**Project Goals/Scope**

The main goal of this project is to provide a cross-platform mobile app that will allow the user to send for help when they are in danger, this will hopefully provide the help that people may need when they are in danger and may even prevent deaths. The app will have to send a help message to the user’s contacts that they have added during the configuration of the app, the app will also record the voice of the user, so it can be included in the help message. The help message must also give the contacts the exact location of the user, this means the app will need know the location of the user’s phone. Once the app is installed onto the user’s mobile device the app will operate in the background while the mobile device is running, this will help make emergency call happen immediately when the user needs help and cut out unnecessary loading. On initial setup the user will have to create an account by supplying their email and then login to the app, on first time setup the user will have to provide at least 3 to 5 contacts and supply their mobile, landline numbers and/or Facebook information so the app can send the help messages or call them in case of an incident. The signup and login for the app must be easy for the user to follow and not very time consuming, this will ensure that users will use the app because if this initial step is difficult/frustrating for the user they will most likely not use this app and look for an alternative. The app will need a beautiful and professional looking design so that the user is not put off from using this app. The app should ideally have voice recognition to help stop false alarms and alow the user to quickly send for. Ideally the app will be able to hear if there is an emergency without the user needing to tell the app as it will be able to pick up on the tone of the persons voice that is either being attacked or the person attacking, this feature should be considered if there is time and for the time being the app should be able to pick up on a list of threatening words or for a user’s buzzword. The app must be as hidden as possible, therefore it mustn’t be easy to see on the user’s phone and the app shouldn’t have to be opened to send the help message. The app will record what is happening when it has been triggered and this will be included in the help message and the user’s location on their phone will also be sent. It is recommended to use React Native for the development of the app however other frameworks, libraries and API’s can be used. There are several deliverables for this project, these include:

Working Prototype

A working prototype of the app will need to be constructed to help demonstrate the capabilities of such an app. Having a working prototype will help demonstrate that this type of app can be done and will be a benchmark for future development.

Documentation

Documentation throughout the project will need to be supplied to help with the development of the application and help show the progress of the project. Having well made documentation will also make future development of the app easier as future developers will have a reference when working on this app.

Description of Remaining Development

The client will need this so they understand what will need to be finished or continued to be developed on when they work on this application in the future.

Code in an Accessible Repository

Code should be in an accessible repository to help the team and the client easily get new and old updates of the application. This will also make development easier and more efficient and allows the team to have solid version control.

The main resources that the team has access to are a dedicated server with admin access from the university. The team will also get constant access from the client and the client will work as part of the team.

**Background Research**

Existing Applications

There are many similar apps that keep the user safe in a similar manner as the app we are developing. Apps such as StaySafe and WatchOver Me, allow the user to set a countdown and if after this countdown the user doesn’t respond to say they are safe it alerts the contacts that they have entered, the main problem with these apps that false alarms can easily be flagged if the user simply forgets to respond to the application after the countdown is finished. Other apps like bSafe and React Mobile work similarly to the application that will be developed as they allow the user to send an SOS message to their contacts and this SOS message will contain the location of the user’s mobile phone. We could differ a lot from these apps by implementing good voice recognition as the apps above are quite basic and prone to false alarms, also if the application can easily pickup an emergency it could make it a very favourable app for the general market.

React Native Framework

React Native uses Javascript and the React libraries to allow the user to create native mobile apps quickly and efficiently. As React Native uses the React libraries it gives the developer access to lots of UI features that are great for creating UI for mobile phones. React Native also allows the developer to change the code while it is running and reload it from the same state, this could be helpful when trying to create the UI for the app as it will allow our group to efficiently try out different designs.

Voice Recognition

Voice recognition works by analysing what was said and converting it into text form, we could go about implementing voice recognition by using an API, the main API that will most likely be used is googles speech recognition API. With using this we would be using their already established voice recognition technology and will help us tackle some difficulties such as difficult to understand accents and could allow future developers to implement other languages in the system.

**Learning Outcomes**

I expect to learn how to work with a team and a client on this project and learn many skills that are needed for when I finish my course such as communication, problem solving and general teamworking skills. I also expect to learn how to program voice recognition as this could be a helpful skill to learn. Learning React/Native and Javascript is also another aspect that will be beneficial for me and developing a mobile application is something I have always wanted to learn how to do and this project should help me towards that. Learning how to work with a client and group to deliver a product that has a set requirements and a deadline will help me develop organisational skills and developmental skills that will be extremely helpful for when I go looking for a job after my course.