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MOBILE APPLICATION FOR WOMEN SAFETY

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Abstract : The Mobile Application for Women Safety is an Android application designed to provide a sense of security and support for women in vulnerable situations. This personalized approach ensures that users can access features tailored specifically to their safety needs, fostering a sense of trust and reliability, users can register and login with their details, enabling access to features tailored for their safety. Application provides the robust security where the details of the user include name, mobile number and password. This application not only enhances situational awareness but also facilitates swift assistance in times of distress. The features of the application include real-time location tracking, users awareness about the nearby individuals and seek help or provide aid as necessary, creating a support within the community .Users can receive SOS alerts from nearby individuals and provide aid when needed. This application leverages technology to foster a supportive community and enhance the safety and well-being of women. The Mobile Application for Women Safety represents more than just a technological innovation. Through its user-friendly interface, robust features, and emphasis on women security, the application stands as a testament to the power of technology to effect positive social change.

Keywords: Women Safety, Android Application, SOS Alerts, Audio and Video Capabilities, Nearby Users

1. INTRODUCTION

At a time of sweeping technological change and social advancement, which pushes human progress forward, there is still the urgent need to bring about well-being and security of women as our top social priority. Women Safety App is an exhaustive, brand-new solution that is based on modern technology and designed to offer immediate, accurate help for women faced with danger. The prime purpose of this app is to empower women. It includes a suite of new features which greatly enhance personal security. After safe registration and login, users can enjoy a rich variety of functions helpful in swift communication and getting assistance when needed., ensuring they are addressed promptly. Key features of the application are real-time location sharing, the power to send an SOS with video capabilities. The application is designed with the fundamental motto of empowering women by providing a reliable and accessible tool that significantly enhances their safety and overall well-beingin the society. A user-friendly interface provides ease of use for all people. A robust and secure registration and login process is critical to protecting user data and ensuring privacy. Built using Java and Kotlin, and MySQL database for backend storage.

By leveraging GPS and location-based services, the app displays a map showing other users with the near by users .Real-time location sharing is a crucial component of the app's functionality. Users can share their live location or nearby users, enabling them to track their movements in real-time. In critical situations, the application allows users to send SOS alerts that include both audio and video capabilities. By focusing on these key objectives, the application aims to create a safer environment for women, ensuring they have the tools and support needed to feel secure and protected at all times.

This paper details the existing system, proposed system and its design, results and conclusion of the Women safety application. The paper also explores several potential enhancements to further improve and include more functionality and user experience will extend the application's capabilities.

1.1 PROBLEM STATEMENT

Current systems often fail to provide timely assistance in emergency situations, leaving women vulnerable to various threats. There's a need for a mobile application that enables women to easily connect with nearby users, send SOS alerts with audio and video capabilities, and receive assistance promptly, ensuring their safety and well-being. Users often face challenges in quickly connecting with nearby individuals for aid. Existing communication tools may not provide adequate support in critical situations. Our app aims to address these gaps by offering a comprehensive platform that leverages location-based connectivity and multimedia communication tools to empower users in seeking timely assistance and enhancing personal safety.

1.2 OBJECTIVE OF THE PAPER

The objective of this project is to develop a comprehensive Mobile Application for Women Safety on the Android platform. The application aims to empower women by providing them with a reliable and accessible tool to enhance their safety and well-being. Key objectives include Real-time Location sharing, send SOS alerts with audio and video capabilities in emergency situations.

2. EXISTING WORK

The existing system, has limited functionality and outdated features severely hinder its efficiency in providing timely assistance. Without real-time communication capabilities, the system fails to offer immediate support during emergencies, leaving users vulnerable and exposed to potential threats. The absence of comprehensive safety features exacerbates the system's shortcomings, further compromising its reliability in critical situations. The outdated nature of the system poses significant challenges in terms of scalability and adaptability to evolving safety needs. With technology constantly advancing, the system's inability to keep pace with modern advancements limits its effectiveness and relevance in addressing contemporary safety concerns. The lack of functionalities such as real-time location tracking and multimedia SOS alerts significantly diminishes its ability to facilitate swift and effective responses to emergencies. As a result, users may face delays in receiving assistance, increasing the risk of harm or danger.

Limitations of Existing System

The following are the limitations for the existing work:

- The system may rely on outdated technology, leading to potential vulnerabilities and inefficiencies in providing timely support to women in distress.
- Due to its limited functionality and outdated features, the existing system may struggle to engage users effectively, resulting in reduced utilization and effectiveness in promoting women's safety.
- Reduced user engagement results from limited functionality and outdated interfaces.
- Ineffective emergency response due to the absence of real-time communication capabilities.
- Difficulty in accessing critical safety features due to complex navigation and interface design.
- Inability to provide comprehensive assistance, such as real-time location tracking and multimedia SOS alerts, diminishes the system's effectiveness in addressing diverse safety needs.
- Limited adaptability to evolving safety needs and technological advancements.

3. PROPOSED WORK

The proposed Mobile Application for Women Safety is an solution designed to provide women security. secure login and signup process in the application. upon the login the user current location of the user will be displayed. and It allows users to get awareness about the nearby individuals. In the time of emergency the user can sending SOS alerts in emergency situations, with audio and video capabilities. Users can also receive SOS alerts from nearby individuals and offer help to the people. With a user-friendly interface and strong security, the proposed system aims to empower women to seek help readily, by providing a safer environment and promoting their well-being, Overall, the proposed system aims to empower women to take control of their safety and well-being, creating a environment where they can feel secure and protected. By fostering a safer environment and promoting mutual support among users, the application seeks to create a community where women can feel secure and protected at all times.

4. EXPERIMENTAL RESULTS

The Women's Safety Application is a robust tool crafted to empower women with enhanced personal security and peace of mind. Through its comprehensive features, including an emergency alert system, real-time location tracking, the app offers users swift access to help and support in critical situations. The following screenshots will help you understand the system's functionalities and how it works and help women in emergency situations. The splash screen in an Android application serves as the initial interface displayed to users upon launching the app. It typically consists of a branded image, logo, or that appears for a brief period before transitioning to the main activity or home screen of the application. The primary purpose of the splash screen is to provide users with a visually appealing introduction to the app while the necessary resources are loaded in the background. the splash screen reinforces brand identity by prominently displaying the app's logo(women), creating a memorable first impression for users.

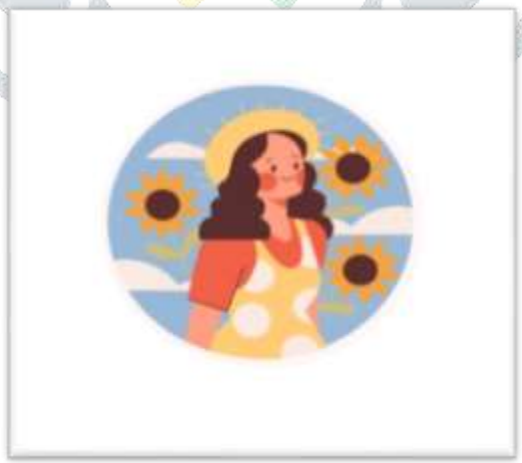


Fig. 4.1: Splash Screen

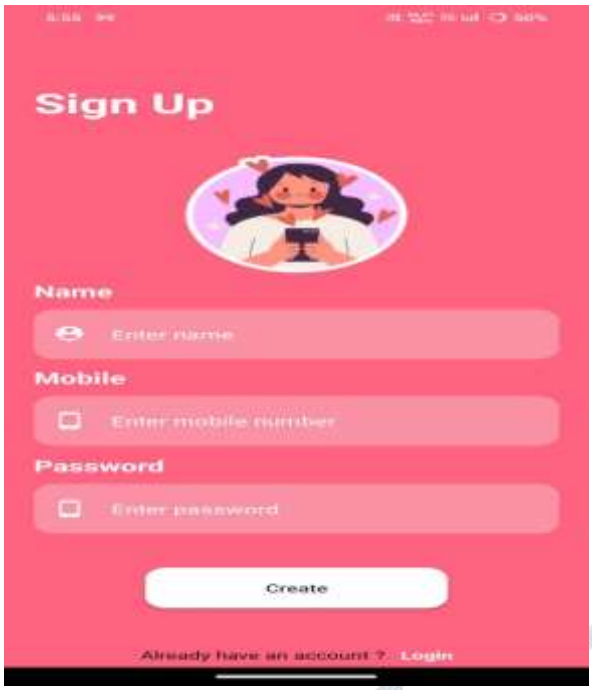


Fig4. 2: Sign-up Screen

Fig4. 3: Login Screen

The login and signup pages serve as crucial entry points for users to access the features and services offered by the application. Both pages incorporate essential fields for user authentication and registration, ensuring a seamless and secure user experience. Additionally, the inclusion of relevant imagery, such as the college logo and women's safety wing logo, adds visual appeal and reinforces the app's identity and purpose.The signup page allows new users to create an account by providing their personal information. It includes the following field Mobile Number,Password. The following visual element on the screen are College Logo and Women's Safety Wing Logo

Fig4. 4 current location Screen

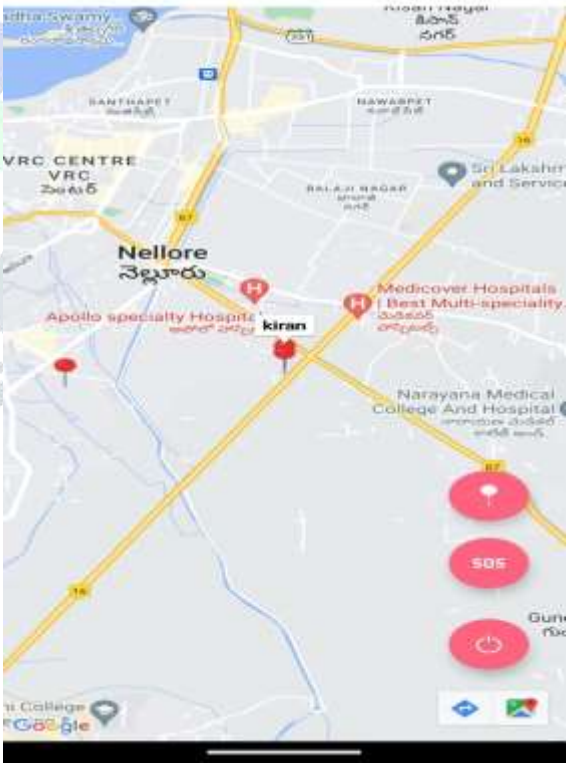


Fig4. 5.Near by users

In the Women Safety App, users can view their current location on a map and identify nearby individuals who can offer assistance. The app utilizes GPS technology to accurately display the user's position and nearby users within a specified radius. Through markers or pins on the map, users can visualize their surroundings and quickly locate potential sources of help in case of emergencies. The feature of locating nearby users using pin symbols enhances user safety by facilitating quick access to potential sources of assistance

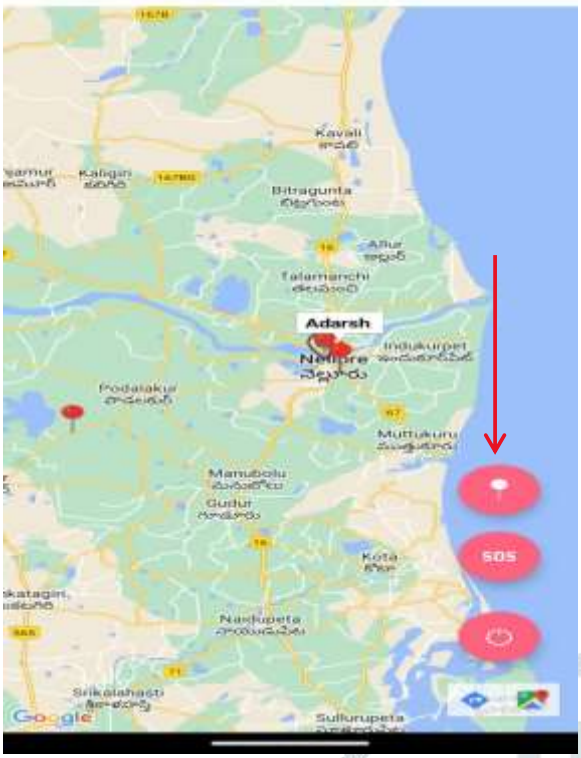


Fig4.6.Emergency Alerts

Fig4.7.SMS received by the nearby user

In the Women Safety App, users can press an alert button to quickly notify nearby contacts in emergencies. This triggers the sending of an SMS containing a distress message ("Please help me, I am nearby you") along with the user's live location. Recipients receive this information immediately and can respond promptly to aid. This feature prioritizes by sending the immediate alerts to the nearby users and also receives the alerts from nearby users who are in emergency situation. It offers peace of mind to users in distress and enables swift communication and aid during critical situations. On clicking the alert this feature prioritizes by sending the immediate alerts to the near by users and also receives the alerts from near by users who are in emergency situation. It offers peace of mind to users in distress and enables swift communication and aid during critical situations. The above figure demonstrates the alert received by the near by user from the victim in the emergency circumstances

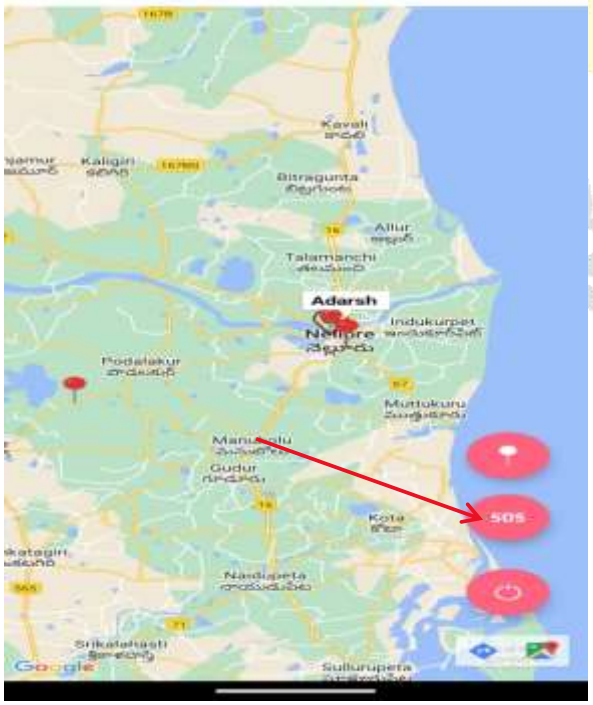


Figure.4.8:video alert

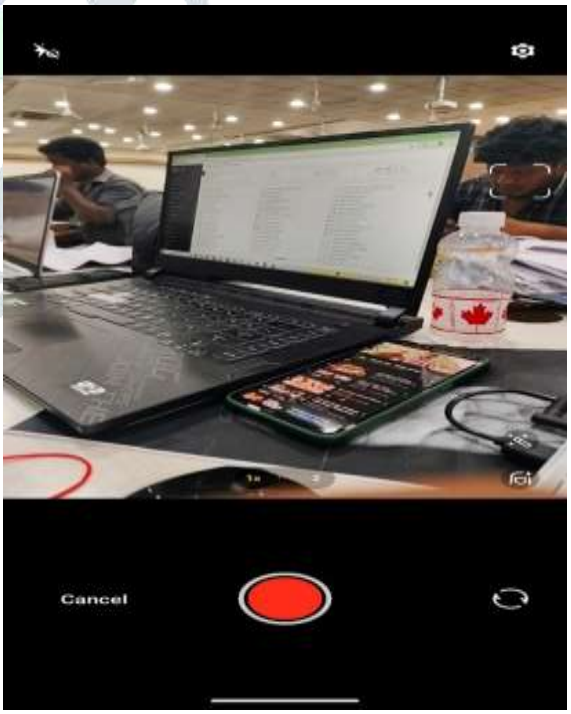


Fig: 4.9. video recording

In the Women Safety App, pressing the SOS button opens the device's camera module, allowing users to start recording video for up to 60 seconds. This feature enables quick access to video documentation during emergencies. Users simply activate the SOS button, which triggers the camera app to launch automatically. They can then begin recording by tapping the record button within the camera interface. The app ensures user privacy by initiating recording only when the SOS button is pressed. This functionality empowers users to gather crucial visual evidence in emergency situations, aiding in subsequent investigations or legal proceedings.

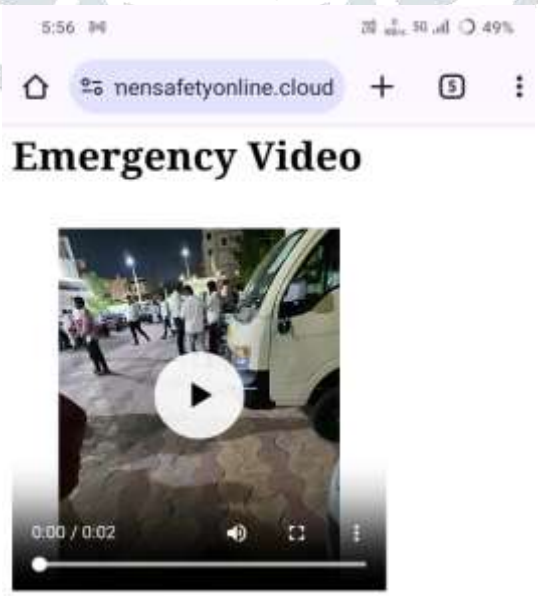
Upon clicking the sos button the app redirects us to the camera, through which we can record the video. The duration of the video is 60 sec which will be recorded and sent to the all nearby users.

Fig: 4.10. Sending video to nearby users

Fig: 4.11. SMS received by the near by user

After recording a video in the Women Safety App, users are directed to a screen where they can send the video to nearby contacts for assistance. They simply select the "Send" option, choose the nearby users they want to send the video to, and confirm. The app then securely transmits the video data to the selected contacts in real-time. Nearby users receive notifications about the received video along with details about the sender's location and the emergency This feature ensures swift communication and assistance during emergencies while prioritizing user privacy and control over the sharing process On clicking the alert this feature prioritizes by sending the immediate video alerts to the nearby users and also receives the alerts from nearby users who are in emergency situation. It offers peace of mind to users in distress and enables swift communication and aid during critical situations. The above figure demonstrates the video alert received by the nearby user from the victim in the emergency circumstances

Fig: 4.12. Video Accessed by the near by user



5. CONCLUSION

In conclusion, the Mobile Application for Women Safety stands as a beacon of empowerment and support, leveraging technology to foster a safer environment for women. With its intuitive features allowing for swift communication and assistance, it enables users to navigate vulnerable situations with confidence. By promoting community-driven aid and facilitating rapid response mechanisms, the app embodies a commitment to women's safety and well-being. As we embrace innovation for social good, this application serves as a testament to the potential of technology in creating positive societal change Women Safety Mobile

Application is a stable and solid platform that ensures complete security and effectiveness for women based on the latest technologies' integration.

6.SCOPE FOR FUTURE WORK

In the future, this Mobile Application for Women Safety can be developed by incorporating intelligent AI based algorithms which can study the behavior of users and identify the pattern of users in case of distress. The application can also use location tracking feature to determine the exact location of the user in case of emergency. Geofencing can be incorporated within the application based on the location data of the user to track the movement of the user. Integration of IoT devices or wearables with this application can help in continuous monitoring of the user and can automatically send the SOS alert in case of any emergency. The app can also be developed with more engaging and helpful features like forums for discussions and creating a sense of community among the users to help each other in times of need. Such advanced features can surely increase the efficiency of the app in making India safer and more secure for women.

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