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| University of the West of England |
| Find Me – Emergency Location App |
| Software Engineering for Business - 6F3B  Liam Upstone-Smith - 21017958 |

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## Introduction

IMPROVE -- 300-600 words

In an increasingly interconnected world, the ubiquity of mobile technology has opened new avenues for enhancing personal safety and emergency responsiveness. This dissertation introduces an app designed to leverage the pervasive nature of smartphones to provide a critical lifeline during emergencies. There were 9,080 offences of rape reported to the metropolitan police in FY2022/2023 (Metropolitan police, 2023) as well as in 2022/23 there were 1,122 child abduction offences and 7,420 kidnapping offences reported by the police (Statista Research Department, 2023).

The app allows the users to, in an emergency, transmit their location to a predetermined list of contacts allowing them to find and help the user. “Find Me” aims to help prevent these crimes in addition to helping those who may have been affected by natural disasters. After an earthquake if someone was stuck under lots of rubble, sending their location to family and friends may allow them to be found more efficiently, possibly saving their life.

## Method

Risks

-- Risk Mitigation Plan –

* Why have a risk mitigation plan (purpose)
* Describe your diagram/plan.

Suitable tools and methodologies

Ethics

Version Control Strategy

IMPROVE – VERY IMPORTANT

You will be expected to demonstrate that you understand the importance of version control as it applies to software and systems; have defined suitable configuration management processes for use throughout the product development lifecycle in storing software deliverables and controlling and tracking changes to your software; have used configuration management and version control tools and release management frameworks and applied sound change management processes properly and effectively when modifying your software designs and deliverables.

Throughout the development of this project, I have been uploading the documents to GitHub for version control. GitHub allows me to compare, update and distribute any recorded version at any time. This is crucial for maintaining a reliable history of the project’s development [Git vs GitHub – What is Version Control and How Does it Work? 2020].

## Research

Primary Research

Secondary Research

* how people feel unsafe at night, dark, alleyways, rape, kidnappings
* earthquakes, trapped under rubble.
* whitepapers/relevant literature on GPS
* whitepapers/relevant literature about how android studio is being used.

Critical evaluation of data found.

Technology selection

* Pugh Matrix or capability case/case studies

## Requirements

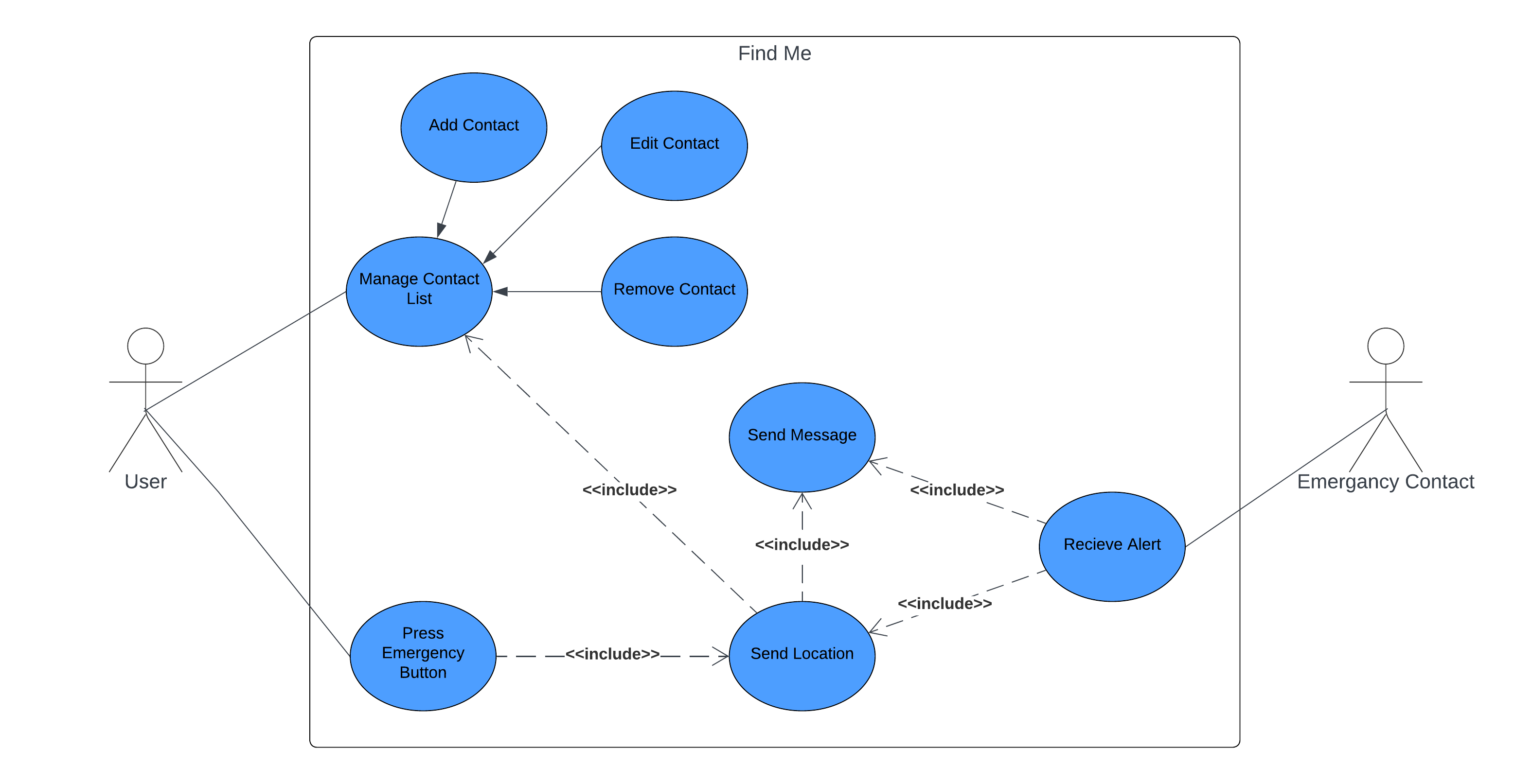
Use-Cases

A use case diagram is a graphical representation that outlines the functional requirements of a system, particularly in the context of software development. It serves to depict the interactions between users, referred to as actors, and the system itself, to achieve specific goals or tasks. The primary purpose of a use case diagram is to provide a high-level view of the systems functionality and the roles of various actors without delving into the internal workings of the system (What is the Use Case Diagram? Definition, Uses, Examples, and UML Use Case Diagram, 2024).

In DIAGRAM NUMBER there are 2 actors, User and Emergency Contact. The user represents anyone who uses the app, and the Emergency Contact is who the SOS location alert is being sent to.

The user has access to ‘Manage Contact List’, which allows them to see their current list of contacts that will be sent the emergency alert message, if the SOS button is pressed. The ‘Manage Contact List’ has 3 generalisation relationships: ‘Add Contact’, ‘Edit Contact’, and ‘Remove Contact’(Relationships in use-case diagrams, 2021). This relationship is used because ‘Manage Contact List’ is the parent use case and is required for the other 3 use cases (child use cases) to function. The ‘Press Emergency Button’ use case has an inclusive relationship with ‘Send Location’. This is because sending the users location to the emergency contact, requires the activation of the emergency button. ‘Send Location’ has an inclusive relationship with ‘Manage Contact List’ as the app must know who to send the alert to, before sending it. ‘Send Location’ also has an inclusive relationship with ‘Send Message’ and ‘Receive Alert’, this is because they all depend on each other to function correctly. The ‘Emergency Contact’ only has access to one use case, since their only interaction with the app is receiving an emergency alert of the user’s location.

A possible interaction a user may have with the app, starts with them going to ‘Manage Contact list’ and ‘Add Contact’, this allows them to add a phone number and name of their chosen emergency contact. Then when they’re in an emergency situation they activate the SOS Button, leading us to ‘Press Emergency Button’ use case that will then make use of ‘Send location’ and ‘Send message’ to send the emergency message to the list of chosen contacts. The Emergency contact then receives the message.



Functional Requirements

Quality Assurance

## Design

Software Architecture

UML Diagrams

Wireframes

UX Design Map

## Results

## Conclusion

* Insightful and critical reflection on the development process, including lessons learned.

## References

Git vs Github – What is Version Control and How Does it Work? (2020) *FreeCodeCampe.org* [online]. 19 August. Available from: <https://www.freecodecamp.org/news/git-and-github-overview/> [Accessed 23 April 2024].

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