

FMPATHISE

## PROJECT/RESEARCH DESCRIPTION AND ITERATION

**Project Description**

**Instructions:**

The main purpose of this section is to help you describe what it is that you are going to do for your portfolio in the next few weeks. To do this, you will need to identify a problem, research that topic, identify a clear problem with a rationale, and solve the problem (identify a desirable outcome).

**TIP:** All the following steps are iterative and you must expect to go backward whenever you find a problem. You may also need a set of answers and when you have them, in addition, you must be prepared to read widely so that you fully understand the topic area and aspect of the problem that you have identified. There is no shame here; the present requires design and careful thinking.

**Reviewing the most relevant paper**

**Instructions:**

Identify one of the most relevant papers that relate to your project description and place it in the board where you can see "Place the selected paper".

**TF1:** The first read-through is a skim-read that will help you form an initial impression of the paper.

While skin-reading, bear in mind the following questions:

- What is the main question addressed by the research paper? Is the paper relevant?
- How original is the topic? What are the major strengths of the paper?
- What methods were applied? Are the methods appropriate for the research?
- Are the results consistent with the motivation and methods presented?
- What are the limitations of the approach?
- What are the main take-away messages of the paper?

**Preparing Ethics Application**

**Instructions:**

- Take the Research Integrity Online Training Course for students
- Download and check the Application form and the template for information sheet and site consent form ([here](#))
- Make sure you explain the main scope of your project and the main goals of your studies and edit the templates
- After having all the documents ready upload them on this section of the portfolio

**Instructions:**

Provide a summary of the quantitative and/or qualitative analysis you have conducted and the results. If you have used any tools to support the analysis, you can also provide an overview of how you used them.

**TIP:** Review the lecture materials about quantitative and qualitative user studies and presentation of the results.

Remember that quantitative methods involving surveys produce results that need to be interpreted.

For qualitative research, remember that the data needs to be interpreted and there are many ways to do this. Start with that:

- Extract and summarise data
- Find patterns across participants
- Create insights

Project/Research Description and Iteration		
L TOPIC	M APPROACHES	R RATIONALE
<p>What is your topic area?</p> <p>Name and briefly describe it.</p> <p>In the LR, the right side and the right column, you will find a box for each approach. You can use as many or as few of these boxes as you like. If you have a topic area in mind, you can start by filling in the first box. If you are not sure what your topic area is, you can start by filling in the first few boxes and then come back later to add more. You can also add new boxes if you need them.</p>	<p>What aspect of your topic area will you focus on?</p> <p>Name and briefly describe it.</p> <p>Pedagogical Topic: Safety Pedagogical Approach: Inquiry-based learning Pedagogical Outcome: Students will be able to demonstrate their understanding of safety through the use of inquiry-based learning. This will involve students working in groups to research different types of safety, such as road safety, food safety, and environmental safety. They will then present their findings to the class in a variety of ways, such as through posters, presentations, or debates. This approach will encourage students to think critically about safety issues and develop their own solutions to problems related to safety.</p>	<p>What is the problem theme that you want to focus on?</p> <p>Name and briefly describe it.</p> <p>The primary goal is to engage students in critical thinking and problem-solving activities related to safety. By focusing on specific themes such as road safety, food safety, and environmental safety, students will be able to apply their knowledge and skills to real-world situations. This will help them to understand the importance of safety in their daily lives and how they can contribute to creating a safer world.</p>
S RESEARCH QUESTION	M TITLE	R OBJECTIVES
<p>What is your research question/hypothesis?</p> <p>This must be based around your stated approach. You may wish to add further questions or hypotheses here, but you should add to carefully think through, once you have completed the first one, what the answer is to take.</p> <p>Some research questions may not be able to be answered in one go. In this case, you could take a look at the 'Further work' section.</p>	<p>What will be the title of your project?</p> <p>You should now be in a position where you can write a clear project title.</p> <p>High-risk safety A night-time safety system for people walking home after a night out.</p>	<p>You should look for 2 - 6 objectives that achieve your aim and do so in a progressive manner.</p> <p>To increase awareness of areas of danger. To increase the safety of the environment through different methods. The primary aim is to ensure people can walk home safely after a night out.</p>
L FURTHER WORK	M OUTCOMES	R ASSESSMENT
<p>What would you like to do next?</p> <p>Further work may be required to answer some of the questions in the 'Further work' section.</p>	<p>What are the outcomes of your project?</p> <p>What will be the outcome of your project?</p> <p>What will be the outcome of your project?</p>	<p>How will you assess the outcomes of your project?</p> <p>How will you assess the outcomes of your project?</p> <p>How will you assess the outcomes of your project?</p>

**PRIMING ETHICS APPLICATION**

- Research Imaging Certificate
- Application Form for Ethics Committee Review
- Template for Participant Information Sheet
- Template for Participant Informed Consent

**User Recruitment**

Participants are the members of Group 4 Team at Cardiff University's School of Psychology. We are interested in recruiting and piloting research for user experience.

**Research Planning**

Participants will be asked to complete a survey and interview. The survey will ask participants about their experiences with user experience research and how they feel it can be improved. The interview will be a follow-up to the survey and will ask participants to provide more detailed feedback on their experiences.

**USER EXPERIENCE RESEARCH PROCESS**

Data Collection Methods e.g., user interviews, surveys or other methods

- Survey**
- Interview**

Participants will be asked to complete a survey and interview. The survey will ask participants about their experiences with user experience research and how they feel it can be improved. The interview will be a follow-up to the survey and will ask participants to provide more detailed feedback on their experiences.

1) Please do you feel that in any sort of user research, there is a lack of time available for a right fit? If yes, please explain.

2) Please tell us what you would like to take away from this research in terms of user experience?

3) What changes would you consider making to your user experience research?

4) Do you think technology could be helpful to make user research at night or pre-hour?

**Survey Link**

DATA ANALYSIS AND RESULTS OF THE USER STUDIES						
Quantitative Data						
Survey Questions and Descriptions	Answers					Analysis
	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	
1. How often do you use a digital device for work or study?	Very frequently	Frequently	Occasionally	Rarely	Never	Participants report varying levels of frequency, with most using devices frequently or very frequently.
2. How satisfied are you with the user interface of your current digital device?	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Extremely Dissatisfied	Participants show mixed satisfaction levels, with some being satisfied and others dissatisfied.
3. How easy is it to navigate through the device's features?	Easy	Medium	Difficult	Very Difficult	Extremely Difficult	Navigation ease varies among participants, with some finding it easy and others difficult.
4. How effective is the device in completing tasks?	Very Effective	Effective	Somewhat Effective	Not Effective	Extremely Not Effective	Effectiveness of the device is generally rated as effective or very effective by most participants.
5. Overall, how satisfied are you with your digital device?	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Overall satisfaction is mixed, with some participants being very satisfied and others very dissatisfied.

Problem Tree Analysis
<b>Instructions:</b> This is a strategic way to identify the focal problem and its causes with inputs from the project team, stakeholders and other relevant parties. It helps to stimulate the exchange of knowledge. It helps draw a realistic picture of the problem from economic, political and socio-cultural dimensions.
<b>Activity 1:</b> Define the main problem and note it on the trunk of the tree
<b>Activity 2:</b> With your team members identify the root causes of the problem (trunk) and let them on the roots of the tree
<b>Activity 3:</b> With your team members, brainstorm on the potential consequences of the problem (trunk) and list them on the tree branches

**Solution Tree Analysis**

**Instructions:** This is a strategy **to identify potential solutions by generating alternative ways to solve a problem or propose the solution.** Through this activity you can use the solution tree to get input from the project team, stakeholders and beneficiaries who can contribute to propose feasible solutions to the problem.

**Activity 1:**  
Define the main victim or the problem (the trunk) and note it on the trunk of the TIP.  
**TIP:** Look at the problem or the trunk of the problem tree and think about how to improve the situation

**Activity 2:**  
With your team members identify a number of actions, strategies and possible solutions to achieve the main victim (trunk).  
**TIP:** Look at the roots of the problem tree and find out how to address the problem. Note them on the roots of the solution tree

**Activity 3:**  
With your team members,头脑风暴 and define 3-5 specific goals or objectives to achieve the main victim (trunk).

**User Experience Research Process**

**Instructions:**

Provide a summary of your research objectives, user recruitment and research planning. Additionally, describe your data collection methods and justify your choice of methods.

**TIP:** You can include any type of information or materials that you have created to corroborate your user studies including online questionnaires, interview or focus groups protocols, observation details, etc.

Make sure you justify each of the methods that you applied as each method serves different research purposes.

# DEFINE

**POINT OF VIEW**

**1st POV**

**WE MET**  
Person 1 who identifies as a female. She is a 22 year old student who was a victim of stalking. A stranger was following her while she was walking home at night. Person 1 was very afraid and just kept walking. The stalker followed her at her home and the Person 1 noticed that he left short after.

**WE WERE AMAZED TO REALIZE ...**  
because it was the first time she experienced such a situation, she didn't want to speak to a friend or call the police the minute she was followed as the stranger would have noticed. This left her helpless, didn't know what to do and made the wrong decision of showing the offender her home.

**IT WOULD BE GAME-CHANGING TO ...**  
Offer her the possibility to reach towards a safe zone / a place with security where other people would assist.

**2nd POV**

**WE MET**  
Person 1 who identifies as a male. He is a 20 year old student who was a witness of a postcode war. As the persona was walking home, he decided to take a shorter route through an area known for street fighting. The persona did not want to be confronted and he hid behind a green bin.

**WE WERE AMAZED TO REALIZE ...**  
He believed that he should know from before-hand which areas are considered safe and dangerous.

**IT WOULD BE GAME-CHANGING TO ...**  
Warn him of the safest route to take to prevent him from setting himself in danger

**3rd POV**

**WE MET**  
Person 1 who identifies as a male. He is a 19 year old student who was a victim of burglary. A burglar had followed him to his house. The persona had heard noises outside and he checked himself in his neighbourhood. Thankfully, the burglar did not wake up but the persona was afraid to call the police in case the burglar would realise that someone was home.

**WE WERE AMAZED TO REALIZE ...**  
Fear had affected his decision making and he did not call the police on time to catch the burglar.

**IT WOULD BE GAME-CHANGING TO ...**  
Offer him a way to silently contact the police or family and share his location in any time he feels he is in danger

**1st POV GOAL - THE SAILBOAT EXERCISE**

**Reach a safe zone / secure place**

Anything that helps achieving the user's goal

- Road / Street Signs
- GPS devices
- Information from friends / relatives
- Maps
- Smartphone applications
- Look for 24-hour places
- Receive help
- Ensuring their safety
- Notify on an emergency situation
- Returning home safe
- Punish the stalker
- Hide and get help
- A fear of being followed by the offender
- Locations may not be predictable by offenders
- Distance, visibility for safety
- Persons, things, places that may not be safe
- One right way to take the safest route
- Very hard to identify the safest route
- Difficult to identify the safest route
- No safezones
- No module data plan

What obstacles hold outside which prevent the users from achieving the goal?

**2nd POV GOAL - THE SAILBOAT EXERCISE**

**Walk home through the "Safest Route"**

Anything that helps achieving the user's goal

- GPS device
- Police Statistics
- Crowded areas
- Work from a safer place with guardians
- Ensuring their safety
- Contact a safer working environment
- Returning home safe
- Avoid trouble
- Smartphone applications
- Walk through crowded areas
- Safeties do not work in every place
- Low times when less people
- Delayed for sure that the offender is the user
- All users have smartphones
- May feel a bit further distance
- Not all GPS devices
- What obstacles hold outside which prevent the users from taking the safest route?

What obstacles hold outside which prevent the users from achieving the goal?

**3rd POV GOAL - THE SAILBOAT EXERCISE**

**Contact and share location**

Anything that helps achieving the user's goal

- Alerting personal device
- Smartphone device
- Information from friends / relatives
- GPS devices
- Receive help
- Ensure their safety
- Notify on an emergency
- Let close contacts know
- A fear of being monitored by offenders
- Locations may not be accurate
- May not have phone
- May not receive signal
- May have no signal on module plan
- Offshore may not help in getting the connection
- Offshore may not help in getting the connection

What obstacles hold outside which prevent the users from achieving the goal?

**HOW MIGHT WE?**

**1st SailBoat Exercise Goal**

How might we lead the user to a secure place?  
How might we account people with disabilities?  
How might we lead the user to their destination safely?

**2nd SailBoat Exercise Goal**

How might we distinguish between offenders?  
How might we update data on "safe routes"?  
How might we share the location if it's disabled?

**3rd SailBoat Exercise Goal**

How might we ensure that the user can contact the authorities?  
How might we update data on "safe routes"?  
How might we share the location if it's disabled?

**The SailBoat Exercise**

**Instructions:**

The Sailboat Exercise is a method to support the identification and shared understanding of user's goals, desires, challenges and frustrations. It is a method to support the elicitation of user requirements but also to support the engagement with end-users and other stakeholders. You should now conduct the SailBoat exercise for each POV (one SailBoat per one POV).

**Activity 1:**  
Identify design visions or goals and list them at the top.  
**TIP:** Refer back to each of the POVs to identify the main visions/goals.

**Activity 2:**  
With your team members, conduct a brainstorming session for each of the SailBoats to fill in *The Trade Winds*, *The Sun/Land*, *The Anchor*, and *The Rocks* sections.  
**TIPS:**

For each section, think about the following questions:

*The Trade Winds* -> *User Goals*:

- What is working well at the moment? To answer this question consider anything that helps the user to have a positive experience and/or feel good.
- What things, qualities, and features are currently available to achieve user's goals?

*The Sun/Land* -> *User Desires*:

- What would the true perfect experience look like?
- What is the user striving towards?
- What things, qualities, and features would create or contribute to a desirable solution?

*The Anchor* -> *User Frustrations*:

- What is holding the user back? or what is slowing down the user? To answer this question, consider personal limitations such as education level, physical health, mental health, time or money and/or situation, which are making things difficult.

*The Rocks* -> *User Challenges*:

  - What external obstacles are holding the user back? or what external obstacles are slowing down the user? To answer this question consider issues surrounding the user such as family members, friends, co-workers, employers, or anything that prevents the users from achieving the goal.

**Activity 3:** Prioritise problems based on the orange and black sticky notes that everyone has written

**TIPS:**

- Each member of the team reads all the orange and black sticky notes again in silence.
- Each member of the team places 3 red voting dots on sticky notes that for them capture the most critical challenges blocking the users or the user from achieving the goal.
- If there are two or more challenges with the same number of votes (dots on them), the UX designer will choose the most relevant challenge to address

## "How Might We" (HMW) Questions

**Instructions:**

Now it is time to start generating ideas to achieve the main design goals at the top of the SailBoats. Then step is then to generate the HMW questions.

**Activity 1:**  
Insert the main design goals from the top of the SailBoats into the pink sticky notes.  
**TIP:** Look at the top of each SailBoat and you will find the main design goals previously identified.

**Activity 2:**  
Take the top-voted challenges from each Sailboat and reframe them using the "How Might We" questions.  
**TIP:** Start by asking a specific question starting with "How Might We" or "In what ways might we" can improve/make/enable/enhance the situation posed by each of the top-voted challenges.

**Activity 3:** Prioritise the HMW statements.

**TIPS:**

- Each member of the team reads all the sticky notes in mustard colour in silence
- Each member of the team places 3 red voting dots on sticky notes to capture the most critical challenge to focus
- If there are two or more HMW statements with the same number of votes (dots on them), the UX designer will choose the most relevant to address

# IDEATE

## Brainstorming Ideas for Potential Solutions

### Instructions:

After defining the main design goals, now it is time to ideate a mass of solutions based on the top most voted HMW statements from the previous stage.

### Activity 1:

Insert the 3 most voted HMW statements at the top of each green section and write them on the mustard coloured sticky notes.

**TIP:** Look at the HMW statements with most red dots from the previous phase.

### Activity 2:

With the help of your team, brainstorm and think of solution(s) to the challenges phrased in the HMW statements to achieve the main goals and write them on the yellow coloured sticky notes.

### TIPS:

- The more ideas the merrier
- Try to think of potential solutions that are low-effort, high-impact and feasible

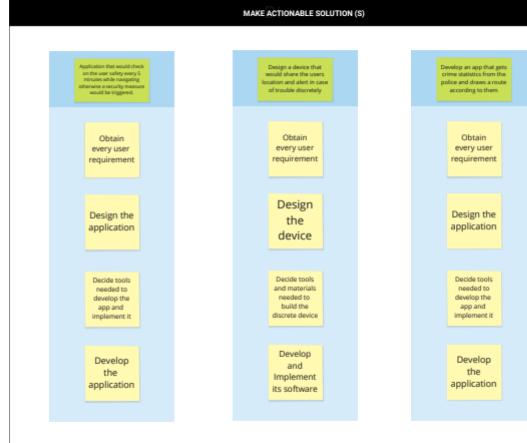
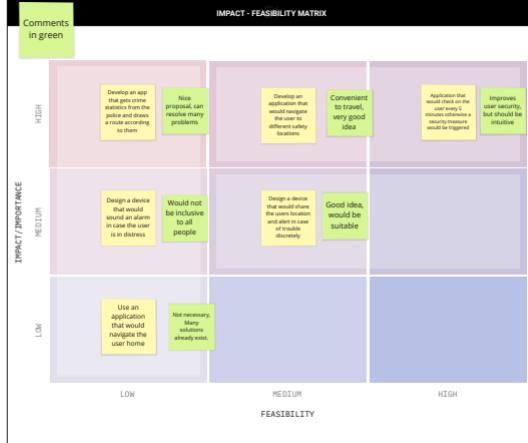
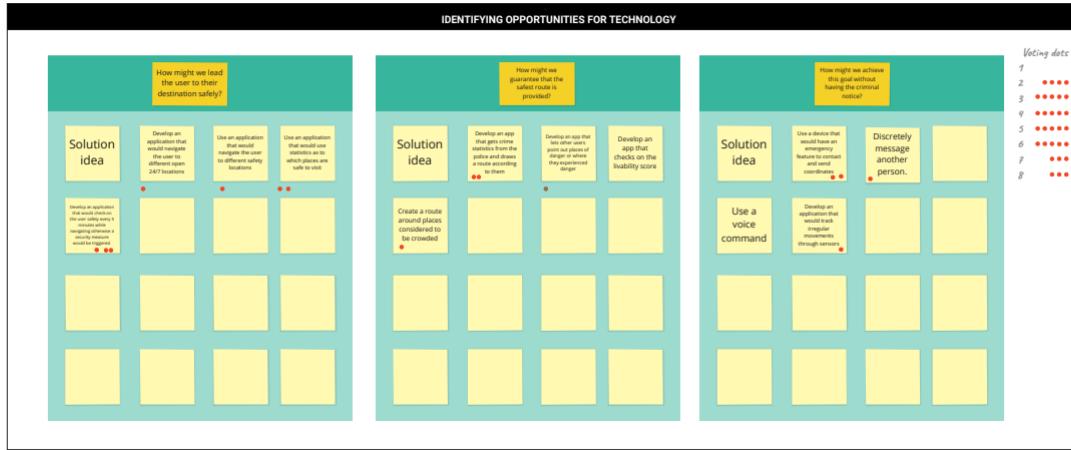
### Activity 3:

Vote for the potential solutions.

### TIPS:

- Each member of the team reads all the yellow sticky notes with solutions ideas in silence
- Each member of the team uses 3 red dots to vote on the solutions that they believe have the **most impact** to solve the main challenges and help to achieve the main goals
- If there are two or more solutions with the same number of votes (dots on them), the UX designer will choose the most relevant

## IDENTIFYING OPPORTUNITIES FOR TECHNOLOGY



## Making Solutions Actionable

### Instructions:

Now it is time to think about how to make the top solutions actionable.

### Activity 1:

From the Impact-Feasibility matrix, select the 3 most important and feasible solutions taking into account your own comments and reflections and write them on green coloured sticky notes.

### TIPS:

- Start by looking at the Impact/feasibility matrix, and identify the solutions placed in the 'sweet-spot' quadrant (top right corner): high impact and high feasibility. If there are 3 solutions in there, you can stop.
- If you still need to identify feasible solutions with an impact, look at the High Impact/Medium Feasibility and Medium Impact/Low Feasibility quadrants and select one solution from them.
- If you still need more solutions, take a look at the center of the matrix.
- Do not select the low impact or low feasibility solutions.

### Activity 2:

Individually or in the team, brainstorm 4 action steps to achieve the solutions.

### TIP:

- Think about design requirements, risks, resources, deadlines, tools, etc.

## Prioritising solutions

### Instructions:

After voting the mass of ideas for solutions, now it is time to prioritise these solutions.

### Activity 1:

Create a set of yellow sticky notes with the top voted solutions and place them on the 3x3 Impact-Feasibility matrix which is a method to help you prioritise solutions.

### TIPS:

- Use the vertical axis of the matrix and quickly assess the impact/importance of the solutions e.g., low, medium, high.
- Use the horizontal axis of the matrix and quickly assess the feasibility of the solution e.g., low, medium, high.
- Place the sticky note on the agreed impact/feasibility area.
- Add comments to each of the yellow sticky notes with tops solutions. Your comments should include reflections on topics such as equality, accessibility, sustainability, and inclusivity where appropriate (refer to lecture notes from Week 3 if needed).

# PROTOTYPE

## Lightning Demos

### Instructions:

It is time to get inspiration from what is already available out there in connection to 3 top most important and feasible solutions.

### Activity 1:

Search for relevant examples offline or online and add/import them to the board in relation to the most important and feasible solutions.

### TIPS:

- Search on the internet, App Stores, digital libraries or around you online for relevant examples or products from others that have attempted to solve the same challenges.
- Remember to check the most relevant papers that you have read before.
- Add screenshots to the board to showcase the examples.
- Use the examples as inspiration and write one big idea next to it using a sticky note

## Concept Sketching

### Instructions:

After getting some inspiration, you need to start sketching the potential solutions.

### Activity 1:

For the 3 most important and feasible solutions, create initial sketches on how this solution can be materialised/visualised.

### TIPS:

- Think about the identified design requirements and how you can visualise them using sketching.
- It is not about creating pretty things. It is about how the ideas can be made visible/tangible.
- Check your favorite lightning demo examples and place them in the green coloured column for each of the initial designs.
- Create your own sketches and add them to the middle column
  - Sketching can be done offline or online.
  - If offline, you can use the Crazy 8's exercise. Take a sheet of A4 paper, fold it 3 times and get 8 sections. Then draw drawings of your ideas. Take a photo and add/import them to the middle column.
  - If online, you can use any available tool that supports sketching. Take a screenshot and add/import them to the board.
  - You can make one or multiple sketches (e.g.,drawings/screens)

### Activity 2:

Gather early user feedback on your sketches

### TIPS:

- Use sticky notes to gather feedback from your team and add them to the third column.
- Think about the pros and cons of the sketches
- Additional comments can be added on top of the sketches.

### Activity 3:

Each member of the team votes on the initial designs and uses the red dots to vote on the sketch/sections/parts of the selected initial design. The most voted initial design will be used in the next phases.

## Reframing the selected initial design

### Instructions:

After selecting the most relevant design (this could one or a combination of the initial designs) and taking into account the user feedback, now it is time to start wireframing.

### Activity 1:

Create different wireframes that can illustrate the full experience with your design concept.

### TIPS:

- Start wireframing different design features to materialise the design concept
- Wireframes need to be self-explanatory and must have low-fidelity
- Create just enough to learn, focus on the key elements
- Pick the most comfortable tool for creating your wireframes
- Use the board to present your wireframes and the navigation between your different screens (remove the examples)

### Activity 2:

Gather early user feedback on your wireframes

### TIPS:

- Use the yellow sticky notes to gather feedback from your team
- Think about the pros and cons of the wireframes
- Provide suggestions for improvements
- Additional comments can be added on top of the wireframes.

## Creating a Storyboard for your Design Concept

### Instructions:

After reflecting on modalities, it is time to create a storyboard that will show how the design concept can be used.

### Activity 1:

Create a storyboard using the boxes in the board to represent a story of how the design concept could be used.

### TIPS:

- It should have a beginning, and an end. The story develops in between these frames.
- While the storyboard does not have to be at least 8 and 10 boxes should be used.
- Fill in the boxes with screens or elements from your wireframes and integrate the user in the story.
- Fill in the gaps: if there are missing features in the story, address them so your board tells a coherent story.

**Solution 1**



**TapSafe**  
Pressing based on location home safe  
location. If you are away from home it  
immediately connects to closest ones



**HomeSafe**  
Automatically alerts  
located close to your home on  
line

Walksafe application navigates users home and notifies your loved ones if you don't "tap" safe at home or if you don't "tap" to extend needed time to return home.

**SOLUTION 2**



**Qbit**  
Qbit pocket device that shares the users location and alerts in with a click. If the user feels like he is in an SOS situation, help could be called quickly.

**SOLUTION 3**



**The killer anti-crime app.**  
The crimeplace Application. It uses information such as crime statistics to plan safer routes and post live updates in local areas. It's a safety app which alerts people when they're entering high crime zones while they are navigating.

**SKETCHING**

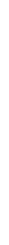
Initial Design 1

LOOK FOR INSPIRATION	YOUR OWN	EARLY FEEDBACK
	<b>Example</b>  Good example, good flow, good navigation, good user interaction.  Good for navigation and tracking, good user interaction.  Quick and easy navigation.  Good for location sharing and tracking, good user interaction.  Easy to understand.	 Good example, good flow, good navigation, good user interaction.  Could accidentally press no button.  Could accidentally press it.  Easy to use and understand.

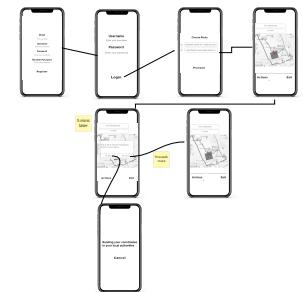
Initial Design 2

LOOK FOR INSPIRATION	YOUR OWN	EARLY FEEDBACK
	 Good example, good flow, good navigation, good user interaction.  Could accidentally press it.  Easy to use and understand.	 Good example, good flow, good navigation, good user interaction.  Could accidentally press it.  Easy to use and understand.

Initial Design 3

LOOK FOR INSPIRATION	YOUR OWN	EARLY FEEDBACK
	 Good example, good flow, good navigation, good user interaction.  Doesn't show duration of the journey.  Easy to use and understand.	 Good example, good flow, good navigation, good user interaction.  Provides good information.  Quick and easy navigation.

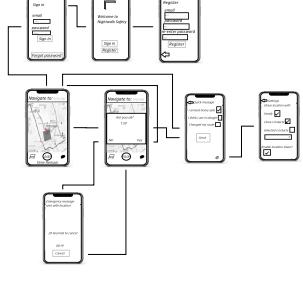
**WIREFRAMING THE SELECTED INITIAL DESIGN**



**USER FEEDBACK**

- Use icons
- Add a welcoming system
- Show different actions
- Add more features
- Simplify navigation
- Display user location
- Give option to select location
- Overall good design

**RE-DESIGNING ACROSS MODALITIES**



**USER FEEDBACK**

- Add colours
- Add a logo
- Shows location
- Add option for location messages
- Simplify navigation
- Add a background
- Highly feasible

**STORYBOARD**



**USER FEEDBACK**

- I have to go to my friend
- Ok, I'm coming
- My phone is off, better never it
- Ok, notification when I'm off
- Gonna share in location too
- Ok, notification when I'm off
- Now I'm gonna press SOS
- Ok, notification when I'm off
- It's been 5 mins, where am I?
- Ok, notification when I'm off
- It's been 10 mins, where am I?
- Ok, notification when I'm off
- It's been 15 mins, where am I?
- Ok, notification when I'm off
- It's been 20 mins, where am I?
- Ok, notification when I'm off
- It's been 25 mins, where am I?
- Ok, notification when I'm off
- It's been 30 mins, where am I?
- Ok, notification when I'm off
- It's been 35 mins, where am I?
- Ok, notification when I'm off
- It's been 40 mins, where am I?
- Ok, notification when I'm off
- It's been 45 mins, where am I?
- Ok, notification when I'm off
- It's been 50 mins, where am I?
- Ok, notification when I'm off
- It's been 55 mins, where am I?
- Ok, notification when I'm off
- It's been 1 hour, where am I?
- Ok, notification when I'm off
- It's been 1 hour and 15 mins, where am I?
- Ok, notification when I'm off
- It's been 1 hour and 30 mins, where am I?
- Ok, notification when I'm off
- It's been 1 hour and 45 mins, where am I?
- Ok, notification when I'm off
- It's been 2 hours, where am I?
- Ok, notification when I'm off
- It's been 2 hours and 15 mins, where am I?
- Ok, notification when I'm off
- It's been 2 hours and 30 mins, where am I?
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- It's been 59 hours and 45 mins, where am I?
- Ok, notification when I'm off
- It's been 60 hours, where am I?
- Ok, notification

# TEST AND REFLECT

## EVALUATION OF THE FINAL PROTOTYPE

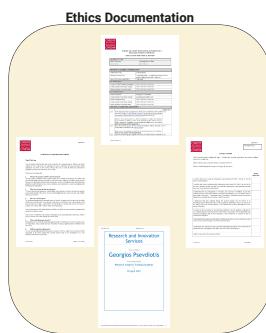
**Evaluation Objectives**  
Evaluate the user evaluation provided and assess the validity of the prototype. Identify problems with the prototype so that they can be fixed in future iterations. Assess if the research objective has been reached.

### User Recruitment

Participants are the members of Group 4 Team of Cardiff University's CM3116 Module, Design Thinking and Prototyping for User Experience

### Planning

I will use two data collection methods to gather data from my participants, the first method would be through a survey which would give me Quantitative Data and the second would be through an in-person or virtual interview which would give me Qualitative Data. Both should not take longer than 20 minutes.



### Quantitative User Evaluation Methods

A Microsoft Form online survey was utilised for the quantitative user evaluation. The reason for this is to obtain statistical and graphical data on what various users think about the prototype, its features and its interface characteristics after using it. The analysis of the data would help understand points of improvement.

Link to survey:  
<https://forms.office.com/r/FfgDZuW1ky>

### Qualitative User Evaluation Methods

I'll employ the Interview method, which is one of the most common research methodologies, for the qualitative user evaluation. This approach was selected because it helps gather opinions from different individuals and learn more about their interaction with the prototype. The individuals will answer some questions regarding the functionality of the prototype and will have the chance to provide additional feedback. This way I can have a greater picture on how users think and feel on the solution.

Provide justifications for each of the selected methods for evaluation

### User Evaluation

#### Instructions:

Provide a summary of **evaluation objectives**, **user recruitment**, **planning** and **evaluation methods** that you used to test your final design concept. Additionally, include your ethics documents required for the user evaluation stage.

**TIPS:** You can include any type of information or materials that you have created to conduct your user evaluation including online questionnaires, paper-based surveys, interview or focus groups protocols, observation details, think aloud sessions, etc.

Make sure you justify your choice of method as each method serves different evaluation purposes.

Make sure you have completed the ethics protocols for your final evaluation.

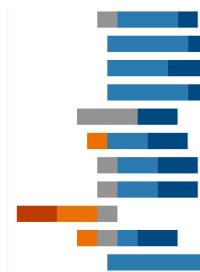
## ANALYSIS AND LESSONS LEARNED

### 9. Evaluating the Prototype's Interface

#### More Details

Strongly Disagree   Disagree   Neither agree, nor disagree   Agree   Strongly Agree

Font is easy to read and size is appropriate



Font is easy to navigate



User friendly



Easy to use and understand



Uses common words and icons that are intelligible



Good graphical interface



Provides logical order along with the actions



Minimizes user error



It is confusing at some point



Buttons are easy to click



Provides good features



### 10. How long did it take for you to walk through the prototype?

#### 5 Responses

ID 1 Responses

1 30 seconds

2 30 seconds

3 3 minutes

4 45 seconds

5 135 minutes

### Survey Questions and Answers

Font is easy to read and size is appropriate  
20% of the participants responded that they strongly agree, 60% responded that they agree while the rest 20% neither agree nor disagree.

Easy to navigate  
20% of the participants responded that they strongly agree, while 60% responded that they agree.

User friendly  
60% of the participants responded that they strongly agree, while 40% responded that they agree.

Easy to use and understand  
80% of the participants responded that they strongly agree, while 20% responded that they agree.

Uses common words and icons that are intelligible  
60% of the participants responded that they neither agree nor disagree, while 40% responded that they strongly agree.

Good graphical interface  
40% of the participants responded that they strongly agree, while 40% responded that they agree and the rest 20% that they disagree.

Provides logical order along with the actions  
40% of the participants responded that they strongly agree, while 40% responded that they agree and the rest 20% are neutral.

Minimizes user error  
40% of the participants responded that they strongly agree, while 40% responded that they agree and the rest 20% are neutral.

It is confusing at some point  
40% of the participants responded that they strongly disagree, while 40% responded that they disagree and the rest 20% are neutral.

Buttons are easy to click  
40% of the participants responded that they strongly agree, while 22% responded that they agree, 20% that they neither agree nor disagree, and the rest 28% are neutral.

Provides good features  
100% of the participants responded that they strongly agree.

10. How long did it take for you to walk through the prototype?  
It took all of the participants around 30 to 3 minutes to walk through the prototype which provides an average walkthrough of 3.06 seconds.

### NightWalk Safety Evaluation

5 Responses

0 Average time to complete

Active Status

The survey had 5 responses and it took users an average time of 3.06 minutes to complete.

Interview Questions	Answers					Analysis
	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	
1) How does it feel to use NightWalk Safely Safely?	I think it's a very useful application and it's very functional. It could help me to get around with my right side.	It feels really good, I am very satisfied with it. It has a great impact and it could help me to get around with my right side.	I'm not entirely sure. I think it's a very useful application and it's very functional. It could help me to get around with my right side.	It feels like using a mobile application, which means it's nice.	It feels nice	Four out of five participants found the application very useful and functional. The rest found it neutral. Participants have also pointed out how they liked the functionality and on the impact it made.
2) Were you confused at any point while using the application?	I'm extremely confused but I needed to understand the entire application. I think it's a bit difficult to understand the entire application.	Not at all, it has a very userfriendly interface and it's very easy to understand.	Not at all, it has a very userfriendly interface and it's very easy to understand.	The pop-up could be a bit more clear and maybe the instructions could be clearer.	Not at all	Only one out of five participants was confused while using the application and it took him a few times to figure out what he wanted to do with the application. Another participant suggested some changes to the application to make it easier to use.
3) Can you identify any drawbacks for the application?	No	I would prefer if the graphic interface was improved a little bit.	Again nope, I had no issue while testing the application at all.	Nothing works fine.	Two participants suggested some changes to improve the system such as adding logic buttons that would make the application easier to use. Some participants felt that everything works and nothing is broken.	Every participant was impressed with the different features of the application.
4) Which feature were you impressed with the most?	The fact that it is so easy to use and locate where I am. I could understand the entire application.	The SOS button works. It could save my life.	The way you can select pre-set messages to send to your contacts in case of an emergency.	The way the navigation was overall set.	Nope, I'm satisfied	The way participants were impressed with the different features of the application. They have commented positively on the functionality of the system.
5) Any additional comments you may have?	Yes, please make the font a bit bigger and use more colors. It would be better if it was more userfriendly.	Not at all.	None, I'm satisfied	No		There was one additional comment as a request to enlarge the text font of the application. The other four participants did not have any additional comments to say except one that noted he is satisfied.

### Lessons Learned:

In the end, the users' experience was really positive, and many were impressed. The majority of the participants noted that it feels nice and easy to use the application and the navigation was understandable and useable. In addition, the features featured in the application pleased every user and it manifested the functionality of the system as well as the simplicity of the design.

On the other hand, it was recognised that some confusion was caused by some users while testing the application. It was appreciated that they recommended to enlarge some links and buttons to emphasise their functionality more and add more labels to outline their utility. Therefore, there are always opportunities to improve it.

To improve the application, more iterations should be designed to achieve a better outcome. Some minor changes were also suggested by participants which should also be considered and another greater evaluation could take place with more participants.

## REFLECTION ON SOCIETAL IMPLICATIONS

In my opinion our main design goal and research objective has been reached with the designated design idea. The final prototype has been tested and in reflection, its usability is on point as all of the participants have managed to navigate throughout the application in short time with only one participant having some confusion, nevertheless without any issues.

In conclusion, the final design could have a huge impact on societal implication. Every user may contact and share location to their selected target and ensure on their safety with a few taps and without any tap at all (when time is elapsed). This fact may aid in reducing crime rates and ensure on the user's safety and wellbeing. Significantly, the technological application can take measures in case a user encounters danger and also navigate him to his desired place while also notifying his contacts of his status. This could result in people feeling more confident and safe while using the application and walking at night

### Reflections on Societal Implications

#### Instructions:

From the findings of your user evaluation and recommendations, reflect on the societal implications that your design concept can have if it would be implemented and tested in a long-term evaluation and in a real context.

#### TIPS:

- Some questions for reflections could be:
  - Can we reach our main design goals with this design concept?
  - Do we need another iteration for the design concept?
  - What are the main societal implications that this design concept can have in real life settings?
  - What else do we need to take into account to solve other identified challenges in the initial phase of the Design Thinking process?