

RAKSHAK

Submitted in partial fulfillment of the requirements of the degree of

BACHELOR OF COMPUTER ENGINEERING

by

Abhishek Jagtap - 20102011

Vidul Bhosale - 20102152

Omkar Ghaduse - 20102016

Tanvi Choudhari- 20102196

Guide:

Prof. Krishnapriya S



Department of Computer Engineering

A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE

(2022-2023)



A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE

CERTIFICATE

This is to certify that the Mini Project 2B entitled “**RAKSHAK**” is a bonafide work of “**Abhishek Jagtap (20102011), Vidul Bhosale (20102152), Omkar Ghaduse (20102016), Tanvi Choudhari (20102196)**” submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering in Computer Engineering**.

Guide:
Prof. Krishnapriya S

Project Coordinator:
Prof. D.S. Khachane

Head of Department
Prof. S.H. Malave



A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE

Project Report Approval for Mini Project-2B

This project report entitled “**RAKSHAK**” by *Abhishek Jagtap, Vidul Bhosale, Omkar Ghaduse, Tanvi Choudhari* is approved for the partial fulfillment of the degree of *Bachelor of Engineering* in *Computer Engineering, 2022-23*.

Examiner Name

Signature

1. _____

2. _____

Date:

Place

Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, we have adequately cited and referenced the sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Abhishek Jagtap-20102011

Vidul Bhosale-20102152

Omkar Ghaduse-20102016

Tanvi Choudhari-20102196

Date:

Abstract

In the present era of unpredictability and violent situations, humans are essential to intervene. It is important to act appropriately for the welfare of humanity. In the modern world, technology is used in a variety of ways. The most popular is the smartphone, which is overtaking practically all other gadgets. Also, women's safety has grown critical, notably in India, where there have been several reports of harassment and molestation. Women and their family safety is vital, whether they are at home, outside, or at work. The personal safety app provides a way for women to feel safe.

Someone may feel vulnerable in situations where they cannot access help quickly. Moreover, traditional means of calling for help, such as dialing emergency numbers, may not always be feasible or accessible. This safety app aims to address these concerns by providing a comprehensive safety solution that can quickly identify the user's location and send an SOS message to their family, friends, or guardians. It also includes features such as emergency calls and accessing nearby emergency services, providing users with a reliable and accessible means of ensuring personal safety. The app also incorporates gesture control, allowing users to seek help quickly, even when they cannot use their phone in a conventional manner. The app's primary focus is to ensure personal safety by quickly identifying the user's location and sending an SOS message to their family, friends, or guardians. The safety app is designed to be user-friendly, ensuring that anyone can use it quickly and efficiently. It aims to give people peace of mind, knowing that they have a tool that can assist them in times of need. With the increasing use of mobile devices, this app has the potential to be a game-changer in terms of ensuring personal safety, particularly for women who may feel vulnerable in unfamiliar or unsafe environments.

Keywords: Android, Safety, SOS, Emergency Services, Smartphone.

CONTENTS

Sr. No.	Chapter Name	Page No.
1	Introduction	1
2	Literature Survey	3
3	Problem Statement, Objective & Scope	6
4	Proposed System	
	a. Architecture Diagram	7
	b. UML diagram	
	1. DFD Diagram	8
	2. Use Case Diagram	10
	3. Sequence Diagram	11
	4. Activity Diagram	12
5	Project Plan	13
6	Experimental Setup	14
7	Implementation Details	16
8	Results	18
9	Conclusion and Future Scope	23
10	References	24
11	Acknowledgement	25

LIST OF FIGURES

Sr. No.	Figure Name	Page No.
1	Architecture Diagram	7
2	Data Flow Diagram	8
3	Use Case Diagram	10
4	Sequence Flow Diagram	11
5	Activity Diagram	12
6	Gantt Chart	13

Chapter 1

Introduction

The Rakshak application is a critical step towards addressing the ongoing safety concerns in our society. With the rise of crimes and emergency situations, it is becoming increasingly important for individuals to have access to tools that can help them in times of need. The Rakshak application not only provides a way for individuals to quickly and easily alert their emergency contacts in case of an emergency but also ensures that the location information is accurately conveyed to the contacts. One of the key advantages of the Rakshak application is its use of gesture-based technology. In situations of high risk and limited time, the ability to quickly and discreetly send an alert message can be critical. The application's gesture-based feature allows users to do precisely that, ensuring that they can quickly send an alert message without drawing unwanted attention.

Moreover, the application's gesture-based technology ensures that the user's hands remain free in case of an emergency, enabling them to take other necessary actions to protect themselves. Another key feature of the Rakshak application is its use of GPS technology. The GPS module allows the user's exact location to be broadcasted to their emergency contacts, ensuring that help can reach them as quickly as possible. This feature is particularly useful in situations where the user is in an unfamiliar location or is unable to communicate their location to emergency services. In addition to these features, the Rakshak application also provides access to nearby emergency services, ensuring that users can quickly locate and contact the relevant authorities in case of an emergency. The application also provides access to safety tips and guidelines, helping users to stay informed about potential risks and dangers in their surroundings.

Overall, the Rakshak application represents a significant step towards improving the safety and security of individuals in our society. Its use of modern technology, including gesture-based features and GPS modules, ensures that users can quickly and easily send alert messages in times of need. With the ongoing rise in crimes and emergency situations, the Rakshak application is a crucial tool for individuals to have at their disposal. Moreover, the women's safety application also allows users to set up safety zones and share them with their emergency contacts. This feature enables the application to monitor the user's location and send alerts to their emergency contacts if they leave the

designated safety zone. Additionally, the application includes safety articles and tips that educate women about how to protect themselves in different situations, including self-defense techniques and emergency procedures. By providing a comprehensive safety solution, the women's safety application empowers women to take control of their safety and well-being, and provides them with a tool that they can use to stay safe and confident in any situation.

Chapter 2

Literature Survey

1. K. Ford, M.A. Bellis, N. Judd, N. Griffith, and K. Hughes, "The use of mobile phone applications to enhance personal safety from interpersonal violence—an overview of available smartphone applications in the United Kingdom," (2022).

Interpersonal violence has devastating implications for individuals, families, and communities across the globe, placing a significant burden on health, justice, and social welfare systems. Smartphone technology may provide a platform for violence prevention interventions. However, evidence on the availability and user experience of smartphone applications aimed to prevent violence is underexplored.

2. A. Abdallah Dafallah, "Design and implementation of an accurate real time GPS tracking system," *The Third International Conference on e-Technologies and Networks for Development* (2014).

This paper discusses a low-cost GPS tracking system that uses GSM services to accurately and reliably track portable devices such as vehicles, assets, or people. The tracked device receives its coordinates from GPS and sends them as SMS to a tracking center, where the location is displayed on Google Maps. The system is designed to be adaptable for various applications and was successfully implemented at the University of Khartoum labs.

3. Tahsildar, Aakanksha, et al. "Application development using flutter." (2020) *International Research Journal of Modernization in Engineering Technology and Science* 2.8, Volume:02/Issue:08/August-2020.

Flutter is an open-source SDK for developing high-performance and more reliable mobile applications for operating systems like iOS and Android. Significant features of Flutter are Just-in-time compilation which executes the computer code that encompasses compiling during program execution at run time rather than preceding execution. Flutter has a feature called as hot reload which helps you easily experiment, build UIs, add features, and fix bugs. Hot reload

works by inserting updated source code files into the running Dart Virtual Machine (VM). Flutter targets the top mobile operating systems like Android and iOS, it gives you a solution for GPU rendering and UI, powered by native ARM code.

4. Azman, Feninferina & Suraya, Qistina & Abdul Rahim, Fiza & Mohd, Muhammad & Ariffin, Noor. (2018). My Guardian: A Personal Safety Mobile Application. 37-41. 10.1109/ICOS.2018.8632808.

It will ease the process of getting help by allowing users to quickly notify people of an emergency situation with a press of a button. My Guardian, a personal safety application developed for smartphones, intends to help allow users to notify a set of predefined contacts when they feel they are in an unsafe situation or is simply nervous about travelling alone. With a press of a button, the application will send a text message to these contacts with their location coordinates and a personalized emergency alert message.

5. Orla Thérèse McCarthy, Brian Caulfield, Margaret O'Mahony, "How transport users perceive personal safety apps", Transportation Research Part F: Traffic Psychology and Behavior, Volume 43, 2016, Pages 166-182, ISSN 1369-8478.

Fear of crime and a perceived sense of being unsafe have the potential to discourage individuals from using public transport. This paper presents analysis of the results of a survey on aspects of personal safety apps and how individuals perceive them in relation to their personal safety, privacy and their preference to purchase them. It explores their willingness to download for free or purchase such an app, their impression of features that an app might include such as revealing their location, how they would rate police force monitoring if included as a feature of the app and finally how they would rate a personal safety app against other technologies used to improve perceived transport user safety.

Research Paper	Analysis
1. K. Ford, M.A. Bellis, N. Judd, N. Griffith, and K. Hughes, "The use of mobile phone applications to enhance personal safety from interpersonal violence—an overview of available smartphone applications in the United Kingdom," (2022).	The paper provides an overview of personal safety apps for interpersonal violence available in the UK. The authors found that most apps lacked rigorous evaluation and suggested that future research should focus on improving app design and conducting robust evaluations.
2.A. Abdallah Dafallah, "Design and implementation of an accurate real time GPS tracking system," (2015).	The paper presents the design and implementation of a GPS tracking system for real-time monitoring and tracking of vehicles or individuals. The system uses a combination of GPS and GSM technology and provides accurate location data in real-time.
3. Tashildar, Aakanksha, et al. "Application development using flutter." <i>International Research Journal of Modernization in Engineering Technology and Science</i> 2.8 (2020): 1262-1266.	This paper discusses the development of a mobile application using the Flutter framework. The authors describe the advantages of using Flutter for app development and provide a step-by-step guide to building the application.
4. Azman, Feninferina & Suraya, Qistina & Abdul Rahim, Fiza & Mohd, Muhammad & Ariffin, Noor. (2018). My Guardian: A Personal Safety Mobile Application.	The paper describes the development and evaluation, study found that the app was effective in improving users' sense of security and providing useful features, but more work is needed to improve the app's usability and address user privacy concerns.
5. Orla Thérèse McCarthy, Brian Caulfield, Margaret, O'Manhony, (2016)" How transport users perceive personal safety apps".	The paper analyzes a survey on personal safety apps where police monitoring is more impactful on safety perception than privacy. Apps with panic buttons incident.

Chapter 3

Problem Statement, Objective & Scope

Problem Statement: -

To create a software application that seeks to address the increasing concern for personal safety, especially in unfamiliar or potentially dangerous environments using flutter.

The safety app is designed to be user-friendly, ensuring that anyone can use it quickly and efficiently. It aims to give people peace of mind, knowing that they have a tool that can assist them in times of need. The app also incorporates gesture control, allowing users to seek help quickly, even when they cannot use their phone in a conventional manner. The app's primary focus is to ensure personal safety by quickly identifying the user's location and sending an SOS message to their family, friends, or guardians.

Objective: -

- Identify the user's exact location and send an SOS message to their family, friends, or guardians quickly.
- Provide a comprehensive safety solution, including features such as emergency calls and accessing nearby emergency services.
- Incorporate gesture control, allowing users to seek help quickly, even when they cannot use their phone in a conventional manner.
- Whether they are traveling alone, walking home late at night, or in an emergency situation, a personal safety app can provide peace of mind and a sense of security.

Scope: -

- The app should be able to send the user's location to an assigned emergency.
- Allow image sharing with emergency contacts.
- Show the locations of nearby hospitals and police stations.
- Ultimately help individuals feel safer and more secure in potentially dangerous or threatening situations.

Chapter 4

Proposed System Architecture

Proposed System: The proposed system of our project includes a series of modules in which the project work is breakdown and implementation of each module is done by using various software engineering skills required during the process. The proposed system is a comprehensive solution that aims to simplify Rakshak while providing valuable insights to Safety of an individual whenever they are in some critical situation. The project will require a wide range of software engineering skills, and the implementation of each module will contribute to the development of a robust and efficient system.

Architecture / Block Diagram- An architecture diagram is a visual representation of the components, relationships, and interactions of a system. Architecture diagrams are useful for communicating the design and functionality of a system to stakeholders, developers, and other interested parties

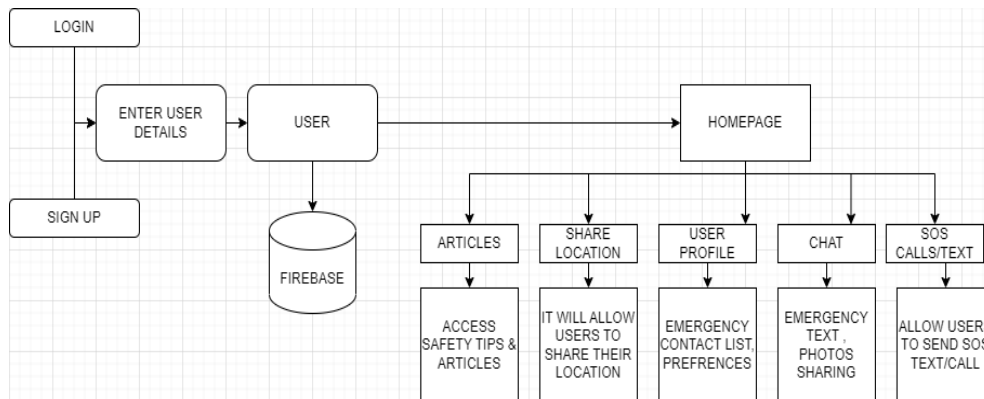


Figure 1: Architecture Diagram

The above architecture diagram illustrates the various components of the Rakshak the personal safety application. The architecture diagram for a personal safety app would be designed to provide a comprehensive solution for users' safety and security needs. It would include a range of features and components that work together seamlessly to enable users to access emergency services, send alert messages, and navigate their surroundings with confidence quickly and easily. First the registration/signup page will appear where user need to register and login as a user or a guardian and then the details are being stored in the firebase which is our database for application.

UML Diagrams: -

A UML diagram is a diagram based on the UML (Unified Modelling Language) to visually represent a system along with its main actors, roles, actions, artifacts, or classes, to better understand, alter, maintain, or document information about the system.

a. Data Flow Diagram -

Data Flow Diagram (DFD) is a graphical representation of how data flows through a system, illustrating the input, output, and processing of data. It is a modelling technique used to analyze and design information systems, which helps to identify the data sources, data destinations, data flows, and processes of a system.

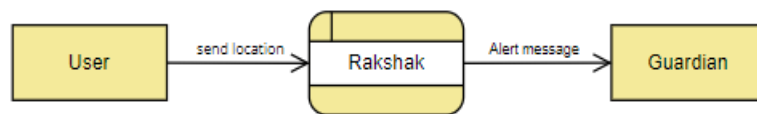


Figure 2: Data Flow Diagram (LEVEL 0)

In level 0 diagram, the user login registers to the Rakshak application and send the location to the guardian through the application in the dangerous situation.

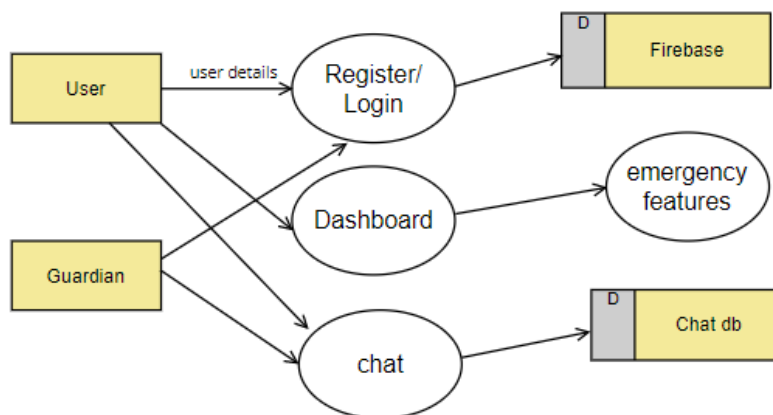


Figure 3: Data Flow Diagram (LEVEL 1)

In this Level 1 DFD, the User interacts with the App to perform different functions. When the User sends an SOS message, the App sends the message to the SOS Service. The SOS Service receives the message and initiates communication with the Emergency Contacts and Services. When the User accesses the Emergency Contacts, the App sends a signal to the SOS Service to access the Emergency Contacts and Services. The guardian can chat with the user.

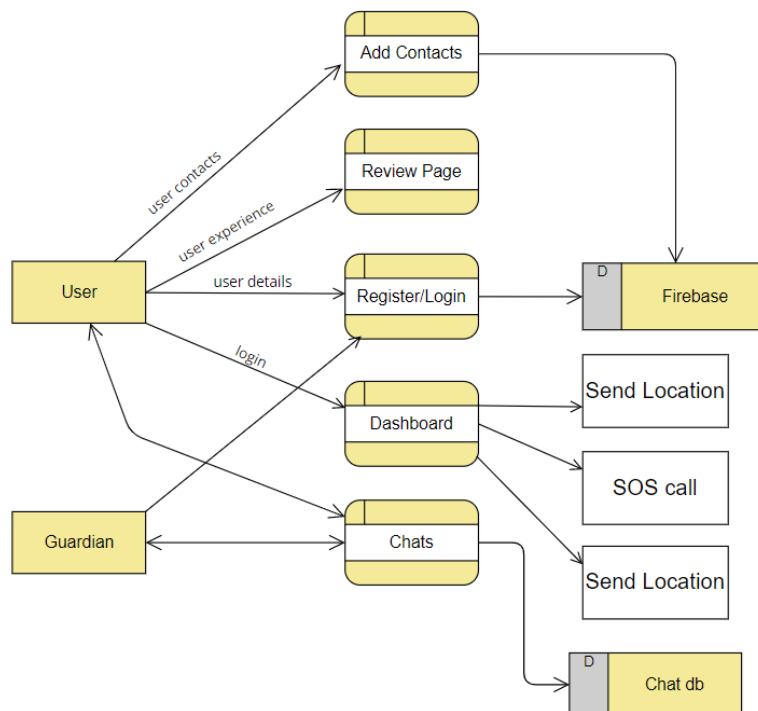


Figure 4: Data Flow Diagram (LEVEL 2)

In this Level 2 DFD, the functions of the App, SOS Service, and Location Tracking components are further broken down into more detailed sub-functions. When the User sends an SOS message, the App sends the message to the SOS Service. Additionally, the SOS Service uses the Call Service to make emergency phone calls if necessary. When the User accesses the Emergency Contacts, the App sends a signal to the SOS Service to access the Emergency Contacts and Services. When the User updates their location, the App sends the location data to the Location Tracking component. The Location Tracking component uses the GPS Service to track the User's location and update the Location Database.

b. Use Case Diagram- A use case diagram is a graphical depiction of a user's possible interactions with a system. A use case diagram shows various use cases and different types of users the system has and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses. Use case diagram represents the three actors which are involved while using the application and the several entities like login/register which should be done by both user and emergency contacts. User must add their personal contacts to inform them in an emergency. SOS shortcut can be sent by single click. User can contact helpline numbers like 100,101,102, etc.

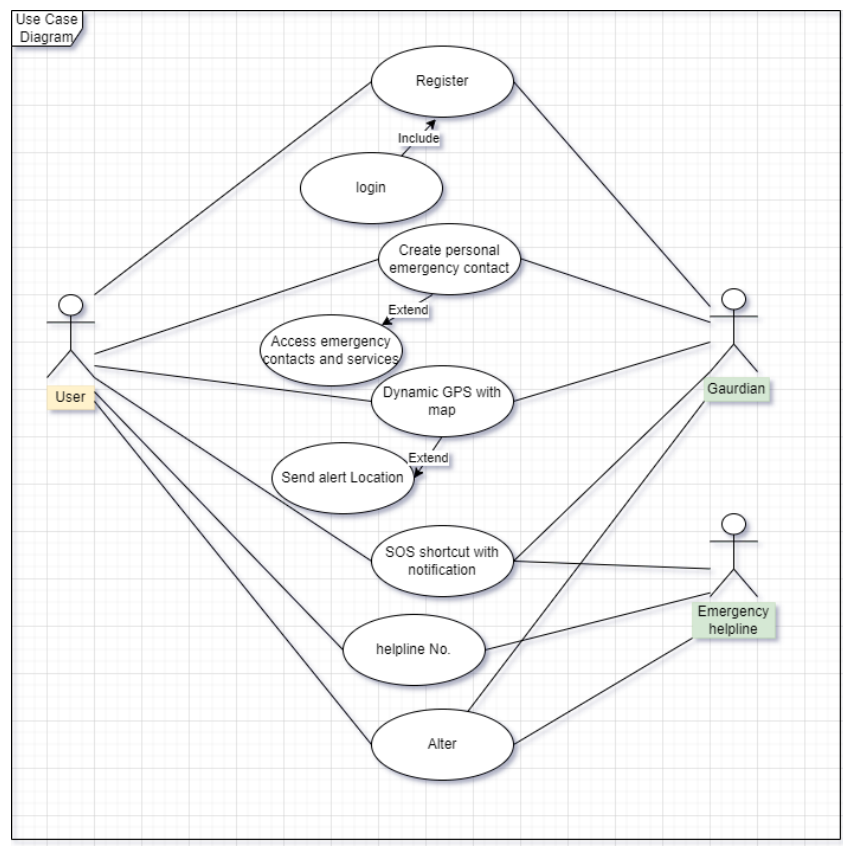


Figure 5: Use Case Diagram

c. Sequence Diagram- A sequence diagram simply depicts the interaction between objects in sequential order i.e., the order in which these interactions take place. We can also use the terms event diagrams or event scenarios to refer to a sequence diagram. Sequence diagrams describe how and in what order the objects in a system function. These diagrams are widely used by businessmen and software developers to document and understand requirements for new and existing systems.

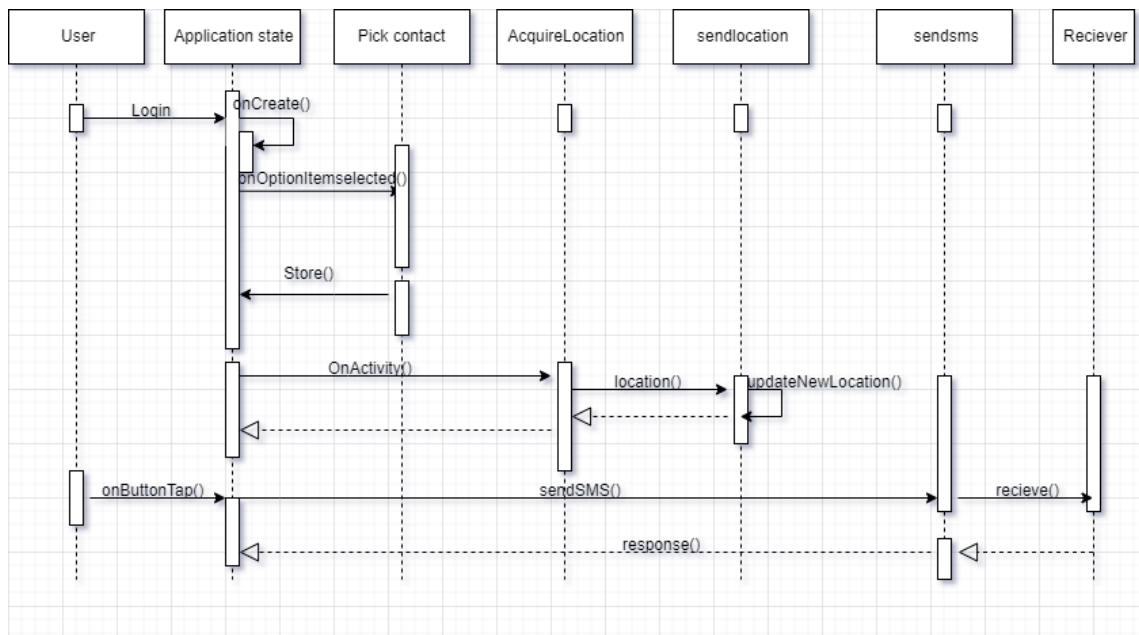


Figure 4: Sequence Diagram

A sequence diagram for a personal safety app would represent the flow of interactions between different components of the app, such as the user interface, GPS module, messaging and notification module, and emergency contact management. The sequence diagram would show how these components work together to provide a comprehensive safety solution for users.

d. Activity Diagram-The activity diagram is another important diagram in UML to describe the dynamic aspects of the system. An activity diagram is a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent. Activity diagrams deal with all types of flow control by using different elements such as fork, join, etc.

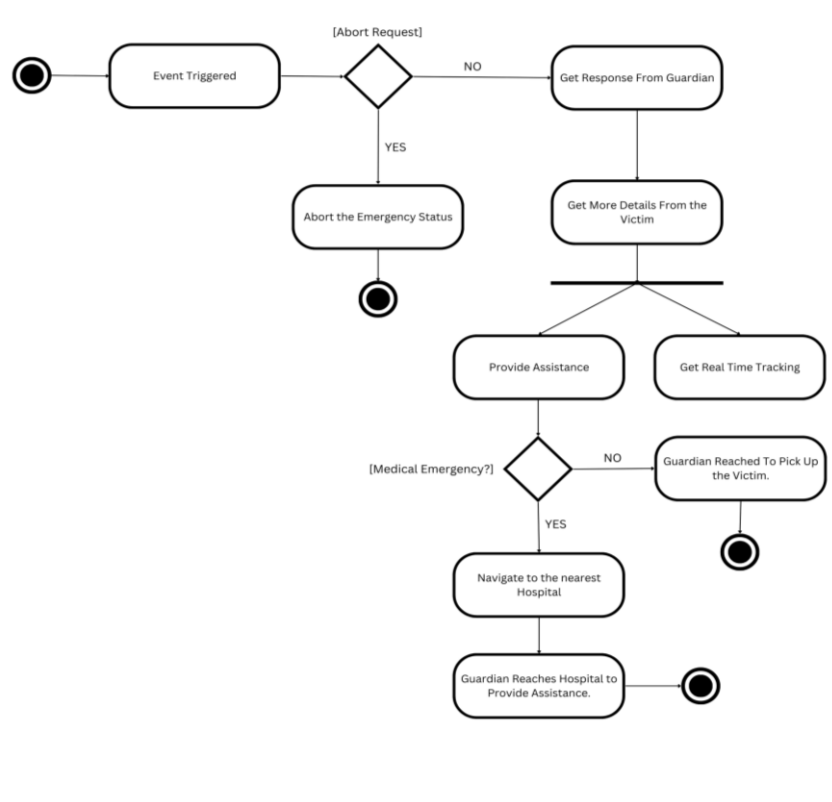


Figure 5: Activity Diagram

An activity diagram for a personal safety app would represent the flow of activities that occur in the app, such as activating the GPS module, sending alert messages, and accessing additional features. The activity diagram would show how these activities are interconnected and how they work together to provide a comprehensive safety solution for users.

Chapter 5

Project Planning

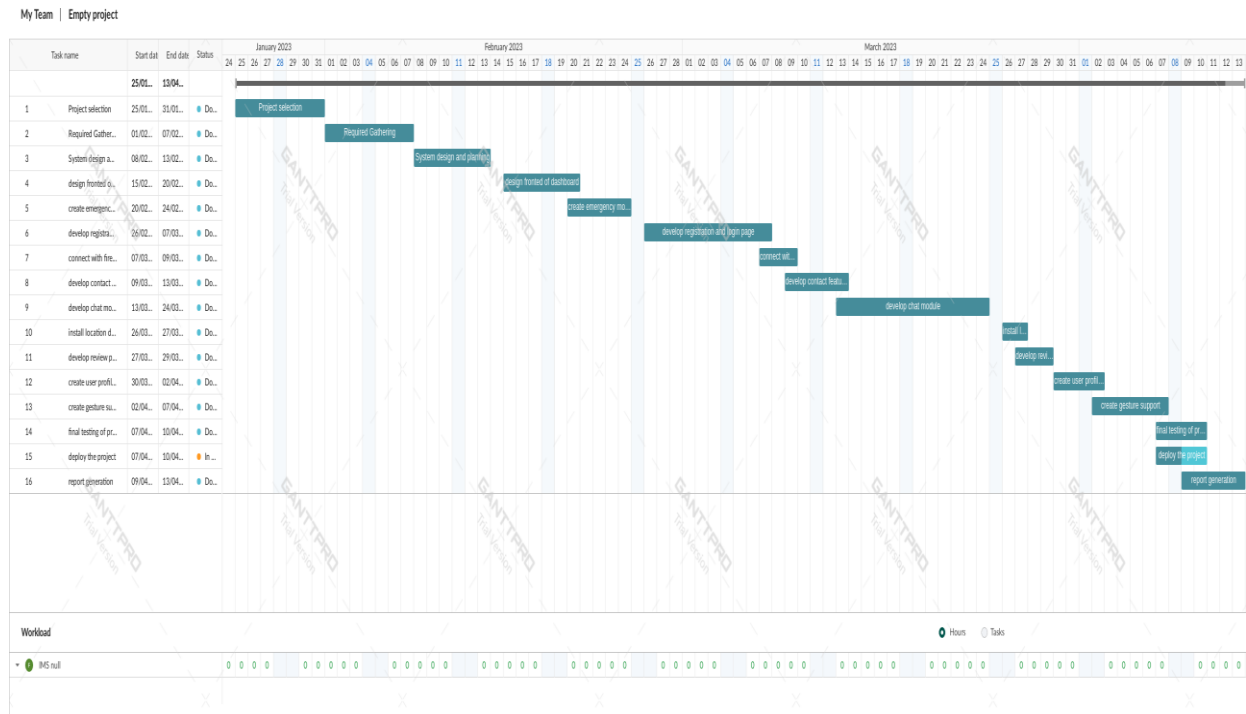


Figure 6: Gantt Chart

Chapter 6

Experimental Setup

Software Requirements: -

- Operating System: Windows 10
- Programming language:

Flutter- Flutter is a popular open-source mobile application development framework that allows developers to build high-performance, natively compiled applications for mobile, web, and desktop platforms from a single codebase. Flutter uses the Dart programming language and provides a rich set of pre-built widgets and tools to simplify the app development process.

Dart- Dart is an object-oriented programming language that is used primarily for building web, mobile, and server-side applications. Dart is developed by Google and is used extensively in the development of Flutter applications. Dart is designed to be easy to learn and write, with a syntax that is similar to other popular programming languages such as Java, C++, and JavaScript.

Html- HTML (Hypertext Markup Language) is a standard markup language used to create web pages and web applications. HTML allows developers to structure content on web pages, define elements such as headings, paragraphs, images, and links, and add interactivity to web pages through forms, buttons, and other elements

Database:

Firebase- Firebase is a mobile and web application development platform that provides developers with a suite of tools and services to build, develop, and maintain applications. Firebase is a cloud-based platform that eliminates the need for developers to build and manage their own infrastructure, allowing them to focus on building great user experiences.

Hardware Requirements: -

- 1) CPU: Android 10
- 2) GPU: (if any required)
- 3) RAM: minimum 4GB for better performance
- 4) STORAGE: minimum 150 MB
- 5) OS: Android, IOS

Chapter 7

Implementation Details

Modules-

1. Login/Registration Module-

User need to register first as a user and its guardian and then the can login into the application, where user will able to send location and user all other services but guardian can only be able to access the chat module. The details of the user is stored in the firebase as we have used firebase as our database.

2. Safety Tips Module-

Articles sharing, Safety tips.

This module will allow users to access safety tips and articles related to personal safety, self-defense, emergency preparedness, and other relevant topics. Users can access this information from within the app and share it with others. This module is created using the dart language using the dependencies like carousel_slider, flutter_webview_plugin.

3.Location Tracking-

Alert locations, Share Location periodically.

This module will focus on tracking the user's location and sending alerts when they enter a dangerous area. It will also allow users to share their location with their emergency contacts periodically, giving them peace of mind that their loved ones are safe. For location tracking module the google map is API is being used and geolocator.

4. Emergency Features-

Emergency Helpline Contacts, Make SOS Messages, Make SOS Calls, Gesture Support, Add Trusted contacts.

This module will focus on developing features that allow users to send SOS messages and calls, make emergency contacts accessible quickly, and create an SOS pin. Gesture support can be added to trigger emergency alerts, and emergency texts can be sent with just one tap. For the sos call the direct phone direct caller dependency is being used and for google map API key. And the trusted contacts can be

added of the user contact list which is created using the dependency contact_service.

5. Chat Module-

Emergency text, Photos sharing

Users will be able to interact with their emergency contacts and, if necessary, transmit images, thanks to this module. The module is built in dart and the image_picker dependency is utilized to share the photos.

Chapter 8

Result

Frontend-

1. Login/Register Module-User need to register first before logging into the application and there is separate registration for User and its Guardian.

The figure displays three mobile application screens for the Login/Registration Module. Each screen has a status bar at the top showing the time and battery level.

- USER LOGIN:** Features a title "USER LOGIN", a shield icon with two people, an "enter email" field, an "enter password" field with a toggle for visibility, a blue "LOGIN" button, and links for "Forgot Password? click here", "Register as child", and "Register as Parent".
- REGISTER AS CHILD:** Features a title "REGISTER AS CHILD", a red icon of a child with a shield, and fields for "enter name", "enter phone", "enter email", "enter guardian email", "enter password", and "retype password".
- REGISTER AS Parent:** Features a title "REGISTER AS Parent", a shield icon with two people, and fields for "enter name", "enter phone", "enter email", "enter child email", "enter password", and "retype password".

Figure 7: Login/Registration Module

2. Safety Tips Module-This module will allow users to access safety tips and articles related to personal safety, self-defense, emergency preparedness, and other relevant topics.

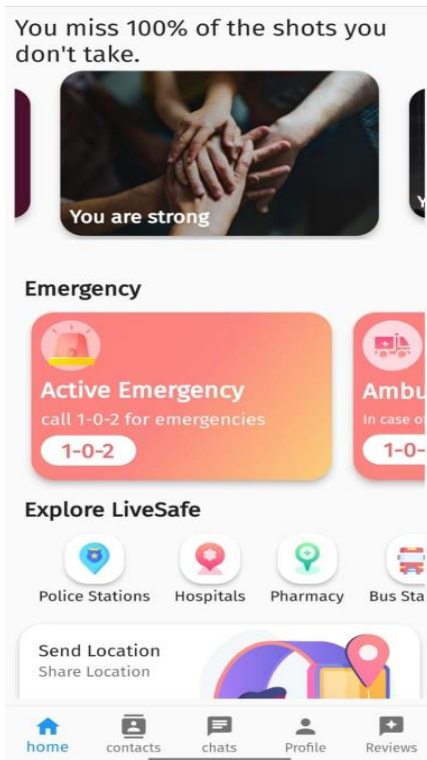


Figure 8: Safety tips frontend

3. Emergency Features-This module will focus on developing features that allow users to send SOS messages and calls, make emergency contacts accessible quickly, and create an SOS pin. Gesture support can be added to trigger emergency alerts, and emergency texts can be sent with just one tap. Emergency Helpline Contacts, Explore lifesafe location, Make SOS Messages, Make SOS Calls.

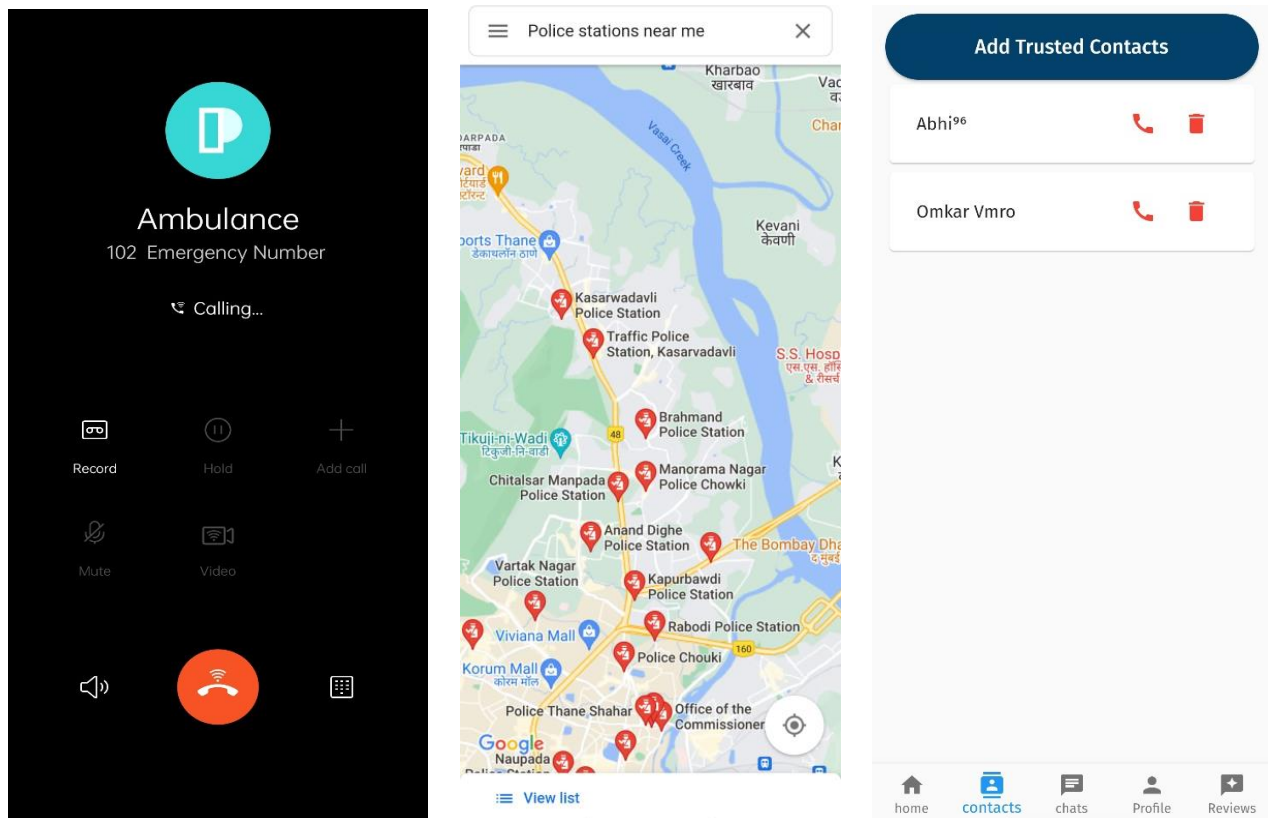


Figure 9: Emergency SOS call, helpline nearby locations, Trusted Contacts

4.Location Tracking-

Alert locations, Share Location periodically.

This module will focus on tracking the user's location and sending alerts when they enter a dangerous area. It will also allow users to share their location with their emergency contacts periodically, giving them peace of mind that their loved ones are safe.

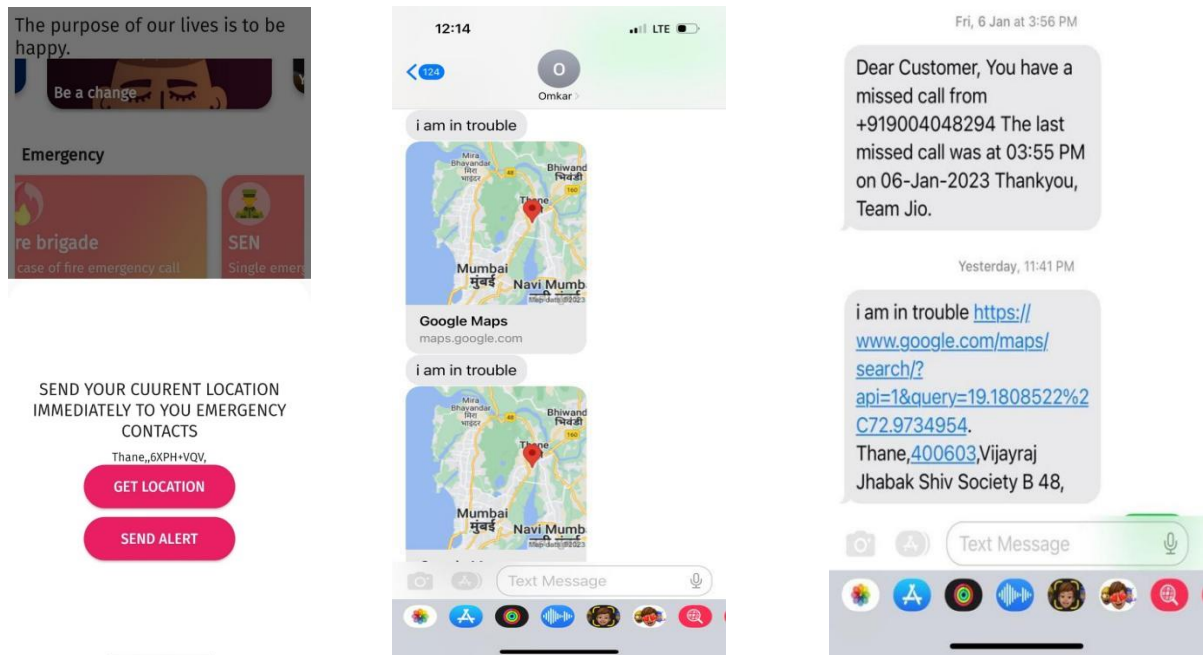


Figure 10: Sending current location, location send

5.Chat Module-

Emergency text, Photos sharing, Review sharing

This module will enable users to communicate with their emergency contacts and, if necessary, send photos, current location, and can capture a picture of the location in dangerous situation by the camera directly. Also, one more important feature is being added is review sharing here the user can share their respective reviews he has faces and post them to alert other peoples.

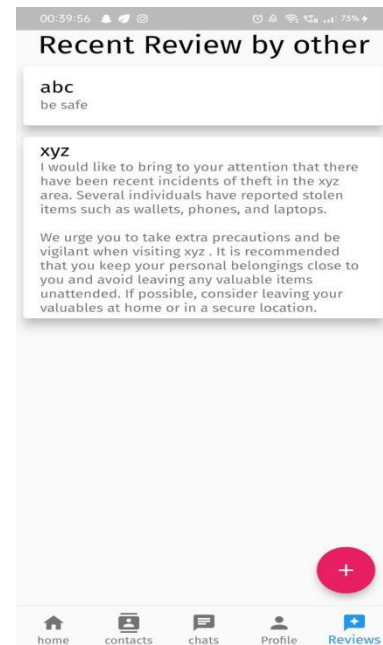


Figure 11: Chatting with trusted contacts, review sharing

Chapter 9

Conclusion

In conclusion, the personal safety app is a valuable tool for ensuring personal safety, particularly for women, in unknown or potentially hazardous environments. The app's features, including GPS tracking, emergency calls, nearby emergency services, and gesture control, provide a comprehensive safety solution for individuals. The app's user-friendly interface ensures that anyone can use it quickly and efficiently. the proposed personal safety app aims to provide a reliable and accessible means of ensuring personal safety in any circumstance, particularly in unknown or potentially hazardous environments. The app offers features such as sending SOS messages, making emergency calls, accessing nearby emergency services, and incorporating gesture control to quickly seek help even in situations where the user cannot use their phone in a conventional manner.

Overall, the personal safety app aims to address the growing concern for personal safety, particularly in unfamiliar or unsafe environments. With the increasing use of mobile devices, the safety app has the potential to be a game-changer in terms of ensuring personal safety, giving people the confidence to go about their daily lives without fear. The safety app has the potential to make a significant impact on personal safety and could potentially save lives in emergency situations.

The future scope of this app includes incorporating more advanced features like real-time audio and video streaming, AI-powered threat detection and response, and integration with wearable devices for better tracking and monitoring of the user's safety. The app can also be expanded to cover other vulnerable populations, such as children and the elderly, to ensure their safety and security. Additionally, the app can be customized and tailored to specific regions and cultures to address unique safety concerns and challenges. With further development and integration of cutting-edge technologies, the personal safety app can become an essential tool for ensuring personal safety and security in today's world.

Chapter 10

References

- [1] K. Ford, M.A. Bellis, N. Judd, N. Griffith, and K. Hughes, "The use of mobile phone applications to enhance personal safety from interpersonal violence—an overview of available smartphone applications in the United Kingdom," (2022) *BMC public health*, vol. 22, no. 1, pp. 1-12, DOI: 10.1186/s12889-021-12443-9.
- [2] Abdallah Dafallah, "Design and implementation of an accurate real time GPS tracking system," *The Third International Conference on e-Technologies and Networks for Development (ICeND2014)*, Beirut, Lebanon, 2014, pp. 183-188, doi: 10.1109/ICeND.2014.6991376.
- [3] Tashildar, Aakanksha, et al. "Application development using flutter." (2020) *International Research Journal of Modernization in Engineering Technology and Science* 2.8, Volume:02/Issue:08/August-2020.
- [4] Azman, Feninferina & Suraya, Qistina & Abdul Rahim, Fiza & Mohd, Muhammad & Ariffin, Noor. (2018). *My Guardian: A Personal Safety Mobile Application*. 37-41. 10.1109/ICOS.2018.8632808.
- [5] McCarthy, O.T., Caulfield, B., & O'Mahony, M. (2016). How transport users perceive personal safety apps. *Transportation Research Part F: Traffic Psychology and Behavior*, Vol. 43, pp. 166–182. Volume 43, 2016, Pages 166-182, ISSN 1369-8478.
- [6] Maxwell, L., Sanders, A., Skues, J., & Wise, L. (2020). A Content Analysis of Personal Safety Apps: Are They Keeping Us Safe or Making Us More Vulnerable? *Violence Against Women*, 26(2), 233–248.

Acknowledgment

We have great pleasure in presenting the mini project report on Rakshak. We take this opportunity to express our sincere thanks to our project guide **Prof. Krishnapriya S** and our project coordinator **Prof. Deepak S. Khachane**, Department of Computer Engineering, APSIT, Thane for providing the technical guidelines and suggestions regarding the line of work. We would like to express our gratitude for his constant encouragement, support and guidance throughout the development of the project.

We thank **Prof. Sachin Malave** Head of Department, Computer Engineering, APSIT, Thane for his encouragement during the progress meeting and for providing guidelines to write this report. We also thank the entire staff of APSIT for their invaluable help rendered during this work. We wish to express our deep gratitude to all our colleagues at APSIT for their encouragement.

Student Name 1: Abhishek Jagtap

Student ID: 20102011

Student Name 2: Omkar Ghaduse

Student ID: 20102016

Student Name 3: Vidul Bhosale

Student ID: 20102152

Student Name 4: Tanvi Choudhari

Student ID: 20102196