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A Research Paper on Android App for Women Safety

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Abstract: Anytime a need occurs, this Android Application for the Safety of Women and this app can be triggered with a simple click. A single click on this programme locates the location of the place using GPS, sends a message to the registered contacts containing the location URL, and calls the first registered contact to assist the user in dangerous situations. This software may be launched by a special click if the user thinks she is in danger.It is utilised to send messages every few seconds updating the recorded contacts on the consumer's location. Because of this, it acts as a guard, following the customer until she starts to feel uneasy. This study suggests a fresh technique for introducing the idea to the recorded contacts progressively up until they press the "HELP" knob. It is possible to swiftly and possibly cautiously find the victim's neighbourhood using SMS's ongoing location monitoring information. The goal of this request is to protect women. By addressing the resources that today's world's daughters' security is threatened by, this is resolved. Our programme makes sure that wives are not buried in the aforementioned positions through a variety of capabilities provided by our plan.

I. INTRODUCTION

Currently, it is not advised for anyone to walk alone after dark, especially women. This is because women are less aggressive than men when it comes to protecting themselves from the ruling class. The best strategy to reduce your likelihood of becoming a victim of a violent crime (such as theft, sex crime, rape, or domestic abuse) is to look for favour and accept money to get you out of unsafe circumstances.

The best method to reduce your risk of becoming a victim of a violent crime (such as theft, sexual assault, rape, or domestic abuse) is to recognise and ask your parents and other trusted individuals for assistance when you are in danger. Having these applications on your phone can help you stay safe when you're in danger right away or become separated from friends after a night out and are unsure how to go home. No matter if you are in an immediate crisis, caught in it with friends, or freed from it at midnight and are unable to get home, having these apps on your phone can reduce your risk and support you when you need it. We present Security Alert in this post as a request for a robot attack policy for smart phones. 65% of fathers in India think their daughters will put up with a lot to keep the group together, and women consistently perform better than expected.

We all agree that women's safety is crucial, but we also need to recognise that they require proper protection. Women may need assistance in a crisis since they are not as physically strong as men. Android has become quite popular since it is a widely used mobile OS that runs on the Linux kernel and is free to use. It was specifically developed by the Google team, and Java was used to manage its functionality.

The advanced security software is created on an android platform, utilising the hardware resources of an android phone as well as the proper memory management of a custom virtual machine. Each app is developed with equal access to a phone's capabilities in order to give users access to as many apps and services as feasible.

II. LITERATURE REVIEW

As part of our literature research, we looked at numerous applications for women's safety that are currently on the market. Examining how these apps work can help us figure out how to improve and differentiate them. The following Android security applications for women have been proven to be efficient and deliver an adequate degree of service.

A Safety of women The app in question was produced by AppSoft India. One of the key purposes of the app is enabling the user to store certain information.

The recipient's email address and mobile number, the user's email address, and a text message are among these details. After that, the application is loaded as a "widget," which alerts the recipient when touched. Another crucial feature of the software is its capacity to record the environment's audio for around 45 seconds and send a text message to the recipient's mobile number with the user's position.

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III. PROPOSED SYSTEM

This solution is designed to be different from those other apps by incorporating all the features they provide. Before utilising the programme, the user must register. Users can log in using their registered email address and password. Three phone numbers must be manually entered by the user. Every time they utilise the programme, the user must start it by clicking the on/off button to turn on the service. The app will stop operating when the user turns it off. If the user presses the service key or uses voice command, the application will activate its emergency service. Additionally, a message informing registered contacts of the user's identity and position will be sent. There is also a method for live streaming. while transferring between locations. An audio recording equipment is present. After receiving the order, the system will start recording the immediate surroundings so that the user can later utilise it as evidence.

The majority of applications that support women in real time contain one of the traits. As an example, in an emergency, a message of caution is broadcast, audio is recorded, and real-time location monitoring is only accessible online. Both applications exhibit one, but not all, of the enumerated characteristics. Consequently, a thorough application is needed to protect the safety of women. If any of an application's advanced features—which are often fully backed by the government—breaks down, a problem could result. Numerous accessing methods are not supported by the current system. For instance, the I Go Safety app features a feature that sends an emergency message, a 30-second voice recording, and a 30-second video clip to the registered contacts. The app becomes active if the user shakes or drops the phone. However, if the phone is mistakenly shaken, it will start to work, which could lead to unwanted problems. Shake to Notify is another app with a similar name.

The objective of this project is to develop a system that combines all of the features of the existing application while simultaneously developing a completely new one. Any time the user runs out of data, whether frequently or not, they will be unable to use data to access all services in an emergency. In light of this, our project has taken into account offline mode, where the programme may send alert messages but without location. This feature has been added to help minimize problems in any situation so that the user can request assistance at any moment. The user's relatives may be aware of the user's path and be able to contact her for aid or at the very least be informed that she is in danger even though the app cannot offer location using this function. The suggested system's use case model and flowchart are shown below, which will make it simple to understand all of the operational procedures.

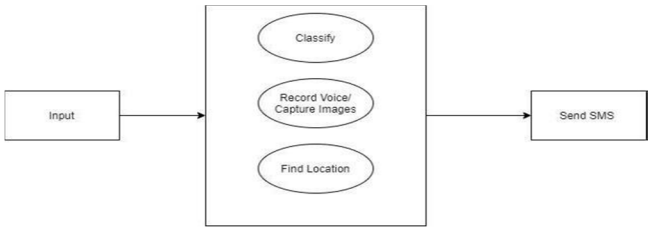
IV. DATA FLOW DAIGRAMS

Level 1:



Figure 4.1: DFD Level 1

Level 2:



V. ENTITY RELATIONSHIP DAIGRAM

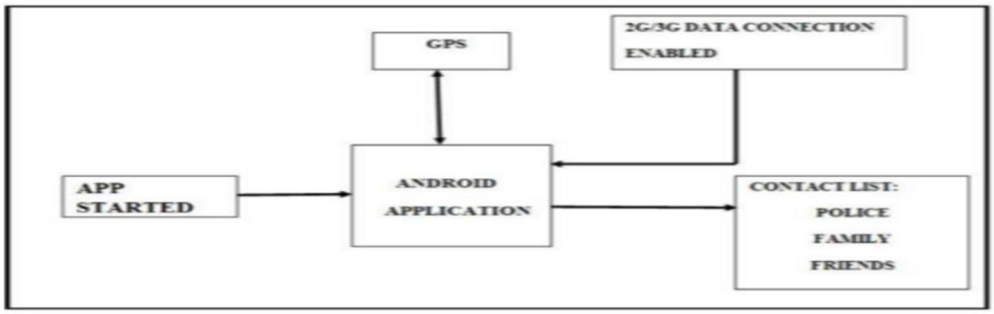


Figure : ER Diagram

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VI. ANALYSIS USING PIE CHART

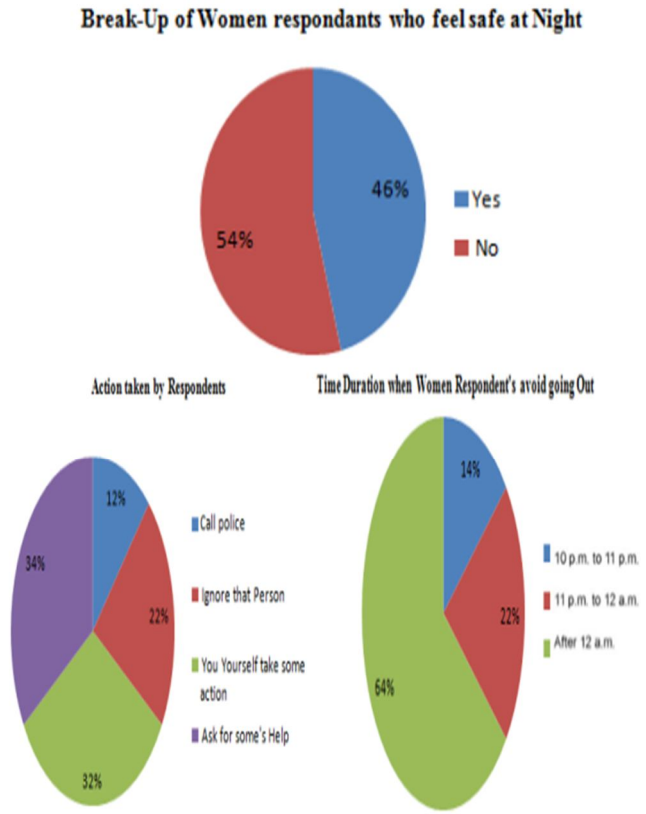


Figure 1: Women respondents at Night and Action taken care, when they are outside home

VII. METHODOLOGY

The structure comprises sections that show a quick-reacting cost insurance framework for people, especially for women, using which a woman in need can acquire help only by setting a watchword and speaking the catchphrase when the application becomes active. Self-defense techniques for women's security resemble a sophisticated application for women. It can aid women in making advancements.

Algorithm:

1) *Step 1:* START
2) *Step 2:*User Registration

Then fill all required fields

a) Personal Details

b) Contact Details

c) Voice and Keyword setup

3) *Step 3:* Log In

If (New User)

Then go to Step 2

Enter user name and password

If (Field is empty)

Then throw warning

If (Field is not valid)

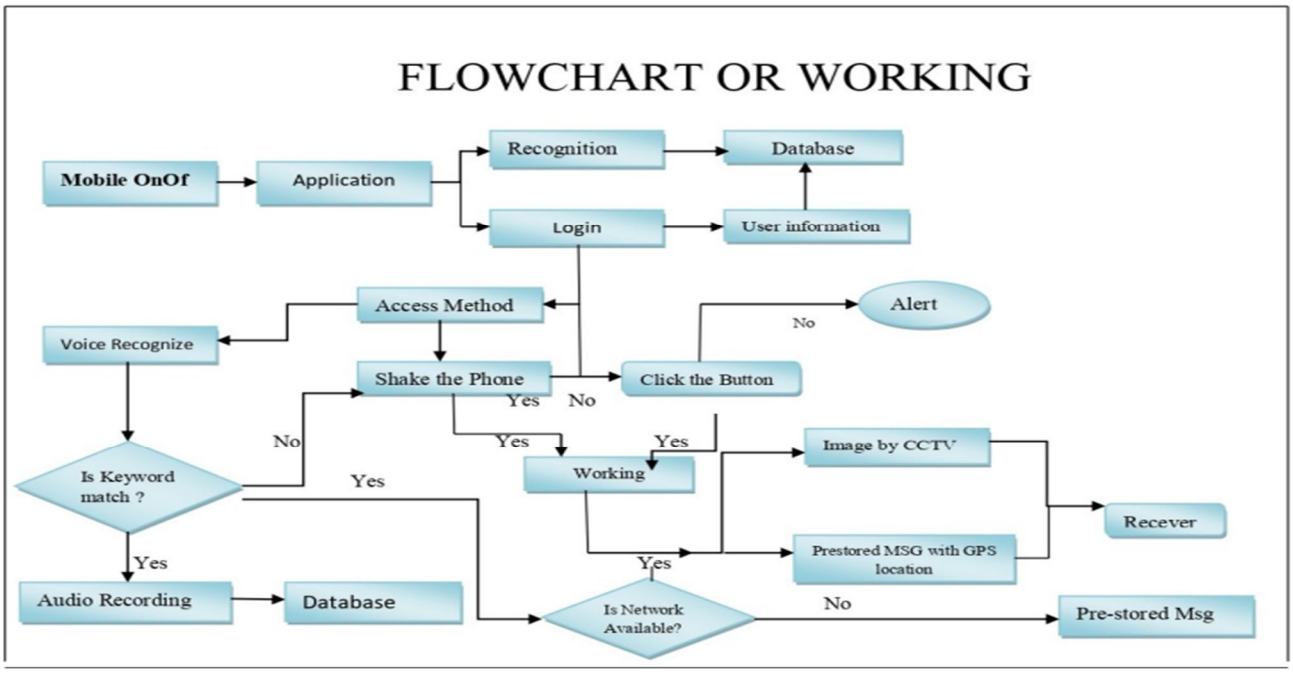
Then throw warning

If (matches)

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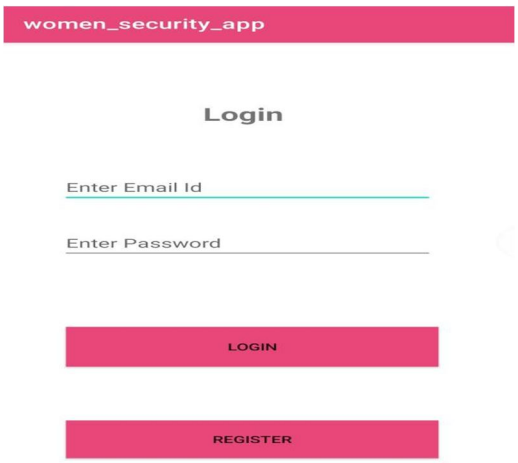
Open the home page and start the session
Switch (option)
If (method1==" working")
Then proceed to execution
Else if (method2==" working")
Then proceed to execution
Else
Start working by method

4) *Step 4:* If (location needs cameras access)
Then the image will be added to per-stored messages.
5) *Step 5:* After that, it will generate the location and sends it to registered contacts along with per-stored messages.
6) *Step 6:* END

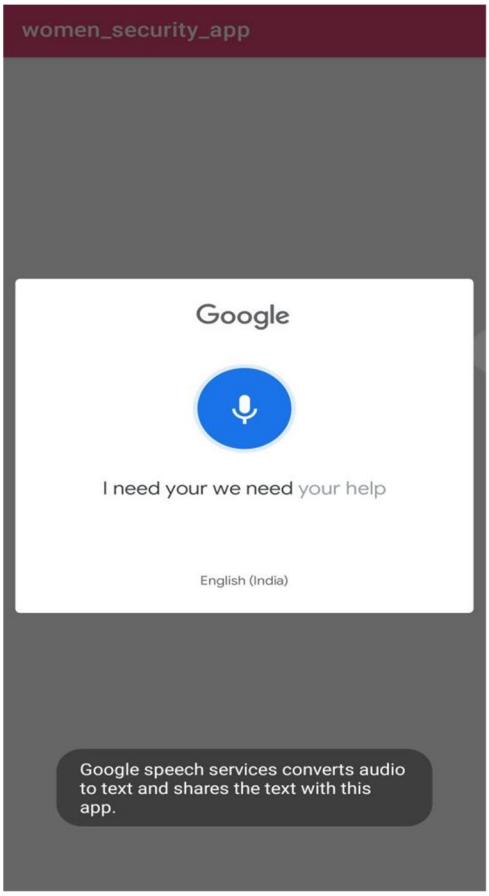


VIII. RESULTS

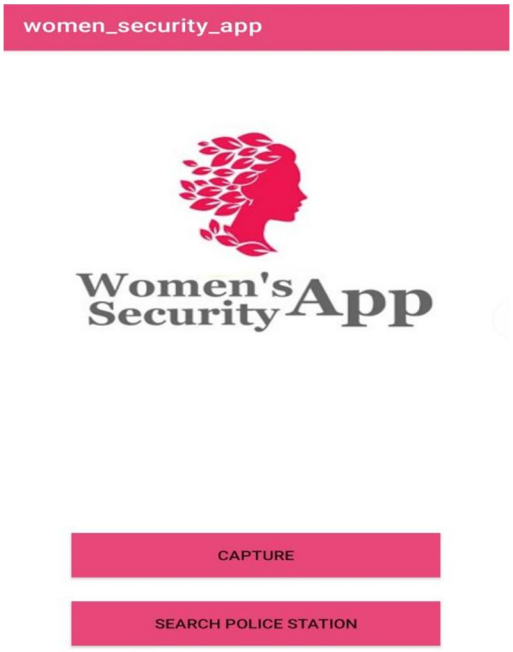
1) *Login & Registration page*



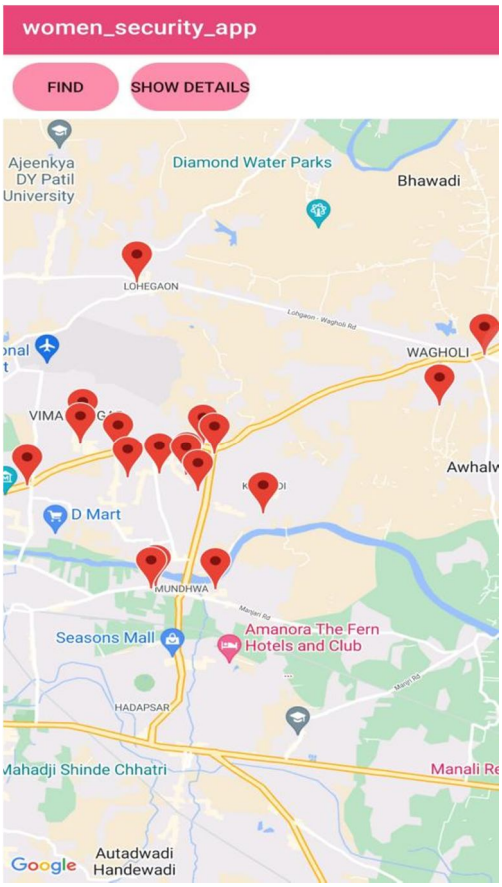
2) Voice to text



3) Search Nearby Police Station



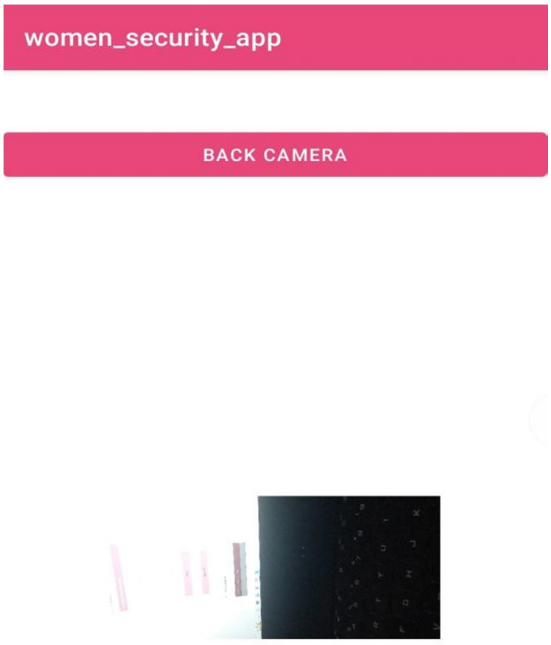
4) Nearby Police Stations



5) Information of Nearby Police Stations



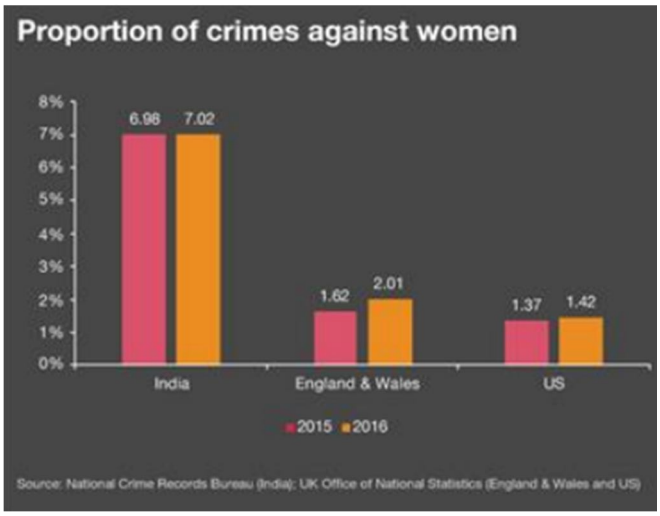
6) Capture Surronding image



7) Sending location by shaking device



8) Statistics Of International Crime Records



IX. ACTIVITY DIAGRAM

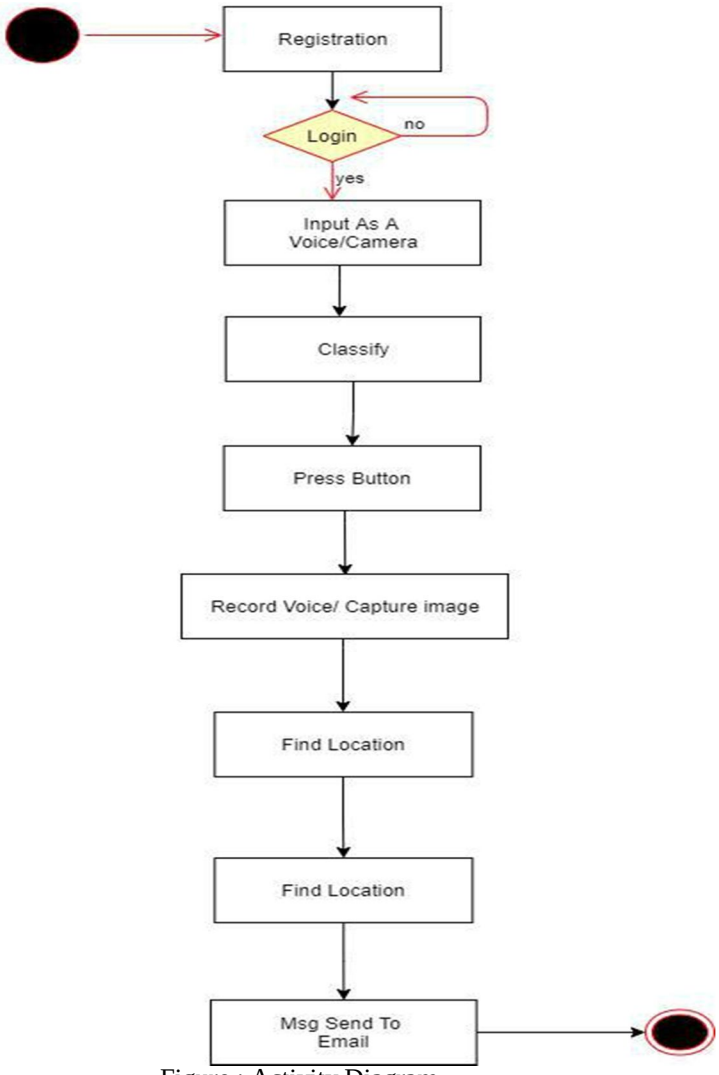


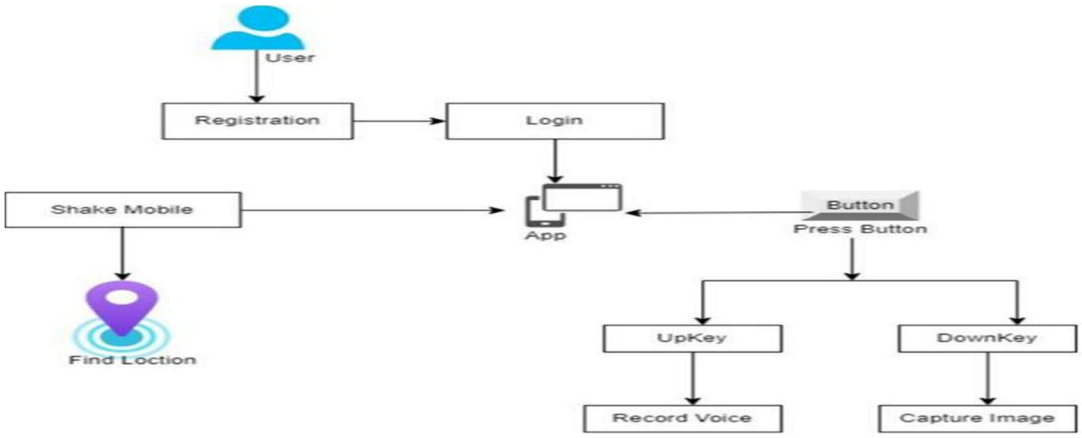
Figure : Activity Diagram

X. ANALYSIS MODEL

We are using the waterfall model in our project.

1) *Compiling and Analyzing Needs:* During this waterfall stage, we identify the precise needs, such as those for the required hardware and software, databases, and interfaces, that are essential to the success of our project.
2) *System build:* During this phase, we build a system that is simple to use and comprehend for the end user. Several UML diagrams and data flow diagrams are built in order to understand the system flow, system modules, and sequence of execution
3) *Implementation*: During the implementation stage of the project, we successfully implemented all of the necessary modules at each module level to produce the required results. With input from the system design, the system is first constructed as a collection of short programmes , or units, before being merged in the following stage.The process of creating and assessing each unit's functioning is known as unit testing.
4) *Testing:* To determine whether the project module is delivering the anticipated outcomes within the estimated timeframe, the numerous test cases are executed. following the integration into a system of each of the 21 components tested throughout the implementation phase. After integration, the entire system is checked for flaws and defects.
5) *System deployment:* Following functional and non-functional testing, the product is either put into use by clients by being installed there or produced a product that can be purchased
6) *Maintenance:* Various problems might arise in a client environment. Patches are published to address certain problems. Additionally, improved versions of the product are issued. To bring about these changes in the surroundings of the consumer, maintenance is performed. The progression is viewed as falling smoothly through the phases like a waterfall as they are all connected to one another. The next phase cannot begin until the preceding phase's established set of objectives have been met and it has been approved, thus the term "waterfall model." Phases do not cross over in this model.

XI. SYSTEM ARCHITECTURE



XII. IMPLEMENTATION

If a person needs support or has problems, they can use this Android app. When a user opens the app, a HELP button is present. Additionally, they may save a message and three phone numbers. If a user wants help or has problems using the app, they merely need to launch it and click the "HELP" button. This programme uses his saved phone numbers to send the message.The total review can be finished in three primary steps, each of which is covered in detail. The evaluation of the complete application implementation includes three major phases. The first important step is creating the application and adding the contact details. These relationships include those we have with our family, friends, and the police chief of the city where we currently live. When installing the programme for the first time on a smart phone, the aforementioned contact details should be provided. The programme will save the information you supply. When a person is in danger or has to be rescued, the second crucial step is to send GPS information to the contacts who have been registered. GPS data can be shown as Coordinates or a URL that directs the user to their location on any stock map application found in software from companies like Google, Nokia, etc. This action is only taken when the rescue button on the application is pressed.The entire process of this step may be finished when the smartphone is connected to the proper mobile network and location service is enabled (GPS). The effort made to consistently send the message with the location URL to the registered contacts is the third crucial step. Since the time interval in this instance has been set to five minutes, an SMS is sent to the registered contacts every five minutes.

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XIII. CONCLUSION

This research paper discusses the Android app Security Alert that was developed for women's security with the use of recent breakthroughs in mobile technology. You can use anything in this project that the user could find useful if they encounter problems or need help. When a user opens this programme, the HELP button is present. He can also store three phone contacts and a message. Press the button if the user requires help or is having problems. As a result, when the user runs this programme, a HELP button is present. Clicking the button will send an SMS to register a user. This application can eventually be merged with the law enforcement database (such as the database used in city police control rooms) rather than the experimental database that was used for this project.

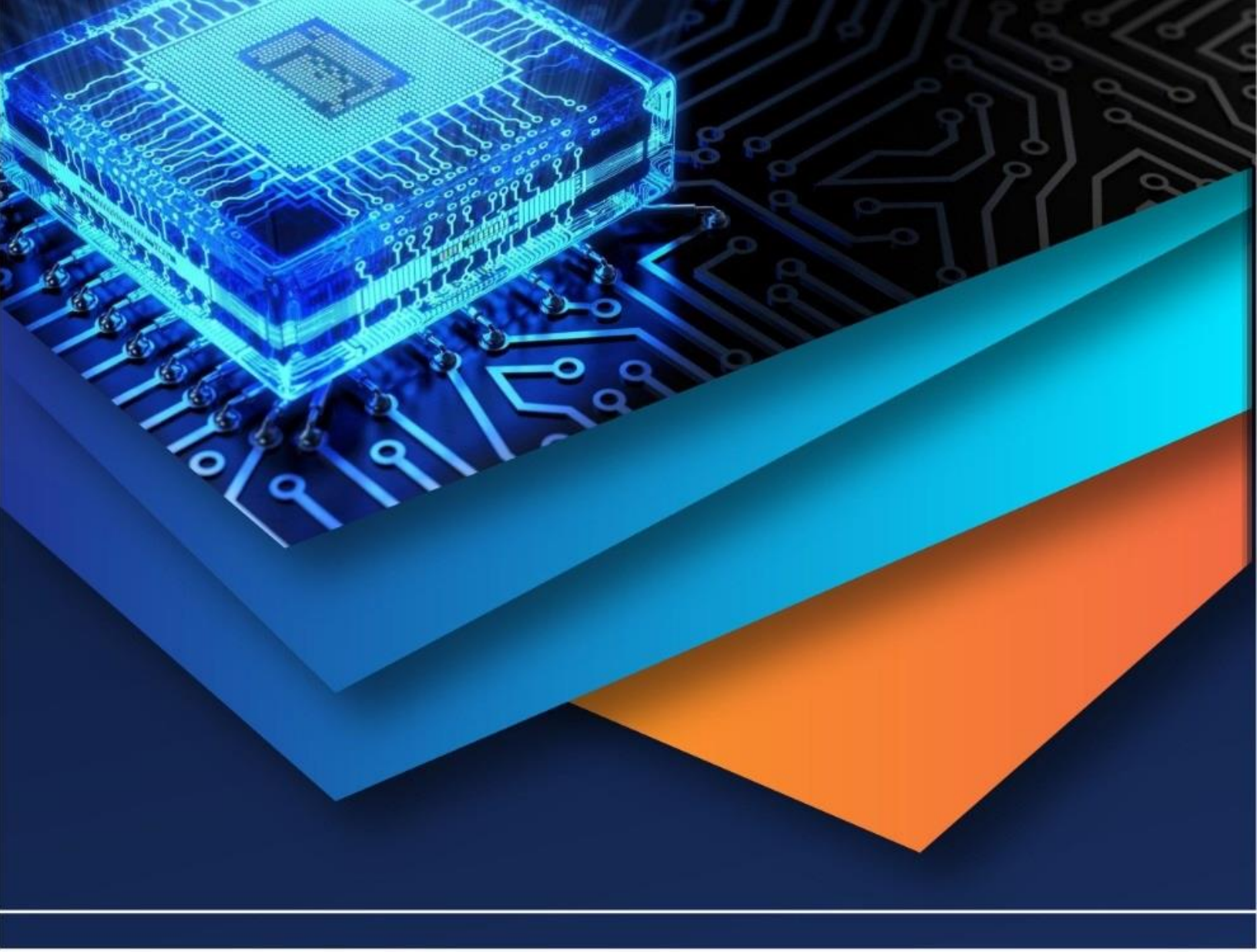
Several further modifications can still be made even if the root device is off or not accessible over a mobile network. Therefore, this software could be of great help in rescuing women or men from perilous circumstances.

XIV. ACKNOWLEDGMENT

Our appreciation goes out to the entire Dhole Patil College of Engineering in Pune, as well as a special thank you to Prof. Sonal Chanderi, who served as our project mentor and gave her all to assist us finish this incredible project. And a heartfelt thank you to all the authors whose works we looked at for this project. We would not have been able to do our assignment without all of these materials.

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