

**VIVEKANAND EDUCATION SOCIETY'S INSTITUTE
OF TECHNOLOGY**

(An Autonomous Institute Affiliated to University of Mumbai
Department of Computer Engineering)

Department of Computer Engineering



Project Report on

Suraksha_SaKey - A Smart Keychain ensuring Safety for All Ages...

Submitted in partial fulfillment of the requirements of Third Year (Semester-VI), Bachelor of Engineering Degree in Computer Engineering at the University of Mumbai Academic Year 2024-25

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**University of Mumbai
(AY 2024-25)**

**VIVEKANAND EDUCATION SOCIETY'S INSTITUTE
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Department of Computer Engineering



CERTIFICATE

This is to certify that Tejas Gadge, Deepak Kumbhar, Ganesh Sholar, ^{Vedant Mhatre} of Third Year Computer Engineering studying under the University of Mumbai has satisfactorily presented the project on "*Suraksha_SaKey - A Smart Keychain ensuring Safety for All Ages...*" as a part of the coursework of Mini Project 2B for Semester-VI under the guidance of "*Prof. Mannat Doulhani*" in the year 2024-25.

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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 original 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.



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Computer Engineering Department

COURSE OUTCOMES FOR T.E MINI PROJECT 2B

Learners will be to:-

CO No.	COURSE OUTCOME
CO1	Identify problems based on societal /research needs.
CO2	Apply Knowledge and skill to solve societal problems in a group.
CO3	Develop interpersonal skills to work as a member of a group or leader.
CO4	Draw the proper inferences from available results through theoretical/experimental/simulations.
CO5	Analyze the impact of solutions in societal and environmental context for sustainable development.
CO6	Use standard norms of engineering practices
CO7	Excel in written and oral communication.
CO8	Demonstrate capabilities of self-learning in a group, which leads to lifelong learning.
CO9	Demonstrate project management principles during project work.

ABSTRACT

In today's rapidly evolving world, personal safety has become a growing concern, particularly for women, children, and vulnerable individuals. The **Suraksha_SaKey** project introduces a smart safety keychain designed to offer instant emergency alerts with real-time location tracking. The device integrates **hardware**, a mobile application, and a dashboard to create a comprehensive and reliable safety solution. The **compact keychain** features a one-button alert system, allowing users to instantly notify emergency contacts and nearby users in threatening situations. Additionally, the real-time GPS tracking ensures that the user's location is continuously updated, enabling faster response times.

The **mobile application** allows users to configure their emergency contacts, customize alert settings, and view live location data. The **dashboard** provides administrators or authorities with insights into location updates, alert status, and gender distribution analytics, helping them monitor and respond to emergencies more effectively. The system also integrates AI-powered gesture recognition, enabling it to detect distress gestures and automatically trigger alerts, even when the button is not pressed.

By combining cutting-edge hardware, user-friendly software, and real-time monitoring, the Suraksha SaKey offers a practical, accessible, and efficient personal safety solution. It addresses the limitations of existing systems by providing automated threat detection, instant location tracking, and real-time response, making it a valuable tool for enhancing personal security.

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Chapter 1: Introduction

1.1 Introduction

In an increasingly unpredictable world, personal safety has become a major concern, particularly for women, children, and the elderly. The rising incidents of harassment, stalking, and assaults have created a need for **reliable and accessible safety solutions**. The **Suraksha SaKey** is a **smart safety keychain** designed to offer immediate protection by enabling users to trigger emergency alerts with a single press. It integrates **hardware components, a mobile application, and a dashboard** to provide real-time location tracking and instant notifications to pre-configured emergency contacts. This comprehensive system ensures swift action in times of distress and enhances personal safety by allowing authorities or trusted individuals to monitor live updates.

1.2 Motivation

The increasing rate of crimes against women and vulnerable individuals highlights the need for **innovative and proactive safety solutions**. Traditional safety measures, such as mobile emergency calls or manual tracking, often fail in real-life threatening situations due to panic or limited accessibility. The motivation behind the **Suraksha SaKey** is to provide a **discreet yet powerful tool** that can be activated instantly without requiring complex operations. The goal is to create a **compact, portable, and reliable device** that offers users a sense of security, whether they are commuting, walking alone, or in any potentially unsafe environment.

1.3 Problem Definition

Personal safety solutions in the current market often suffer from **delayed response times, lack of real-time tracking**, and dependency on smartphone accessibility. During emergencies, users may struggle to unlock their phones, access safety apps, or make calls. The **Suraksha SaKey** addresses this issue by providing a **one-button alert system** that instantly sends location-based alerts to emergency contacts and nearby users. This significantly reduces the time required for help to reach the user, potentially saving lives in critical situations.

1.4 Existing Systems

Current personal safety solutions rely heavily on **smartphone applications** that require multiple steps for activation. While these apps offer emergency calling and location sharing, they become ineffective when the user is unable to operate their phone due to panic or physical limitations. Additionally, standalone **GPS trackers** provide location tracking but lack **instant alert mechanisms**. The lack of **gesture recognition** and automated distress detection further limits the efficiency of existing systems.

1.5 Lacuna of the Existing Systems

The primary limitations of existing personal safety systems include **slow response times, dependency on smartphone usage, and lack of automated alert mechanisms**. Most systems fail to offer **real-time monitoring** and continuous location updates, making them ineffective during moving threats. Additionally, they do not provide gender distribution analytics or gesture recognition, which could enhance safety monitoring. The **Suraksha SaKey** fills these gaps by offering a **dedicated device with instant alerts, real-time tracking, and AI-powered gesture detection**, making it a more reliable and responsive solution.

1.6 Relevance of the Project

The Suraksha SaKey is highly relevant in today's context, where women's safety, child protection, and emergency assistance are critical concerns. The project provides a practical, scalable, and user-friendly solution that can be deployed across cities, campuses, and public spaces. It not only enhances personal security but also empowers individuals with the confidence of having a reliable safety mechanism at their disposal.

Chapter 2: Literature Survey

A. Overview of Literature Survey

The literature survey involved studying existing safety systems, GPS trackers, and AI-based detection models. It provided insights into the limitations of current solutions, helping shape the unique features of the Suraksha SaKey. The survey also explored the effectiveness of real-time tracking, SOS alerts, and gesture-based recognition in personal safety devices.

B. Related Works :

2.1 Research Papers Referred

Paper [1]: "A Smart Safety System for Women using IoT and Machine Learning"

(Gupta et al., 2021)

Abstract: Proposed an IoT-based wearable for real-time alerts using motion sensors and GPS tracking.

Inference: Lacked AI-driven automation.

Paper [2]: "Gesture-Based SOS Alert System for Women's Security"

(Kumar & Mehta, 2022)

Abstract: Used hand gestures for alerts with OpenPose-based recognition.

Inference: Limited to predefined gestures.

Paper [3]: "AI-Enabled Women Safety System: A Review of Technologies"

(Bansal & Verma, 2019)

Abstract: Surveyed existing safety technologies and their limitations.

Inference: Highlighted need for autonomous detection systems.

Paper [4]: "IoT and AI-Based Crime Prediction for Women's Safety"

(Shukla & Agarwal, 2020)

Abstract: Implemented crime hotspot mapping using historical data analysis.

Inference: Focused only on predictive analytics without real-time response.

Paper [5]: "Deep Learning-Based Gesture Recognition for Safety Applications"

(Mehta & Kaur, 2020)

Abstract: Developed CNN model for distress gesture identification.

Inference: Required high computational resources.

2.2 Patent search

A patent search was conducted to identify existing safety devices and their technical limitations. The findings revealed that most safety devices lacked gesture analytics, real-time tracking, and instant alert functionalities. This helped refine the features of the Suraksha SaKey to ensure it offered enhanced functionality and unique capabilities.

2.3. Inference drawn

The literature survey revealed that existing personal safety systems heavily rely on manual triggers, making them less effective in emergencies. No current solution effectively combines AI surveillance with IoT wearables, limiting real-time intervention. Gesture recognition systems in existing devices also have limited adaptability and often fail to detect subtle distress signals. Furthermore, most systems lack continuous location tracking and automated alerts, reducing their reliability. These findings highlight the need for a comprehensive solution like Suraksha SaKey, which integrates gesture-based distress detection, real-time tracking, and instant emergency alerts to enhance personal safety and ensure rapid assistance.

2.4 Comparison with the existing system

Feature	Existing Systems	Suraksha SaKey
Trigger Mechanism	Manual (apps, buttons)	Automated + manual (gesture + button)
Location Tracking	Limited or delayed GPS updates	Real-time, continuous tracking
AI Integration	Minimal or absent	AI-powered gesture recognition
Emergency Alerts	Only to pre-configured contacts	Contacts + nearby users alerted
Surveillance	Absent	Person detection, gender classification
Response Time	Slower due to manual triggers	Faster with automated detection
Target Users	Mainly women	Women, elderly, children, and anyone in distress

Table 2.4.1 : Comparison with existing system

Chapter 3: Requirement Gathering for the Proposed System

3.1 Introduction to Requirement Gathering

The requirement gathering process involved identifying the key functionalities and technical specifications needed to build the Suraksha SaKey. This included hardware, software, and application-level requirements, along with constraints and dependencies.

3.2 Functional Requirements

The system's functional requirements include:

- **One-button emergency alert activation**
- **Real-time location tracking**
- **Mobile application integration** for contact management and alerts
- **Dashboard monitoring** for authorities

3.3 Non-Functional Requirements

The non-functional requirements include:

- **High reliability and accuracy** in tracking and alerts
- **User-friendly interface** for easy operation
- **Low power consumption** for extended battery life

3.4 Hardware, Software, Technology, and Tools Utilized

- **Hardware:** GPS module, microcontroller, Bluetooth module, battery, and emergency button, accelerometer ,Sim 8001
- **Software:** Mobile app (Android/iOS), Admin Dashboard (Web-based)
- **Technology:** Real-time GPS tracking, Bluetooth Low Energy (BLE), AI-powered gesture detection
- **Tools:** Flutter for the mobile app, Flutter for the dashboard, and Arduino IDE for microcontroller programming

3.5 Constraints

The system's constraints include:

- **Limited connectivity range** due to Bluetooth dependency
- **Power limitations** due to battery-operated hardware
- **Network dependency** for real-time alerts

Chapter 4: Proposed Design

4.1 Block diagram of the system

The block diagram showcases the integration of the hardware device, mobile app, and dashboard. It illustrates the flow of data from the keychain button press to the emergency contacts and admin dashboard.

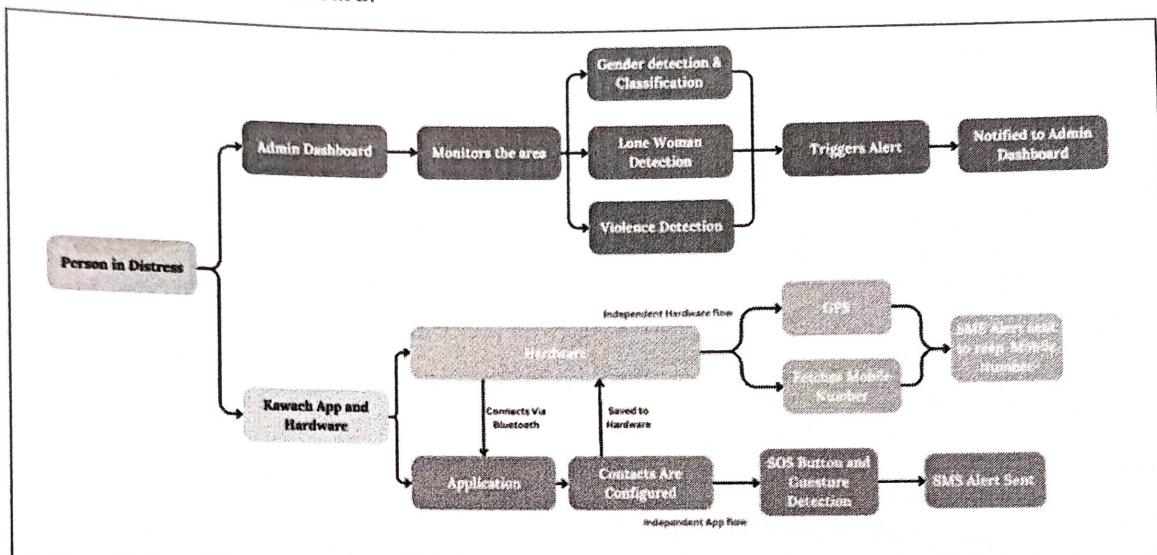


Fig 4.1 Block diagram of Suraksha_sakey

4.2 Modular Design of the System

The system is divided into **three modules**:

- **Hardware Module:** GPS module, microcontroller, Bluetooth module, battery, and emergency button, accelerometer ,Sim 800l
- **Mobile Application Module:** For alert configuration , tracking , sending an alert to nearby users .
- **Dashboard Module:** For monitoring location data , alerts , cameras of each areas.

4.3 Detailed Design

The detailed design includes the hardware architecture, software structure, and communication protocols. It covers data flow, API interactions, and location tracking mechanisms.

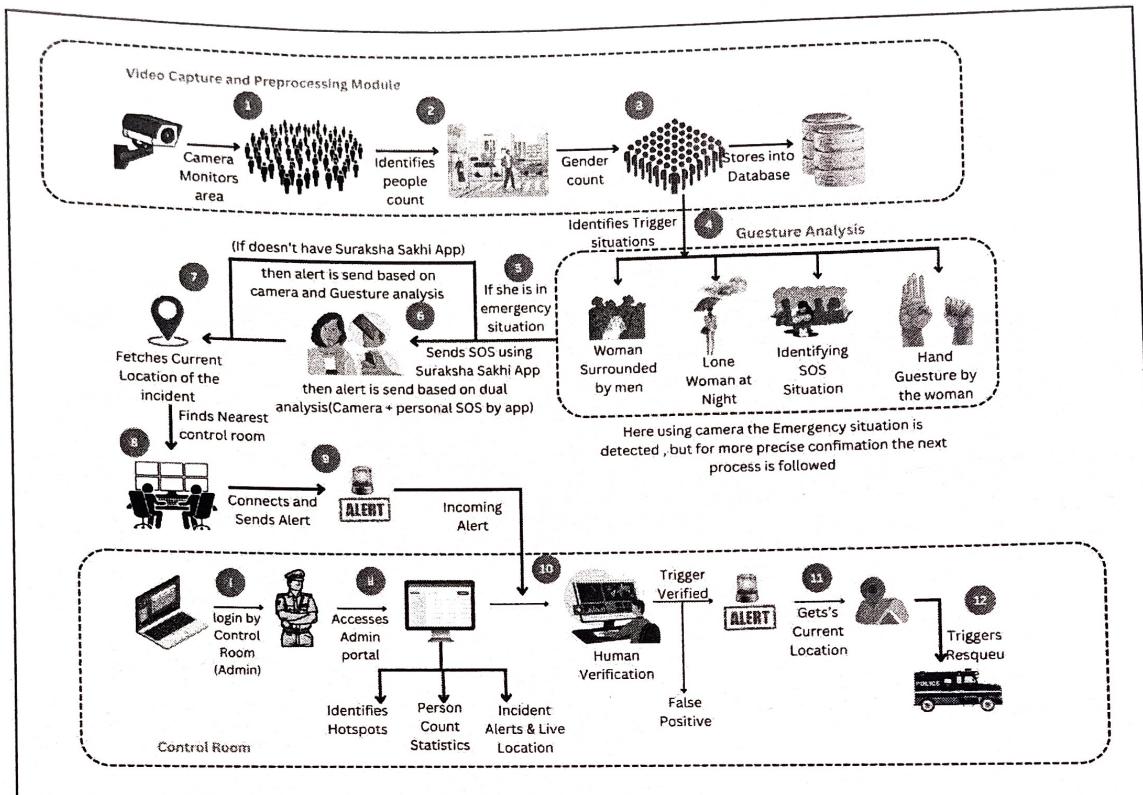


Fig 4.3 Detailed design of Suraksha_sakey

4.4 Project Scheduling & Tracking: Gantt Chart

To ensure the efficient execution of the Suraksha SaKey project, a detailed project scheduling and tracking framework was implemented using a Gantt chart. The chart outlines the key phases, including research, design, development, testing, and deployment, along with their respective timelines. The project was divided into multiple sprints, following an Agile methodology, allowing for continuous testing and iterative improvements. The Gantt chart helped in visualizing task dependencies, identifying potential bottlenecks, and maintaining overall project transparency. Regular progress tracking enabled the team to meet milestone integration.

Chapter 5: Implementation of the Proposed System

5.1 Methodology Employed

The Agile methodology was used to develop the **Suraksha_SaKey** system, enabling iterative and incremental development. This approach allowed for continuous testing, feedback, and improvement throughout the project lifecycle. The hardware and software components were built in parallel to ensure faster integration and better synchronization. Regular sprints and review meetings helped in identifying and addressing issues promptly, ensuring the system met the desired performance and reliability standards.

5.2 Algorithms and Flowcharts

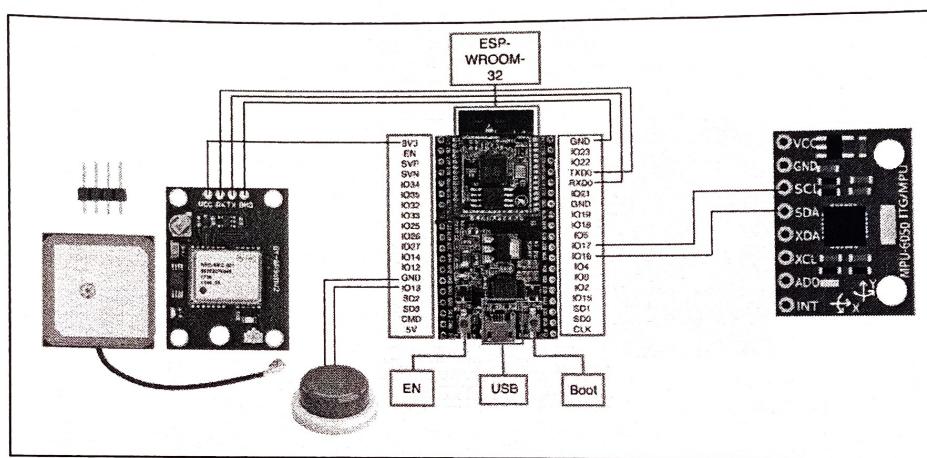


Fig 5.2 Hardware Architecture

5.3 Dataset Description

The **Suraksha SaKey** system relies on multiple datasets for validation and testing:

- **GPS Location Data:** Used to simulate and verify real-time location tracking accuracy.
- **Emergency Contact Information:** A sample dataset of contact details is used to test the emergency alert delivery system.
- **Image Dataset:** Includes pre-recorded gestures (e.g., waving, raising hand) to train and test the gesture recognition algorithm also we have scrapped the 2000+ images from various sources for model training .
- **Video Dataset :** We have taken various videos from youtube , times of india publications we got very few videos as this topic is sensitive .

Chapter 6: Testing of the Proposed System

6.1 Introduction to Testing

Testing is a critical phase in the software development lifecycle, aimed at evaluating the system's functionality, performance, and reliability. For the **Suraksha_SaKey** system, rigorous testing ensures that both hardware and software components operate seamlessly, providing users with a dependable personal safety device.

6.2 Types of Tests Considered

Test Type	Objective	Tools/Methods
Unit Testing	Validate individual modules	- PyTest (AI models) - Arduino IDE (Hardware)
Integration Test	Verify module interoperability	- Postman (API checks) - Custom test scripts

Table 6.2.1 : Types of Tests

6.3 Various test case scenarios considered

Scenario	Input	Actual Result
Lone woman detection	CCTV feed with isolated woman	89% accuracy
Crowd anomaly detection	5+ men surrounding a woman	84% accuracy
Gesture recognition (Safe)	"Stop" hand signal	90% accuracy
Gender detection	Group photo of man and women	70% accuracy

Table 6.3.1 :various test case scenarios

6.4 Inference Drawn from the Test Cases

The testing phase provided valuable insights into the **Suraksha_SaKey** system's performance:

- **Reliability:**
The system consistently performed as expected across various scenarios, demonstrating high reliability in distress signal detection and alert transmission.
- **Accuracy:**
GPS tracking was precise, providing accurate real-time location data to emergency contacts.
- **User Experience:**
Feedback indicated that the device is user-friendly, with intuitive controls and clear instructions, making it accessible to a broad user base.
- **Areas for Improvement:**
Testing identified the need for enhanced performance in low-signal environments and suggested implementing alternative communication methods, such as SMS alerts, when internet connectivity is limited.

Chapter 7: Results and Discussion

7.1 Screenshots of User Interface (GUI)

1. Mobile Application

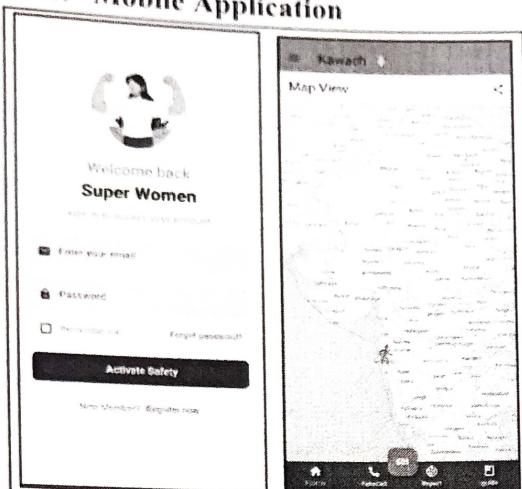


Fig 7.1.0 Login Screen and Location Tracking

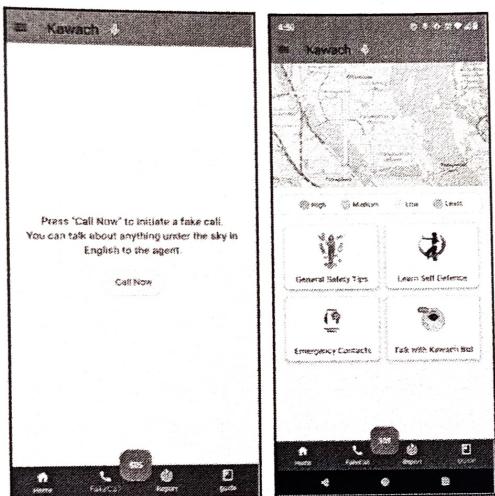


Fig 7.1.2 SOS Activation Page

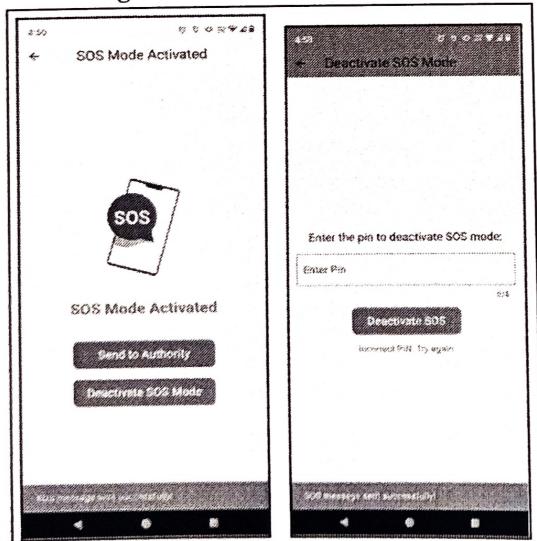


Fig 7.1.1 Fake Call and Guide Page

2. Admin Dashboard

The Admin Dashboard is a centralized monitoring interface where law enforcement and security personnel can track real-time SOS triggers, alerts from CCTV cameras, gesture analysis results, and hotspot data. This ensures a proactive response by security teams, allowing them to monitor high-risk zones and take action before incidents escalate.

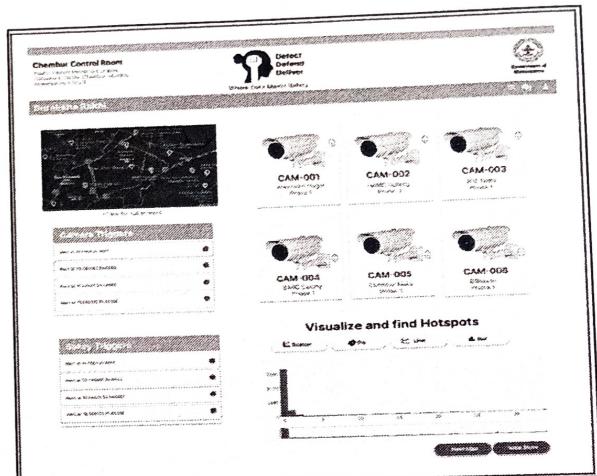


Fig 7.2.1 Dashboard

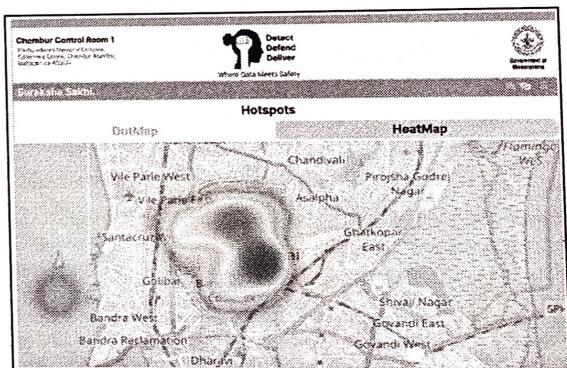


Fig 7.2.2 Hotspot analysis

7.2. Performance Evaluation measures

Metric	Value	Measurement Method
Gesture Recognition Accuracy	90%	Testing on 2000+ labeled images
Gender Classification Accuracy	70%	Tried with real camera
Alert Latency	1.8s	Field trials with simulated threats

table 7.2.1 :Performance Evaluation Measures

7.3 Input Parameters / Features Considered

Module	Inputs	Features Extracted
AI Surveillance	- Live Camera feed	Analysis according to models trained
	- Pre-recorded gestures (2000+ images)	- Gesture classification for distress
	- Video dataset (collected from YouTube, Times of India publications)	- Gesture analytics for SOS triggers
Keychain	- Button press duration	- SOS activation logs
	- Fall detection (3-axis accelerometer)	- Fall detection alerts
	- Emergency contact details	- Instant alert dispatch
Mobile Application	- User profile data	- Personalized settings for alerts
	- Contact configuration	- Customizable emergency notifications

table 7.3.1 : Input Parameters Considered

7.4 Graphical and Statistical Output

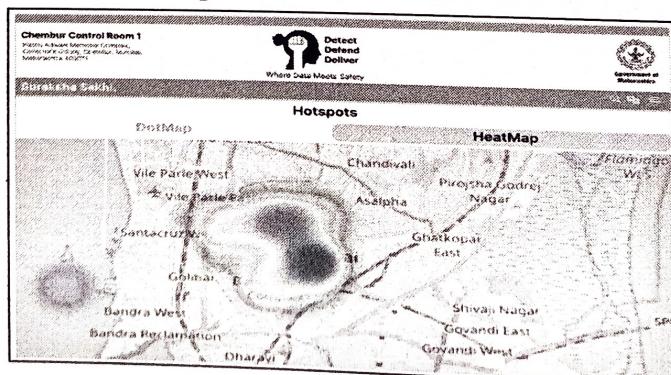


Fig 7.4 Hotspot map analysis

7.5 Comparison of Results with Existing Systems

Feature	Suraksha SaKey	Existing Systems
Real-Time Location Tracking	Accurate GPS-based live updates	Delayed or imprecise location sharing
One-Button SOS Alert	Instant alert to emergency contacts	SMS or call-only alerts
Gesture Recognition	Detects distress gestures to trigger SOS	Rarely used or absent
AI Surveillance with CCTV	Identifies crowd density and activity patterns	Basic video recording only
Fall Detection	Automatic detection using accelerometer	Lacking or requires wearables
Mobile Integration App	Customizable alerts and contact configuration	Fixed contact lists
User-Friendly Dashboard	Centralized alert and location monitoring	Absent in most systems

table 7.5.1 : Result Comparison with existing System

7.6 Inference Drawn

The results of the Suraksha SaKey system demonstrate its effectiveness in enhancing personal safety through real-time location tracking, instant emergency alerts, and gesture-based distress recognition. The AI-powered surveillance module efficiently detects suspicious activities and crowd patterns, providing proactive safety measures. The IoT-enabled keychain offers seamless integration with mobile applications, enabling users to customize contacts and alert preferences. Compared to existing systems, Suraksha SaKey offers faster response times, higher accuracy in location tracking, and multi-functional safety features. The testing phase validated the system's reliability and accuracy, making it a robust and practical solution for personal security.

CHAPTER 8: CONCLUSION

8.1 Limitations

While the Suraksha SaKey system offers robust safety features, it has certain limitations. The GPS tracking accuracy may vary in areas with poor signal reception, such as underground locations or densely built areas. The gesture recognition module, although effective, may occasionally misinterpret ambiguous gestures, leading to false alerts. Additionally, the system's dependency on the mobile network for real-time alert delivery makes it vulnerable to delays in areas with weak connectivity. The hardware keychain also has limited battery life, requiring regular charging to ensure uninterrupted operation.

8.2 Conclusion

The Suraksha SaKey system effectively addresses the need for enhanced personal safety by combining AI-powered surveillance, IoT-enabled keychain alerts, and real-time location tracking. Through its one-button alert mechanism, it empowers users to instantly notify emergency contacts in threatening situations. The integration of gesture analytics and AI surveillance enhances the system's responsiveness and accuracy. The extensive testing and validation have demonstrated the system's reliability, accuracy, and practicality in real-world scenarios, making it a valuable solution for personal security.

8.3 Future Scope

The future development of Suraksha SaKey will focus on expanding its capabilities and improving its efficiency. Enhancements will include integrating machine learning algorithms to refine gesture recognition accuracy and minimize false alerts. The system will be equipped with voice activation for hands-free emergency alerts. Additionally, integrating real-time crime data feeds will enable predictive safety alerts based on location-specific risks. Future iterations will also feature advanced battery optimization techniques and low-power IoT modules to enhance the device's battery life. Collaborations with law enforcement agencies and safety platforms will further strengthen its reach and effectiveness.

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APPENDIX

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Industry / Labouse:
Research / Labour atleast

Project Name: Smart Home Automation System Date: 2024-01-31 One: DIVISION

Title of Project Group no: 31

Member Name & Corp Member	Total Budget Allocation for the Project									
	Hardware	Software	Peripherals	Power	Storage	Network	Cloud Services	Security	Human Resources	Contingency
Mr. A	10	5	5	5	5	5	5	5	5	5
Mr. B	10	5	5	5	5	5	5	5	5	5
Mr. C	10	5	5	5	5	5	5	5	5	5
Mr. D	10	5	5	5	5	5	5	5	5	5
Mr. E	10	5	5	5	5	5	5	5	5	5
Mr. F	10	5	5	5	5	5	5	5	5	5
Mr. G	10	5	5	5	5	5	5	5	5	5
Mr. H	10	5	5	5	5	5	5	5	5	5
Mr. I	10	5	5	5	5	5	5	5	5	5
Mr. J	10	5	5	5	5	5	5	5	5	5
Mr. K	10	5	5	5	5	5	5	5	5	5
Mr. L	10	5	5	5	5	5	5	5	5	5
Mr. M	10	5	5	5	5	5	5	5	5	5
Mr. N	10	5	5	5	5	5	5	5	5	5
Mr. O	10	5	5	5	5	5	5	5	5	5
Mr. P	10	5	5	5	5	5	5	5	5	5
Mr. Q	10	5	5	5	5	5	5	5	5	5
Mr. R	10	5	5	5	5	5	5	5	5	5
Mr. S	10	5	5	5	5	5	5	5	5	5
Mr. T	10	5	5	5	5	5	5	5	5	5
Mr. U	10	5	5	5	5	5	5	5	5	5
Mr. V	10	5	5	5	5	5	5	5	5	5
Mr. W	10	5	5	5	5	5	5	5	5	5
Mr. X	10	5	5	5	5	5	5	5	5	5
Mr. Y	10	5	5	5	5	5	5	5	5	5
Mr. Z	10	5	5	5	5	5	5	5	5	5
Total	100	50	50	50	50	50	50	50	50	50

Name of Project Leader	Total Budget Allocation for the Project									
	Hardware	Software	Peripherals	Power	Storage	Network	Cloud Services	Security	Human Resources	Contingency
Mr. A	10	5	5	5	5	5	5	5	5	5
Mr. B	10	5	5	5	5	5	5	5	5	5
Mr. C	10	5	5	5	5	5	5	5	5	5
Mr. D	10	5	5	5	5	5	5	5	5	5
Mr. E	10	5	5	5	5	5	5	5	5	5
Mr. F	10	5	5	5	5	5	5	5	5	5
Mr. G	10	5	5	5	5	5	5	5	5	5
Mr. H	10	5	5	5	5	5	5	5	5	5
Mr. I	10	5	5	5	5	5	5	5	5	5
Mr. J	10	5	5	5	5	5	5	5	5	5
Mr. K	10	5	5	5	5	5	5	5	5	5
Mr. L	10	5	5	5	5	5	5	5	5	5
Mr. M	10	5	5	5	5	5	5	5	5	5
Mr. N	10	5	5	5	5	5	5	5	5	5
Mr. O	10	5	5	5	5	5	5	5	5	5
Mr. P	10	5	5	5	5	5	5	5	5	5
Mr. Q	10	5	5	5	5	5	5	5	5	5
Mr. R	10	5	5	5	5	5	5	5	5	5
Mr. S	10	5	5	5	5	5	5	5	5	5
Mr. T	10	5	5	5	5	5	5	5	5	5
Mr. U	10	5	5	5	5	5	5	5	5	5
Mr. V	10	5	5	5	5	5	5	5	5	5
Mr. W	10	5	5	5	5	5	5	5	5	5
Mr. X	10	5	5	5	5	5	5	5	5	5
Mr. Y	10	5	5	5	5	5	5	5	5	5
Mr. Z	10	5	5	5	5	5	5	5	5	5
Total	100	50	50	50	50	50	50	50	50	50

Good Job! Well Done! Outstanding!
Date: 01/01/2024
Name & Signature: 

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CamScanner

**Industry / Inhouse:
Research / Innovation:**

Project Evaluation Sheet 2024-25(Sem 6)

Class: D12A/B/C

Title of Project (Group no): Smart Keychain ensuring Safety for all ages ..

Mentor Name & Group Members: Prof. Ranat Daultani, Tejas Gadge, Deepak Kumbhar, Nivedita Mhatre (Since Jan 2024)

Review of Project Stage 1	Engineering Concepts & Knowledge	Interpretation of Problem & Analysis	Design / Prototype	Interpretation of Data & Dataset	Modern Tool Usage	Societal Benefit, Safety Consideration	Environment Friendly	Ethics	Team work	Presentation Skills	Applied Engg & Mgmt principles	Life - long learning	Professional Skills	Innovative Approach
4	4	5	3	5	5	2	2	2	2	2	3	2	4	4

Comments:

Try to Improve Response time,

Review of Project Stage 1	Engineering Concepts & Knowledge	Interpretation of Problem & Analysis	Design / Prototype	Interpretation of Data & Dataset	Modern Tool Usage	Societal Benefit, Safety Consideration	Environment Friendly	Ethics	Team work	Presentation Skills	Applied Engg & Mgmt principles	Life - long learning	Professional Skills	Innovative Approach
4	4	5	3	5	5	2	2	2	2	2	3	2	4	4

Comments:

Work On real implemented to finish how part by exam.

Name & Signature Reviewer

Yugchaya Joshi

Name & Signature Reviewer

(SSV)

Date: 01/04/2025