

Soteria

Team 26 - Project Backlog

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Problem Statement

Through the past couple of years, there has been a marked increase in the number of sexual harassment cases occurring in different social venues across college campuses. Often, these occur when students have a lack of resources to make informed decisions about the social venues that they choose to visit. Using Soteria, users can get an accurate depiction of the safety of social venues across campuses using safety scores for venues to allow them to make informed decisions. Additionally, the heatmap feature will enable users to view areas near them where other users have felt unsafe.

Background Info:

Audience

This app aims to service women who would like to visit social venues across the Purdue campus and would appreciate an understanding of the woman safety experienced in those areas previously. This would allow our users to make informed decisions on the places they would like to visit by getting an accurate depiction of the safety of different social venues through our peer-reviewed safety scores.

Similar Platform

There are several women safety apps that exist such as Circulo, Hollaback, Shake2Safety, and BSafe. Though the main purpose of these apps are to provide a platform to women to feel safe, the functionalities that these apps offer vary depending on the app. Circulo helps women build communities and connect with other women for emotional support. Hollaback enables users to view places where sexual harassment have occurred. Shake2Safety and BSafe both provide SOS features to help inform appropriate authorities of any emergencies.

Limitations

While a lot of the apps that exist on the market provide interesting and unique functionalities to aid women safety, they are all rather one-dimensional. Apps like Circulo and Hollaback certainly do their job well, yet their limited functionality means that women would need to circle through a plethora of apps to truly ensure their safety. Our team believes that one of the keys to woman safety is providing urgent and required care as soon as possible, and in creating an app that has many of these same functionalities all in one place, we can allow for a much more immediate and viable solution. Several of these apps also have a rather unintuitive UI. Our vision for the Soteria app focuses on creating a simple and easily understandable UI which users require no training to interact with.

We aim to address these problems by creating a platform that combines many of these different services and a couple of our own proactive safety measures into one swift and easy-to-use package.

Functional Requirements:

1. As a user, I would like to register for a Soteria account so that I have a personalized experience.
2. As a user, I would like to login to my Soteria account so that I can access full functionality.
3. As a user, I would like to have the option to create a verified account using my email so that it can raise the validity of my reviews on the platform.
4. As a user, I would like to view and edit my account details so that I can manage my Soteria account.
5. As a user, I would like to reset my password so that I can retain my account in the case I forget my password.
6. As a user, I would like to stay logged into the app even after it's closed so that I don't have to log in again and again.
7. As a user, I would like to be able to easily navigate to the app features so that I can access desired functionality.
8. As a user, I would like to press and hold the sos button so that I can call my emergency contacts
9. As a user, I would like to tap the sos button so that just a message is sent to my close friends informing them of my location
10. As a user, I would like to view emergency contacts so I can view the close friends and family who will be notified of my whereabouts
11. As a user, I would like to manage my emergency contacts so that I can edit who gets notified of my whereabouts
12. As a user, I would like to view reviews and comments about a place so that I can know how other people felt at the said place
13. As a user, I would like to view star-based rating for a place (only read reviews that gave a place 4 stars, etc.) so that I can gauge general safety reviews of the said place
14. As a user, I would like to upvote a certain review so that I depict the fact that the particular review resonated with me
15. As a user, I would like to add reviews about a specific place so that I can inform the user base about my experience at the place
16. As a user, I would like to give star-based ratings to a specific place so that another user can gauge general safety of the place in question
17. As a user, I would like to view university accredited information about the place so that I can get an official statistical idea about the place's safety
18. As a user, I would like to be anonymous when commenting/reviewing/mark map incident report in case I feel unsafe revealing my identity
19. As a user, I would like to see links to external resources and mental help so that they can help me cope with incidents
20. As a user, I would like to reply to other user's reviews so that I can engage in a conversation / add on to what another might have said
21. As a user, I would like to view if the person who reviewed is verified or unverified so that I can gauge the legitimacy of a given review

22. As a user, I would like to receive notification if someone replies on your review so that I can engage in a conversation in a timely manner
23. As a user, I would like to view list of places sorted by safety score and user review ratio so that I can better decide to go to a certain place or not
24. As a user, I would like to add a petition about a social place so that I can raise a concern which could bring about actionable changes
25. As a user, I would like to reply to another user's petition so that I can improve the petition's reach and add on to the conversation
26. As a user, I would like to upvote another user's petition so that I can improve the petition's reach and depict my approval of said opinion
27. As a user, I would like to see my location on the homepage map so that I can be aware of my surroundings and the other locations around me
28. As a user, I would like to see the map of the campus on the home page so that I can get an idea of the general layout of my surroundings
29. As a user, I would like to see all social hangouts pinned on the map so that I can know potential places to visit
30. As a user, I would like to search for a place on the map so that I can use the heatmap and plan my trip to that place accordingly
31. As a user, I would like to view heatmap of unsafe places so that I can find an alternative route to avoid those places and be safe
32. As a user, I would like to tap sos button once to tap the location as unsafe on the map so that I can alert anyone who might pass by that area
33. As a user, I would like to mark a location on map as unsafe by pinning the location so that mark a particular landmark or un-identified place as unsafe to alert other people
34. As a user, I would like to mark a location on map as unsafe by searching the location so that I can mark a particular hangout or social event spot in order to alert other people.
35. As a user, I would like to switch between normal map and heatmap so that I also can get a better sense of my location
36. As a user, I would like to view locations on the heatmap with different colors based on the frequency of unsafe reports that have been made at that particular location or in a close vicinity of it so that users can be made aware of unsafe zones
37. As a user, I would like to use the offline SOS feature of the map so that it enables me to contact emergency authorities, if need be, when I am not connected to Wi-Fi
38. (If time permits) As a user, I would like to see the locations of the safewalk beacons/signs that are present across the campus so that I have quick access to campus safety resources
39. (If time permits) As a user, I would like to see the nearest safewalk beacon highlighted so that we the user can access the closest beacon available
40. As a user, I would like to zoom in/out of the map and move map according to the user's preference so that the user can explore the different places on the map easily
41. As a user, I would like to add a women safety event to the bulletin board so that we can build social awareness about women safety in our community and encourage others to participate in such events

42. As a user, I would like to reply to an event on bulletin board so that feedback can be given and the event can be promoted
43. As a user, I would like to upvote an event on bulletin board so that the event can be promoted
44. As a user, I would like to RSVP to event on bulletin board so that I can show my interest in such an event
45. As a user, I would like to view different events on women safety on a bulletin board so that users can join these events based on their interests
46. As a user, I would like to view the events by newest/latest and not see events that have occurred so that the users are updated with the events occurring nearby and can plan their schedules accordingly

Non-Functional Requirements:

Architecture and Performance

For the architecture, we planned on developing the front-end and the backend separately so that it allows for a proper distribution of work and would make it easier to avoid issues that might arise between backend and frontend. The backend of the application would be entirely developed using firebase as it would provide good database structure, proper authentication libraries and work well with google apis that are used for the map features. Using Firebase would also enable our apps to be scalable in the future. The front-end would be developed using Flutter because we would be able to develop cross platform applications (ios or android) and help us use various maps packages. It has great UI libraries in general to provide more interactive features. Flutter would also work together well with Firebase and help us develop a robust app.

Security

Being a safety app, protecting the data and information of the user is one of our primary concerns. By using firebase, we can have a secure live database and cloud storage of user data. Firebase makes it easier to provide a robust authentication system with email-verification. This authentication system can also help in preventing malicious activities like phishing and SQL Injection.

Usability

The app interface has to be as user friendly as possible. Therefore, we have multiple buttons on a single panel that are clearly marked, so that the user can get used to the resources with as few clicks as possible. We also want to make sure that the application is accessible on different types of screen sizes and resolutions.

Hosting/Development

By using a combination of Flutter for front-end and Firebase for back-end, we will be able to work and update them individually. Once we get a fully functional app, given it would have been written in flutter we would be able to host/deploy to the Play Store and the iOS App store so that everyone can use it.