"PRATIRAKSHA(ANDROID APP FOR SAFETY)"

A

Project Report

submitted

in partial fulfillment

for the award of the Degree of

Bachelor of Technology

in

Department of Information Technology

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Session 2022-2023

Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur

Department of Information Technology

CERTIFICATE

This is to certify that **Mr.Aayush Jain**, a student of B.Tech(Information Technology) VIII semester has submitted his/her Project Report entitled "**PratiRaksha(Android App for Safety)**" under my guidance.

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This is to certify that **Mr.Ankit Saini** , a student of B.Tech(Information Technology) VIII semester has submitted his/her Project Report entitled "**PratiRaksha(Android App for Safety)**" under my guidance.

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This is to certify that **Mrs. Archika** , a student of B.Tech(Information Technology) VIII semester has submitted his/her Project Report entitled "**PratiRaksha(Android App for Safety)**" under my guidance.

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Coordinator

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Associate Professor

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DECLARATION

We hereby declare that the report of the project entitled "PratiRaksha(Android App for Safety)" is a record of an original work done by us at Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur under the mentorship of "Dr.S.R.Dogiwal"(Dept. of Information Technology) and coordination of "Mrs.Sanju Chaudhary" (Dept.of Information Technology). This project report has been submitted as the proof of original work for the partial fulfillment of the requirement for the award of the degree of Bachelor of Technology (B.Tech) in the Department of Information Technology.It has not been submitted anywhere else, under any other program to the best of our knowledge and belief.

Team Members **Signature**

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Acknowledgement

A project of such a vast coverage cannot be realized without help from numerous sources and people in the organization.We take this opportunity to express our gratitude to all those who have been helping us in making this project successful.

We are highly indebted to our faculty mentor Dr.S.R.Dogiwal .He has been a guide, motivator source of inspiration for us to carry out the necessary proceedings for the project to be completed successfully. We also thank our project coordinator Mrs.Sanju Chaudhary for her co-operation, encouragement, valuable suggestions and critical remarks that galvanized our efforts in the right direction.

We would also like to convey our sincere thanks to Prof.Anil Chaudhary, HOD, Department of Information Technology, for facilitating, motivating and supporting us during each phase of development of the project.Also, we pay our sincere gratitude to all the Faculty Members of Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur and all our Colleagues for their co-operation and support.

Last but not least we would like to thank all those who have directly or indirectly helped and cooperated in accomplishing this project.

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Chapter 1
Introduction

1.1 Problem Statement and Objective

PratiRaksha(Android App for Safety) can be used to find and Help Women in emergency. In recent time it's been identified lots of misbehaving activity in urban and rural part of our country. With some statistics citing the occurrence of one rape incident every 20 minutes, it is evident that it has reached epic proportions. Since mobility growth is been identified in recent 10 years and Smartphone penetration started 5 years ago. With the rapid growth of Android user and cheaper internet cost we can provide a simple medium to create safety awareness among the working and professional women of young and teen age. Development of simple, user friendly and effective application for safety and security of single woman traveler in India. Application should be compatible on all platforms-Development of simple, user friendly and effective application for safety and security of single woman traveler in India. Application should be compatible on all platforms.

1.2 Literature Survey

Koss et al. [1] studied the change in the memory pattern of physically abused women.A study was conducted on women working in medical centers and uni- versities, etc.Results proved that after the harassment, the victim memory is af- fected: "clarity"and"alertness".Authors portrayed that post-harassment, physical symptoms and mental ressure are high. The objective of the research by Shipherd and Gayle Beck [2] is to overcomepost-traumatic stress disorder be- cause of harassment. The survey report says that thepeople become more anx- ious, depressed, and distressed throughout. They are not ableto get rid of ha- rassment related thoughts. This study by Brad Ford (2000) says thatpeople who had experienced child abuse are more de-

pressed alcohol abuse and datingstress. Sutar Megha et al [3] , The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 is a legislative act in India that seeks to protect women from sexual harassment at their place of work. Today women are playing an important role as a president, prime minister, speaker of the Lok Sabha and even in the field of aeronautics, military, IPS, IAS, etc. Even today women have achieved top positions in job and society, yet they are facing problems such as physical harassment and the sexual assault. The cases of harassment and rapes on women are increasing hence security issue for such woman is more important. So, it is essential to develop a system to provide security to women. In this he devised a system allows women to protect themselves from attackers. In recent days the attacks on women are increasing and sometimes they are not even able to take their mobile and dial-up to police, this system will help women in such situations to inform about attacks and also in giving their exact location to a nearby police station for necessary action. In this, the author designed a device, in that, by pressing the button of the device a message along with her location will be transmitted by the system to the police station and her few relatives, so that they will get aware of her current situation. He told that with that message she is also for their defensive purpose they can able to give a shock to the attacker it will be more helpful to women at that critical situation, this system is designed as the defence equipment, it will them to attack the attacker. So, she has some time to rescue herself from that attacker.

1.3 Introduction to Project

PratiRaksha(Android App for Safety) can show you exact location of the women in help to her relatives, guardian and friends along with the specific location, where you can go and help it. PratiRaksha(Android App for Safety) system offers the added protection of being track by relatives on different time interval and different location. In the addition to this family, parents can easily track and monitor her daughter. PratiRaksha(Android App for Safety) as every girls have mobile phones and rarely put them down. Lots of families and professionals are waking up to the

many benefits that PratiRaksha(Android App for Safety).

1.4 Proposed Logic

The proposed system is for women safety and overcomes the disadvantages of the existing systems. This proposed system is GPS based "Women Security System". It consists of GPS device i.e. any Android Phone .The device will provide the position information such as latitude, longitude of the user. The proposed system is based on advanced sensors. Whenever the user shakes his/her phone, a distress signal will get generated automatically and then a message alert is sent to the contacts which are added in the emergency contacts list.Fake call functionality will help him/her in emergency situation's.

1.5 Scope of the Project

We provide this application were women and other user can use this application to contact the parents and friends in the time of need or in case of any emergency .The application provide a friendly interface to use various other emergency tools at the time of emergency. The application can be used both in online and offline mode. Students and other members having Android platform can easily use the application. The application provide various tools in the form of buttons so as to provide friendly interface to the users. The user just needs to tap on the button to use the tools such as loud alarm button texting along with sending the user location and sending the location via the SMS when the end user is not having the Android platform.

Chapter 2

Software Requirement Specification

2.1 Overall Description

The main purpose the project is to provide highly reliable security system for the safety of women. The proposed system is based upon advanced sensors and GPS. The basic aim of the system is to develop a low cost solution for GPS based women tracking system (Women Safety System). The main objective of the system is to track the current location of the person which has an android enabled mobile by extracting the longitude and latitude of that target person

2.1.1 Product Perspective

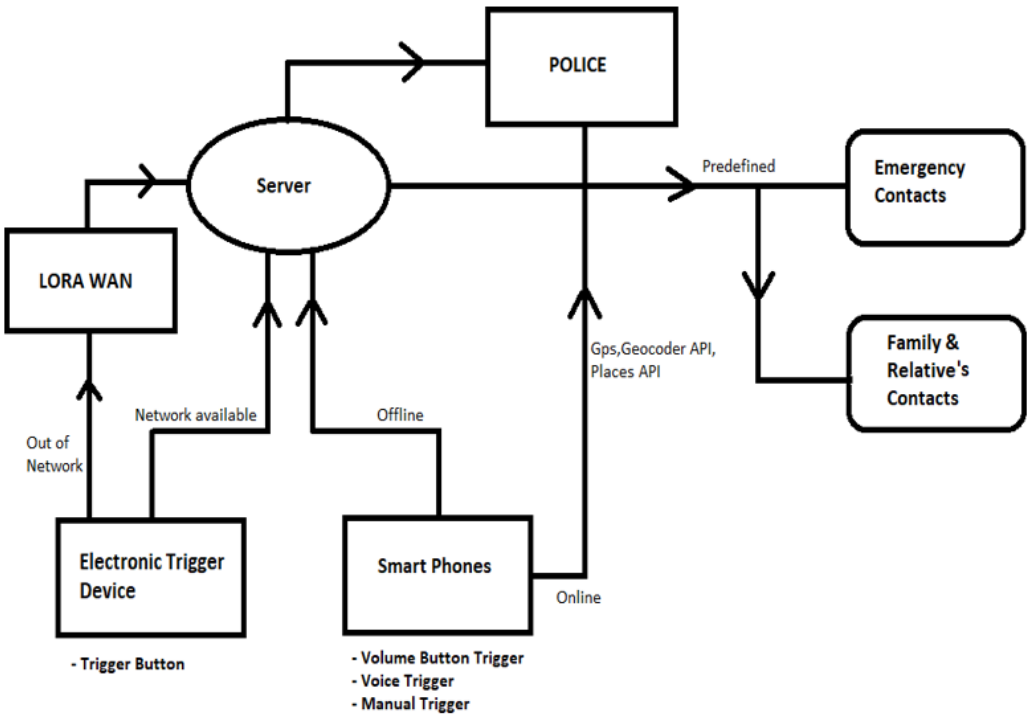

Figure 2.1: Product Perspective

2.1.1.1 User Interfaces

The system shall provide use of icons and toolbars. Graphical user Interface has been made interactive so that user can feel good while using the application. We have provided the proper image of buttons so that user can understand properly.

2.1.1.2 Hardware Interfaces

Processor: Snapdragon, Dual Core, Memory Space: 150 Mb, RAM: 512 MB, GPS enabled Android Phone.

2.1.1.3 Software Interfaces

Operating System used Android and API Level - 14 or higher. Disk Usage – 20-50 Mb

2.1.1.4 Memory Constraints

The android app consumes 10 Mb of space.

2.1.1.5 Project Functions

SMS Alert

It is perfect for the females as well as other users that need some kind of safety alarm in case they found out that someone is following or stalking them. It consists of of scream alarm.It's an initial distraction which will buy some time and allow the user to escape from the trouble. Siren will Be on when Shaking the Device few times and we can stop the Siren by using Stop Button and it will also send the current location to the emergency contacts as nowadays safety and security is everybody's concern.

Fake Call

The fake call timer allows the user to make fake calls in the time of need. It helps user to escape from an undesirable situation citing an important call from anyone who needs him/her urgently and rest depends upon user creativity. This feature also helps the user to escape from boring social events . In order to set a fake call the user have to select the "Fake Call" icon and after that user could write any name from

which he/she wants a fake call. The fake call will be of 7 rings if he/she will not press the answer button the call will get cut.
In a critical situation, the user just have to long term press the fake call button and automatically get a fake call from the desired selected name in the settings.

My Location

Your friend is out somewhere for a late night party. How could you check where that respective person is ? Where are you feature allows the user to see the recent location of the friends and family when needed without disturbing the person being tracked. While first request is send by the sender.
The sender will have to select the "My Location" icon and then a new dialog box of "Pick a Friend" will open up. The sender could select any friend and the request will be sent to the receiver. The receiver will accept that request from their end and a message will be sent to the receiver with the present location of the user. This way user can send her/his location to a friend or relative so that they know where the user is.

Contact

This list shows all the contact numbers of family and friends which are added by the user through contacts. This could be done by selecting the contact icon on the bottom right corner of the friends list.
This Contact list also contains some Emergency Contacts numbers which will be helpful in a Emergency.

Panic

As soon as the user press either the Panic button on the application or a long press on the upper and lower volume button the emergency call and a SMS with current location will sent to the registered number on the application through contacts.

Basic Laws

Not to forget in today's scenarios, women are excelling in all fields. But women are

not considered safe in our houses, workplace and even at night time. In our society not only housewives but also many of the independent working women don't know much about their rights. Laws against child marriage and dowry have gained much awareness but other than these laws, there are many laws that a woman should be aware of which are mentioned in details.

Self Defense

It is perfect for the females as well as other users that need learn some kind of self defense techniques by pressing this self defense button he/she will be able to watch an video perfect for learning attacks in a very short time.

2.1.1.6 Constraints

The drawbacks of all these applications are able to intimate their beloved once but are that loved once are able to protect them from that harassment? Probably, they need to ask help from some protecting force like police, etc.; in addition, their functioning is restricted to a particular city or town, so our application is the only solution for this drawback. Also, their is a constraint for constant internet connection and access to location services

Chapter 3

System Design Specification

3.1 System Architecture

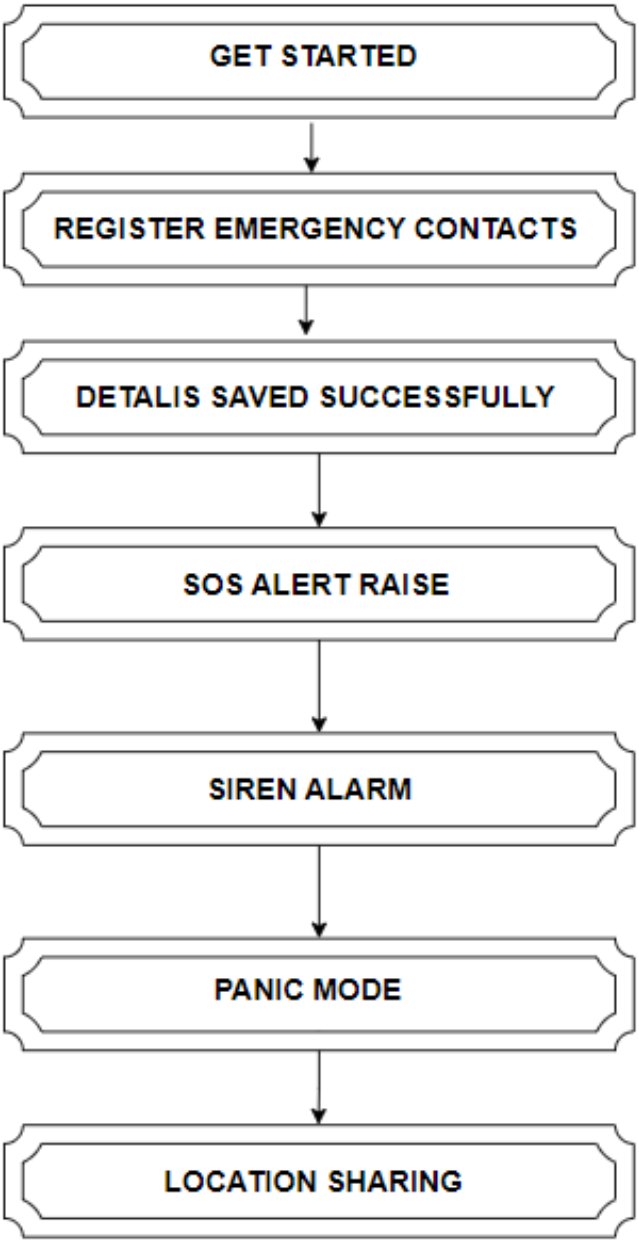

Figure 3.1: System Architecture

3.2 Module Decomposition Description

This project mainly includes the following modules :

1. SOS Alert Module
2. Scream Alarm Module
3. Navigation Module
4. Laws Module

The project has mainly two users one being the person using the app to raise an alert and the other one being the person receiving the alerts.

3.3 High Level Design Diagrams

High-level design (HLD) explains the architecture that would be used to develop a system. The architecture diagram provides an overview of an entire system, identifying the main components that would be developed for the product and their interfaces. It includes the description of system architecture, data base design, brief description on systems, services, platforms and relationship among modules. It is also known as macro level/system design.

3.3.1 Data-Flow Diagram(Level 0)

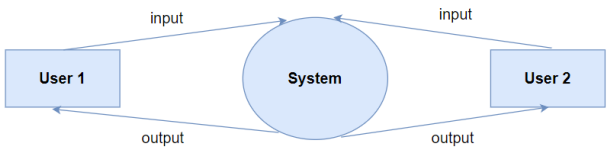

Figure 3.2: Data Flow Diagram (Level 0)

3.3.2 Data-Flow Diagram(Level 1)

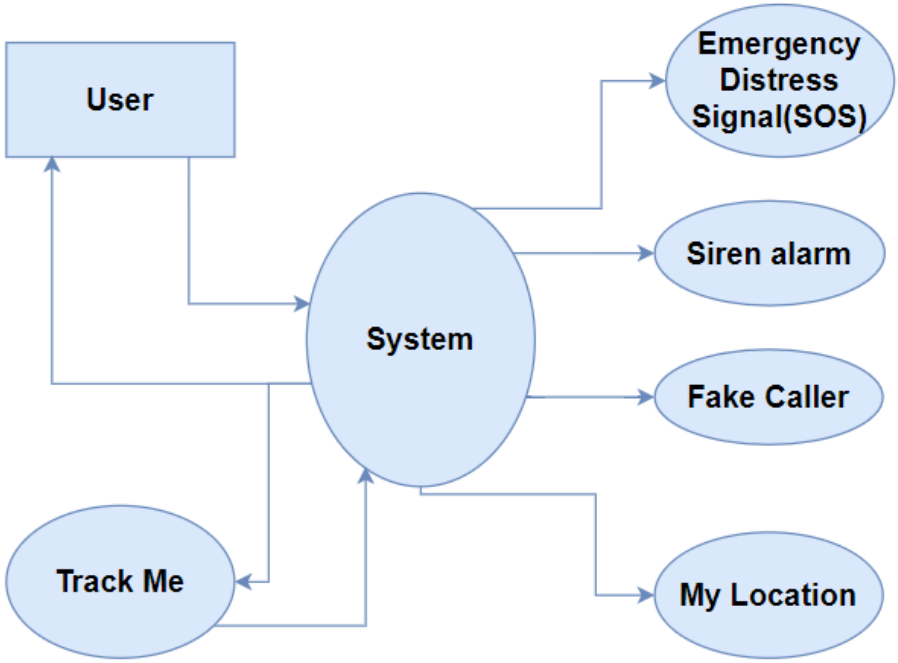

Figure 3.3: Data Flow Diagram (Level 1)

3.3.3 Data-Flow Diagram(Level 2)

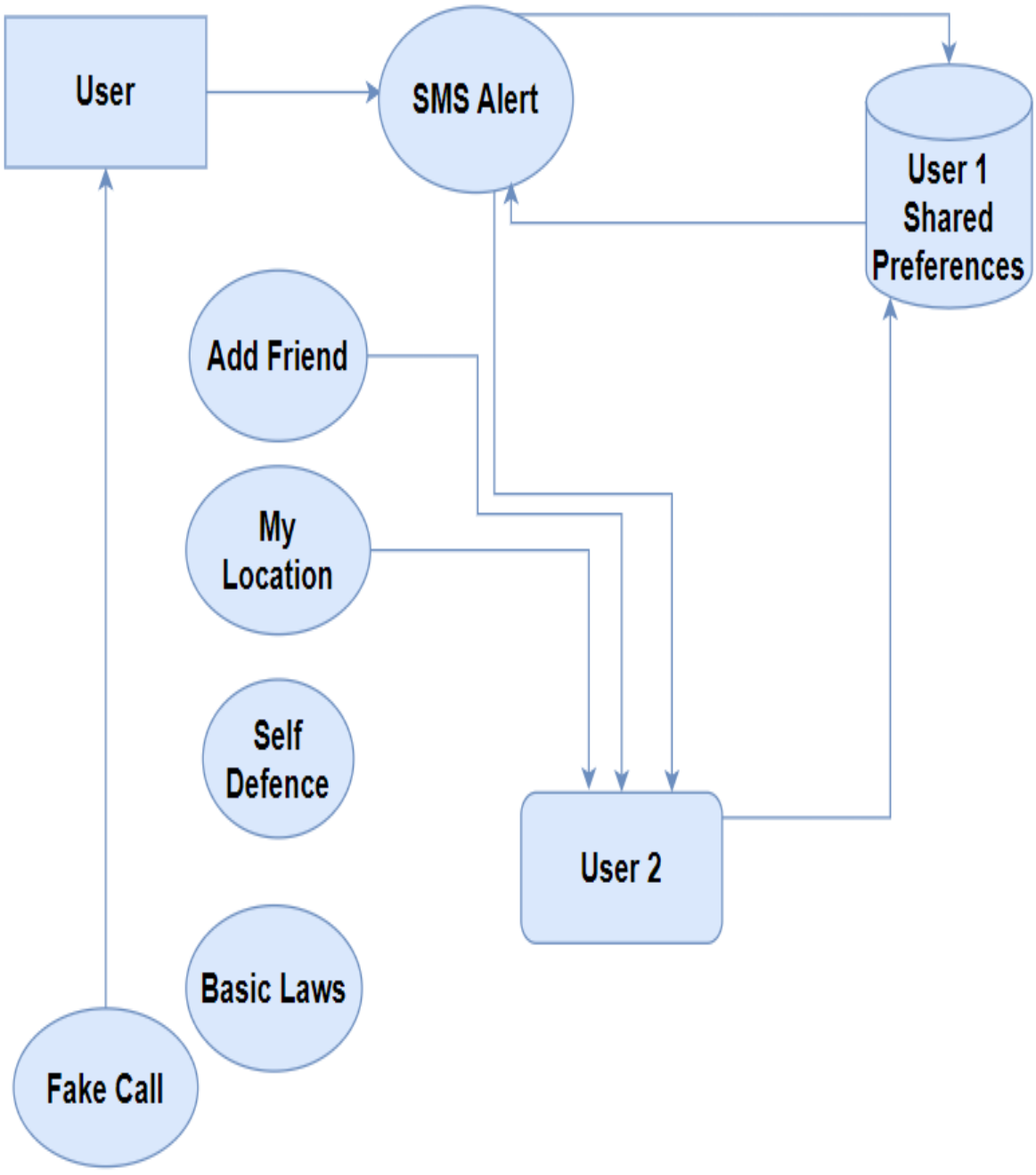

Figure 3.4: Data Flow Diagram (Level 2)

3.3.4 Flow Chart My Location

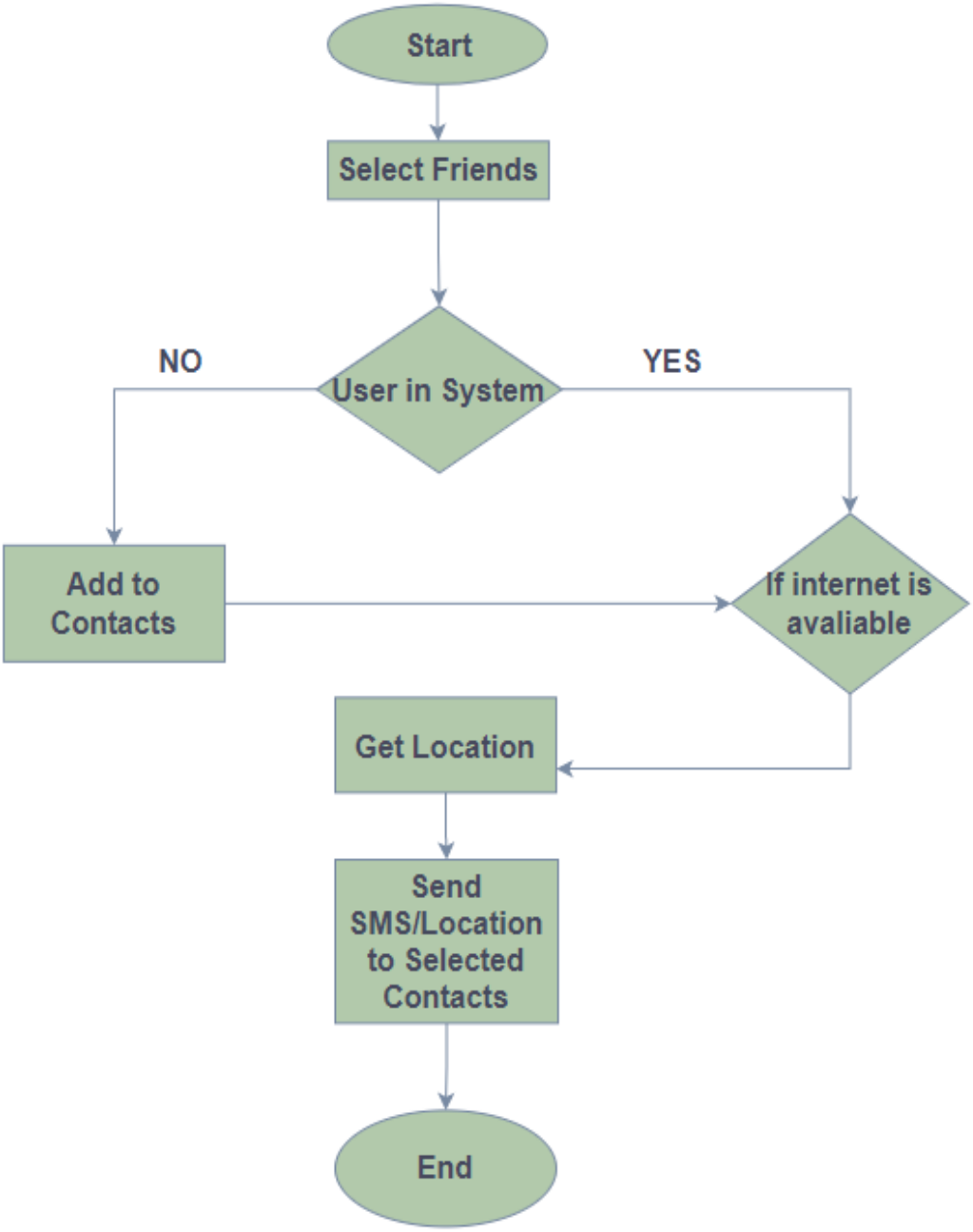

Figure 3.5: Flow Chart Shake Function

3.3.5 Flow Chart Fake Call

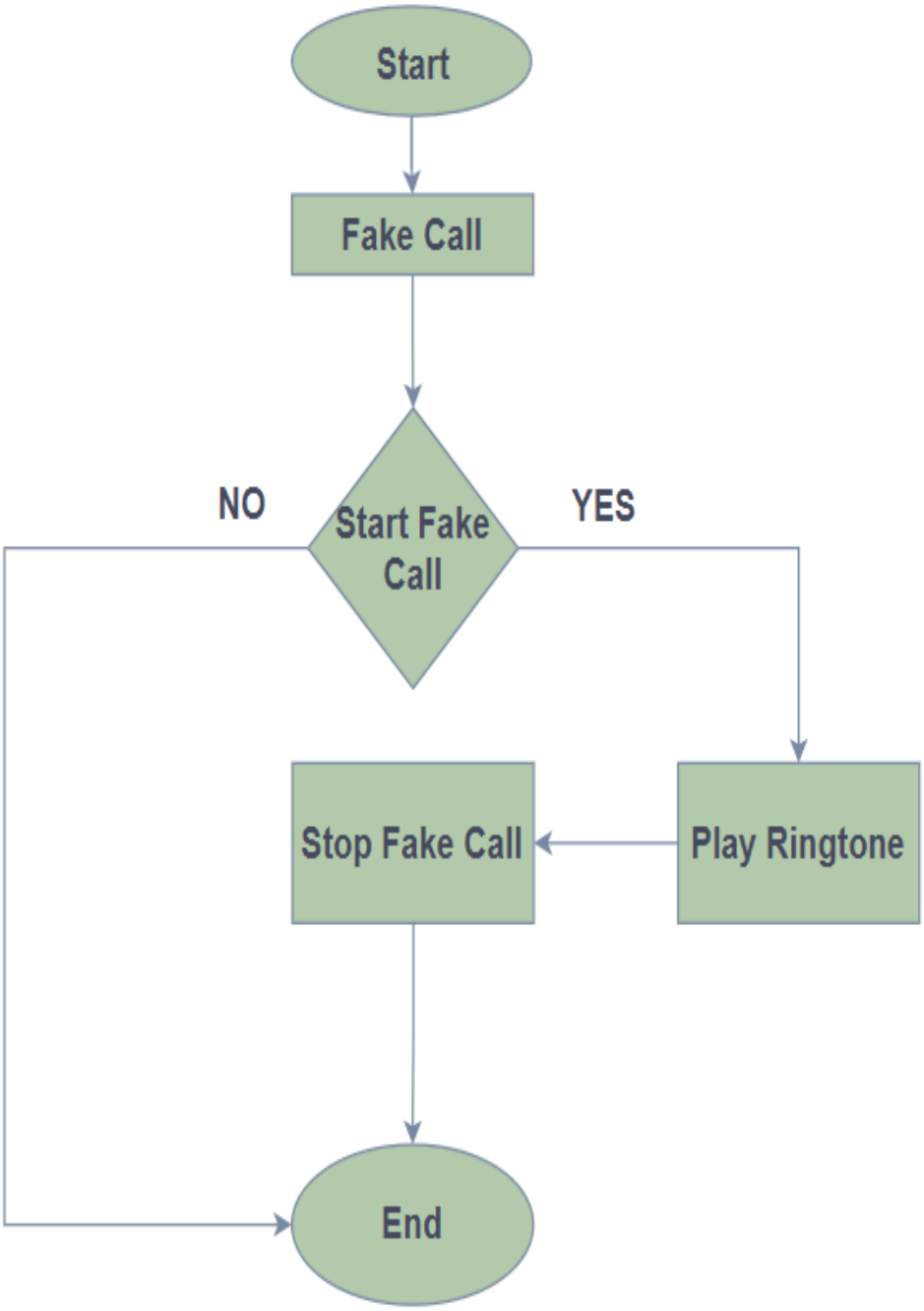

Figure 3.6: Flow Chart Fake Call

3.3.6 Flow Chart Panic Button

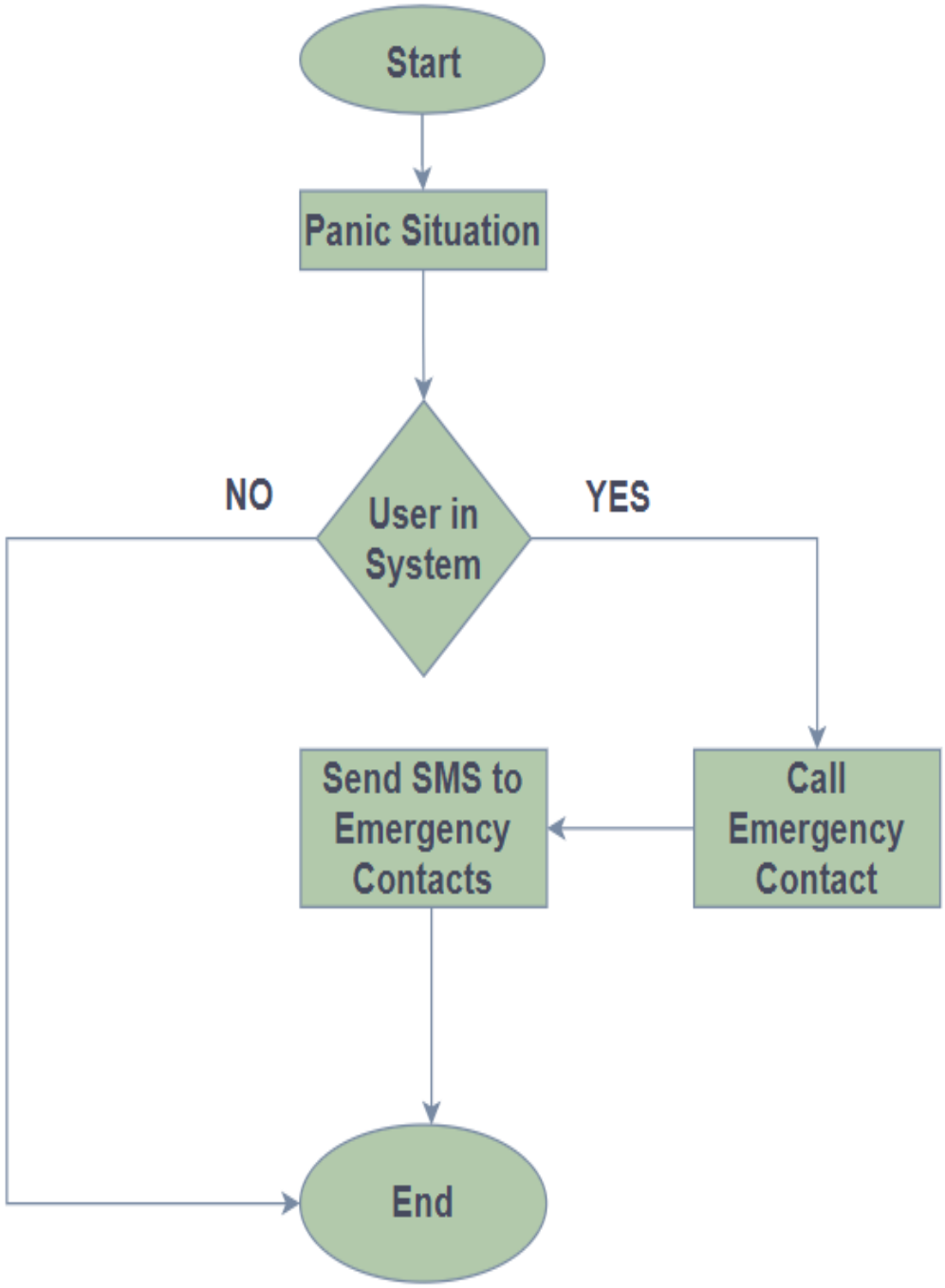

Figure 3.7: Flow Chart Panic Button

3.3.7 Flow Chart Shake Function

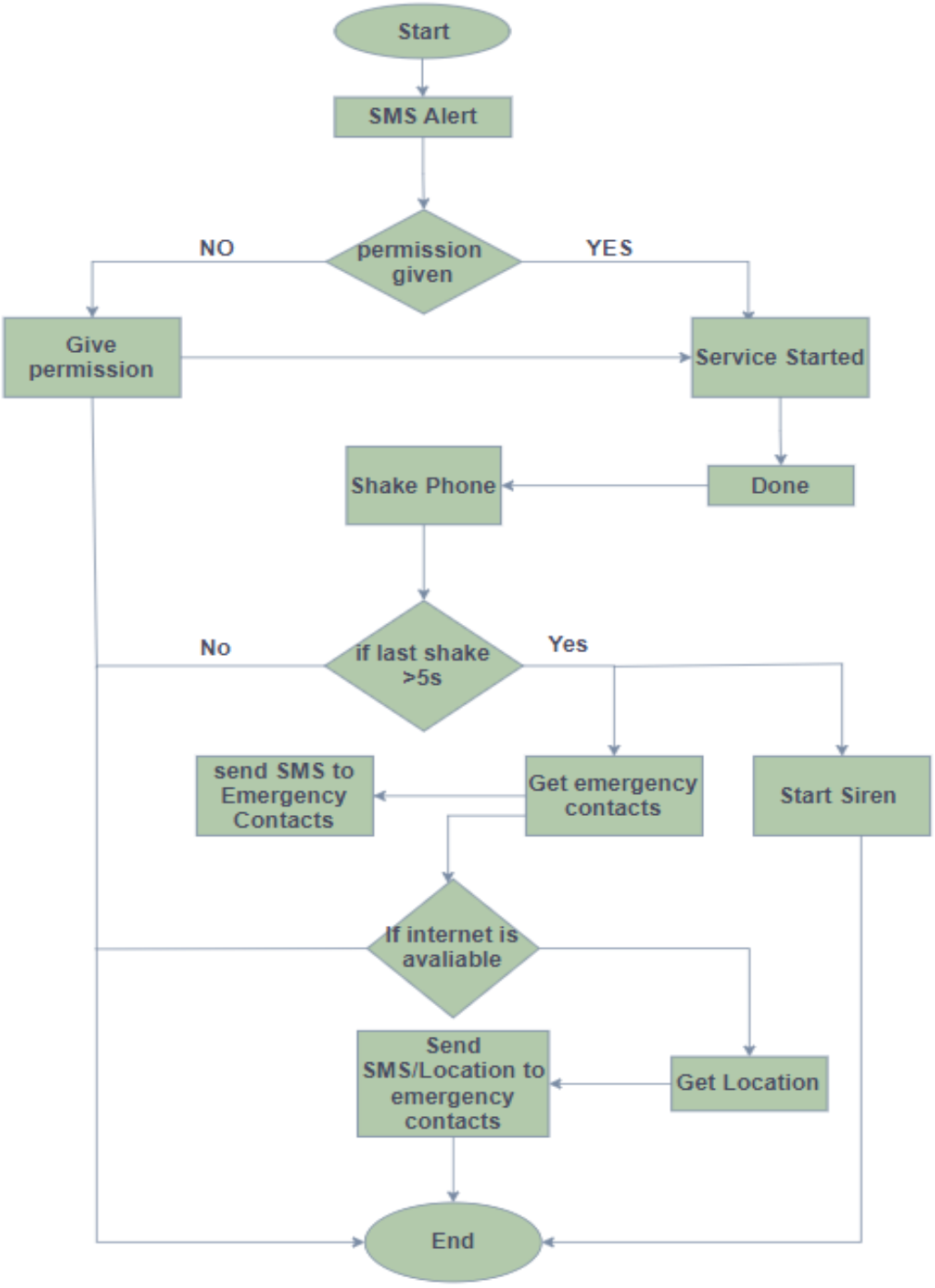

Figure 3.8: Flow Chart Shake Function

Chapter 4
Methodology and Team

4.1 Introduction to Waterfall Framework

The Waterfall Model was first Process Model to be introduced. It is also referred to as a linear-sequential life cycle model. It is very simple to understand and use. In a waterfall model, each phase must be completed before the next phase can begin and there is no overlapping in the phases.

The waterfall Model illustrates the software development process in a linear sequential flow; hence it is also referred to as a linear-sequential life cycle model. This means that any phase in the development process begins only if the previous phase is complete. In waterfall model phases do not overlap. In "The Waterfall" approach, the whole process of software development is divided into separate phases. In Waterfall model, typically, the outcome of one phase acts as an input for the next phase sequentially.

Following is a diagrammatic representation of different phases of waterfall model.

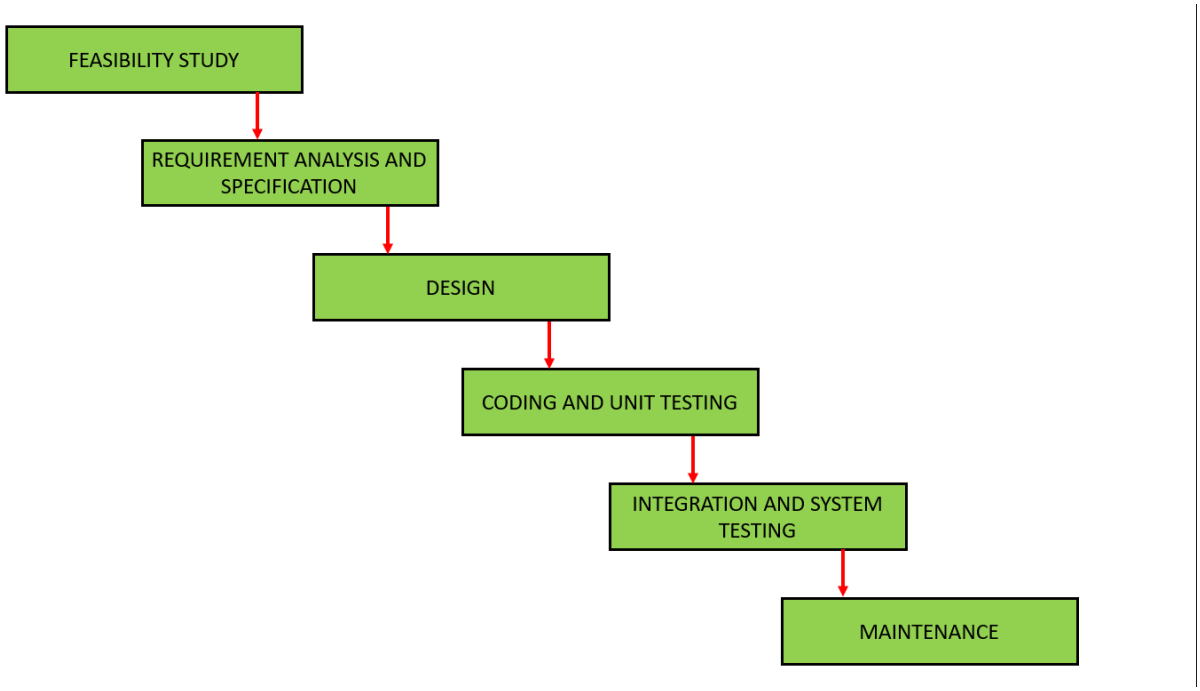

Figure 4.1: WaterFall model

The sequential phases in Waterfall model are-

1. **Requirement Gathering and analysis:** All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification doc.

2. **System Design:** The requirement specifications from first phase are studied in this phase and system design is prepared. System Design helps in specifying hardware and system requirements and also helps in defining overall system architecture.

3. **Implementation:** With inputs from system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing.

4. **Integration and Testing:** All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

5. **Deployment of system:** All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

6. **Maintenance:** All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

All these phases are cascaded to each other in which progress is seen as flowing steadily downwards (like a waterfall) through the phases. The next phase is started only after the defined set of goals are achieved for previous phase and it is signed off, so the name ”Waterfall Model”. In this model phases do not overlap.

Waterfall Model Pros & Cons

Advantage The advantage of waterfall development is that it allows for departmentalization and control. A schedule can be set with deadlines for each stage of development and a product can proceed through the development process model phases one by one. Development moves from concept, through design, implementation, testing, installation, troubleshooting, and ends up at operation and maintenance. Each phase of development proceeds in strict order.

Disadvantage The disadvantage of waterfall development is that it does not allow for much reflection or revision. Once an application is in the testing stage, it is very difficult to go back and change something that was not well-documented or thought upon in the concept stage.

4.2 Team Members, Roles & Responsibilities

Archika - UI Designing and Documentation
Darshan Parsoliya - Backend and Documentation
Aayush Jain -Development and Documentation
Ankit Saini -Testing and Documentation

Chapter 5
Centering System Testing

The designed system has been testing through following test parameters.

5.1 Functionality Testing

In testing the functionality of the web sites the following features were tested:

1. Links

   (a) Internal Links: All internal links of the website were checked by clicking each link individually and providing the appropriate input to reach the other links within.

   (b) External Links: Till now no external links are provided on our website but for future enhancement we will provide the links to the candidate's actual profile available online and link up with the elections updates online etc.

   (c) Broken Links : Broken links are those links which so not divert the page to specific page or any page at all. By testing the links on our website, there was no link found on clicking which we did not find any page.

2. Forms

   (a) Error message for wrong input : Error messages have been displayed as and when we enter the wrong details (eg. Dates), and when we do not enter any details in the mandatory fields. For example: when we enter wrong password we get error message for acknowledging us that we have entered it wrong and when we do not enter the username and/or password we get the messages displaying the respective errors.

(b) Optional and Mandatory fields : All the mandatory fields have been marked with a red asterisk (*) and apart from that there is a display of error messages when we do not enter the mandatory fields. For example: As the first name is a compulsory field in all our forms so when we do not enter that in our form and submit the form we get an error message asking for us to enter details in that particular field.

3. Database Testing is done on the database connectivity.

5.2 Performance Testing

A study of resource availability that may affect the ability to achieve an acceptable system. Technical feasibility is the most difficult area to ensure at initial stage. Since the objectives, functions, performance cannot be predicted to its fullest, everything seems possible, provided the right assumptions are made.
It is essential that the process of analysis and definition can be conducted in parallel with an assessment of technical feasibility. The 10 consideration that is normally associated with technical feasibility includes resource availability at the organization where the project is to be developed and implemented.

5.3 Usability Testing

It deals with the consideration about working of the system after installation. The proposed system would be beneficial to its users as their needs are fully satisfied. As this project satisfies all the requirements of the users it is operationally feasible.
All the operational aspects are considered carefully here. Only by spending tie to evaluate feasibility we will be able to reduce the chances for extreme embracement at later stages of a project.

Chapter 6
Test Execution Summary

Execution Test Summary Report is an overall view of Testing Process from start to end. Test Plan comes at the starting of project while Test Summary Report comes at the end of the testing process. This report is given to the client for his understanding purpose. The Test Summary Report contents are :

1. Test Case ID generated
2. Total number of resources consumed
3. Passed Test Cases
4. Failed Test Cases
5. Status of Test Cases

'=

S.No	Function	Description	Test Case Status	Pending Test Case
1	Emergency Contact Registration	Check if new emergency contact saved	Passed	1
2	SOS Alert	Check if Alert is raised	Passed	2
3	Siren Alarm	Check if Alarm is raised	Passed	2
4	Navigation	Check if location service is running	Passed	1

Table 6.1: Table to test captions and labels

Chapter 7

Project Screen Shots

7.1 Start Page

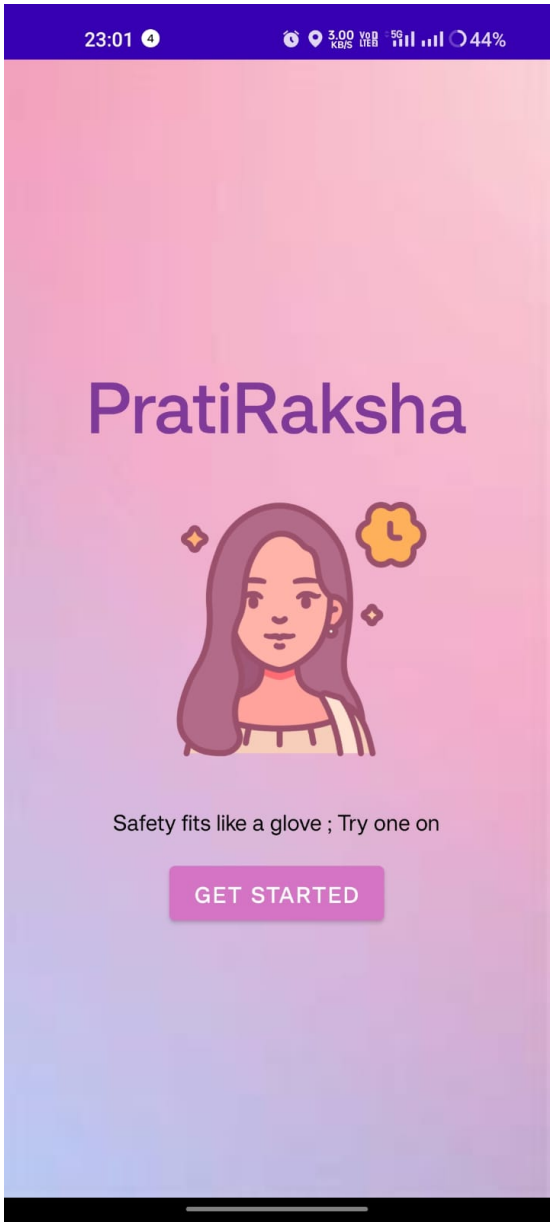

Figure 7.1: Start Page

7.2 Home Page

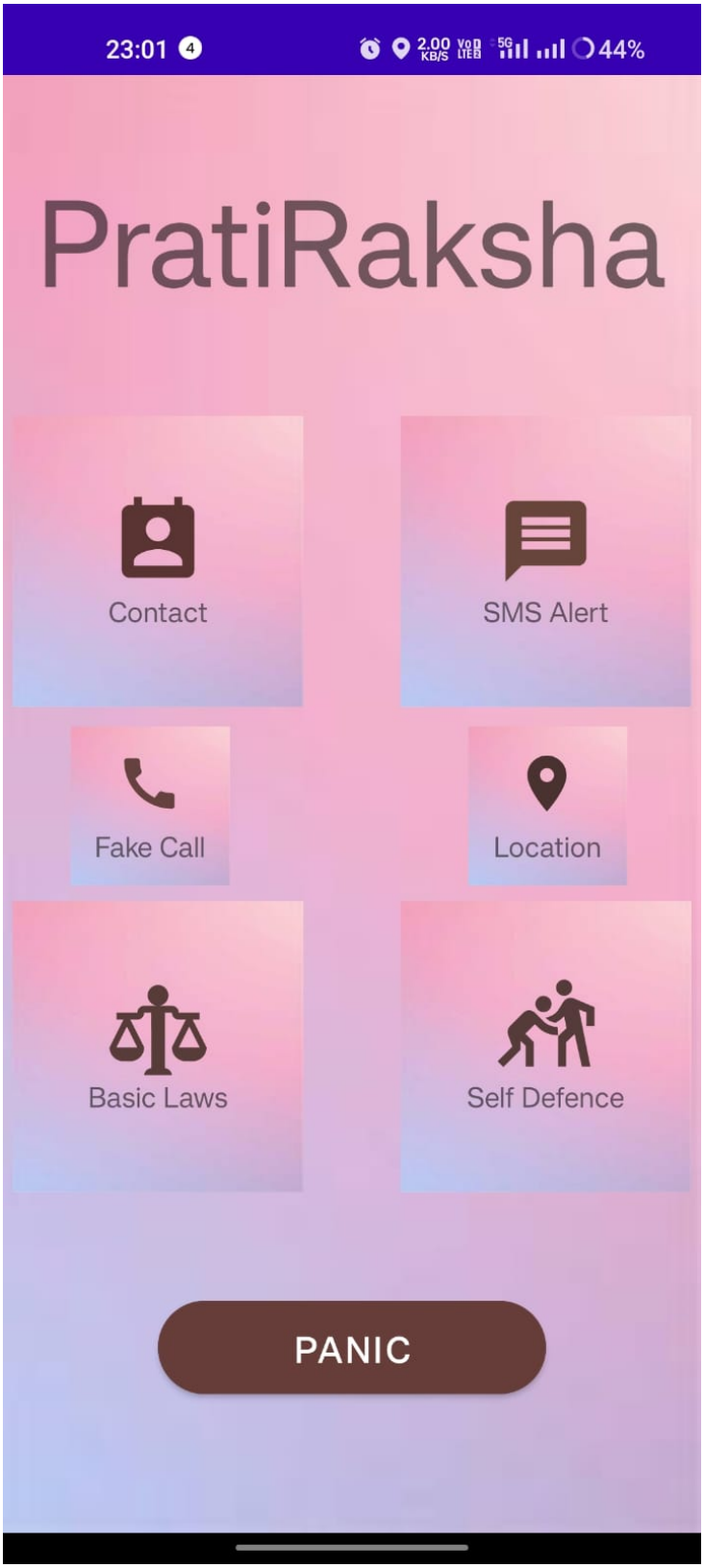

Figure 7.2: Home Page

7.3 Contacts

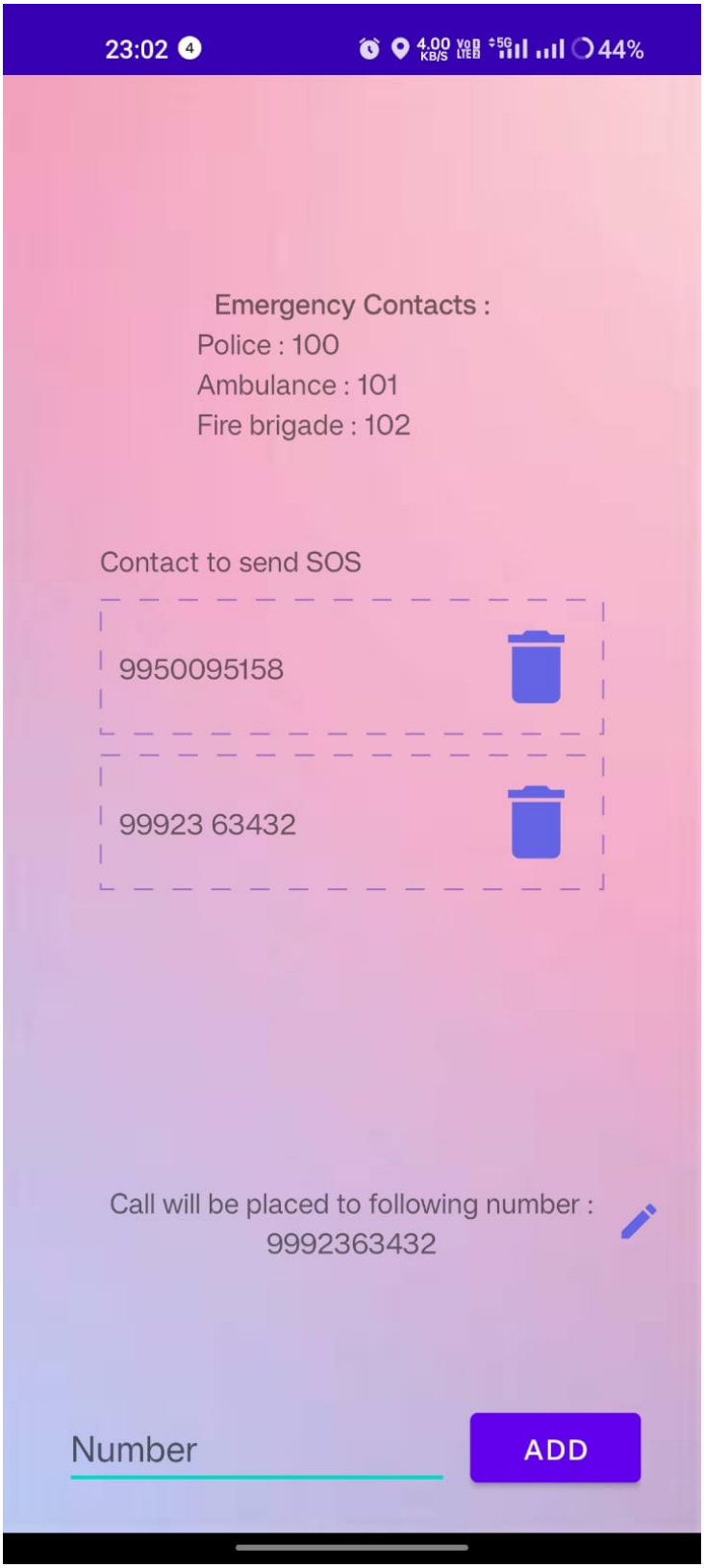

Figure 7.3: Contacts

7.4 Friends

Figure 7.4: Friends

7.5 Stored Data in DB(Sharedpreference)

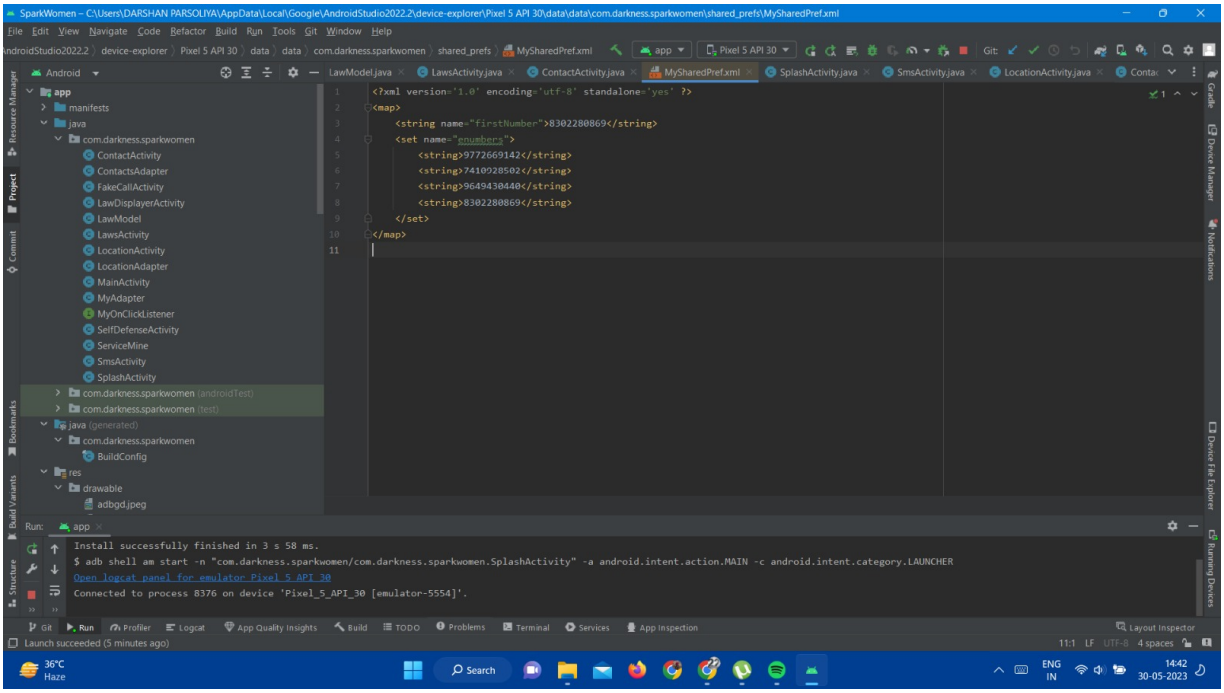

Figure 7.5: Store Data in DB

7.6 Fake Call

Figure 7.6: Fake Call

7.7 SMS Alert Shake Device

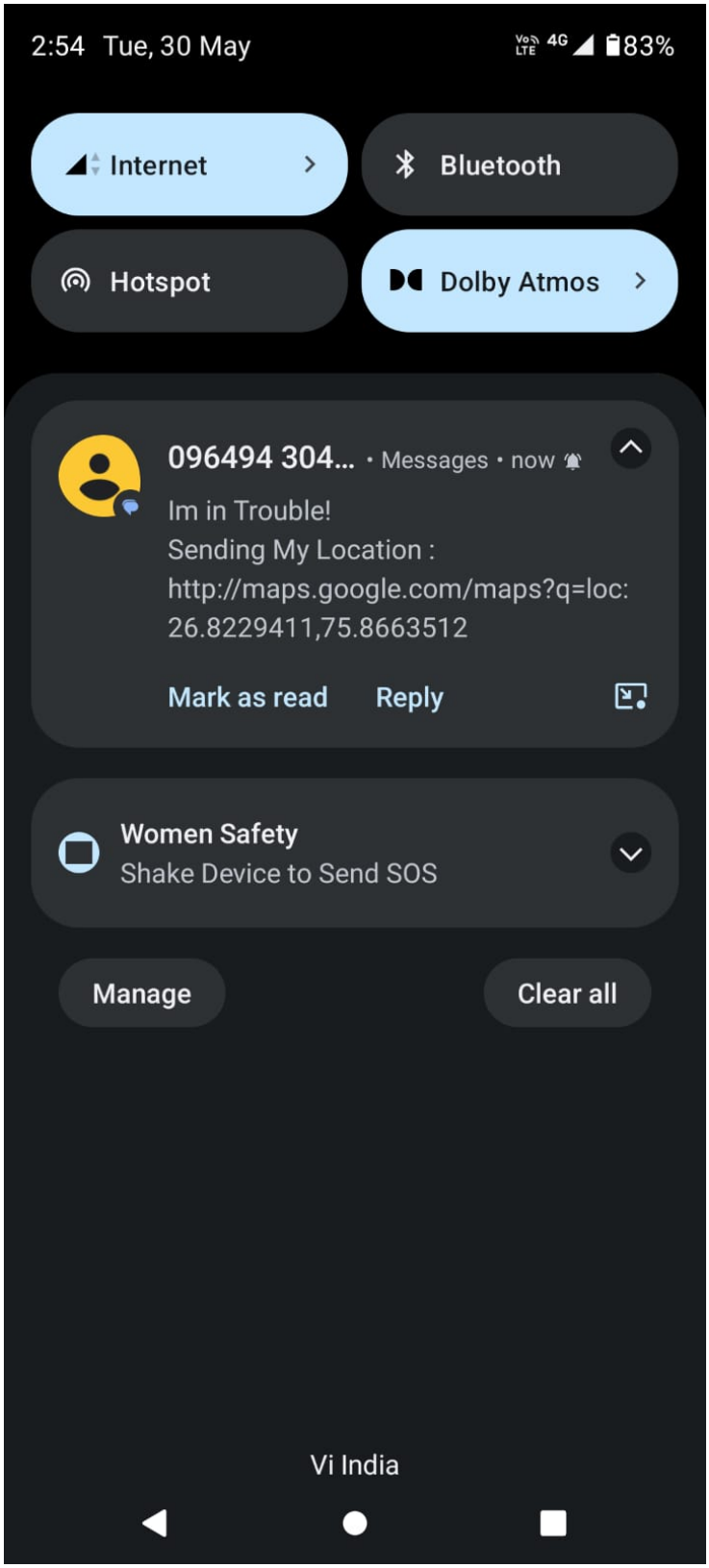

Figure 7.7: SMS Alert Shake Device

7.8 Send SOS

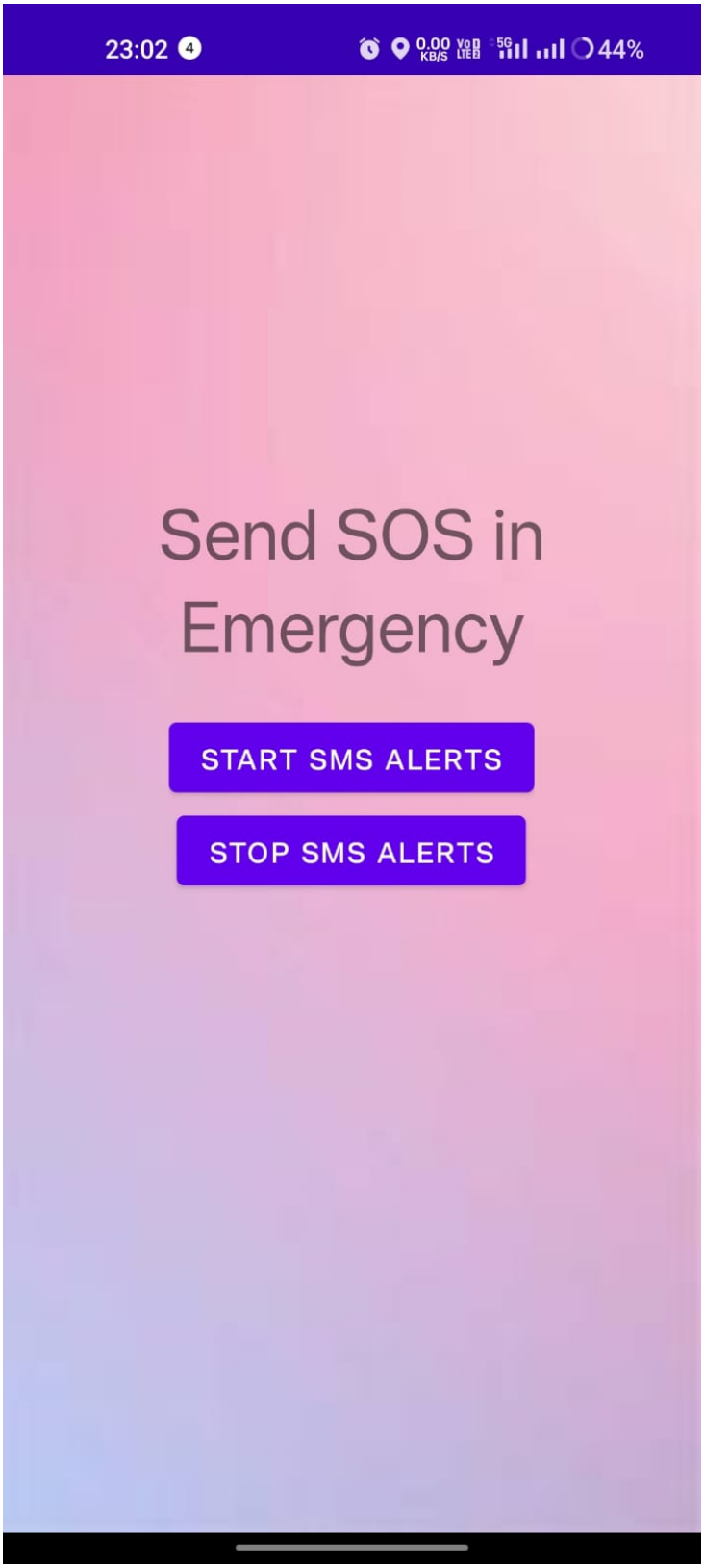

Figure 7.8: Send SOS

7.9 Basic Laws

Figure 7.9: Basic Laws

7.10 Self Defence

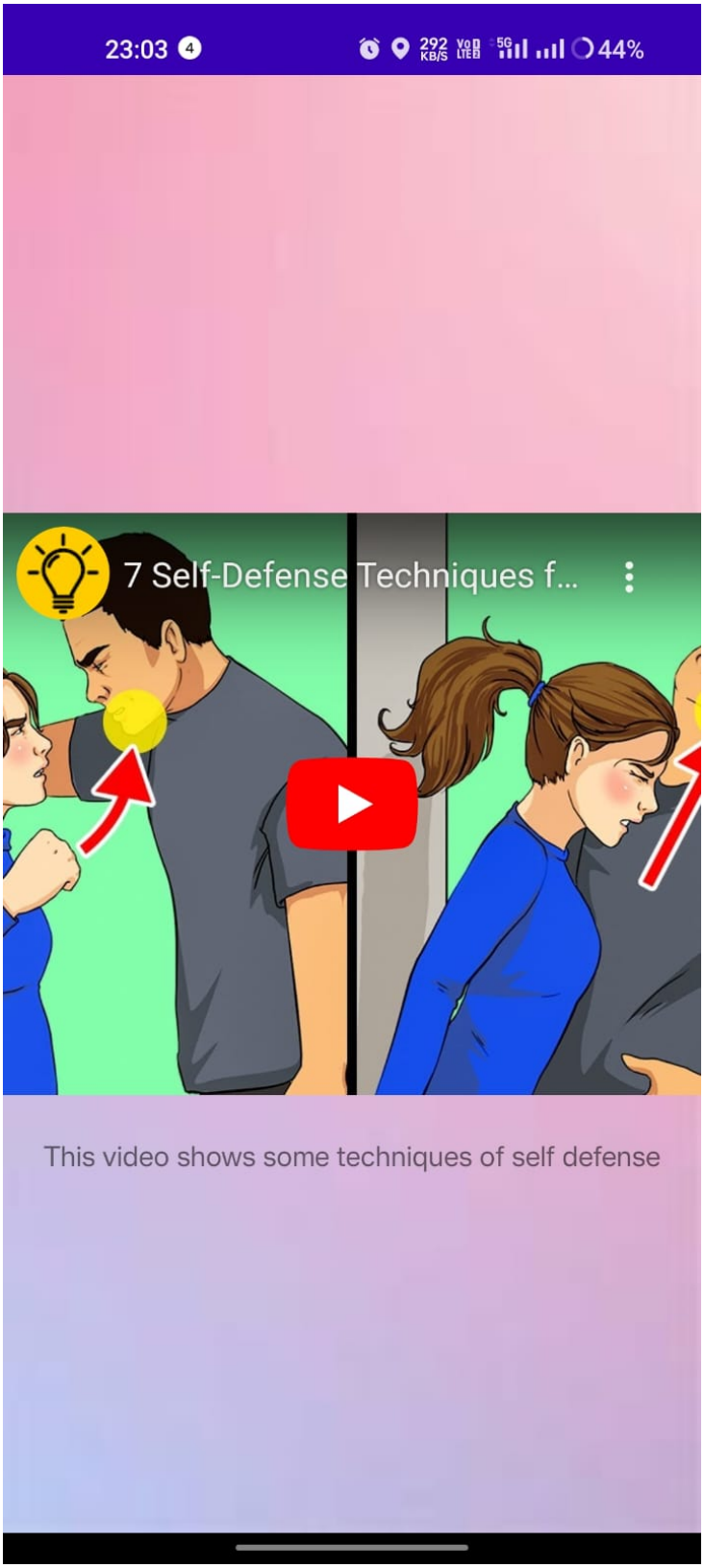

Figure 7.10: Self Defence

Chapter 8
Conclusions and Future Scope

8.1 Conclusion

This mobile application is very much helpful for anyone. In this application first user will contacts of the people whom he/she trust who can help them in emergency situation and also add a contact number which she/he prefer to call during critical situation. When any women is in dangerous situation then she press the panic button or start the SMS alert which will start a service using this service she/he can shake phone 3-4 times and a loud siren will be on. Than mediator get the call and message with location. As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment. Because it is based on object oriented design, any further changes can be easily adaptable.

8.2 Future Scope

Unfortunately the safety of women is in doubt and security is not concerned. Many headlines still coming across against women indicates that increasing trends of such sexual assault, rapes still happening in today's generation. Around 80 percent of women are losing confidence and have fear toward the realization of freedom. So we are trying to contribute little efforts toward women which will ensure the safety and respect for women so that she can also have right equally like men.
Our project aims to help woman in need and we will continuously be pushing the updates regarding the bug fixes and the more optimized experience for them so that they continue to experience a seamless tour without any hindrance. We are also planning to introduce following features in the future updates: -

- Scream Alarm
- Low battery Alert

- Children‘s safety
- Nearby hospitals and nearby police stations

References

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