

Visual Report

Executive Summary

My project is a mobile application, designed to be compatible with iOS and android devices for a wider range of users. The app is called 'Surf Safe'.

My app is accessible for users in search of safety information, specifically around coastal areas and communities on a global scale. New users after creating an account will be asked if Surf Safe can send the user notifications; notifications are recommended for this app as this allows users to have access to instant changes in an area's safety status, and constantly updated news without having to search the databases through the application, however users have the ability to deny this feature and opt to access information with app use at their leisure. The user can also have the application access their location, which is also preferable so the app can provide information in relation to relevant locations, but this feature is also options; and can be denied by users.

Users can create a personal account where they can save their favourite and most visited locations and access relevant information sooner. It is possible for the user to search locations across the globe from the homepage and the globe will show them a focused version of the chosen coastline's map. Their saved locations are also accessible from the home page and appear in a closed tab underneath the globe for quicker, simpler access.

A personal user can also interact with local charities and community projects by filtering their interests on the 'for you page', identified by the second tab. As the user interacts more with this feature, increasingly more relevant information regarding their searches will be provided. This tab also includes information on wider organisations working hard to protect the coastlines for everyone. This may include wildlife protection and conservation organisations, lead researchers in marine wildlife conservation and varied security companies. The community page is more specific and is designed to provide local opportunities to create a community centred around protecting the natural environment. This is an attempt to make the user feel connected and part of something substantial and important whilst promoting in person interaction, strengthening relationships and opportunity for further connection through a wider community. The final tab belongs to the personal page which is designed for users to identify with the account they created. They can see their 'saved' and 'interacted with' community projects and saved locations and edit their settings relating to location services, notifications, and account details.

This app's purpose is to provide up to date, relevant and regular safety information in relation to coastal activity in hopes of protecting the wildlife, natural resources, and the local communities. I believe with wider access to safety information, there will be less incidents of damaged coastlines, human injury, and deaths. By working together as a community, we can reverse the damage done to our oceans and coastlines done by humans. The app not only provides safety information but also acts as an example of people taking responsibility for the state of the planet and actively engaging with modern technology to support a community with a good cause.



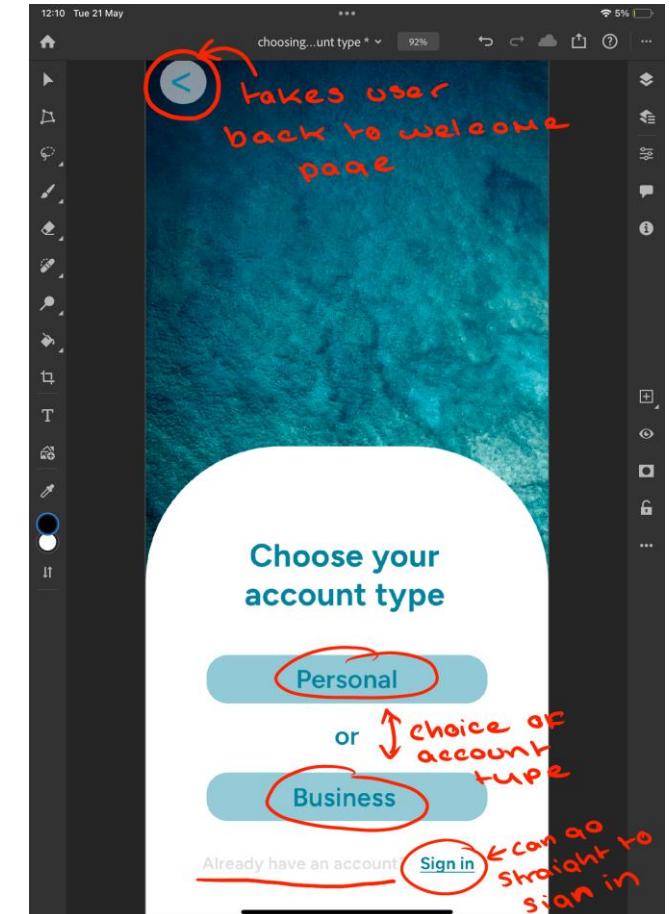
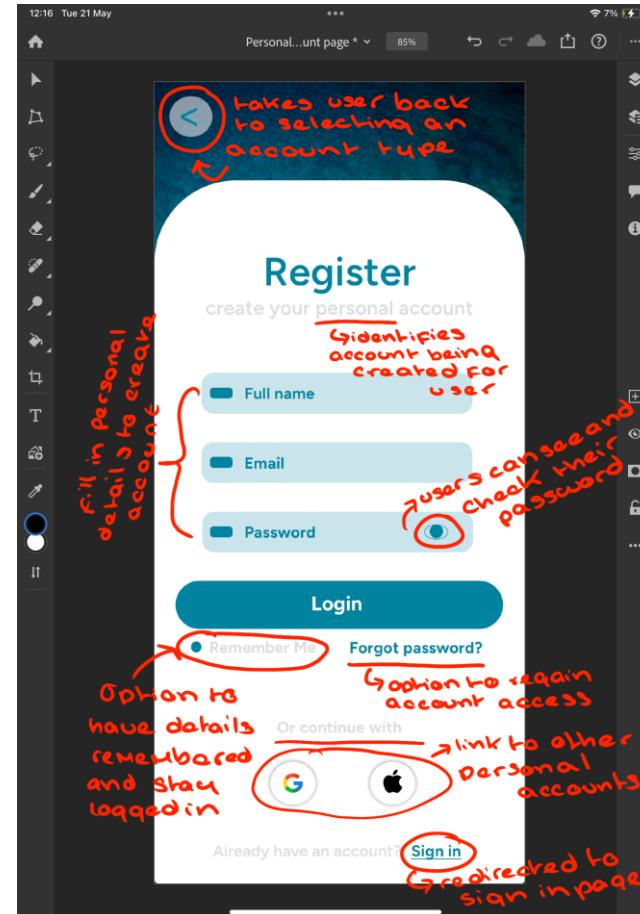
Prototype Report

User purpose

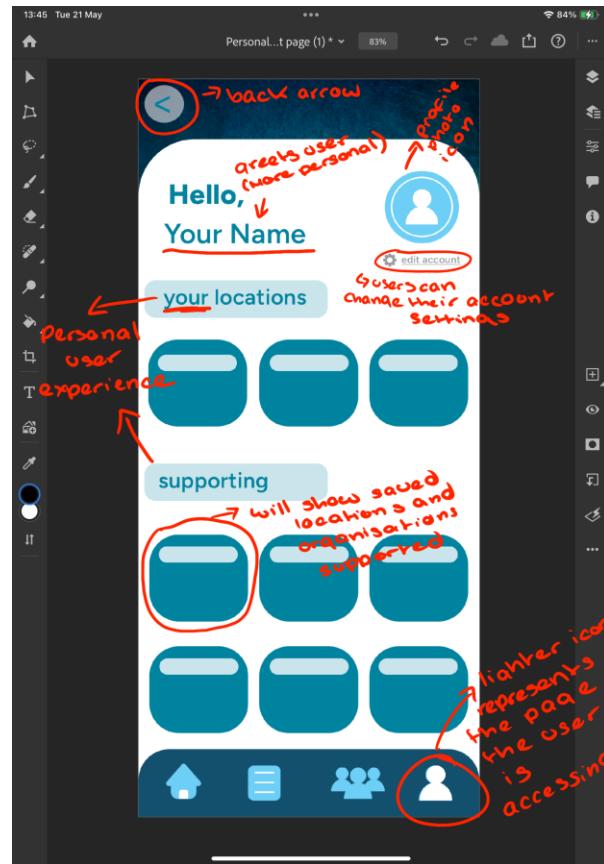
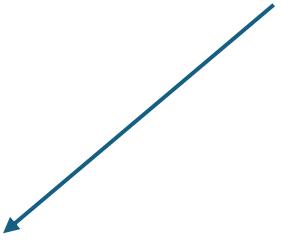
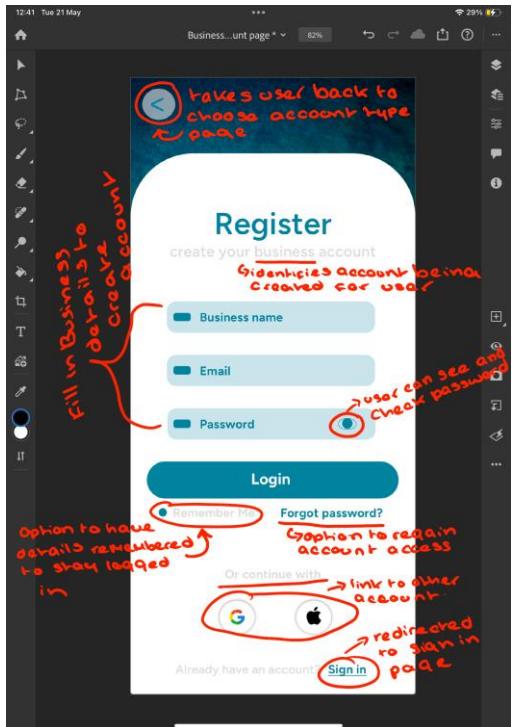
The app searches a variety of online accessible databases to provide updated information regarding the safety status of each coastline. As the purpose of this application is to provide accurate safety information, it is available for all users regardless of their mobile device, being compatible with both iOS and android devices. For most users, the main purpose of the application is to access security information as quickly as possible and stay updated on security risks in your local area. Although, with the additional provided features of the community page and the access to local projects, the app provides users with a sense of belonging in their local community. Users now can actively engage with other locals in their area with whom they can bond, make friends, and work together to protect the coastlines.

Create account experience for business and personal use

Users can access updated information if they have a secure connection to the internet or allow the app to use their data. Users can create an account if they have an email and will then be asked if they wish to create a personal or business account. For users who desire a personal account, they can choose their own password or opt to log in using their google or apple accounts. They will be able to re-login if they forget their details, if they remember the email they created the account with. They will be asked to provide their full name, an email and password and if they would prefer, they are able to select the circle underneath the log in bar to activate the 'remember me' feature, which allows users to re-enter the app without having to log back into their account again.



A business account would target users who are members of charities, businesses, and organisations in the field of marine wildlife conservation, coastline protection and community welfare who wish to share their efforts in these chosen fields with local and wider communities; the Surf Safe application for these users becomes a medium for digital advertising, an opportunity to market charitable ideas and place them within the heart of the coastal communities. Not dissimilar from the personal account, the business account also has the opportunity to connect to surf safe with google or an apple account for ease of access for business management teams, prioritising consistency for their self-organisation and employee access. The alignment of business advertising and surf safes safety first ethical structure, a strong emphasis on ethical conservation work is created. The business user experience will differ from the personal experience because it provides those users with tools to upload content, accessible for their followers and the wider community. The focus shifts slightly from security updates and more towards digital marketing to promote collaborative work and raise awareness of coastline safety issues.



The personal account page

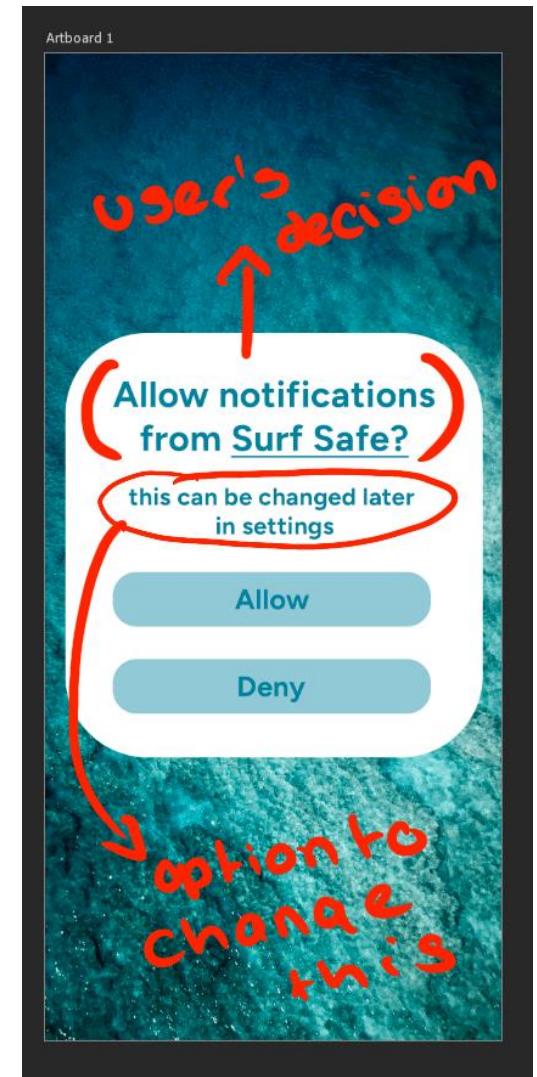
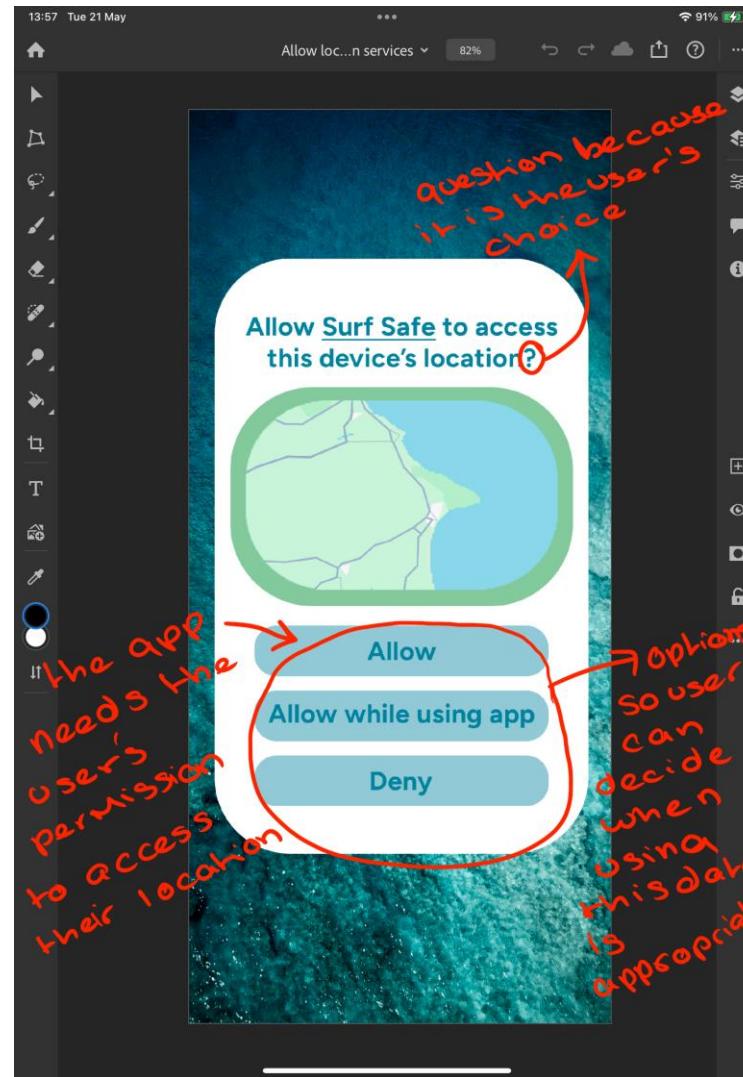
The personal account page provides users with a visual summary of their preferences dictated by their interaction and is indicated by the person icon which will be highlighted white if the user is accessing this page. The user will be greeted at the top of the page and their name will be displayed adjacent to the profile photo. Under the profile photo there is an icon that represents the settings so users can access their account details and change them if necessary. As the primary purpose of the application is safety for a variety of locations, the first saved space on the application is reserved for the user's saved locations. From here they can scroll left through all of their favourite places. If the user was to click on them, the corresponding information page would then be displayed for the user to explore.

Notifications for ethical UX

Users receive safety information in a variety of ways. If the user allows this, they can receive notifications with up-to-date safety information. The first notification of the day will reveal the current safety status and the user will receive no more notifications unless the safety status of their chosen coastline changes; the user will be told from this notification whether the change is safety status was positive and the coastline is now deemed safe for visitors and if the change is safety status is negative. It will also include the reason for change in safety as this may vary from wildlife interruptions, health hazards, previous incidents from the say or even potential weather-related threats, more common in more tropical climate coastal areas.

When users create their account and login for the first time, they will receive a pop-up asking permission for the app to send notifications. This can be accepted or denied as the app is unable to do so without user permission. Users will then receive a second pop up asking users if they wish to allow the app to access their location information, which can be accepted, denied, or allowed only when app is in use. The application must again request permission from the user to access their location services because if the app was to use this data without the user's permission, it would raise ethical concerns regarding user's privacy. Implementing strong security measures is critical in protecting users and anonymising data.

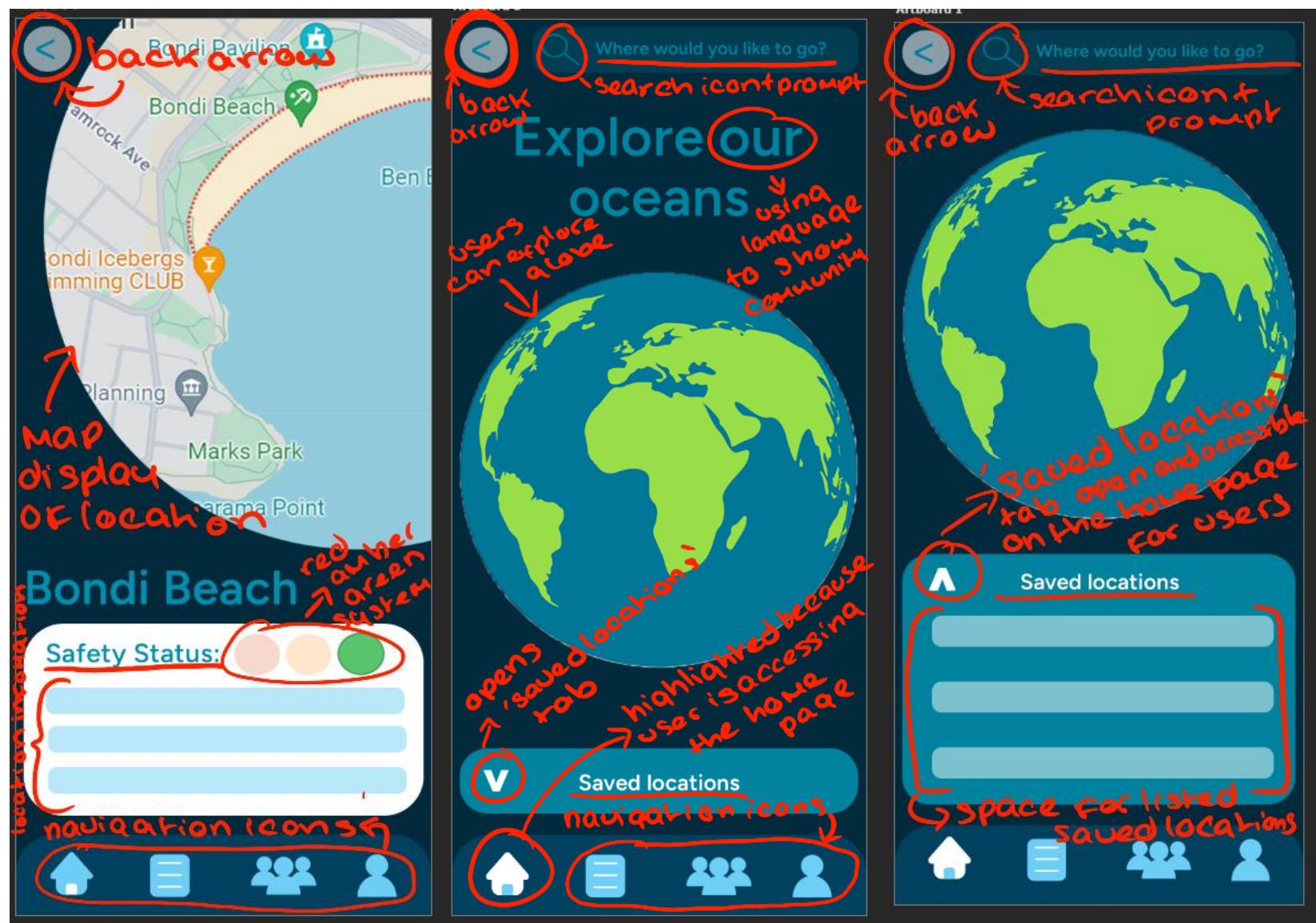
The users can find safety information by allowing the app to first access their phones location services. Access to a mobile built in GPS service can provide the app with relevant location information so users are always given relevant information regarding their local areas and community. However, if users chose to disable the apps use of location services, there are other possible ways to access safety information. The quickest method is to use the search bar on the app's homepage located above the globe.



Searching location

Users are prompted to search a location from the homepage. This will then take users to the following location's information page, providing the user with a map of the chosen coastline, a safety rating ranked with a red, amber, green system and recent updates being provided to residents and visitors of the chosen location. If the user decides they need to re-access this location, they can access their 'recently searched' which will be displayed when the user reselects the location search bar from the home page and select the same location again from there. The example below shows how the information would be formatted if the user was to search for Bondi Beach.

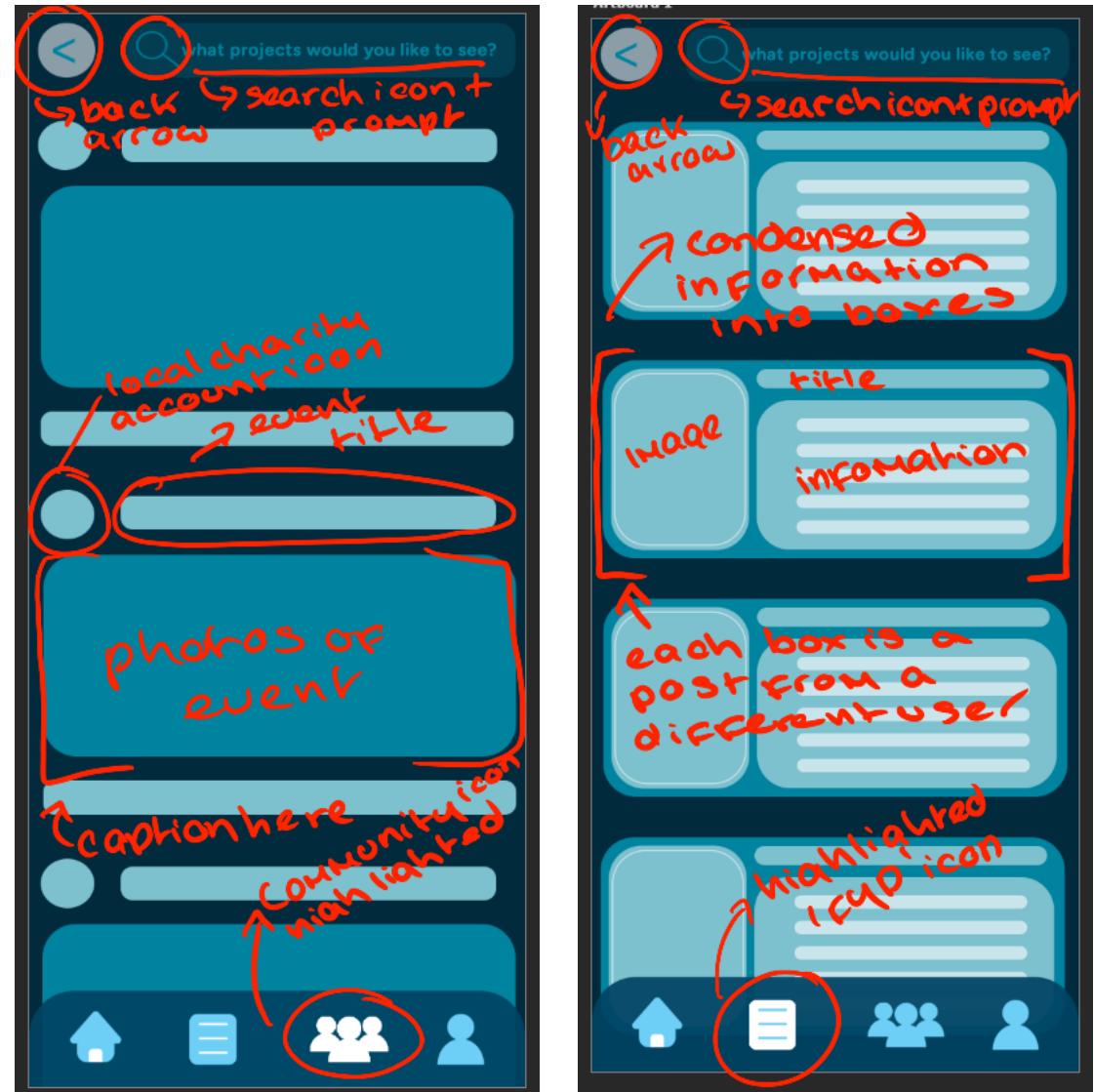
There is also the option to favourite location which will then make the location details accessible from the home page under the closed tab labelled 'saved locations' and under the saved locations list on the users personal account page for easier access. Users are also able to favourite their preferred charities, businesses, and organisations by using a similar feature to the starred location choices. Users can favourite these and then access them through the personal page, located just underneath the starred locations option. As a user, a personalised experience creates a more positive notion of interaction with a product, and the more the user chooses to interact, the more benefit they have from the product. If the user consistently chooses to interact with this specific feature, the app will begin to provide more accurate suggestions, further curating a personalised experience.



Connecting with communities

The option of reaching other communities through project work from businesses and charities is beneficial for the business user because it places them within the local community they wish to reach. This creates a more positive business identity and demonstrates their efforts and work on a platform dedicated to protecting coastal environments. The chosen features for accessing charities and businesses work visually replicate the display of commonly used social media platforms; this level of familiarity creates a comfortable user experience for both the business user and the personal user, one from a form of familiar digital marketing and the other a form of scrolling through new information from different sources.

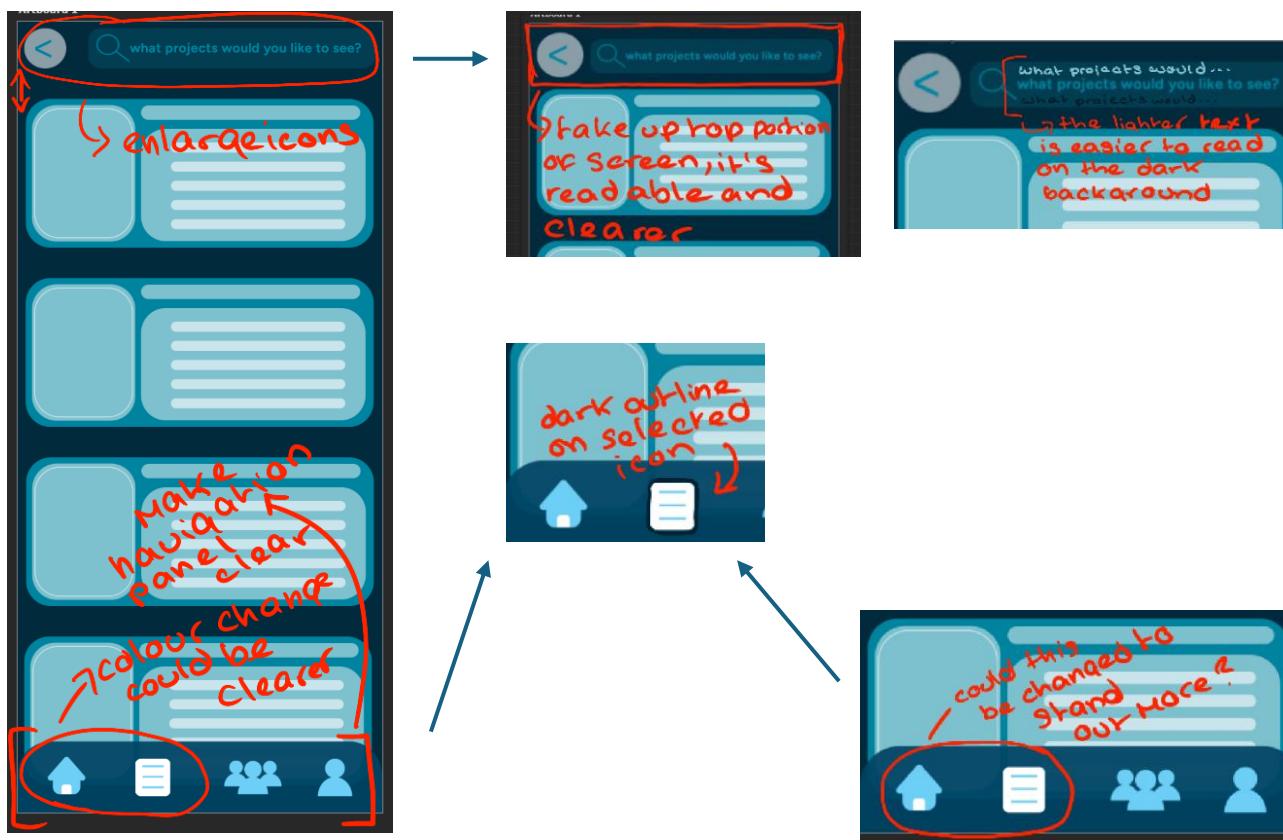
As a personal user, the main purpose of the application is to access security information as quickly as possible and stay updated on security risks in your local area. Although, with the additional features of the community page and the access to local projects, the app provides users with a sense of belonging in their local community. Users now have the opportunity to actively engage with other locals in their area with whom they can bond, make friends and work together to protect the coastlines. A personal user is prompted to engage with these features to raise awareness of projects happening to protect marine life and also to give users the opportunity to contribute to a topic that interests them in a community that exists online and offline. The collaborative nature of security compliments the notion of collaboration being crafted by the easy access to information surrounding the local community's activity. As a personal user, the reflection upon why simple access to coastal safety information may further encourage interaction with the local community in understanding other users desire the same output.



Evaluating the prototype using heuristics

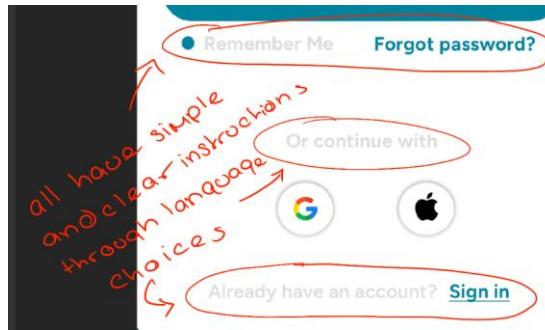
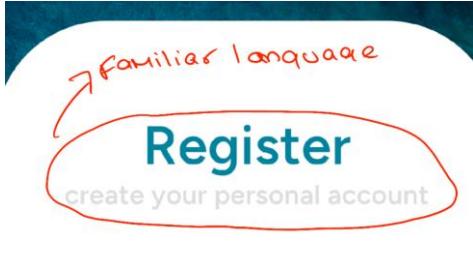
I will be approaching further evaluation of my prototype from the perspective of Nielsen's 10 heuristics. I chose to evaluate my prototype further with the heuristics because they provide an in-depth, critical understanding of the product post evaluation.

When evaluating my project through the visibility of system status heuristic, I identified the communicative features that demonstrate the app's stage. The icons which represent the different stages of the application all change to a lighter colour when in use to highlight to the user which stage of the application they are currently interacting with. When the user taps on one of the icons, the transition to their directed state is quick with minimal wait and instant response. Each of the pages the user must navigate within the application all follow a different and distinctive structure and visual design to avoid confusion for the user. However, one potential issue with the current design is the icon representing the fyp may not be directly identifiable with that purpose. To solve this problem, I could improve the prototype by choosing an icon that much clearer demonstrates it's purpose. Another issue is some of the icon sizes on each page may be slightly too small and easily missed by the user, so to solve this problem, I could slightly enlarge and darken the icons, so they have more visual clarity. This would also be a beneficial edit to some of the text onscreen. To remain consistent, the prototype was designed with the intention of having a minimalist blue colour palette but some of the text appears less visible to users than other chunks of text. Finding a better balance between consistency and necessary visual contrast would improve the overall user experience.

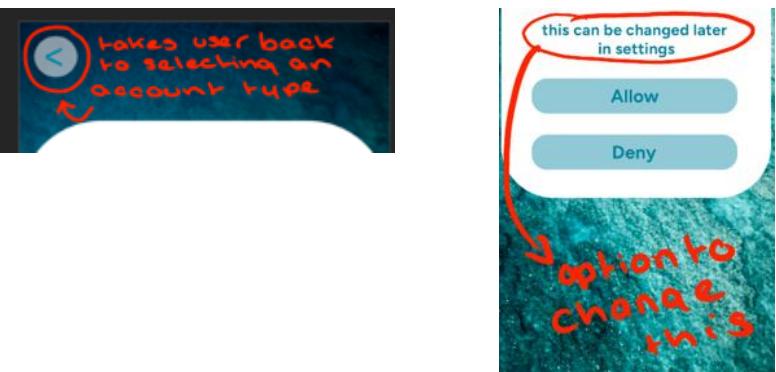


| Number of Heuristic | Positives (what does the current design do well?) | Issues (what are the current problems with the design?) | Recommendations (how can i improve the prototype?) |
|--------------------------------|---|--|--|
| 1. Visibility of system status | Changing icon colour when user is accessing the corresponding page Instant change through app stages with minimal extended animation transition, immediate, quick and responsive Each page of the app has a different and distinctive design that well represents its intended purpose | Icons change colour when selected but chosen icons for the fyp section feels unclear Colours are very similar maybe too similar Icon sizes | Change icon Add features to each page so when the icon is clicked, the top of the page will say welcome to the... on pages such as the community and fyp for further clarity Consider brightening the text so it is easier to read On page icons are less obvious, enlarge for clearer navigation |

In considering the match between the real world and the system heuristic, my app follows expected user interactions that directly mirror the real world. All text follows simple conversational language, straying away from any slang that may cause confusion for the user. The familiarity of the language conventions implemented create a sense of familiarity for the user, improving their experience with the application.

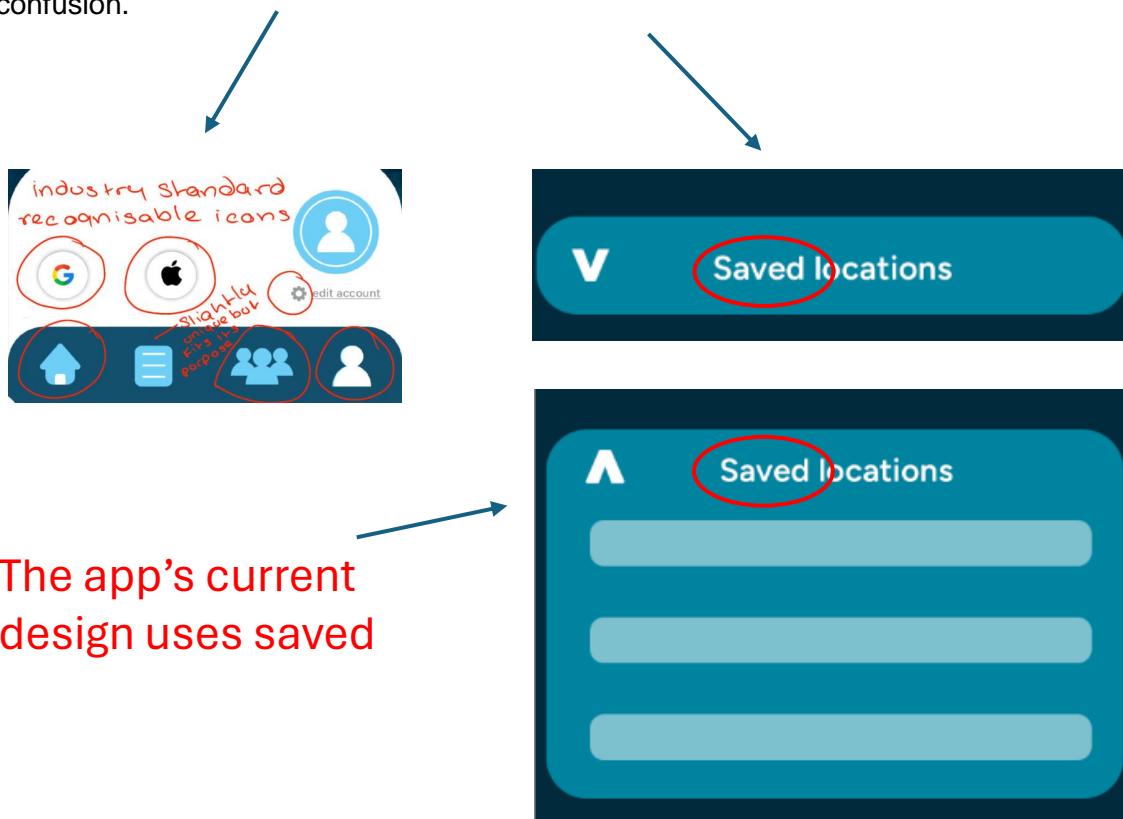


For the user control and freedom heuristic, it was clear the Surf Safe prototype has some implementations of user freedom but could be improved. The first issue is in the lack of ability to cancel an action in the design. Users can go back from their location after a search or change in app state but there are no features that stop their advancement from happening once the user has told the application where they wish to go. There are features within the app to redo actions, changing the current Surf Safe experience. An example of this is the ability to change the permissions relating to the app's use of location services and ability to send notifications to the user. The transition stages however could be significantly clearer with a few improvements from the visual design, potentially an icon outline as well as a colour change.



| | | | | |
|--|--|--|--|---|
| | 2. Match between system and the real world | Terminology is familiar, no slang and all statements/questions/sentences in the app are simple and conversational language Follows natural real world conventions | | |
| | 3. User control and freedom | Each page has a back button to transition to the original point, can also navigate each page with the icons below Can't cancel action but can change response, so if a user enabled notifications they could turn this off in the settings of the app if they wished too Undo and redo supported in the ability to change permissions in the settings Undo redo supported in the access through the icons at the bottom of the screen and the presence of the back button | Exit link is discoverable but maybe not very obvious No way to cancel an action but you can go back and redo when creating an account | Find a way to make transition between app stages clearer, more emphasis on the icons potentially and make the back arrow more obvious Potentially a cancel action request but not sure how and where to include this, explore independent interaction with prototype and consider where the need for cancelling an action would be |

Following industry standards and consistency in design, my application has memorable and recognisable icons for users to identify when navigating the UI. The app has a consistent colour palette to avoid harsh visual changes. For a desired personal experience, the personal user account features offer customization of saved locations, preferred content and favourite organisations to see. The user can mould their experience through further interaction with the app, receiving more relevant and recommended content through the discovery page. However, there is a lack of consistency in referring to the saved locations as they are occasionally referred to as favoured. Although both mean the same in the context of the application, this may be confusing for new users and consistency using a single term could remove any confusion.

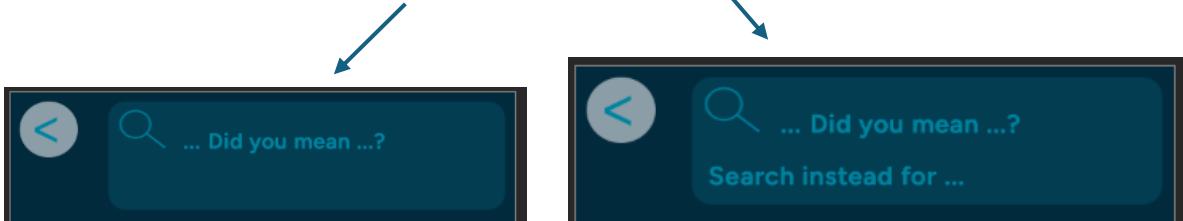


| | | | |
|------------------------------|--|---|-------------------|
| 4. Consistency and standards | Follows industry conventions of a user-centred design Follows consistent, | Referring to the chosen locations as saved and favored might cause user confusion | Stick to one term |
|------------------------------|--|---|-------------------|

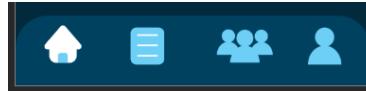
| | | | |
|--|---|-----------|--|
| | memorable and recognisable icons for the user to navigate the app with Consistent visual treatment, the app remains visually consistent without any sharp or shocking changes The personal account feature and ability to favourite and save locations/businesses/charities exemplifies the industry standard if a personalised user experience | confusion | |
|--|---|-----------|--|

Surf Safe has no error prevention in the design which needs to be changed for the app to be usable. The design needs to include different forms of error prevention for different parts of the application. For the search features in the app, the app could give the user feedback from their search with corrective technologies such as spelling correction or even a 'did you mean...?' response. Notifications can be added to guide users away from potential errors and keep them protected. However, to find the most important error prevention, I think evaluating how users interact with the current prototype would be a good way to navigate the errors that could come up.

Error Prevention examples to add



All of the app's navigation icons at the bottom panel are available to the user at all times. This keeps a consistent format of information for the user. However, the 'recognition rather than recall' in Surf Safe could be further improved by adding a title to some of the pages that look very similar. An example would be displaying 'Welcome to the ... page' at the top of the community page and the discovery page because their layout and design are both very similar.

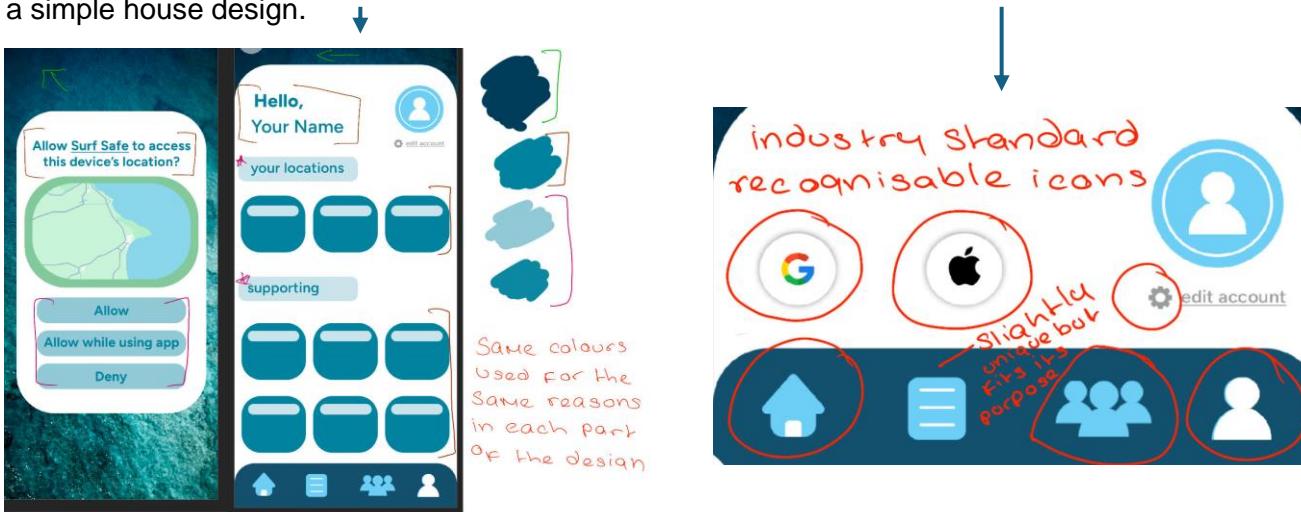


← Navigation icons

For flexibility and efficiency of use, Surf Safe has a shortcut on the homepage so users can quickly access their saved locations. If the user was to then click on a location in the list, they would then be taken to the information page for that location. Due to the mobile format, there are no keyboard shortcuts or touch gestures outside of the expected tap to interact. I would consider in developing the project further which touch gestures could create a better user experience. I would like the users to be able to scroll around the globe on the home page by swiping left and right so they can search the globe for different locations. It may also be beneficial to have a dark mode and light mode for some users who have a preference. This can then be edited in the app settings found on the account page as currently there is no visual personalization in the app.

| | | | |
|--------------------------------------|---|--|---|
| 5. Error Prevention | Suggests to user what to do and where to navigate to make ux clearer Prepopulated to focus data I stuck to standard navigation design and icons, the familiarity makes it easier for users to rely on Actions clear in identifiable icons | The design has zero error prevention Maybe the suggestions should be further expanded to corrective technologies in spelling when searching locations | Add notifications to warn users of risky actions to keep users protected and to prevent potential errors Evaluate how the user interacts with the application to consider potential errors and decide what actions need to be taken to prevent them <u>Provide user with a did you mean...?</u> Suggestion when searching on the app Provide error feedback for users in case of error |
| 6. Recognition rather than recall | Keeps format information visible with the icons that represent each part All app stage icons available at all times | Some icons may appear new or slightly unfamiliar to new users or slightly older users | Add a welcome to the ... page for less clear pages |
| 7. Flexibility and efficiency of use | Shortcut on homepage to saved location tab, easy access to saved locations personalised by the user so they can have even quicker access to | No keyboard shortcuts No touch gestures outside of the obvious tap to interact No visual personalisation | Not necessary for this mobile application Consider how different touch gestures could improve usability, such as a swipe right from the home page to swipe to the last searched location display Consider a dark mode/ light mode feature for user |
| | information on locations relevant to them | | preferences Maybe if i was to add the swipe feature, let users dictate whether they want this feature activated in the settings |

Surf Safe has a consistent aesthetic with a minimalist design. I kept a consistent blue colour palette which matched the theme of the application. The range of blues are calming and contrast well with the red amber green system used in the safety rankings of locations. Some of the text is easy to read as it contrasts well with the background, but this could still be improved by using a slightly darker blue for the majority of the text. The navigation panel at the bottom of the screen remains there the whole time the user is logged into their account and interacting with the app so they can easily navigate across the four key pages. This also keeps the information and multiple potential uses of the application separate for a more comfortable user experience. Each of the navigation icons I designed were intended to best reflect the page they represent: the personal user icon is simple and reflects industry standard; the community page icon uses three of the personal user icons to reflect a group of individuals; the discovery user icon reflects a sized down version of the discovery page and the home page, similar to the personal account page, also reflects industry standard by using a simple house design.



To improve the aesthetics and minimalist design, I can edit the notification status while using the app to urgent display in case of changes in safety rating. However, this only feels suitable if there is an emergency or sharp change, so for general or less urgent changes in safety rating, if the user is using the app the home page icon will light up the colour of the safety alert (red, amber green). This way the user can access the information at their own pace, and once they have clicked on and accessed the information, the colour changes back to normal.

| | | | |
|-------------------------------------|--|----------------------------------|---|
| 8. Aesthetics and minimalist design | The visual design in terms of icons were best matched to their purpose and meaning in the app. The design has a minimal aesthetic with a restricted colour palette. The blue colour palette reflects the ocean theme but is also a calming background, combined with easily navigable UI for comfort in searching for safety information. The app separates the different chunks of information it stores into the 4 separate pages. The breaking down into stages is an attempt to avoid overwhelming the user. This is also evident in the organisation of information displayed across all of the page. | Pop ups from the app while using | Edit the notifications to urgent display of changes in security, if the change is significant but not an emergency them highlight the home page icon with the corresponding safety colour so when the user is ready to they can click on the icon on the home page and be taken to their closest location where the safety status has changed |
|-------------------------------------|--|----------------------------------|---|



To help users recognise, diagnose and recover from errors, in the error prevention development of the app, I would reapproach the design from this heuristic. This would guarantee that error messages in the traditional expected industry standard would be displayed, avoiding any potential discomfort from the user.

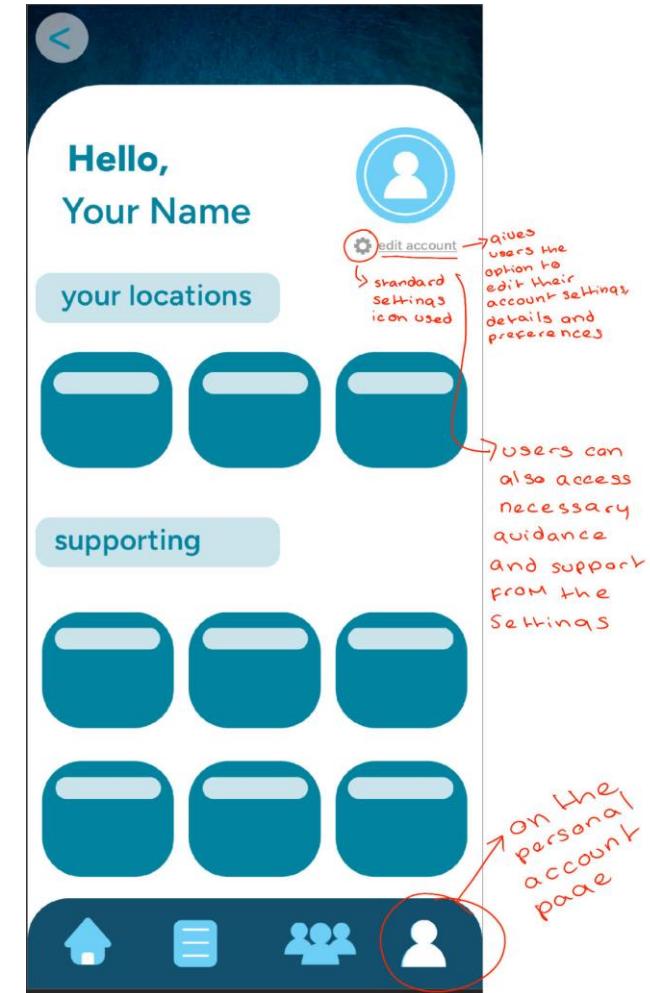
Example error messages in apps to consider:

- 'please wait a few minutes before you try again' Error
- 'enter valid email address'
- 'incorrect password'
- 'incorrect email'
- Offline issues 'you are not connected to the internet' (this error is particularly important for this app because it needs the internet to access the data it is organising and displaying to the user)

For the user to access the help and documentation, they can use the settings found on the personal account page. This gives the user the freedom to access any help and documentation whenever they need it.

| | | | |
|----------------------------|---|--|--|
| 10. Help and documentation | Any Necessary documentation and help will be located in the settings for players to access when they need | | |
|----------------------------|---|--|--|

| | | | |
|---|--|---|---|
| 9. Help users recognise, diagnose and recover from errors | | No error message designs were considered because potential errors had not been detected in the design process | When reapproaching the design from this evaluation, ensure to display error messages in the traditional standard visual expectation to avoid confusion or user discomfort |
|---|--|---|---|



Development Report

How did I decide on my idea?

I decided to create a security app dedicated to coastal areas because I wanted to explore the value in applying technology to wider areas of security. The application in theory creates a better experience for people who want to enjoy the coastline and feel secure. If users were to have quicker access to security updates, they would be more informed to make decisions based on their experience in a coastal area. Not only would people feel safer, but there would be a lesser risk to the natural environment due to enhanced understanding of risk factors in combination with newly implemented security measures. Due to modern smartphone access, an application compatible with both iOS and android devices was a necessity to widen the reach of potential users. The app was designed with the belief that everyone should have easy access to safety information, particularly in acknowledging the capabilities of modern technology. Creating an application like Surf Safe demonstrates how the tools being created which damage the natural environment can also have a role in protecting it.

This project was important to me because I believe the technology we develop should be understood from an ethical perspective, rather than profit oriented. Technology as a whole holds significant power in building digital communities and sharing information on a global scale. Well implementing these features and applying them to preexisting world problems not only creates a more positive environment for users worldwide but also is a steady advancement in improving our physical world outside of technology. The constant production of technology has taken a toll on the natural world through the exploitation of non-renewable resources and pollution being created. With this project, I wanted to combine my interests in marine wildlife and my interest in modern technology in a way that utilises present technologies in reversing the effects of its production. The result became Surf Safe; an app that not only attempts to protect the coastlines but also protects its users whilst promoting a stronger sense of community.

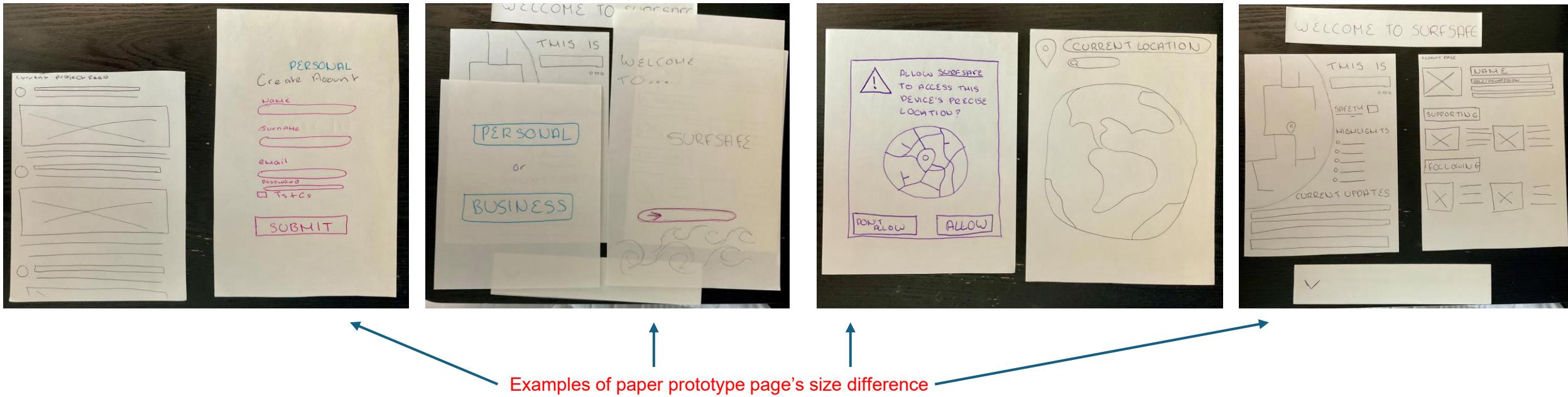
How did my idea develop over time and what changed?

I knew in the beginning of my project's development I wanted to create an application related to marine wildlife. I considered existing applications to gain inspiration and considered creating applications that were tailored to other areas of interest, however, it was important to me that the development of my project would attempt to solve a problem. Access to safety information is simple provided you possess technology with online capabilities but regardless the information is not organised and users may have to search repeatedly before they gain an answer to their question. This made me consider if having an application that could process that data for the user and then give them highlights and location specific information could be applied to providing safety information for coastal communities.

Initially, I was unsure how users will gain the best experience from an application like Surf Safe so I thought of adding a dedicated page in the application for research professionals to upload their work. This would provide general users with the most recent information on marine life and conservation research and would provide other researchers using the app with access to other professionals' findings from which they can collaborate and build on each other's ideas. However, this may provide issues between researchers and publishers not wanting to have their work as open research.

I also considered having a page similar to the research page but dedicated to businesses and charities instead. This allows users to see what companies are doing to reduce their carbon footprint and place efforts in sustainability. Businesses whose products and services are directly applicable to the coastline or marine environments would be able to advertise their products whilst placing them on a platform that promotes sustainable practice. This would benefit the businesses by improving their social image and creating an extension on their current digital branding. From this, I extended the idea to charities too so local partners and supporters can contribute to the charity's efforts through online donation pages. Charities and businesses can also advertise events in which the public can participate. Some may choose to advertise a joint litter clean up on the beaches whilst others may host open masterclasses in the effects of technology on the ocean.

During these stages of the app's development, I wondered if an app was the best format. I felt that with the introduction of all these additional features and ideas I had for Surf Safe, an app was no longer the most suitable. I began to theoretically apply my ideas to a website format that would act like an online blog. Users could then navigate the different tabs separated for charity work, business work and field research work. I still attempted to create the idea as a mobile app in creating my paper prototype. This resulted in poor navigation of the product as the distinction between the exploration features and the security features was very unclear. The paper prototype format was also too large, and I failed to scale the project to a suitable device size in fear of running out of space for all the necessary information.



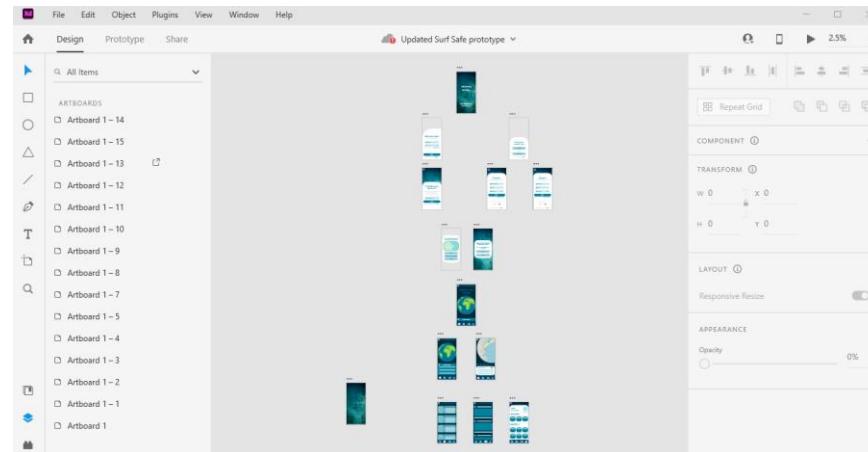
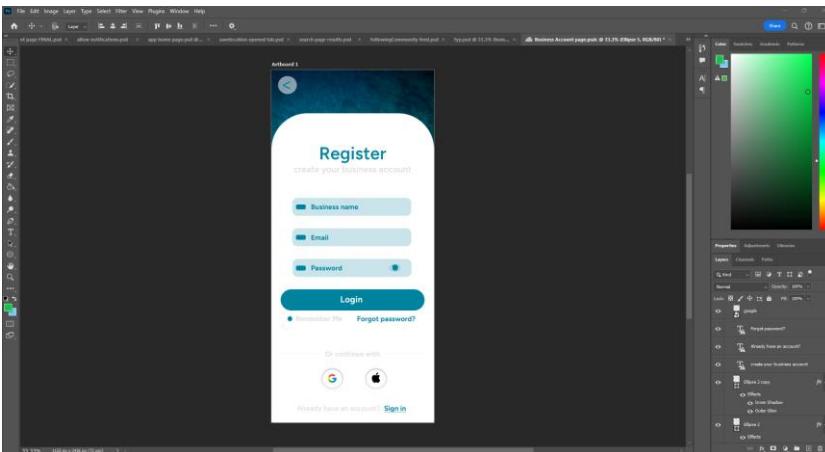
From this, I decided to combine the charity and business page into one page on the app on which users could search specific businesses or they could scroll through the events recommended to them. This would now operate like a 'for you page' or 'feed page' similar to those frequently used in social media platforms. There would then be a page specific to activity in the user's community, where they can see events affecting the local community and also see the work of the charities and businesses they have chosen to follow. The home page would now be the main source of safety information. It would use the user's location, if given permission, and take the user directly to the corresponding page where they can see all the recent updates. The current safety of the location was then graded with a red, amber or a green circle and users could also save locations they wanted to keep accessing frequently. I realised as my app was developing, I was losing focus of its primary purpose so I attempted to reshape its structure to prioritise safety information access. In keeping the original format of the app, the design with new amendments became more suitable to the chosen format because of the emphasis on efficiency and speed in accessing information.

With further consideration in designing the creation of a user profile, I wanted to create two separate account types, one for business users and the other for personal users. This is to separate the two primary user experiences in the app as personal users will not require a place to organise and maintain digital branding content and business users will be less focused on the personal engagement features.

How did you approach the technical aspects?

To design my prototype, I used Adobe Photoshop. I referred to the colour palettes I added to the logbook for inspiration and used this as a visual guide. When designing each of the different pages, I referred to the design I created using the wireframes to prioritise functionality within my design. I then drew different icons using photoshop that would represent each different page of the app. I learnt how to use Adobe XD so I was able to create an interactive prototype from the imported photoshop files. I adapted this prototype with the animations built into Adobe XD to create smoother transitions between the different stages of the application and improve the visual experience for potential users.

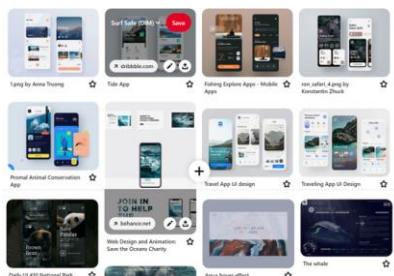
Reflection



Reflection

How did the project go from a personal perspective?

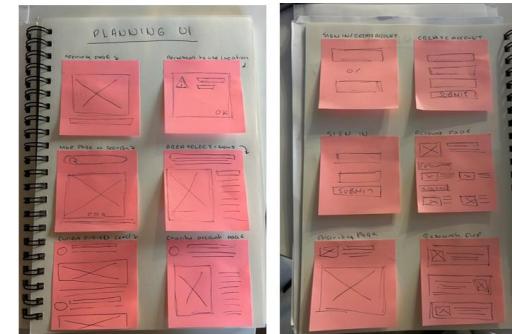
I believe the project went well. I successfully created a prototype from my original idea that is digitally interactive and meets the user requirements. From extensive research into the visual design through experimentation and the creation of different mood boards, I feel the visual aesthetic of my prototype is enjoyable and consistent; I wanted a strong visual appeal without straying too far from functional design and I feel as though this was achieved through my method of how to approach visualising my ideas.



Pinterest Mood Board



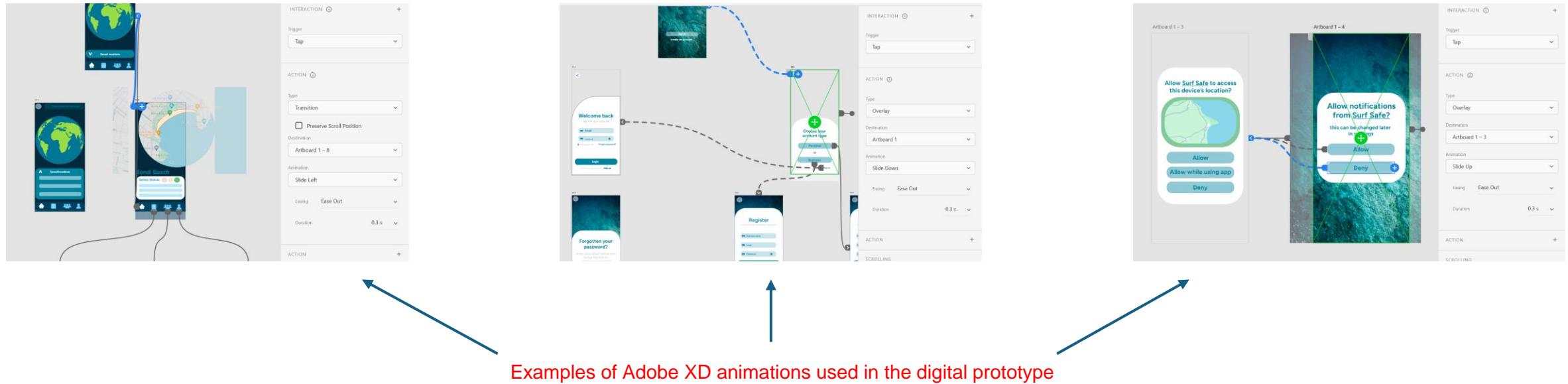
This design has strong unique visuals and clear navigation for users to interact with.



Behance Mood board

What went well and less well?

My final prototype animations were less successful than I had hoped. I wanted them to be slightly smoother and have the globe on the home page featured so users could scroll across the globe with pop ups of different popular locations. I felt this would demonstrate the global community that Surf Safe promotes. However, I was unsure how to add this feature inside of Adobe XD, but for further development of my project, I would consider other methods of creating a digital prototype like using alternative software with improved animation features.



What are you most proud of?

I am most proud of how I managed to transfer my skills and knowledge of alternative adobe software to Adobe XD with additional guidance so I could produce a successful interactive digital prototype.

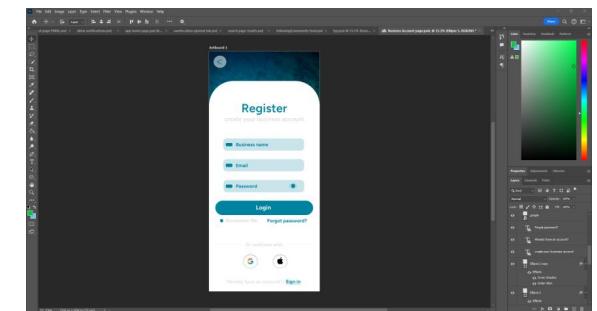
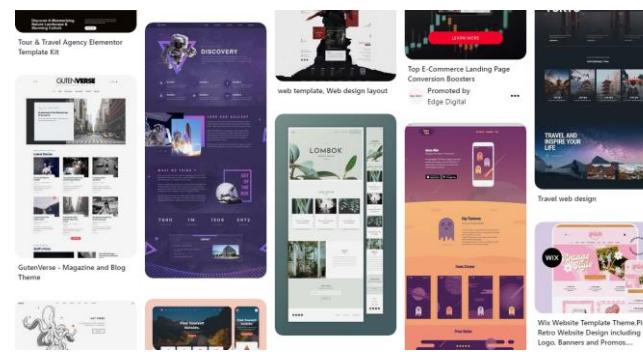
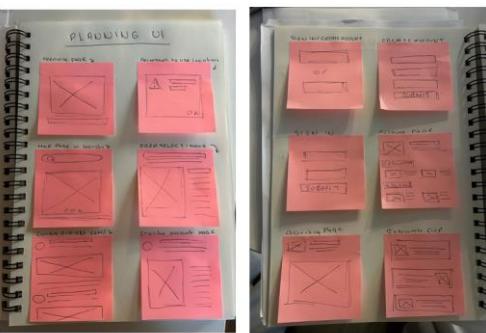
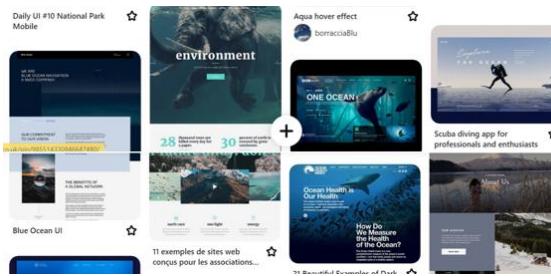
What do you wish you had done differently?

I wish I had initially considered how to keep each part of the application separate to avoid confusion in the creation of the paper prototype. This would've led to a smoother transition to digitising my concept. I also wish I had created multiple mock design before going with a final theme so I could explore visually how else I could display the information in the app. I would've liked to see if the other colour pallets I considered would've given me a clearer design.

I would consider the 10 heuristics earlier in the creation of my project. This would've meant the potential errors users could experience were already recognised while designing the prototype and I could create a design that would avoid unnecessary errors and also guide the user in navigating smaller errors that could still pop up.

What did you learn about design?

I learnt that design isn't linear. My design moulded around my concept and developed alongside the implementation of different ideas. I could clearly notice errors in usability and distinguish between what transitions worked well on my final prototype and which features were less smooth, creating jarring visuals for the user. In the creation of my project, I attempted to prioritise a functional design, prioritising the user with the needs to their requirements and creating an overall efficient and positive user experience. The visuals later created followed the same pattern, first prioritising the functional requirements and then adding a stylistic aesthetic which would further improve the basic design with more exciting and engaging visuals. I found using the design heuristics crucial in evaluating my design as it provided me with a checklist to acknowledge every potential issue in the existing prototype. Using this approach became more thorough and helped separate myself from the project, providing me with a less biased view of the app. From a new perspective, I could recognise the flaws in the design and fix them for a further developed, stronger prototype.



3 of the different stages of designing my prototype

| Description | Image | Source | License/Permission |
|---------------------------------------|---|---|---|
| Photograph of the sea |  | Photo by Jeremy Bishop: https://www.pexels.com/photo/body-of-water-2397649/ | Free to use (Pexels Legal Simplicity License) |
| Image of cartoon globe |  | Cartoon Globe Images – Browse 160,292 Stock Photos, Vectors, and Video Adobe Stock | Editorial use |
| UI Settings icon |  | Settings Icons & Symbols (flaticon.com) | Flaticon contribute author pact Settings icons created by kusumapotter - Flaticon |
| Google icon |  | Google Icons & Symbols (flaticon.com) | Flaticon contribute author pact Google icons created by Freepik - Flaticon |
| Apple icon |  | Mac Icons & Symbols (flaticon.com) | Flaticon contribute author pact Mac icons created by Freepik - Flaticon |
| Google Maps screenshot of Bondi Beach |  | https://www.google.com/maps/place/Bondi+Beach/@-33.8923671,151.2729286,16z/data=!m1!4b1!4m6!3m5!1s0x6b12ad9c447281c7:0x20c31809c62de978!8m2!3d-33.8914755!4d151.2766845!16zL20vMDIwNzcy?entry=ttu | Copyright fair use https://about.google/brand-resource-center/products-and-services/geo-guidelines/ |

Appendix A

Design Logbook

Idea generation (initial thoughts)

Originally, I planned to design an interactive art installation.

Idea 1 – A quiet world

My idea shows how easy access to digital interactive media has affected communication and transformed human interaction.

How will it work?

Place mirrors each side of the room and strings of lights that people can connect their phones to, so when their phone receives a notification, the light will turn on. The constant flashing lights being reflected in the mirror will demonstrate the speed on communication with new media technologies

Idea 2 – a calm room

This idea relies on patterned light sequences and art, where users can input their current mood into a program which transfers that data into a selection of colours and displays this on a large screen.

This idea is an attempt to visualise our emotional expression through interaction with technology.

I then considered making an app for climbers to track their progress and share beta with friends

Idea 3 – A climbing app

This idea is for climbers who want to track their technique and beta and correct this.

How will it work?

Climbers can wear sensors that track the placement of limbs and body movement while climbing

This data is recorded and stored as an animation that can be applied to a 3D model of a person

This can then be watched back on 3D scans of the wall visualised on the app. These 3D walls on the app can be easily accessed by QR codes next to each of the different routes in the gym.



My final idea

Idea 4 – Surf safe

For my project, I want to create an app suitable for wildlife protection. I narrowed down areas in wildlife conservation I feel my ideas would be most useful:

This app uses your phones built in GPS to detect nearby threats to wildlife by highlighting key locations on a map with a red amber green system. This app is for coastal environmental protection, focusing on the protection of sharks.

In a report from live science, it is estimated that humans are killing 80 million sharks a year, 25 million of which being threatened species.

Due to changes in marine life ecosystems as a bi-product of global warming and overfishing, the food sources for this predator have become scarce, forcing them to change their migration and hunting patterns. Recently this has caused many shark species to come further in the shore in search for food putting people at risk.

My app is a solution to easy access of field-based research for professionals in the marine conservation and biology industry. It allows them to upload their sightings, experiences and current findings on issues relating to different shark species for other researchers to access, promoting collaborative work and study in group effort to save the sharks. My app is also useful and available to the wider public who regularly visit areas in which shark sightings or attacks are common.

By informing local people and tourists of wildlife sightings, we can not only protect people but protect the wildlife in their home

Identifying Stakeholders

I identified the stakeholders in my own project as:

- Wildlife conservationists
- Wildlife research professionals
- Surfers
- Families
- Residents of coastal areas

How does each stakeholder experience the problem?

Each stakeholder will have a different experience with the problem because for conservationists and professionals, monitoring the wildlife activity is important for updating data on different species and investigating possible problems in the ocean. For conservationists, the concern of tourists causing disruption to wildlife can disturb the natural ecosystem. During mating and migration seasons, the waters are less safe for surfers, families and residents of the coastal areas. The problem threatens their community and safety on the beach.

What does each stakeholder want and why?

- The wildlife conservationists and research professionals want the app to provide information and data relating to shark sightings and access information from other professionals with ease to advance their own personal study/research.
- Residents of coastal areas, tourists, families and surfers want the app to provide accurate and up to date information for their personal safety and wellbeing.

What are the technical requirements?

- Need a simple and clear UI design, simple to navigate and easy quick access to new, updated and current information
- Needs to be suitable for all mobile devices (ios and android friendly)
- Will be paused if offline because it will be unable to continue the constant sorting off data from online databases (potentially could function on its own separate cloud data structure that user input data is uploaded to)

What platform is your project used for? (entertainment or productivity?)

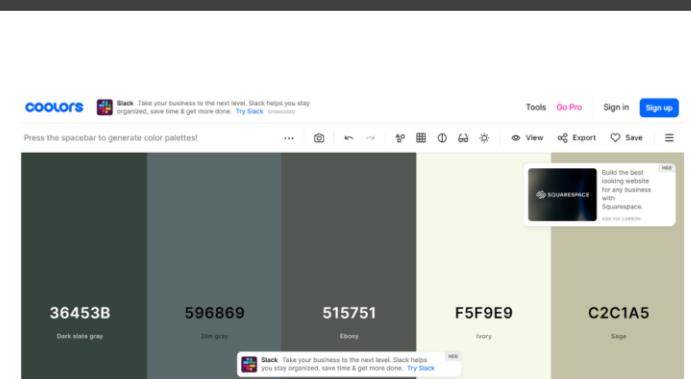
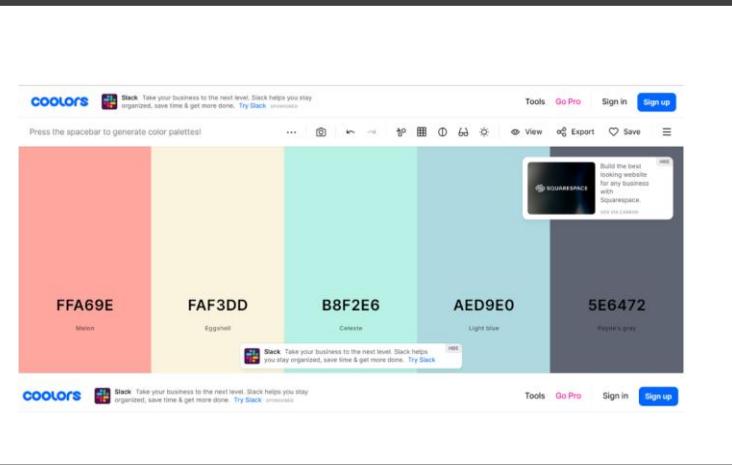
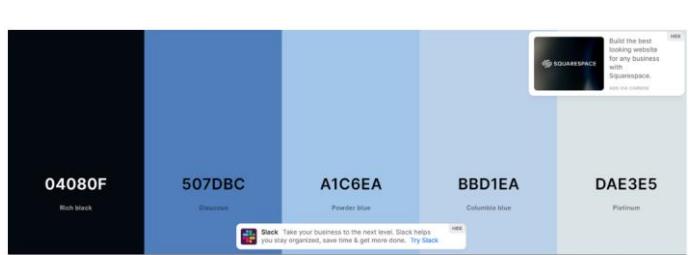
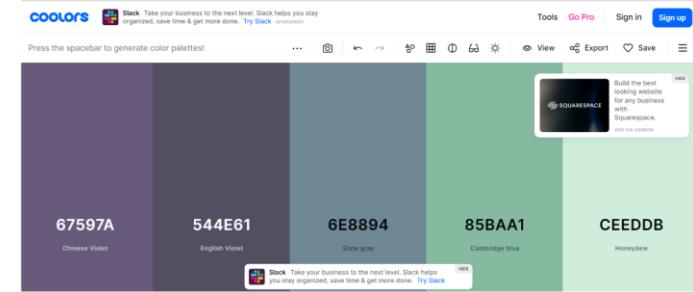
- The project is centred around productivity and safety

Are there any ethical considerations?

- Using a phone GPS can be considered an invasion of privacy so it is important to anonymize data and implement strong security measures
- Researchers may feel uncomfortable openly sharing their research data on an openly accessible platform and be protective of their study (issues relating to academic misconduct and information being stolen)

Design and Documentation

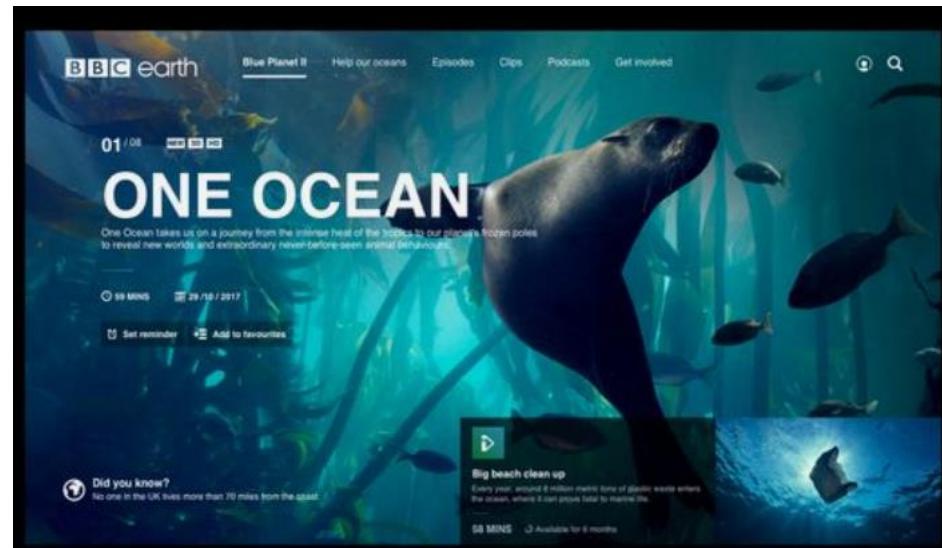
To get inspiration for my project's UI design, I looked at examples of different designs on Pinterest and Behance. From these ideas I created a mood board and considered how I would design my app for functionality without losing sacrificing strong visual aesthetics.



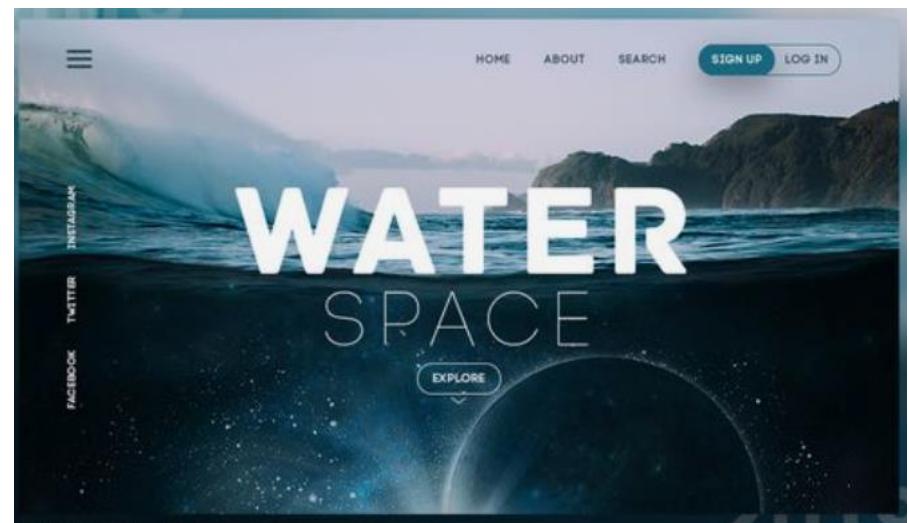
Potential Colour Palettes

This mood board displays a variety of UI/UX designs from around the web, all centered around the theme of oceans and marine life. It includes mobile app interfaces for tide prediction, surfing safety, fishing exploration, and safari tours. There are also travel app designs, a promotional animal conservation app, and a daily UI challenge for national parks. The board also features web designs for environmental charities like 'Save the Oceans' and 'One Ocean'. A prominent element is a BBC Earth Blue Planet II video player showing a seal underwater. Another design shows a narwhal swimming. The overall aesthetic is clean and modern, utilizing a palette of blues, greens, and earth tones.

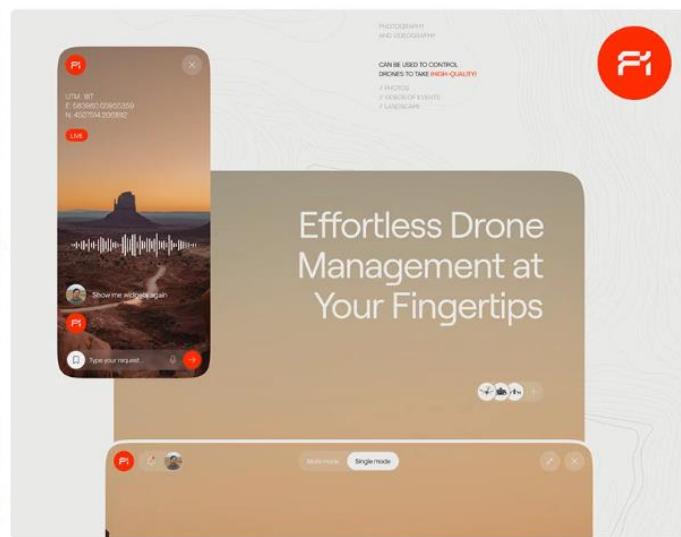
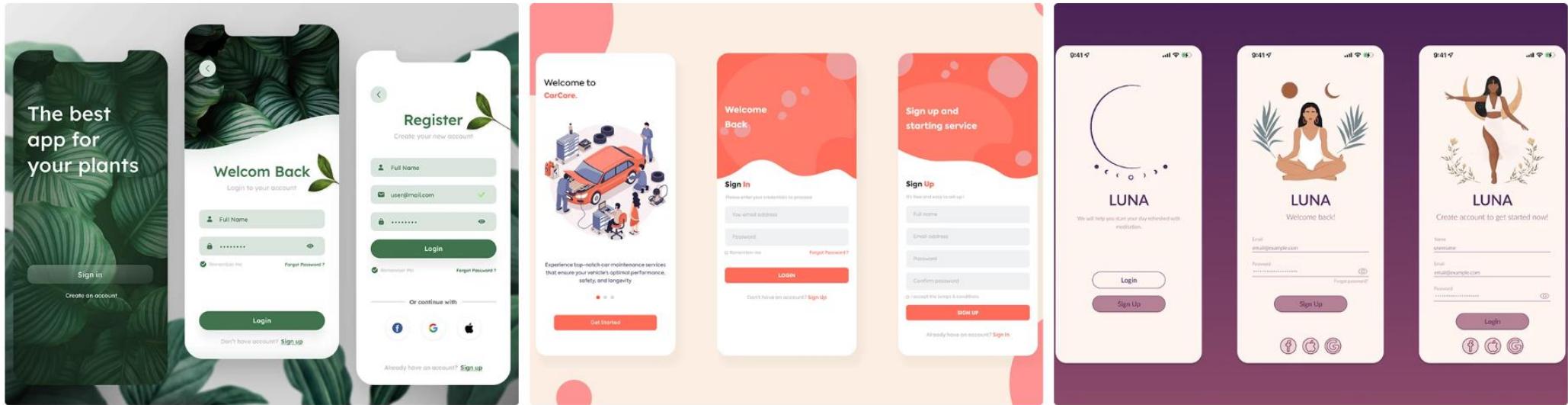
Pinterest Mood Board



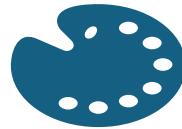
This design uses a limited colour palette but contrasting saturated images. This combination makes text clearer for users.



This design has strong unique visuals and clear navigation for users to interact with.

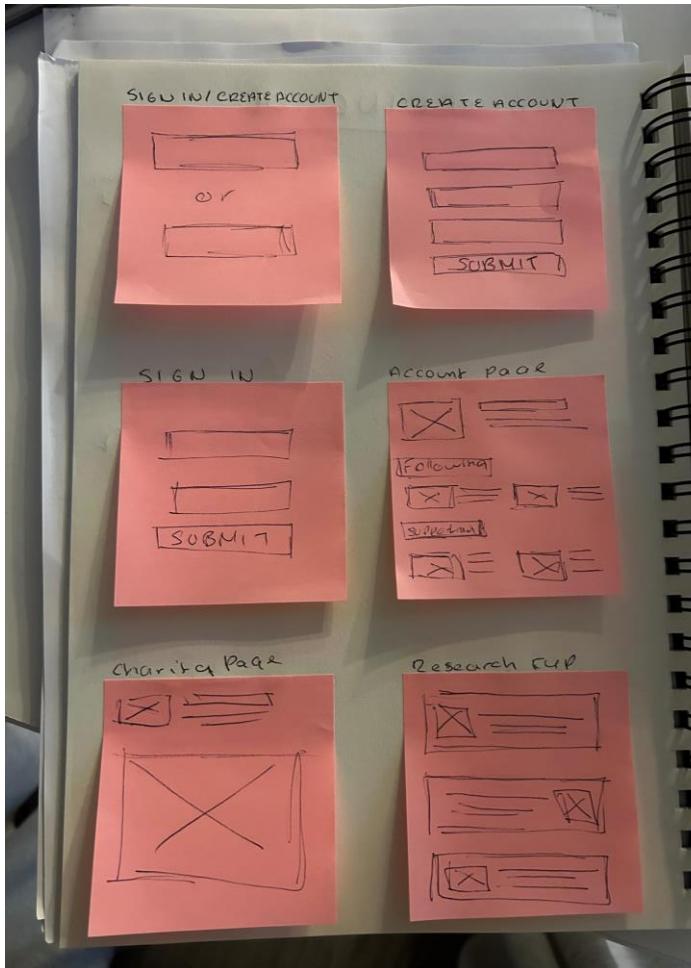
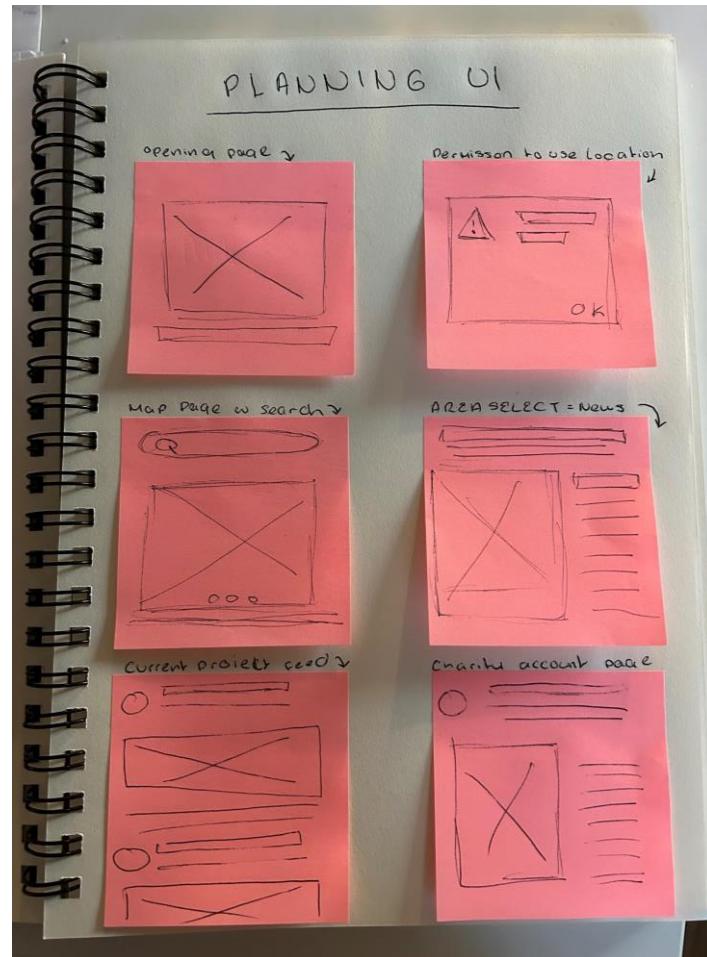


Behance Mood board



What did I discover?

- Keep a limited colour palette to avoid overwhelming visuals. The simpler and more consistent the colour palette is, the easier the design is to navigate and explore. A limited colour palette also resulted in a strong branding for each designed application or website.
- Accompanying photos and recognisable appropriate icons can assist in user experience.
- Phases of the app (such as account creation pages, forgotten password, etc...) all follow a similar structure and layout.
- The intended format of the idea, for my concept this would be app or website, can impact the design by having smaller or larger scale screens to display information



Approaching my first prototype

I placed the user's experience as priority over visual aesthetic when approaching my first prototype of the app. To design my prototype, I first broke down each individual stage of the app and once defined, I referred to a UI wireframe grid and designed each page only using wireframe symbols. This made it easy to check that each page was meeting its intended purpose.

Storyboarding

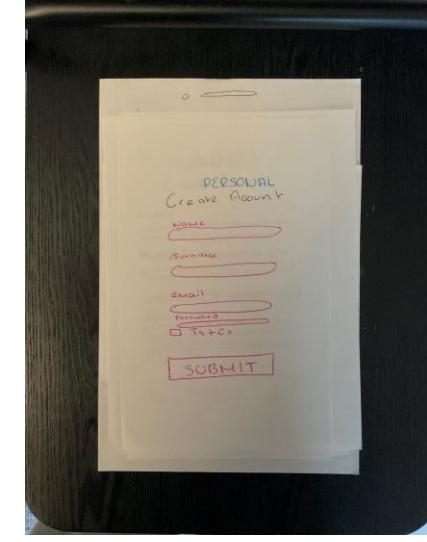
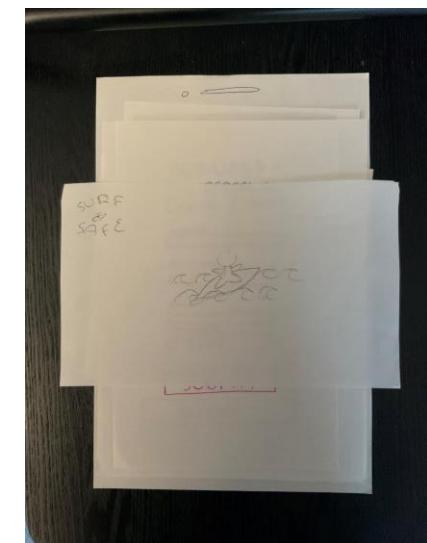
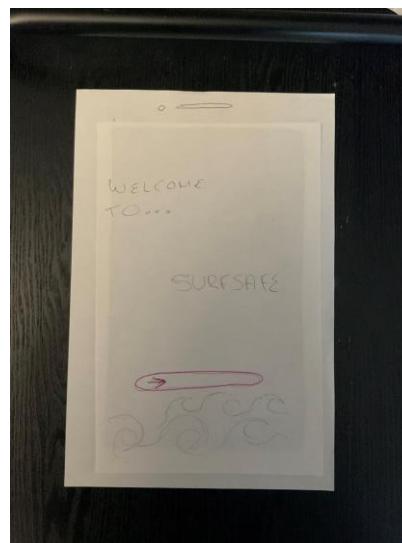
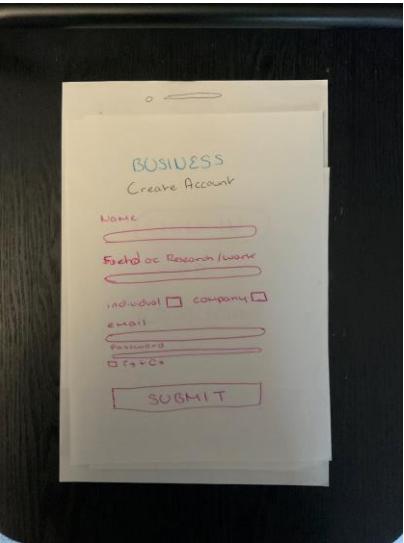
We were encouraged to use storyboards to demonstrate example situations in which the user will interact with our app.

My story board consists of AI generated images in response to input describing each stage of the situation in which the app's usage is appropriate.

| | | |
|--|---|---|
|  |  |  |
| Tourist wants to visit the local beach to surf and enjoy the coastline | He pulls out his phone and checks the surf safe app he downloaded for regular updates on the local coastline area | He sees on the map of his current location and notices the recent alerts inform people of shark sighting due to their popularity in this area during this part of the migration |
|  |  |  |
| He tells his friends about the alerts he saw on the surf safe app | They decide to not surf today to keep themselves and the wildlife safe | The shark is happy there is no one disturbing his migration and search for food in warmer waters |

Paper prototype pages:

I then followed the guide I had made with the wireframe and adapted it to a paper prototype.





Preparing my first presentation

- Once I had completed my paper prototype, I tested the usability and accessibility with my flatmates who each approached different ways of interacting with the paper prototype app. Each interaction was successful.
 - I then discussed the issues my app is solving: My project aims to inform people of wildlife activity in coastal areas, so residents, tourists and locals alike can be well informed on how to keep themselves and our natural ecosystem safe. This will hopefully reduce the attacks from wildlife, plastic pollution and damage done to coral reef and marine life from human activity, restoring balance to the ocean.

I thought of examples of preexisting media to demonstrate how my app would combine existing implemented features for a new application, examples include:

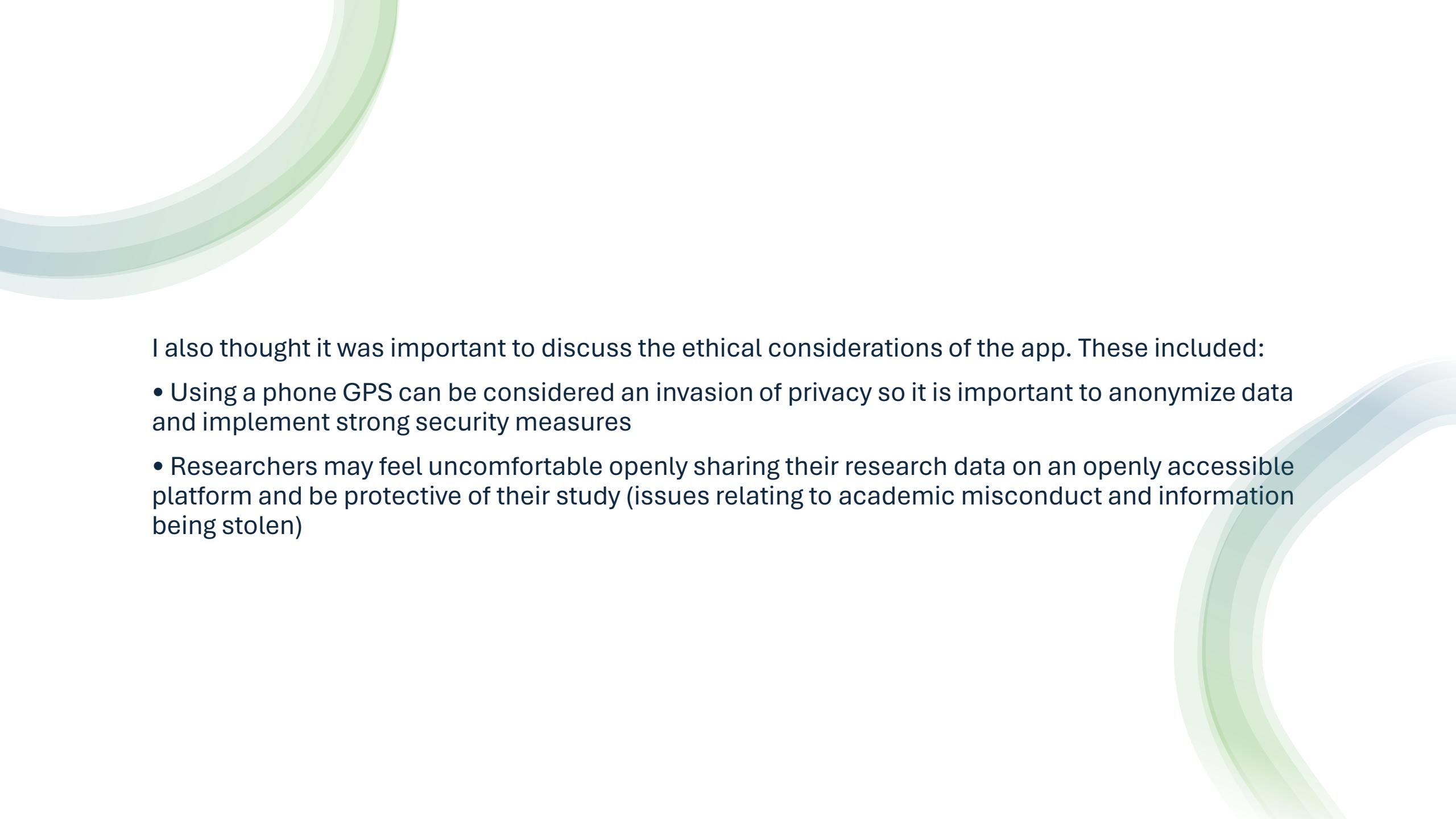
- iOS and android Animal Trackers, my app allows users to track migration patterns by having consistent up to date information on wildlife sightings in coastal areas
- Google Maps, my app has a map that is available for users to navigate local coastlines. This map operates in the same way as google maps by relying on built in phone gps systems to give accurate location information feedback to its users.
- Twitter, my app has a feature where users can upload their own experiences and thoughts on locations and information providers into a network

I also wanted to include information on the stakeholders to demonstrate I had considered the requirements necessary for the app. Identified stakeholders included:

- Wildlife conservationists
- Wildlife research professionals
- Surfers
- Families
- Residents of coastal areas

The requirements included:

- Need a simple and clear UI design, simple to navigate and easy quick access to new, updated and current information
- Needs to be suitable for all mobile devices (ios and android friendly)
- Will be paused if offline because it will be unable to continue the constant sorting off data from online databases (potentially could function on its own separate cloud data structure that user input data is uploaded to)



I also thought it was important to discuss the ethical considerations of the app. These included:

- Using a phone GPS can be considered an invasion of privacy so it is important to anonymize data and implement strong security measures
- Researchers may feel uncomfortable openly sharing their research data on an openly accessible platform and be protective of their study (issues relating to academic misconduct and information being stolen)

Presentation Feedback

From my presentation, I was asked to consider sizing issues when making my prototype. My prototype was intended to be a smart phone app, but the paper prototype exceeded the expected size and became unclear on how the paper model would transfer to a smaller digital scale.

I decided to reconsider the size of my paper prototype and rethink the design when digitising my prototype.

I was also told to reconsider how the community and alert services will be separated on the app for a clearer user experience.

I reapproached my app from this perspective, one of which informs the user of safety information but also provides the optional opportunity to engage with varied coastal communities.



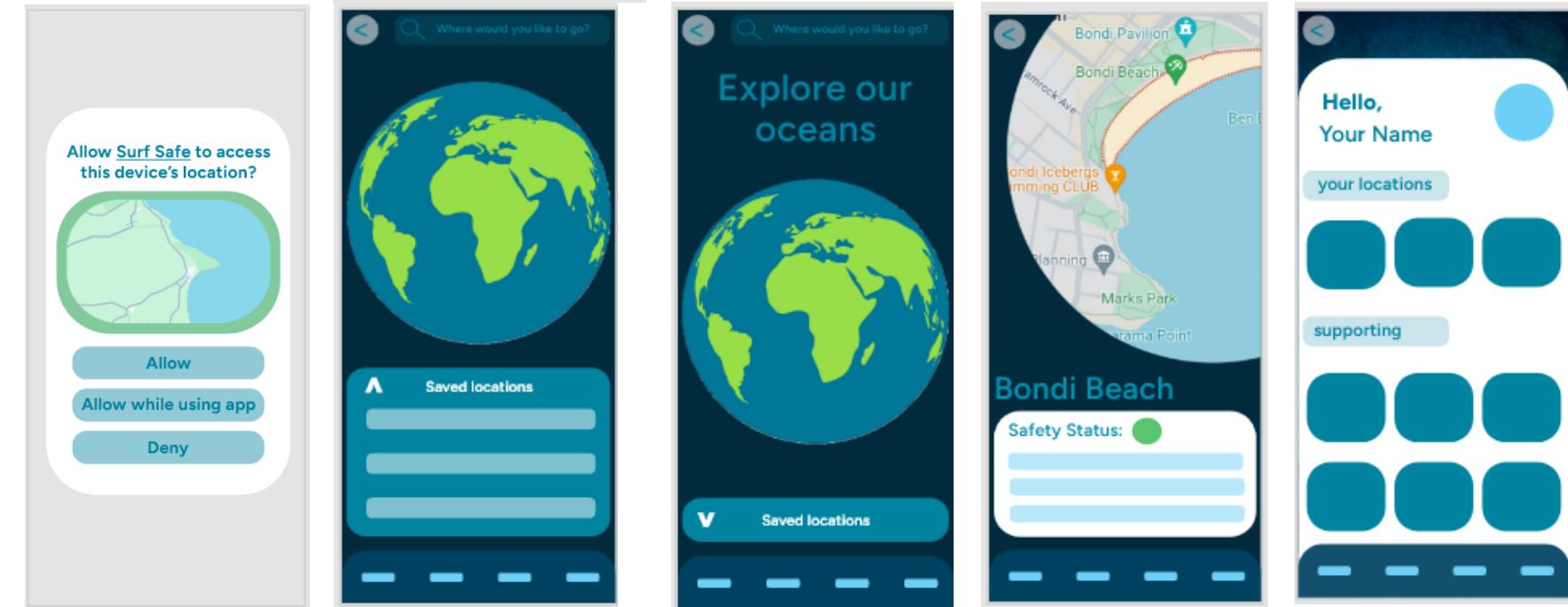
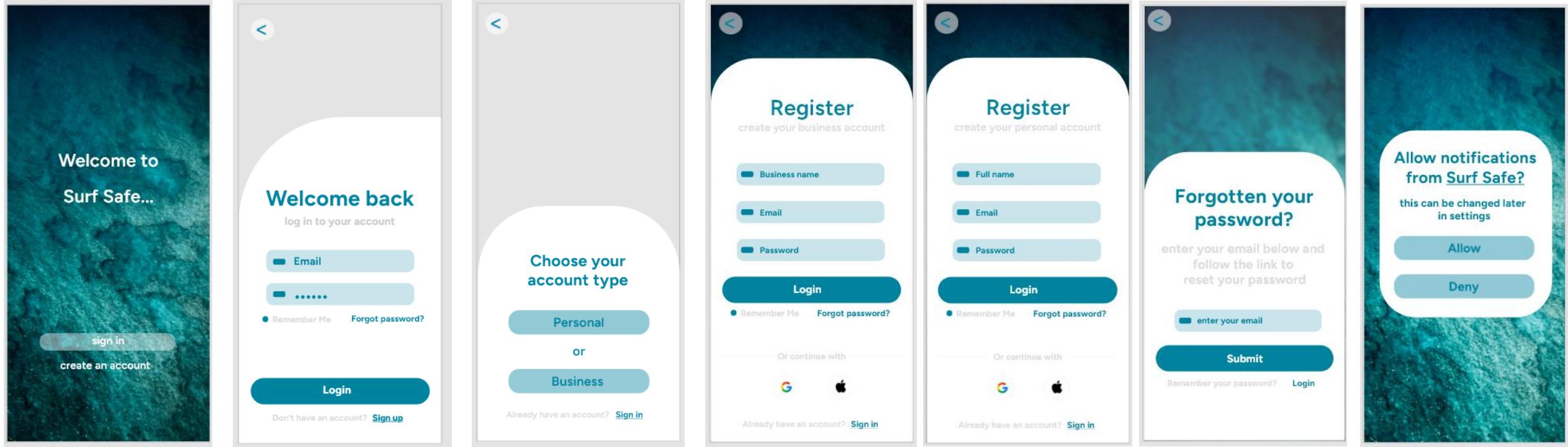
Post-presentation plan

I revisited the Behance and Pinterest mood boards and looked at examples of smaller scale designs suitable for mobile apps that still gave the intended impression and output.

I began experimenting with design ideas on photoshop using the iPhone template to forcefully minimize the scale of my design and encourage me to be precise and accurate in displaying relevant information.

These files were then imported to Adobe XD where I could create a digital interactive prototype to test intended user experience.

Note: I considered where to gain access to free stock images to avoid copyright and consider the front camera bar when designing for a mobile application



These images are the first design pages I created on Adobe photoshop for my digital prototype.

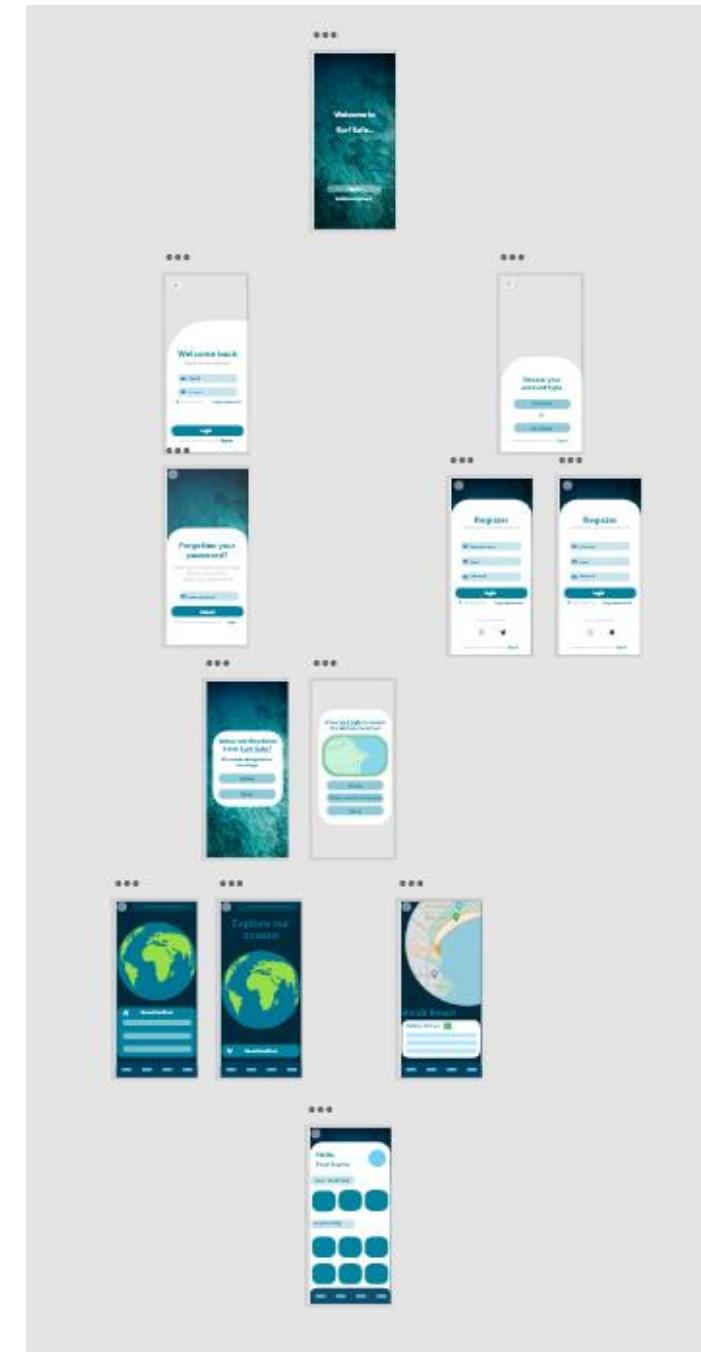
For smoother animations on XD, I removed the backgrounds of some images.

Using a UX flow chart

When designing the interaction for my digital prototype, I lay out each stage of the app in the order the user would encounter them dependent on their decisions with the interaction available.

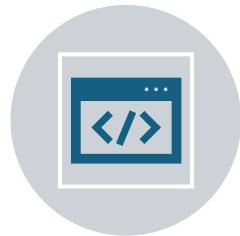
This layout was an attempt to mimic a UX flow chart, which is used to demonstrate the different stages of the app conceptually, and the different outcomes available with the intended design.

In using this layout, I was able to easily identify any gaps in the design and issues with the user experience.



The 5 Dimensions

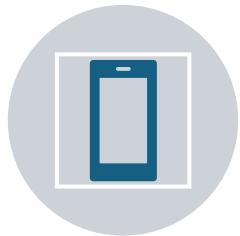
I used the 5 dimensions to search for potential improvement to my design.



WORDS - I USED THE SAME FONT THROUGHOUT THE DESIGN AND HAD A SIMPLE AND EASY TO NAVIGATE UI WHICH PROVIDED ME WITH MINIMAL TEXT ON SCREEN. DUE TO THE MOBILE APP LAYOUT PROVIDING LIMITED SPACE, I DECIDED TO MINIMISE THE TEXT ON SCREEN.



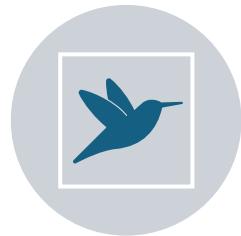
VISUAL REPRESENTATION - I CREATED A LOGO FOR THE LOADING SCREEN WHICH I FELT BEST VISUALLY DESCRIBED THE APP'S PURPOSE, I ALSO USED A CONSISTENT BLUE AND WHITE COLOUR PALETTE WHICH BEST MATCHED THE APP'S APPLICATION (SAFETY AROUND COASTLINE).



PHYSICAL DEVICE AND SPACE - MY APP IS DESIGNED TO BE QUICK AND EASY TO ACCESS SAFETY INFORMATION. THE ENABLE NOTIFICATIONS FEATURE WILL SEND YOU NOTIFICATIONS ON CHANGES IN SAFETY LEVELS OR CONCERNs REGARDING YOUR LOCAL COASTLINE.



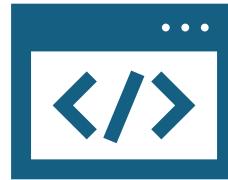
TIME - MY USERS CAN NAVIGATE EACH INDIVIDUAL PART OF THE APP WHILE IN THE BACKGROUND IT IS CONSTANTLY ORGANISING DATA TO PROVIDE THE MOST ACCURATE AND RELEVANT INFORMATION TO THE USERS. THE GLOBE WILL ROTATE AND ZOOM IN ON SPECIFIED AREAS.



EAS. BEHAVIOUR - THE USER MAKES AN ACCOUNT, FAVOURITES LOCATIONS, SEES UPCOMING EVENTS IN CONSERVATION PROJECTS AND CHARITIES EFFORTS TO RAISE AWARENESS ON THE COMMUNITY PAGE, THEY CAN ACCESS SAFETY INFORMATION IN ANY COASTAL AREA IN THE WORLD.

My second presentation

For my second presentation, I was required to demonstrate my idea using a fully functional digital prototype. I showed my Adobe XD prototype I has created and discussed how I navigated interaction design through the flow chart layout. I discussed how designed features recognise potential ethical issues and appropriately navigate through these issues with a clear simple UI structure. I also discussed the colour palette and ideas relating to simple visual aesthetics, all of which contribute to the creation of a brand identity for my product. The design's simplicity complimented the need for easy simple and quick navigation to access safety information.



Feedback from my second presentation

My feedback:

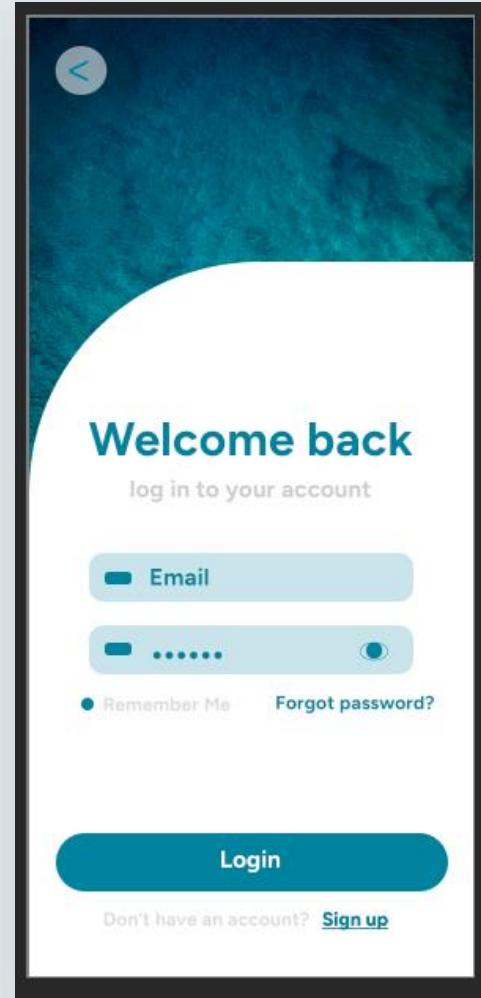
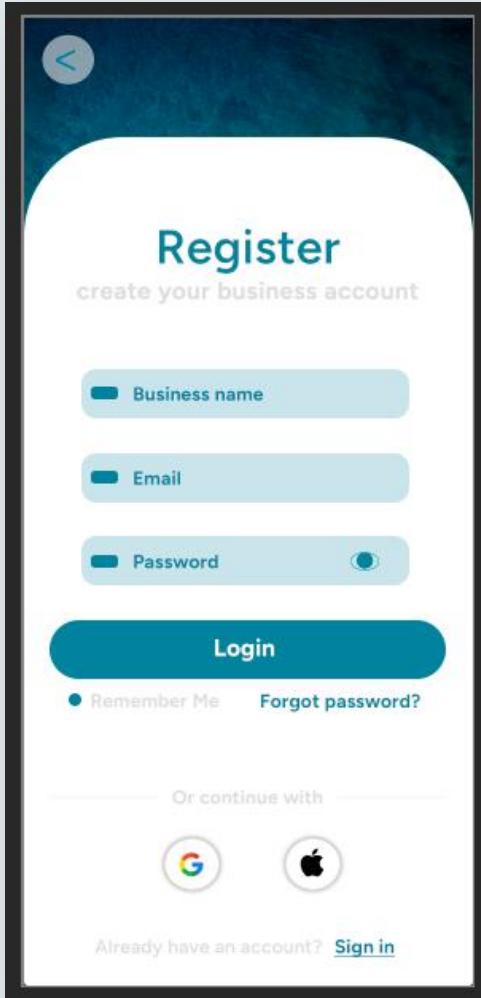
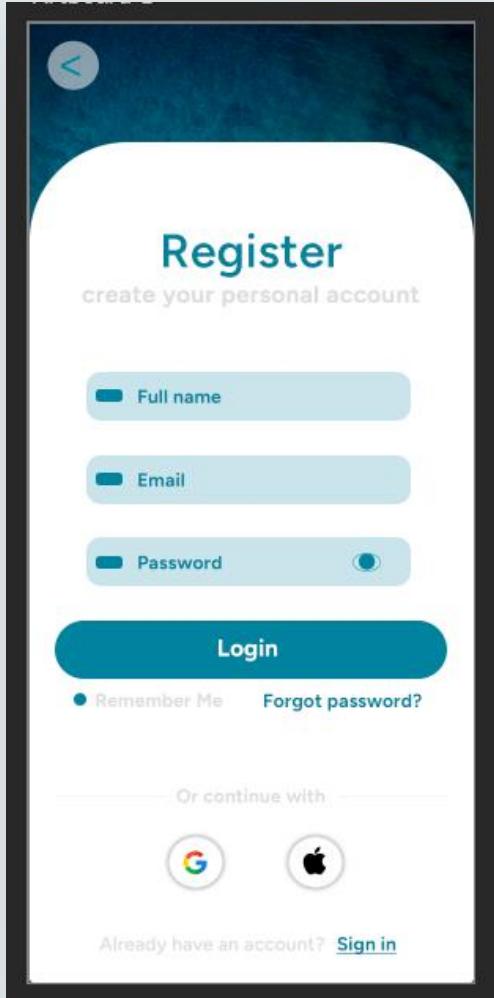
- Add a visibility feature to the create password screen so users can see their passwords to check them.
 - Replace the rectangles with icons for clearer navigation of the app.

Response: revisit my design and consider where best to add the visibility features, I narrowed this to the log in, sign-up personal, sign-up business and forgotten password pages.

I researched example icons for inspiration of how best to visually describe each feature in the app.

Design improvements from feedback

Each of these pages now features an icon that represents the visibility status of the password.



Design improvements from feedback



This icon is for the homepage



This icon is recommended contents page or fyp



This icon is the community page



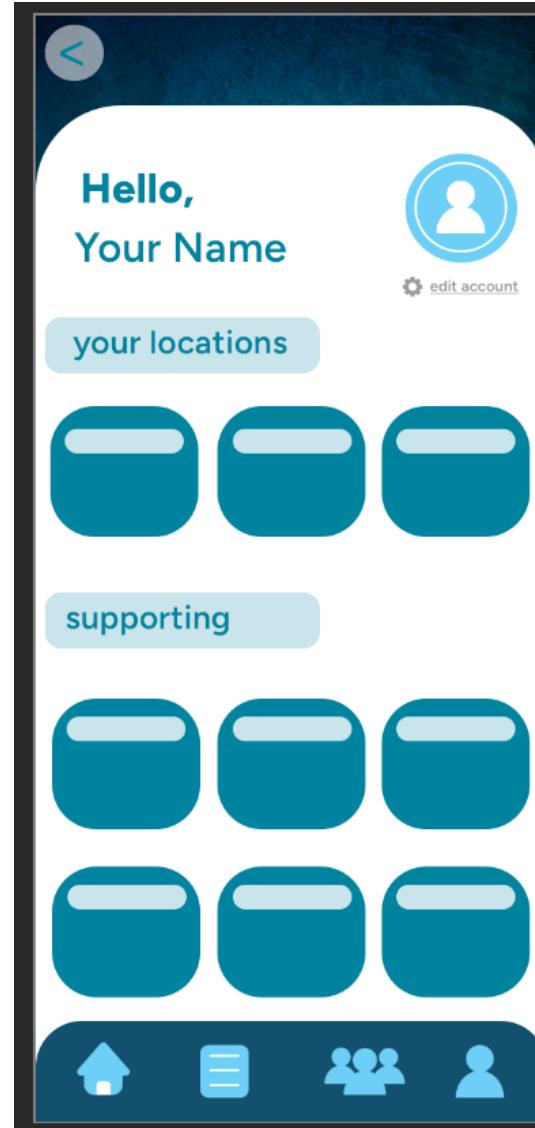
This icon is the personal accounts page



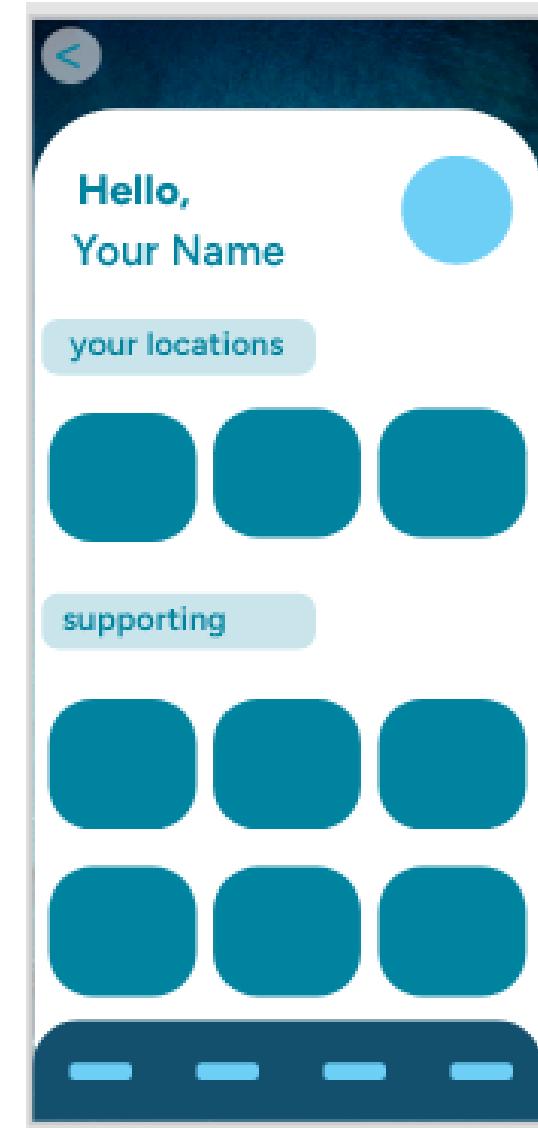
The navigation bar in the app now features these 4 icons: each icon represents a different page in the app that the user can explore. I drew each of these icons using the available shape tools on photoshop. I felt each icon I designed accurately described the contents of each page. I used the blue that matched the rest of the design and the complimented the colour palette I had used.

Improved pages

New design



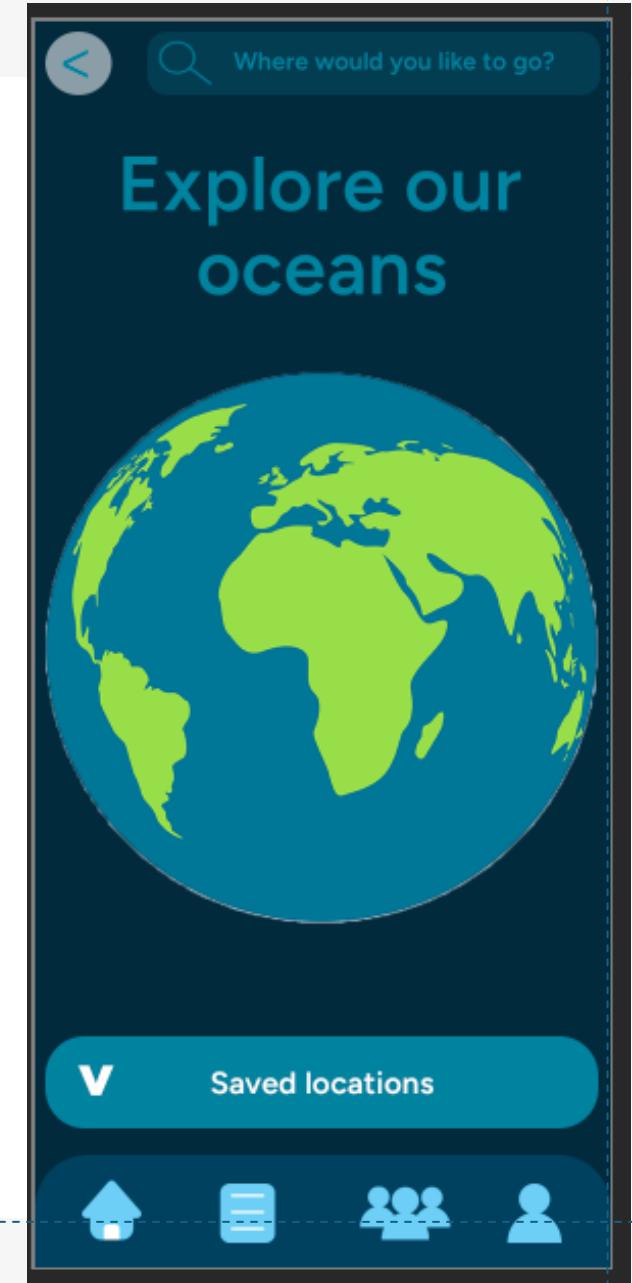
Old design

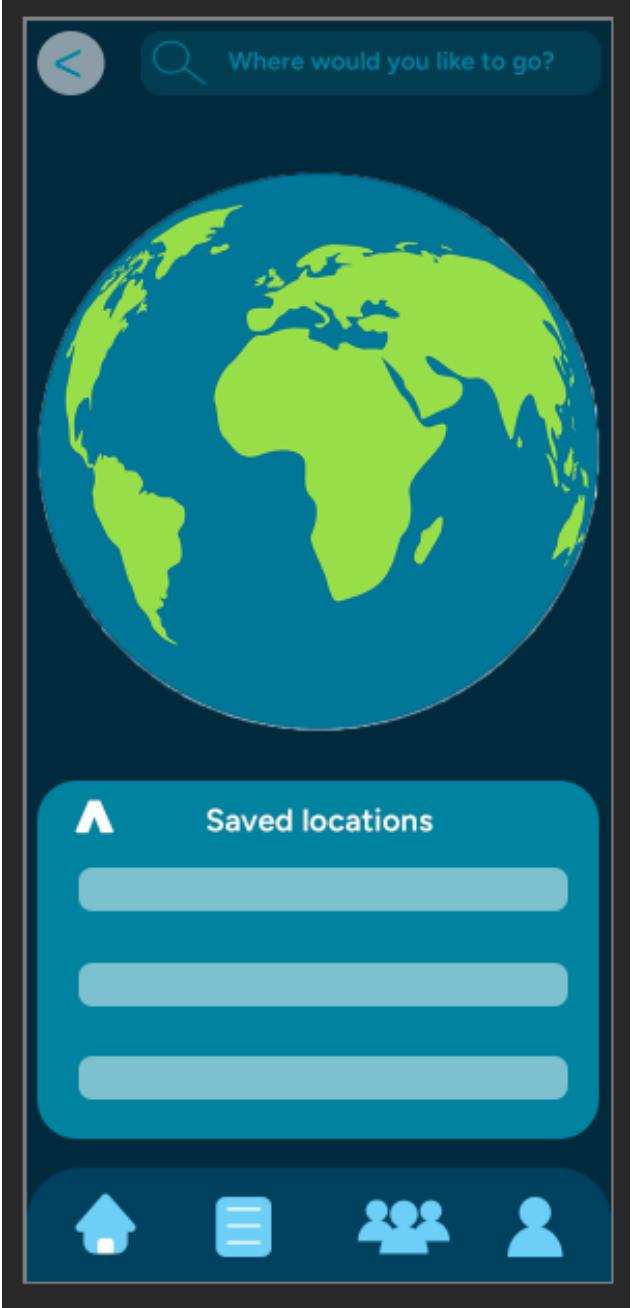


Home page

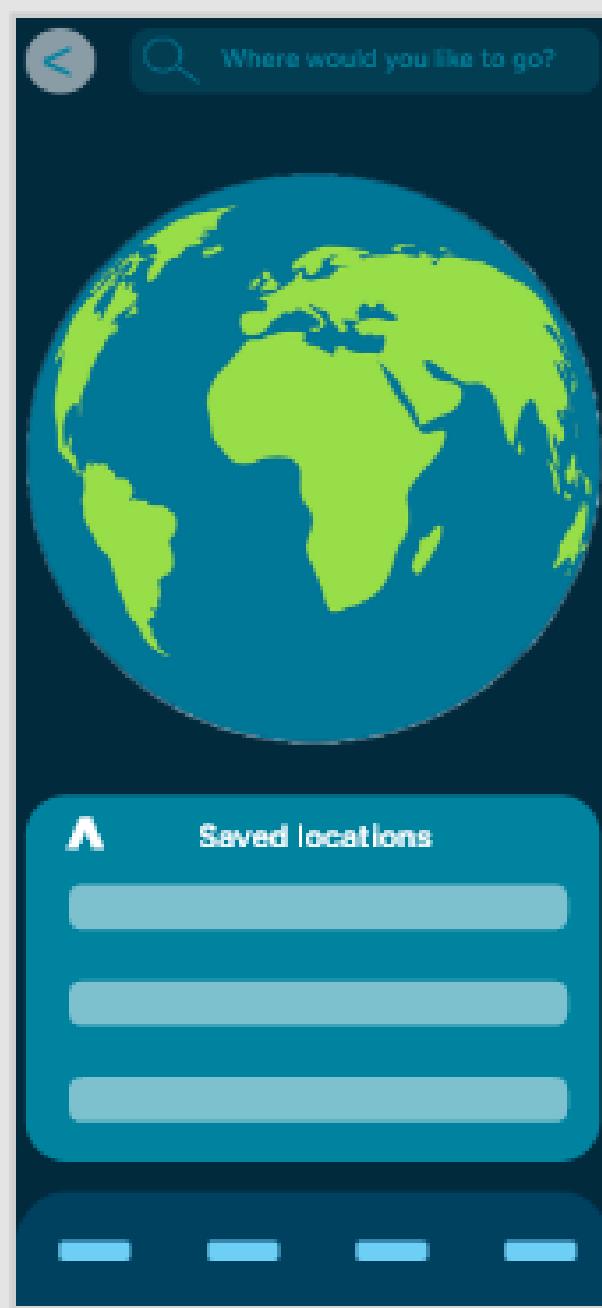


The home page now includes the navigation bar. I am considering a way to make it clearer to the user which page defined by the navigation bar they are interacting with.



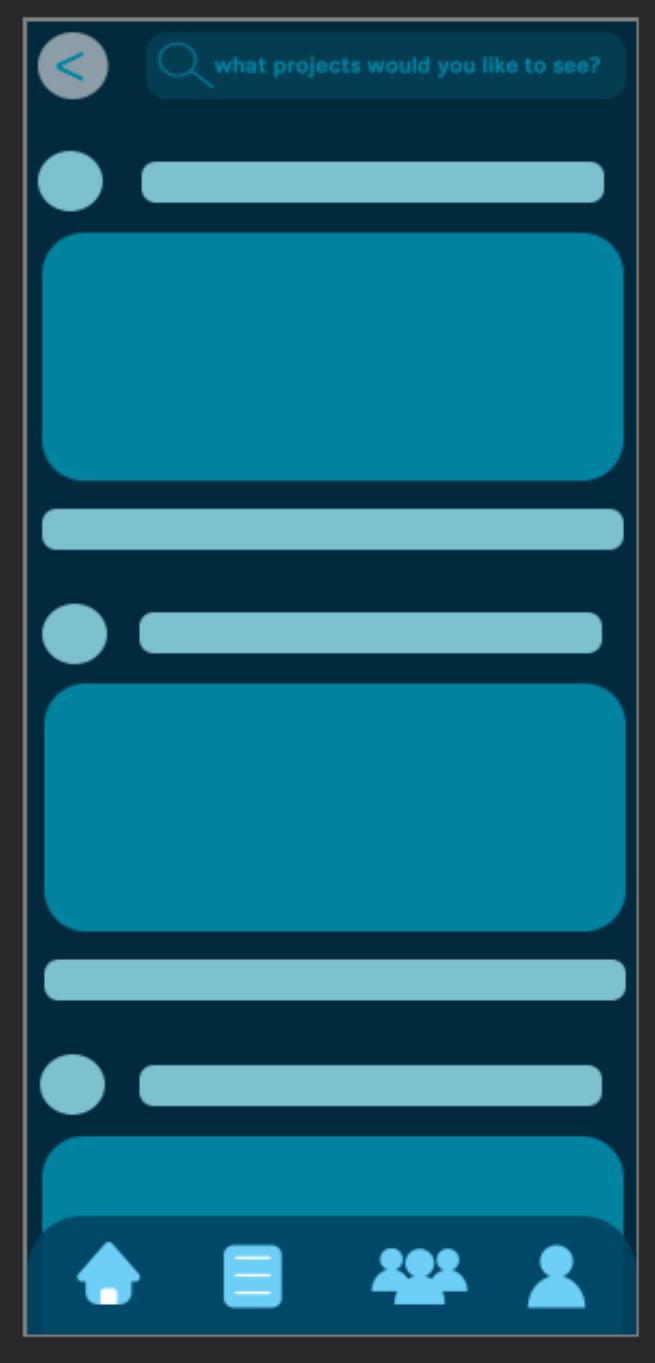


New page



Old page

Home page/Saved locations results tab

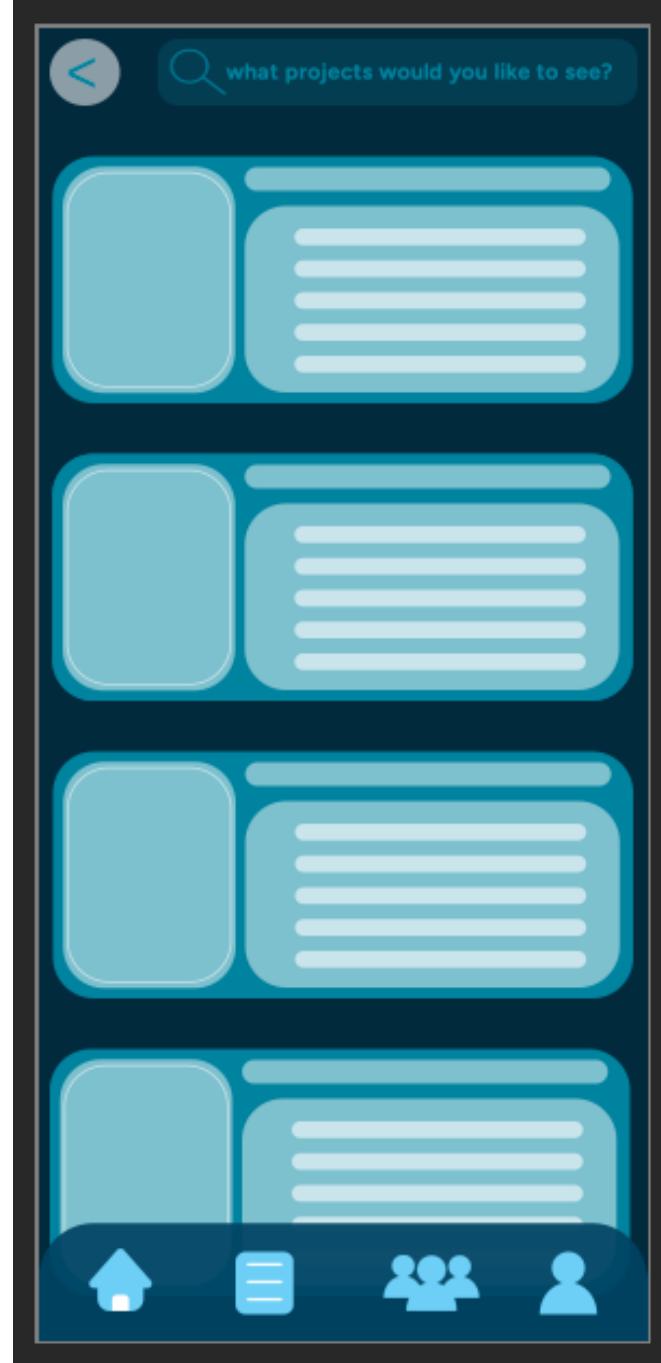


<= community feed page

The design of these two pages is very similar so I will be editing the navigation icons to highlight which page the user is currently accessing.

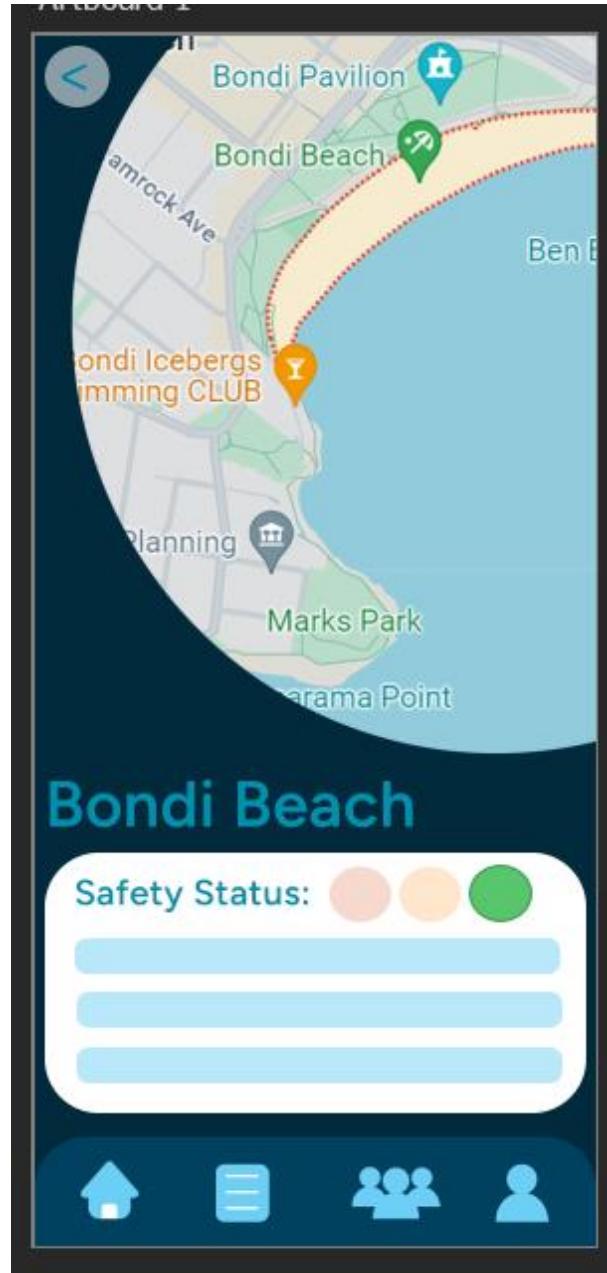
This will improve clarity in user interface and lead to a more positive user experience.

Suggested content/fyp =>

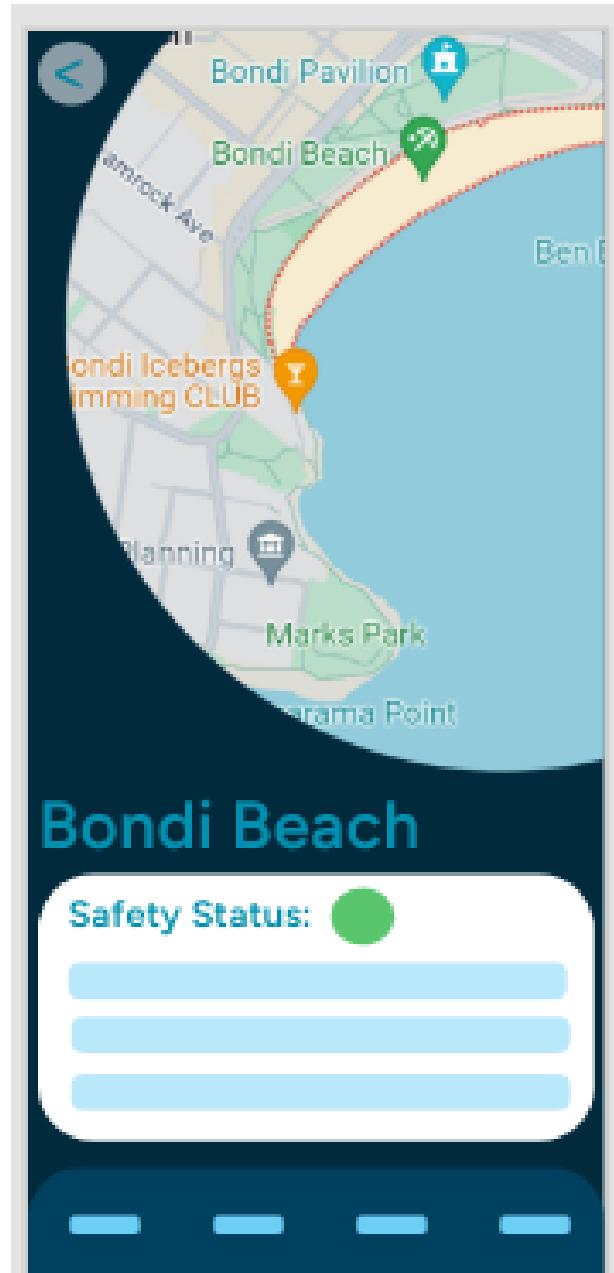


Search results page

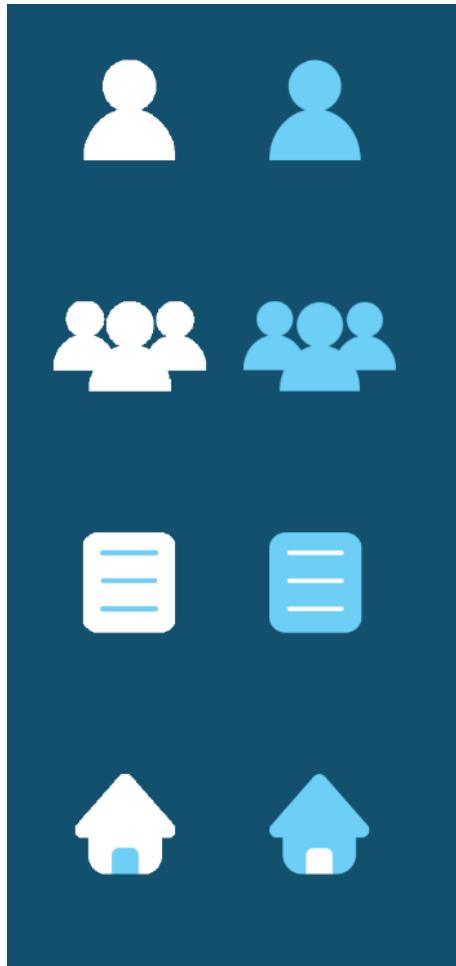
For the search results page, I added the new navigation bar icons and also changed the safety rating system to make better use of the space available. It now has a pastel substitute for each safety option ranking rated as red, amber, green. This is to make it clearer to the user the current safety rating of each location.



New page



Old page



Updated icons

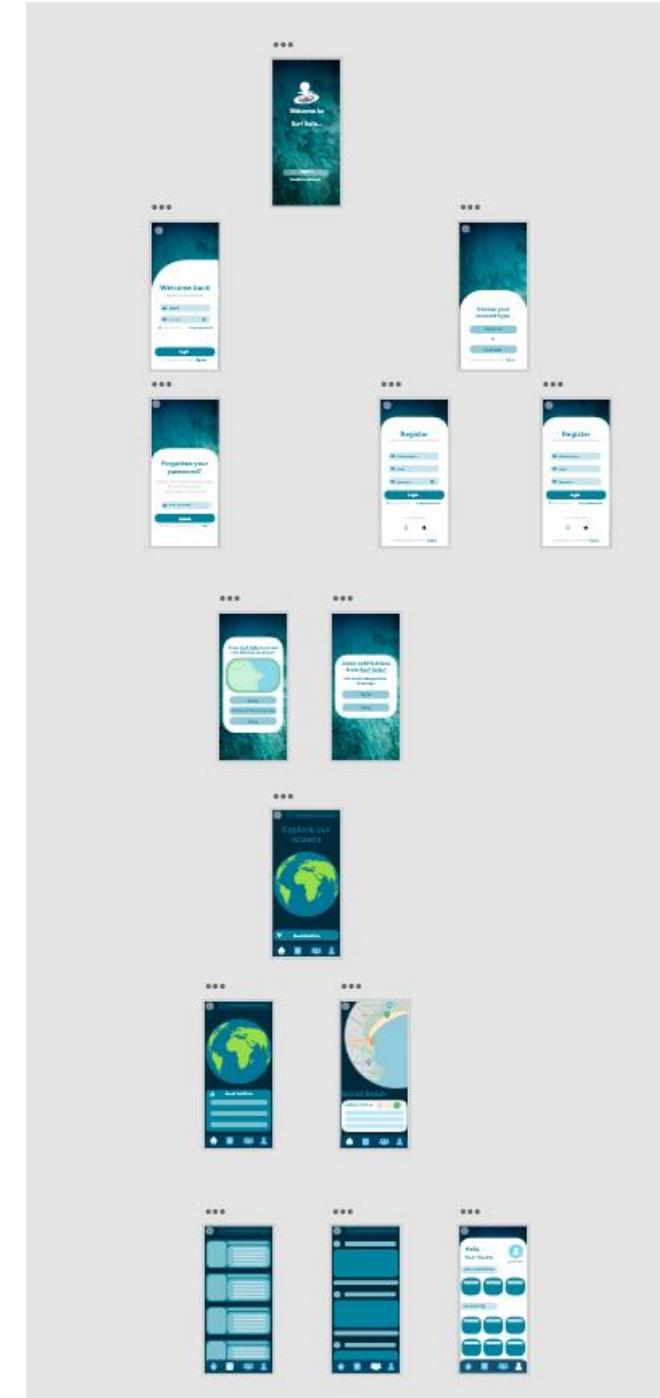
To avoid changing the icons too much from the original, I decided to invert the colours for when the user is accessing the corresponding page to each icon. This way a new design complements the original and is still identifiable as the icon that represents the intended page.

Updated icons preview



Updated XD Prototype

Following the same conventions as my original prototype, I updated it with the new icons and designs for each page in the app.



I also used a grid to track my progress each week and record my improvements , learning and feedback for improving my project

| Date | Week of Study | Key notes | Things to consider moving forward (corrections/improvements) |
|------------|---------------|---|---|
| 01/03/2024 | 3 | I went through my project ideas and decided on one of them to focus on in more detail. I reviewed the previous lectures and was able to identify the stakeholders | |
| 02/03/2024 | 3 | I focused on understanding the design cycle and began to focus on the requirements. Following the seminar, I identified the stakeholders in my own project as: Wildlife conservationists Wildlife research professionals Surfers Families Residents of coastal areas | - remember the key problems being highlighted by the requirements in my evaluation of the application - consider ethical issues with phone GPS data and input data storage in open cloud data base |

| | | |
|------------|---|--|
| 05/05/2023 | 4 | After my seminar where I practiced making prototypes for the first time, I came home and created a paper prototype for my app Surf Safe to see the different stages of interaction with the app. I also created a story board that shows how I would expect different stakeholders to interact with the app. |
| 12/03/2024 | 5 | I revisited the lecture from week 4 on prototyping and considered how I would develop my lo-fi prototype for my presentation. I then looked at the pitch guide from this week's lecture and created a PowerPoint for my presentation on Friday to demo my idea. |

| | | | |
|------------|---|---|--|
| 13/03/2024 | 5 | <p>I gave a mock pitch to my friends on facetime to gather feedback on my project and how well I conveyed my ideas with the presentation I created previously. My feedback was to make the slides less wordy and try and write prompts on each slide to make the presentation feel more engaging.</p> | <ul style="list-style-type: none"> - I revisited my power point and edited the slides having summarised points on each one and practiced building off each point when presenting. |
| 14/03/2024 | 5 | <p>I reviewed my presentation again and revisited my prototype to double check any final improvements I could make. I looked closely at the <u>lofi</u> UI design and considered how I would adapt this design digitally. I started to build a small mood board of inspiration from <u>Behance</u>.</p> | |

| | | | |
|------------|---|---|---|
| 15/03/2024 | 5 | I presented my idea to the class for my formative assessment. | - smaller scale prototype, separate app into community and location/alert services, consider visualising information on a phone, try contrast checker for web accessibility |
| 19/03/2024 | 6 | Following the feedback from my presentation, I looked at examples of app vs website design on <u>behance</u> to see how to effectively display information on a smaller scale. I started to design a few of the pages in my app and begin to create a strong visual aesthetic that would define the branding of Surf Safe | -make sure the images used are free stock images to avoid copyright and consider the front camera bar when designing for a mobile application |

| | | |
|------------|---|--|
| 19/03/2024 | 6 | <p><u>Qiti</u> demonstrated how to use different software for designing the interaction. I have started designing the project on photoshop, following my wireframe guide I designed.</p> |
| 21/03/2024 | 6 | <p>I designed the business account set up and the allow access to location.</p> |
| 22/03/2024 | 6 | <p>I thought of responses to the Tarot Cards of Tech and discussed with my coursemates.</p> |
| 24/03/2024 | 6 | <p>I considered how to continue designing my app visually to fit functional expectations</p> |

| | | | |
|------------|---|---|---|
| 13/04/2024 | 8 | I finished off the UI, globe image from adobe stock | https://stock.adobe.com/search?k=cartoon+globe |
| 14/04/2024 | 8 | I imported my photoshop files into adobe <u>xd</u> to create a basic prototype | |
| 16/04/2024 | 8 | I decided to improve my completed prototype by using varied pre-set animations available in adobe <u>xd</u> . I aimed to make my app more visually appealing and interactive. | |

| | | | |
|------------|---|---|---|
| 19/04/2024 | 8 | <p>I presented my prototype to the class and discussed how designed features recognise potential ethical issues and appropriately navigate though these issues with a clear simple UI structure. I also discussed the colour palette and ideas relating to simple visual aesthetics, all of which contribute to the creation of a brand identity for my product. The design's simplicity complimented the need for easy simple and quick navigation to access safety information.</p> | <p>my feedback: add a visibility feature to the create password screen so users can see their passwords to check them</p> |
| 23/04/2024 | 9 | <p>I revisited my design files on photoshop and added the suggested features from the presentation feedback. i changed the rectangles i had as a place holder to icons that represent each page in the app.</p> | |

| | | |
|------------|----|--|
| 25/04/2024 | 9 | I checked if the new added interactive accessibility features worked well and created a positive user experience by experimenting with using my <u>xd</u> prototype. |
| 29/04/2024 | 10 | I reviewed my prototype to consider how best to demonstrate it's multiple personal user features in the video. <u>i</u> want to demonstrate a positive personal user experience and how my clear consistent and simple UI shows how easy access to safety information can be |

30/04/2024

10

In reviewing my design, I noticed how it was difficult for the user to tell which page they were interacting with even with the newly added icons for clearer navigation. I decided to edit the icons to display as a different colour when the user is interacting with that specific page.