PROJECT PROPOSAL

COMP3003 – Project Tile: Criminal Alarm Mobile App

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1. Background and Motivation

People face the fear and powerlessness of sudden danger in social life. According to the latest data from the UK Office for Notional Statistics, 63% of people felt unsafe after dark, and more than 24% stop walking in quiet area after dark simply because they feel unsafe [1]. There are numerous reports and news like "Sarah Everard murder" [2] and "Sabina Nessa murder" [3], with victims walking home at night or on a "five-minute" walk to meet friends. However, when family and friends of the victim initially put-up missing notice on street, most of the response was nonchalant, reducing the chances of the family and friends getting further information [4].

Even though there are many existing apps focus on personal safety, based on my actual experiences with these apps (table 1), none of them have the functionality of publish and report missing or wanted people and have issues to some extent.

Table 1: Existing solutions and their weakness

App	Weakness
(All)	Doesn't have publish and report missing or wanted people function
bSafe / Hoot / Sister / WeHelp	Registration issue: unable to verified phone number. Unclear error message
Parry	All features only available after subscription
Noonlight	Registration issue: only allow people who has US phone number to register
WalkSafe+ / iSharing	Doesn't include an option to call 999, inconvenient SOS button
OneScream	Active alert only when detected panic scream
Ursafe / Bond/ Parachute	Limited free features
SafeUp	Only 'safety checks' no 'emergency help'

2. Aims and Objectives

The aim of this project is to create a functional iOS mobile app that have two main purposes. One is to ease the anxiety of walking or staying alone. The other is to increase the likelihood of finding missing pet, person or police wanted criminal.

In order to achieve these aims, the key objectives are:

      1. Allow user to register, login and add other users as contacts.

      2. Implement location report interaction (hold down to keep, release to send help and location to contacts and authority).

      3. Implement audio recording and video recording.

      4. Implement fake phone call.

      5. Allow user to report potential unsafe and update to all users.

      6. Allow user to publish missing pet/person information and report possible seen.

      7* Allow user to customize app home page.

      8. Make demonstration video as user manual.

      9. Upload the app to TestFlight and receive user feedback.

      10. Iterate app according to user feedback.

It should note that given the uncertainty of the subsequent progress, the objective 7 will be met when there is sufficient time left in the project. If falls behind schedule, this may be considered for abandonment.

3. Work Plan

- <u>Documentation</u>
  This project will involve usability tests with users, including user data collection. Therefore, full ethics clearance is required.

- <u>Initial Planning</u>
  I need to familiarise with Swift and SwiftUI for iOS development as I never used them before, so I take this into account in initial planning stage.

- <u>Implementation</u>
  I will use Git as version control tool. Each task in implementation section is represents a fully functional component. Each component is implemented following the sequence of first building database, then API and finally the component interface. Finally, the whole system is composed of multiple fully functional components.

- <u>Testing and Iteration</u>
  Full ethics clearance is required, and all users participate usability tests must be taken after clearance is given by the committee. Considering I have 70 credits worth of modules in spring semester compared to 50 in autumn semester, more tasks are planned to complete before spring, leaving buffer time for other modules or falling behind project schedule.
  User study and following application improvement will be one of the key point in this project, and more uncertainty may show in iteration. The main work in the spring semester is planned to focus on this.

The Gantt chart on the *last page* shows the planned project schedule, which I will be using to track my progress throughout the project.

4. Bibliography

[1] Office for Notional Statistics, 25 May 2022. *Perceptions of personal safety and experiences of harassment, Great Britain: 16 February to 13 March 2022*. [online] UK Office for Notional Statistics. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/perceptionsofpersonalsafetyandexperiencesofharassmentgreatbritain/16februaryto13march2022> [Accessed 7 October 2022].

[2] BBC News. 11 March 2021. *Sarah Everard 'brought joy to our lives', says her family*. [online] Available at: <https://www.bbc.co.uk/news/uk-england-london-56367223> [Accessed 9 October 2022].

[3] BBC News. 23 September 2021. *Sabina Nessa: Teacher killed on walk to meet friend*. [online] Available at: <https://www.bbc.co.uk/news/uk-england-london-58661926> [Accessed 9 October 2022].

[4] BBC News. 11 March 2021. *Sarah Everard: Women share their fears of walking alone*. [online] Available at: <https://www.bbc.co.uk/news/newsbeat-56361529> [Accessed 9 October 2022].

Project Gantt Chart

TASK	START	DURATION (WEEKS)	PROGRESS
Initial Plannig			
Requirements and user stories	24/10/22	1	20%
Design prototype	31/10/22	2	0%
Design app architecture	14/11/22	2	0%
Draw UML	14/11/22	2	0%
Familiarise with Swift and SwiftUI	17/10/22	4	25%
Milestone: Initial project design			
Implementation			
Registation	28/11/22	1	0%
Logging in	28/11/22	1	0%
Add contacts	05/12/22	1	0%
Profile	05/12/22	1	0%
Milestone: Base system			
Show user location	12/12/22	1	0%
Report interaction	12/12/22	2	0%
Report and update unsafe	02/01/23	1	0%
Publish and report missing	02/01/23	1	0%
Milestone: Main function			
Audio and video recording	09/01/23	1	0%
Fake phone call	30/01/23	1	0%
Costomize home page (maybe)	06/02/23	1	0%
User guidance	13/02/23	1	0%
Milestone: Implementation completed			
Testing and Iteration			
System testing	20/02/23	2	0%
Upload to TestFlight	06/03/23	1	0%
Milestone: Publish in TestFlight			
Receive user feedback	13/03/23	4	0%
Iterate app	20/03/23	5	0%
Documentation			
Write Project Proposal	03/10/22	1	100%
Revise and submit Project Proposal	10/10/22	2	100%
Submit Research Ethics checklist	10/10/22	2	100%
Milestone: Initial documents submission - 26 October 2022, 15:00			
Requst full ethics clearance	26/10/22	3	30%
Write the Interim Report	28/11/22	2	0%
Milestone: Interim Report submission - 12 December 2022, 15:00			
Demonstration video/ user manual	13/02/23	1	0%
Write the Dissertation	10/04/23	3	0%
Milestone: Dissertation submission - TBC 2023			
Prepare Demo	01/05/23	3	0%
Milestone: Final Presentation/Demonstration Days - TBC 2023			