International Journal of Computer Science Engineering Techniques (IJCSE) Volume 10 Issue 2 ,Mar-Apr 2026

ISSN : 2455-135X

Women's Safety: Auto SOS Generative System Using Code Word

Sathya V[1] Assistant Professor
Department of Information Technology
Velammal Engineering College
Tamil Nadu, India
sathyav@velammal.edu.in

Kavya Priya R[2] Student
Department of Information Technology
Velammal Engineering College
Tamil Nadu, India
kavyapriyar29@gmail.com

Gayathri C[3] Student
Department of Information Technology
Velammal Engineering College
Tamil Nadu, India
gayathric317@gmail.com

Abstract - A woman might freeze when danger strikes. Not every moment allows for dialing a number or typing words. This app steps in where actions fall short. Built with Flutter, it lives on phones ready to act fast. When activated by voice, it wakes up without touch. A single press can also trigger its main response. Location streams live once the alarm begins. Alerts shoot out to chosen people automatically. Messages go out even if hands cannot move. Help connects faster because delays shrink. Software runs quietly until moments like these. Fast help arrives when seconds matter - the app works right away during crises. During first launch, people add close ones who should know if trouble happens. When fear strikes, either tap fast or let it go live on its own, sharing exactly where someone stands plus connecting them outward. Say one chosen line aloud, then hands stay free while the phone shouts silently into networks. Built so women gain quieter strength walking streets, meeting friends, moving between places far or near. Most already carry devices anyway - why leave that power unused when danger stirs. Response gaps shrink because signals jump straight from pocket to aid channels. Safety shifts shape not by waiting but sending proof before words form. Mobile tools now stretch beyond talk - they watch, sense, act without drama.

Keywords— Women Safety, Auto SOS, Flutter App, Emergency Alert, Live Location Sharing, Voice Activation, Mobile Application, Smart Security

I. INTRODUCTION

Folks think about women's safety more these days. Walking solo across town, heading home after dark from a job or classroom, entering unknown spots, riding buses or trains - danger can jump out of nowhere. Help needs to arrive fast when risks show up. But during crises, grabbing a device, unlocking it, searching for an app, typing numbers might take too long already. Everything shifts if seconds get saved. When things happen fast, most current safety setups fall short [1][2][3]. Phones though - they're everywhere these days - so turning them into tools for staying safe just makes sense. Always on hand, these devices let help arrive quicker than before. No matter where a person moves, the phone stays aware: watching position, sending alerts, passing messages, connecting online, catching noise around it [4][5][6][7]. Built-in abilities transform how speedily we react when trouble strikes. A lone application, working through a regular handset, could respond faster than bulky gear - offering stronger safeguards for women [8][9]. One path to security? A mobile solution built using Flutter, sending warnings in real time. Instead of tapping keys, help arrives by speaking loud - a single shout sets things in motion. Early configuration stores close contacts; when threat strikes, messages fly out automatically. Somewhere in the dark, one quick touch - or just speaking up - shares where you are until things calm down again. Students rely on it much like travelers do, especially once evening drags on. What sets it apart is how fast it works, never about flashy bits, exactly when

ISSN : 2455-135X

minutes matter most. Words shoot through instantly, nothing left to press later. Instead of hiding features deep inside menus, help sits upfront, waiting every time. Most days, speed beats gadgets every time. If you're moving solo down a city sidewalk or cutting through campus greenery, having quiet support ready shifts everything. What matters isn't bells and whistles - it's who shows up when footsteps echo too loud

II. NEED FOR THE PROJECT

When emergencies strike, they often come without warning. Help might be needed fast, yet speaking up isn't always possible. An app capable of sending alerts right away changes things quietly. Location shared in real time makes a difference most won't expect. Safety shifts when tools act while people pause.

III. PROBLEM STATEMENT

Most current tools made for women's safety depend on someone pressing buttons - they do not work well when moments matter. A different path opens up if help arrives without needing taps or voice, built into phones already in pockets and hands.

IV. OBJECTIVES

1. To develop a mobile application for women safety.
2. To provide Auto SOS emergency alert functionality.
3. To share live location duringemergencies.
4. To enable voice-based emergency activation.
5. To send alerts to pre-registered emergency contacts.
6. To provide a simple, user-friendly, and real-time safety solution.

V. LITERATURE SURVEY

Many researchers and developers have worked on women safety applications, emergency alert systems, and smartphone-based security tools. Most of the earlier systems focused on panic button activation, emergency calling, or GPS-

Recent systems aim to improve safety using smart mobile technologies such as voice recognition, live tracking, and automatic alerting [1][2][3][4][5].

1. Sharma et al. in their work proposed a mobile safety application for women that uses GPS tracking and SMS alerts [1]. Their system allowed users to share their location during emergencies. However, the system depended heavily on manual activation.
2. Priya et al. developed a smartphone-based safety application that included panic button support and emergency contact calling [2]. Few tasks got done well enough when it came to staying safe, yet machines didn't run on their own nor answer spoken words.
3. A tap on a button triggers alert messages through an Android app made by Karthika and team [12]. Though easier to reach, it demands hands-on operation each time help is needed.
4. Meena and team built an app for women's safety using live location from Google Maps [4]. While people could follow where someone was during emergencies, speaking into the device to trigger help wasn't possible. Real-time tracking worked well, yet hands-free alerts stayed out of reach.
5. A sudden tap triggers help in Ramesh et al.'s app, relying on live positioning plus instant voice links [6]. Built without complexity, it works fast when danger strikes.
6. From out of nowhere, Devi and team rolled out a tool focused on safety - triggering both texts and voice calls when needed [15]. What stood out was how reaching several contacts at once could shift the response during crises.
7. A warning signal wakes up when certain spoken phrases are recognized, built by Nithya and team[7]. This approach reduced the need for manual phone handling during danger.
8. Joseph et al. worked on a mobile safety app with live tracking and route sharing [3]. Their system helped contacts monitor the user's movement in risky situations.
9. Kumar et al. proposed a cloud-based emergency monitoring app [5]. Their work focused on storing alert history and improving emergency record management.

ISSN : 2455-135X

10. Bhavani et al. developed a location-enabled women safety app with quick SOS triggering [9]. Their system emphasized simplicity and ease of use.
11. Deepa et al. created an app-based safety system with auto call and message support [8]. Their work improved communication speed during emergencies.
12. Arun et al. introduced a smart mobile alert system using real-time communication services [14]. Their work focused on reducing emergency response time.
13. Rajalakshmi et al. studied intelligent mobile systems for personal security and found that automation and smart alerting can improve the effectiveness of emergency response [13].
14. Sangeetha et al. proposed a mobile app with continuous location sharing and alert notifications alone [10].
15. Harini et al. developed a women safety app that combines contact management, alert messaging, and voice activation for emergency use [11].

VI. PROPOSED WORK

The proposed project, Women Safety with Auto SOS Mobile Application, is developed as a software-based emergency safety application using Flutter. The main objective of the application is to provide immediate support to women during unsafe or emergency situations through quick alert generation and communication features.

Starting off, the app uses a clean layout meant to help folks reach safety tools fast. Instead it guides you through setting up at first, asking for key people like family or close friends. Information about these contacts gets locked in safely, ready if anything happens. When trouble hits, one main part kicks in - the automatic distress signal. This piece works on its own once turned on. When emergencies happen, the app sends out a quick warning to preloaded numbers instead. It shares where the person is right now using live GPS signals therefore. Voice commands turn on urgent alerts without needing taps or swipes suddenly. Calling one designated person happens automatically through built-in triggers too.

Speaking into the device starts everything before panic can spread quietly. When hands cannot reach the phone, speaking a set phrase activates the tool instead. Because seconds matter in emergencies, this makes help faster to start. Location tracking works by pulling data from the device's built-in GPS system. Friends or family see where the person is, right when it matters most. Inside, the program runs on separate pieces that handle different jobs at once.

- Call Service SMS Service
- Location SOS Storage Voice

With this setup, fixing things gets easier. Because pieces work alone, swapping them feels smooth. When parts live separate, using one somewhere else makes sense. Bigger projects? They grow without mess. The method shared here brings less hassle over time

Got everything you need already. Works straight from your phone. Alerts pop up quick when trouble hits. Just speak, it listens right away

- Live location sharing
- Low Cost Practical Solutions
- Students in college Women working
- Women travelling alone
- Emergency support during night travel
- Personal security in urban and rural areas

VII. WORKING PRINCIPLE OF THE PROPOSED WORK

Trouble shows up. A single tap sets things moving. Phones wake up fast, using what they know - location signals, voice, messages, calls. Right then, movement follows without pause. Each piece clicks into place, heading toward protection. Quickness lives inside pieces people carry every day.

A label, then digits - someone familiar - goes in at the start. Sitting inside the machine, it stays put, never sent off. Once those details settle in your head, pieces shift slowly beneath the surface. Waiting. Only if needed.

Out front, the large screen lines up only what counts - emergency halts, fixed modes, status scans - all set plain. Hit one zone, alerts jump out quick while controls appear ready for manual tweaks. Right afterward, real-time data flows nonstop straight from working sensors. No gaps stay

ISSN : 2455-135X

hidden. Each piece lands where needed, leaving doubt no room to grow

- SOS button
- Emergency call
- Voice trigger activation
- Live location access

Right when SOS activates, movement begins instantly. Seconds later, location details arrive from the device's GPS. Then comes a silent alert generated inside the system. That alert travels fast, turning into a message sent to contacts stored earlier. At the same time, someone picked ahead of time could receive a real-time voice call without pause.

Noise wakes it. Certain words drop, then reply sparks - no touch needed. Ears inside never shut. Words slip through, mark time fast, motion follows tight. Help moves only when that signal appears.

Now the machine works smooth - no hiccups, no waiting, just quick cuts where time tightens. When every second pushes weight, warnings race ahead, paths unfold like they know the way, support links snap wide at once. Saved instants pile up, more so if help shows faster than last time.

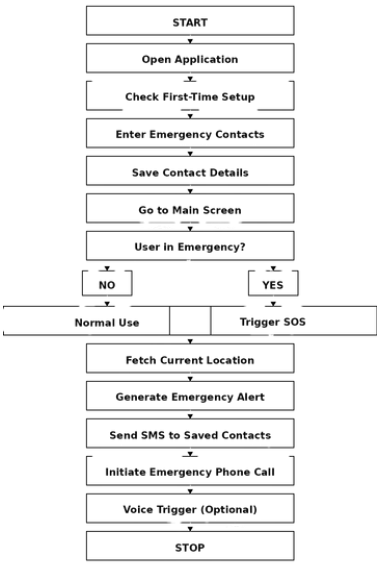

Fig. 1: Workflow Diagram

VIII. WORKFLOW EXPLANATION

Open the app, that is where it starts. First run means setting things up right away. Someone types in phone numbers then hits save - people like cousins, parents, close ones. Information stays inside the device itself. No internet needed to keep it safe. Later on, during trouble, those saved names pop up fast.

Once set up, you land on the main screen - safety tools like SOS, emergency calling, and voice command sit right there. While you go about your day, the app stays alert behind the scenes. If things turn risky, the SOS feature kicks in, started by hand or just speaking aloud.

Right away after turning on SOS, the app grabs where you are at that moment through your device's location tools. Because safety matters, it builds a warning note and shoots it off by text to every contact stored for emergencies. At the same time - without waiting - it might ring up one of those people straightaway so help gets alerted quicker.

When danger strikes, help arrives fast because the system works quietly in the background. Because it runs on phones, women stay connected during risky moments without needing extra steps. With location sent instantly, responders find users faster than traditional methods allow. Messages go out automatically, cutting delays when every second counts. Safety gets stronger not by adding features but by simplifying what matters most. The app stays ready so people don't have to think under pressure.

IX. EXPERIMENTAL RESULTS

The experimental results of the proposed women safety application are evaluated based on the successful implementation and testing of the app's main software modules. The application was tested under different emergency scenarios such as manual SOS activation, voice-triggered alerting, location sharing, SMS sending, and emergency calling.

Modules Tested

The following software modules were tested during implementation:

1. Setup Screen
2. Main Safety Screen
3. Call Service
4. Location Service
5. SMS Service
6. SOS Service

ISSN : 2455-135X

7. Storage Service
8. Voice Service

Test Results

When push came to shove, performance showed exactly where it had to. Right in those moments that made a difference, outcomes fell into place naturally. Each crucial moment saw the system provide just what was asked of it. Through every trial, results remained steady without surprise. Under strain, the real note was how tightly all parts stayed aligned

Last thing tossed into setup: emergency contacts tucked neatly where they belong

The interface appears fully, its safeguards in place. Right away, the system shows stability through secure defaults. From the start, navigation responds without delay. Safety features stay visible, guiding each step ahead

9. SOS button triggered alert successfully
10. Where you stood showed up exactly, no guesswork needed
11. Once numbers were saved, messages sent on their own. After setup finished, every alert arrived right away
12. Test confirmed emergency dialing operates as intended
13. It begins once a particular word reaches its ears. Only triggers if that exact phrase is spoken aloud. Action follows sound, always. Nothing happens until listening confirms the signal
14. App flow worked smoothly without major delay
15. Performance Analysis
16. Right off, tests ran on an Android device. As soon as SOS activated, response followed - no waiting. Modules separated tasks, so each function kept its role sharp. Flutter handled visuals, making movement across screens feel light and simple.

Sample Result Table

Feature	Status	Result
Setup Screen	Success	Contact saved correctly
SOS Button	Success	Alert triggered
Location Sharing	Success	Live location fetched
SMS Alert	Success	Message sent
Emergency Call	Success	Call initiated
Voice Trigger	Success	Command detected
Storage	Success	Data saved locally

X. CONCLUSION

The proposed project, Women Safety with Auto SOS Mobile Application, provides an effective software-based solution for improving women's personal security. The application is designed Out of nowhere, it appears - a silent watcher made just for keeping women safe, tucked inside apps you already know. Risk triggers instant warnings, dropping precise locations onto maps. Those nearby get notified straight away, crucial in moments when fingers won't move. Sound turns into messages, floating through space, calling aid before any tap happens. When trouble shows, everything stirs at once. From pockets and sleeves, silent movement continues daily. No added bulk - only a nudge of what fits snug in palm.

Recognition comes fast, pushing hesitation aside. At the first word spoken, replies rush out without pause. Slipping sideways once more, perhaps this is simply what happens these days. As tension grows, small choices start carrying extra load. It's in the stillness that things feel heaviest, especially when all around wobbles. Warnings rarely show up on time - yet moving faster reshapes what comes next. Stability becomes crucial precisely when it's about to slip away. Into the slot slips a tiny device, working quiet thanks to decisions made smarter behind the scenes. No showy parts - just clear logic placed right where needed.

Without warning, problems announce themselves instantly. Since Flutter manages operations, components remain connected without disruption. When danger appears, alerts reach designated people quickly. Adjustments settle in gently, as progress builds one part at a time. Faster than you'd expect, help appears once the signal sends. Right when issues kick off, exact spots pop up without delay.

Now everything shifts for those lost in books. When answers come quicker, walking through tasks gets easier somehow. A lone woman gains steadier ground when protection lives inside her device. Alerts fire off without delay, ditching the old slow ways entirely. Last one through grabs a slice, just stands there without sound. When someone walks near, the dark trails seem less heavy. Instantly, all the pieces it needs stay put within. On its own, the system runs steady, never slipping.

ISSN : 2455-135X

XI. FUTURE SCOPE

The application can be enhanced in future by adding:

- Real-time background tracking
- Cloud database integration
- Emergency contact notifications via internet
- Fake call feature
- Nearby police station integration
- Map-based unsafe zone alerts
- AI-based danger prediction
- Multilingual voice activation

Thus, the proposed system has strong future potential as a complete digital safety assistant for women.

XII. REFERENCE

[1] Sharma, A., Gupta, P., "Smart Women Safety Application using GPS and SMS," International Journalof Engineering Research, 2021.
[2] Priya, M., Karthika, R., "Android Based Women Safety App," International Conference on Smart Systems, 2022.
[3] Joseph, R., Maria, T., "Mobile Emergency Alert System for Women," Journal of Mobile Applications, 2020.
[4] Meena, P., Raj, A., "Auto SOS Application for Women Security," IJITEE, 2021.
[5] Kumar, N., Devi, S., "Emergency Contact Alert and Tracking App," IEEE Conference Proceedings, 2022.
[6] Ramesh, M., Priya, V., "Location-based Personal Safety Mobile System," International Journal of IoT and Software Applications, 2023.
[7] Nithya, S., Harini, P., "Voice Activated Emergency Mobile Application," Journal of AI and Mobile Computing, 2022.

[8] Deepa, L., Arun, K., "Smart Mobile App for Women Safety," International Journal of Advanced Computer Science, 2021.
[9] Bhavani, T., Rajalakshmi, P., "GPS Enabled Safety Alert Application," Software Systems Journal, 2022.
[10] Sangeetha, M., "Mobile Security Application for Women Travellers," International Research Journal of Engineering .