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Disha: Empowering Women with Safety and Security at Their Fingertips

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ABSTRACT: Women's safety is a big concern which has been the most important topic till date. Women safety matters a lot whether at home, outside the home or working place. Few crimes against ladies particularly violence cases were terribly dread and fearful. Most of the women of various ages, till this day are being subjected to violence, and domestic abuse. As ladies ought to travel late night generally, it's necessary to remain alert and safe. Although the government is taking necessary measures for their safety, still, there are free safety apps for women that can help them to stay safe. Most of the females these days carry their Smartphone with them, so it is necessary to have at least one the personal safety apps installed. Such a security app for ladies will definitely facilitate in a way or the opposite. This is user-friendly application that can be accessed by anyone who has installed it in their smart phones. The main motive of the project is to provide you fastest and simplest way to contact your nearest people help with the help of in-built Smartphone sensors. The key features of our project are, Smart24x7 app is available FREE, By just shaking Smartphone (using Accelerometer Sensor) SMS will be shared with location in case of emergency, This application sends the live location of the user, By just moving our hand close to app (using Proximity Sensor) SMS will be shared with location in case of emergency, The recorded voice and snap is sent as a message to the relatives and neighbours.

I. INTRODUCTION

Over the years, several urban economics models of commuting transportation choice, which balance monetary cost against journey time, have gained much popularity world-wide. In the context of such models, the acceptance of a concept like automobile-sharing can be primarily attributed to the reduction in travel costs of passengers. Such costs are mostly connected with fuel costs, toll costs, and workplace parking costs Since it's widely recognized that technology has made a significant impact on our lives, it would be safe to conclude its role in shaping people's choice regarding modes of transport. While such endeavors have successfully managed to increase financial savings, reduce travel costs, account for more convenient parking and easier commute-all while making a significant impact on the curbing of environmental pollution [3], they enjoy limited success in a country like India. Perhaps, one plausible

Explanation could be that a majority of India's working class prefers using public transports like the metros over undertaking travel in other private vehicles owing to their cost effectiveness. Another possible explanation could be the perception that Indians have about such practices posing a threat to the safety of the commuters (especially women) as these applications lack the mechanisms which support user verification and communication with fellow poolers without identity disclosure.

II. LITERATURE REVIEW

Anup CJ et al, supposed to told a remedy to safeguard women from these situations by designing a gadget like a typical belt. This design consisting of GPS, GSM, Zapper, Buzzer circuit. When women feel unsecured, they can use the gadget which is having an emergency button.

Controller in that activates the GPS, GSM in order to identify the location and to transfer the misery message to the trusted people and to the control room during the time ofthe attack with their exact location. Zapper circuit produce shock which has high voltage to give a non-deadly stun to the aggressor. Buzzer also gets activated which produces boisterous yelling sound to get nearby individuals for help. Hence, they are escaped from the danger.

Shreyaasha chaudury et al, the author proposed an IoT (Internet of thing) based women safety device which connects devices to the internet using sensors and a suitable platform. This IOT sensor is placed on the health monitoring equipment's to monitor the patient's health condition. This monitors the status ofthe patient and sent to the doctor ifthey are in need of treatment. By this way, it is useful for the doctors and it avoids the risk in the patient's life.

Swati Sharma et al,proposed a system which is designed with a small handy equipment which could be kept in the purse, when they are in the critical situation the button available in this device can be pressed and their location can be tracked by the police control room and their family members through the website.

Junaid Mohammed et al, the author's proposed a system to monitors patient, ECG wave anywhere in the world using IOIO-OTG Microcontroller. For monitoring ECG, anAndroidapplication has been developed for the quick access. IOIO-OTG microcontroller is connected to android phone using USB cable. Using that android application, the collected data or ECG wave can be monitored and stored.

Vijayalakshmi et al, proposed a scheme to improve the women safety by using GPS and GSM model.A small device with a buzzer and microcontroller is designed, and it can be placed on band or watch. When any insecure situation, the woman can make use of this device to send alert SMS by pressing this buzzer to predefined numbers(5 members). But this scheme cannot generate automatic alert SMS. Instead, it requires the human interaction during a panic situation.

Jakuryamaekawa et al, proposed a scheme to determine user's current location preference using user's coordinate point, user's location information is disclosed to external providers even if this is not user's wish. A local Wi-Fi network is used to detect a user's location privacy preference.This enables to save energy and protect a user's private location.The disadvantage is Wi- Fi won't be available at everywhere and will be limited in space.

III. METHODOLOGY

The methodology for empowering women with safety and security at their fingertips involves a multi-faceted approach. It includes developing and promoting user-friendly safety apps, implementing emergency response systems, and providing education and awareness on self-defense, digital safety, and risk management. Additionally, it focuses on creating support networks and communities where women can share experiences, resources, and support one another. By leveraging technology and social support, this methodology aims to enhance women's sense of security, promote independence, and foster a culture of safety and empowerment.

Existing System Disadvantages

- ➢ Limited awareness and accessibility of safety resources and technologies.
- ➢ Privacy concerns and potential misuse of personal data and location information.

PROPOSED SYSTEM:

The proposed women safety device aims at proving complete security to women in current scenarios. Sending text messages ensure that close relatives and police gets alerted with the current location of victim. An android application is developed to provide additional safety features like sending group messages, audio recording and identifying nearby safe location in map.

Proposed System Advantages

- ➢ Enhanced accessibility and usability of safety features.
- ➢ Personalized support and emergency response, empowering women to feel safer and more confident.

SYSTEM ARCHITECTURE

Software design is a process of problem-solving and planning for software Solution. After the purpose and specifications of software are determined, Software Developers will design or employ designers to develop a plan for a solution. It includes low-level component and algorithm implementation issues as well as the architectural view.

MODULES:

1. **Client:** The client module for empowering women with safety and security at their fingertips is designed to provide accessible, user-friendly tools and resources. Key features include a panic button/SOS alert, real-time location sharing, safety alerts and notifications, a community support forum, a resource directory, and self-defense tips. This module aims to enhance women's sense of security, promote independence, and foster a supportive community, ultimately empowering them to feel safer and more confident.
2. **Token:** The Token module for empowering women with safety and security at their fingertips is a digital solution that provides a secure and personalized token to women, granting them access to a range of safety features and resources. This token can be used to trigger emergency alerts, share location with trusted contacts, and access support services, thereby enhancing women's sense of security and empowerment.
3. **Authorization Code:** The Authorization Code module for empowering women with safety and security at their fingertips ensures secure access to safety features and resources. This module generates a unique code, sent to trusted contacts or authorities, granting them temporary access to the woman's location or emergency alert system, thereby enhancing support and response in critical situations.
4. **Block chain Ethereum:**The Blockchain Ethereum module for empowering women with safety and security at their fingertips leverages decentralized technology to ensure secure, transparent, and tamper-proof data management. This module utilizes Ethereum's smart contracts to facilitate trusted interactions, such as emergency alerts, location sharing, and identity verification, thereby providing a robust and reliable safety ecosystem for women.

IV. IMPLEMENTATION The implementation for women with safety and security at their fingertips involves developing a mobile app or platform that integrates features like emergency alerts, location sharing, and community support. This solution utilizes technologies like GPS, blockchain, and AI to provide a secure and user-friendly experience, empowering women to feel safer and more confident in their daily lives, with a focus on accessibility, reliability, and effectiveness.

V. EXPERIMENTAL RESULTS


Send SOS
in
START SMS ALERTS
STOP SMS ALERTS
Helpline Numbers
HELPLINES


Women In Distress
Domestic Abuse
Police
Student / Child Helpline
Ambulance

CONCLUSION:- The proposed womensafetydevice aims at provingcomplete security to women in current scenarios. Sending text messages ensure that close relatives and police gets alerted with the current location of victim. In case women feels need of self- defense she can make use of shockwave generator to temporarily incapacitate the perpetrator. An androidapplication is developed to provide additional safety features likes ending messages,audio recording and identifying near by safe location in map. The project presents the prototype of a smart device for women safety, performance metrics have to be considered for further analysis to prove its efficiency.

VII. FUTURE ENHANCEMENT

Developing a machine learning-based anomaly detection method to identify authentication protocol attacks or misuse of Single Sign-On (SSO) authentication tickets is crucial for strengthening digital security. As cloud computing and SSO mechanisms proliferate, the risk of unauthorized access and malicious activities grows. Advanced machine learning techniques offer a proactive defense by analyzing user authentication logs, network traffic, and system events to detect subtle deviations from normal behavior indicative of potential threats. This approach involves data collection, preprocessing, model training, and real-time alerting, leveraging both supervised and unsupervised learning algorithms to distinguish between legitimate and suspicious authentication events. Integrating anomaly detection with real-time alerts allows security teams to swiftly respond to threats, prevent unauthorized access, and enhance authentication controls. Continuous refinement of these models helps adapt to evolving cyber threats, maintaining the integrity and security of authentication protocols in the dynamic digital landscape.

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