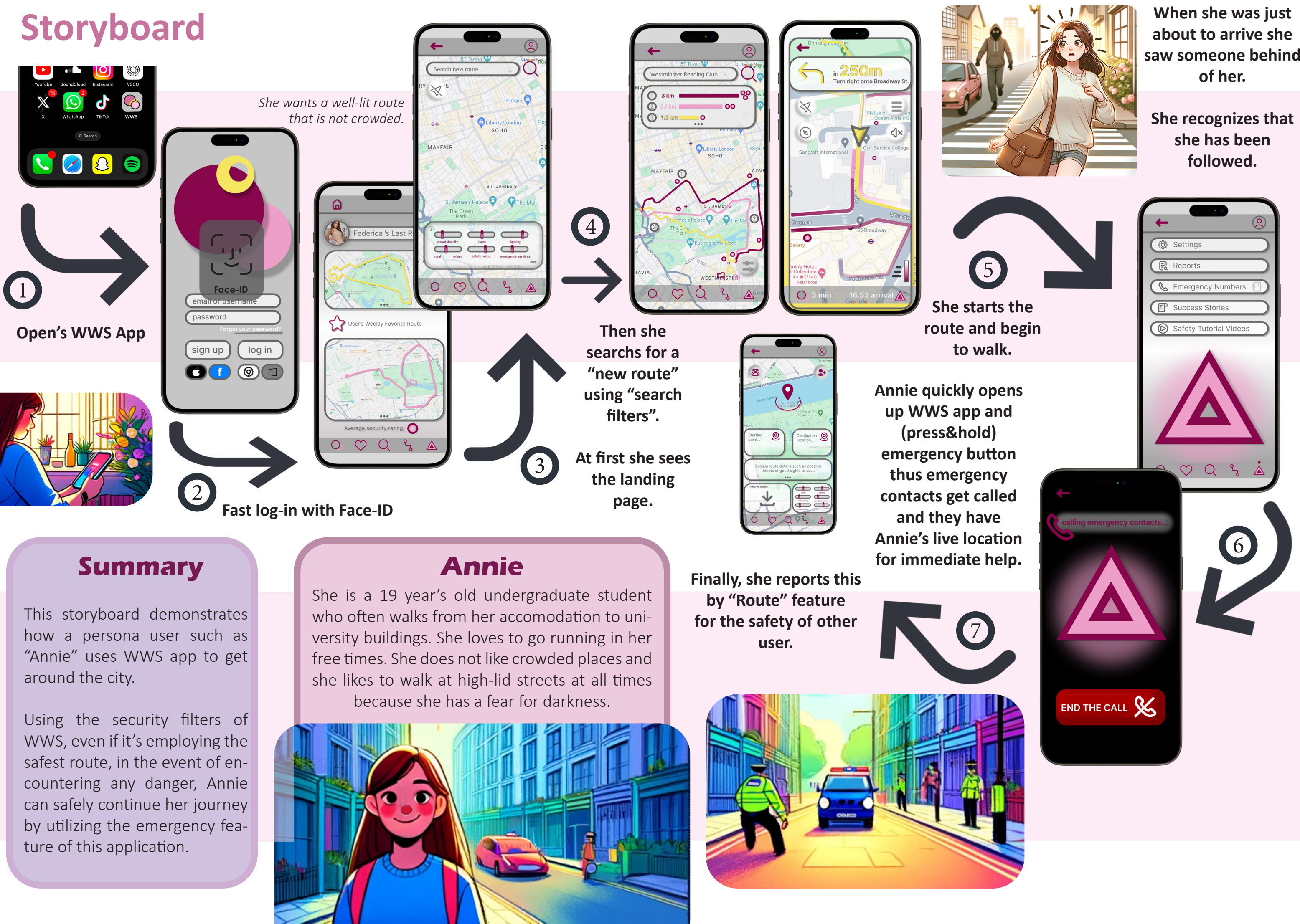
User friendly interface



App feature regarding;

This app has familiar layout and icons with the most popular mobile apps which facilitates ease of use and intuitive navigation, ensuring that users can quickly find and utilize its features without a steep learning curve.

Storyboard



When she was just about to arrive she saw someone behind of her.

She recognizes that she has been followed.

She wants a well-lit route that is not crowded.



Summary

This storyboard demonstrates how a persona user such as "Annie" uses WWS app to get around the city.

Using the security filters of WWS, even if it's employing the safest route, in the event of encountering any danger, Annie can safely continue her journey by utilizing the emergency feature of this application.

Annie

She is a 19 year's old undergraduate student who often walks from her accomodation to uni-versity buildings. She loves to go running in her free times. She does not like crowded places and she likes to walk at high-lid streets at all times because she has a fear for darkness.

Finally, she reports this by "Route" feature for the safety of other user.

Social Ethics Impact

Privacy and Data Security

Although the application tracks the user's location and shares it with reliable contacts or emergency services, it also raises significant concerns over the privacy and security of user data. Important ethical questions revolve on the app's methods for gathering, storing, and using user data as well as how it protects that information from illegal access.

Any possible issues with security are prevented by an ID check at the sign-up, which is mandatory. Our teams are going to check them one by one.

Also, users can read the Terms & Conditions page anytime they want to learn how their data has been used by WWS for clarity of data usage.

Inclusivity and Accessibility

WWS is an app for all woman and kids. Even underage girls can use this app by the permission and invitation of their parent.

This app can be installed via AppStore or GooglePlayStore, so basically every on every platform.

False Sense of Security

Users of this app should always keep in mind that anything can happen at any moment. It could be too late to help you in a dangerous situation, so always be careful. Be aware of your surroundings and do not dull your senses.

Victim Blaming

Victim Blaming: There's a chance that these applications' existence could unintentionally encourage victim-blaming stories. In the event that an incident happens, it may be implied that the victim was not using the app appropriately or at all, which would refocus attention from the offender's actions to the victim's safety measures.

Secondary Interactions

Users can also interact with the WWS app via home page widgets and notifications.



**Map view
of the route
when needed**

**Route
Notifications**

**WWS Emergency
Widget**

Users can see their following route view on the map from their lock screen notifications if wanted or they can simply just read and follow direction arrows.

There is a WWS Emergency button located at the bottom of the notifications at the lock screen and if wanted as a widget at home screen for any emergency situations.

Digital Inclusion

Color Theory



These 5 main colors have been used for entire design of the app.

Since pink and yellow is easy to differentiate, I chose them as my 2 core 2 colors.

Privacy & Rules

Users who are under then 18 years old should get an invitation emial from their parents in order to Sign-up to the app.

Men are forbidden to use this app since it's focused on women's safety.

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Appendix:

Physical Prototype:

<https://marvelapp.com/prototype/1ae0j13j>