

IOT Based Women Tracking and Security with Auto-Defender System (WSD)

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Abstract: Thousands of people are daily mistreated, assaulted, and abused on a daily basis by their ex-partners or present partners. In this way, electronic surveillance might be a useful tool in ensuring victim protection. Ambient Intelligence (AmI), which is based on ubiquitous computing, is a promising approach to making technology adapt to people in order to solve the challenge of developing strategies that allow for the early detection and prevention of problems in safety environments and, more specifically, the protection of people in risk situations, such as cases of mistreatment or loss. Using the integration of GPS, GPRS and ZigBee technologies, this article describes Guardian, an integrated solution for increasing the protection of mistreated and at-risk persons. The system basic architecture, proposed wireless devices, and the system-to-device communication protocol are all presented. Also shown and tested is a first hardware and software prototype.

Keywords: Women Safety Device, GPS, Raspberry pi - 3, Sprinkler, Webcam, Buzzer, HCA, WSD

I. INTRODUCTION

According to the National Crime Records Bureau, there were a total of 228,650 rape incidents registered in India in 2011, with 5234 of them reported in Delhi, the national capital. In 2011, the Ministry of Home Affairs reported a total of 24193 rape crimes. Because of its social shame, rape is a chronically under reported crime. It is sad for the entire world that a woman is raped every 21 minutes in India, and every 18 hours in Delhi.

The fundamental causes of such appalling statistics are discrimination towards girls in society, a lack of efficient policing, ineffectual regulations, and so forth. While long-term remedies should try to address the aforementioned issues. A change is now required.

We, the “Dream Team”, created “Smart Watch for Women” after watching such poor situations for women around the world. Because of the technologies built in it, this “Smart Watch for Women” has the potential to help women. “Women Smart Watch” offers a watch that is specifically built for women safety. It features a button that ladies will press to alert surrounding cops if they feel threatened. When the watch is turned on, it automatically connects to the satellites through GPS. The location is then transmitted via GSM, and in an emergency, this watch is equipped with a technology that generates 60 shock waves in one second.

II. LITERATURE SURVEY

[1] “Arduino UNO -based women safety system with built-in safety app”

Brutal crimes against women occur on a regular basis in India, it is a well-known reality. Many Indians now openly discuss eve-teasing, sexual assaults, and rape. Even ordinary people’s street talk frequently revolves around the increasing and horrifying attacks on women. The “Virtual friend” technology was created with the help of ladies in distress in mind. It’s a device for women who are caught up in a tangle. The fundamental strategy is to use the Arduino UNO microcontroller, which is based on the ATmega328P and has the ability to send and receive data via the GSM network, as supplied by the Arduino GSM shield.

The coordinates of the current location are obtained by Arduino UNO, which then sends the coordinates to the user’s smartphone using the Arduino GSM shield. The SOS light is a signal that alerts passers-by and indicates that the person in distress is in need of universal assistance. If the woman is in a dangerous scenario, the alert will sound. In an emergency, the woman uses GSM and GPS to send a message or make a phone call to the registered contacts, including the location of the particular occurrence.

[2] “A Women’s Security Smart Alarm System”

This paper goes over the features of a smart alarm system for women’s safety. Women all throughout the world are subjected to a great deal of dishonest physical annoyance. Due to a lack of a suitable inquiry mechanism, this develops at a rapid speed. The system resembles a wristband with a pressure switch as an input that, when triggered, produces a

loud alert for self-defense purposes and sends location and messages to emergency contacts. The entire procedure will be carried out using an Arduino Microcontroller. The controlling unit and the digital switch are integrated. The emergency message is sent to the server unit through GSM SIM 800A module every time the user clicks the digital switch. The physical harassment of women will be decreased if the proposed method is put into place.

[3] “Arduino-Based One-Touch Safety Alarm for Women”

Our country has laws and has progressed economically, but there are still many women who are abused. With the help of the indicated product, these actions can be put to an end. This device is a defence mechanism built specifically for women in difficult situations. The ARM controller was employed as the method and analysis device. It's the most efficient system and consumes the least amount of energy. The ARM controller indicated above is used for the tracking mechanism. The ARM controller is attached to a tracking system known as GPS. The capacitive sensor must be squeezed for fractions of a second to alert locate, and it can send emergency messages to emergency contacts with intent location, and the buzzer will warn surrounding people for assistance, after which tear gas will be launched. As a result, victims will have ample time to use our programme to flee from strangers.

[4] “Arduino-Based Women’s Security System”

Women nowadays face numerous issues such as rape, molestation, and kidnapping. This one-of-a-kind method will aid in the reduction of female-related crime. It has been emphasised to provide security to women, particularly women in urban areas, who may experience challenges while travelling. Because the system is not prohibitively expensive, many women can benefit.

[5] “IoT-Based Smart Solution for Women’s Safety”

Women nowadays are confronted with a slew of security-related issues. The planned app may track a user’s whereabouts and send notifications to surrounding police stations and phone numbers that have been scanned. This software isn’t just for rapes and perverts taunting females; it also helps people recover from any horrible situation or health crisis, such as fainting unexpectedly. The victim’s location is tracked using GPS, and messages, as well as the victim’s location to a local police station and the victim’s relatives phone numbers, are sent. This software assists ladies in overcoming their phobia of going out and doing the activities they enjoy.

[6] “Women’s Safety in Indian Cities”

Women and girls have been subjected to a great deal of violence and harassment in public locations in numerous cities, ranging from stalking to sexual harassment and sexual assault. This study article focuses on the importance of social media in enhancing women’s safety in Indian cities, with a particular focus on the use of social media websites and apps like as Twitter, Facebook, and Instagram. Tweets on youth Culture and educating people to take strict actions against individuals who abuse women on Twitter.

[7] “Smart Safety Protocol and Screaming Sensor in a Women’s Safety Jacket”

A dedicated security framework for women is depicted in this project. Women face a great deal of deceptive physical provocation all throughout the world. The framework is based on a camera mounted on the coat, which is linked to a catch that, when activated, displays the results. Electrical stun circuits are required for self-defense, as well as camera film and area subtitles for crisis contacts.

[8] “Safety for Women with a Smart Gadget”

Women’s safety has become a significant concern in today’s world, since they are unable to leave their homes at any moment due to sexual assault, molestation, and the horrors of violence[1][2]. Despite the fact that we are in the twenty-first century and in an era of rapidly evolving technology, young girls and women continue to feel insecure and face a variety of challenges. Women of today are breaking down religious barriers and working in all industries, competing with males and achieving in the fields they choose. Women from all around the country are contributing to the economy and influencing the country’s destiny.

[9] “A Portable Women’s Safety Detector and Jammer for hidden cameras”

Our society has progressed in many areas in recent years, yet there are still many crimes against women. There are no reliable methods for detecting hidden cameras, which has now become a severe problem. This technology is designed to keep individuals safe and secure by identifying and stopping the operation of a spy camera. Hidden camera are less expensive and smaller in size, making them easy to put practically anywhere. It finds use in places where cameras are not permitted.

III. MACHINE LEARNING ALGORITHMS TO PREDICT CHRONIC KIDNEY DISEASE (CKD)

Machine Learning algorithms are capable of learning from the info we tend to provide. As new data is provided, the model's accuracy and potency to create choices improve with the resulting training. Here, machine learning algorithm we used to predict Women tracking and Security with Auto-Defender System.

A. HAAR CASECADE ALGORITHM

Haar Cascade is a machine learning object detection algorithm used to identify objects in an image or video. It is a machine learning based approach where a cascade function is trained from a IOT of positive and negative images. It is well known for being able to detect faces and body parts in an image, but can be trained to identify almost any object. First step is to collect the Haar Features. A Haar feature considers adjacent rectangular regions at a specific location in a detection window sums up the pixel intensities in each region and calculates the difference between these sums.

CONCLUSION

The project allows for the creation of a design for women who are currently confronted with a variety of difficult situations, and it will aid the scientific clarification of these situations using a compacted kit and concept. Using a wristband and spectacles, a process similar to tear gas emission is used to broadcast messages to the location. The pain of every women in the globe over her assurance and security may be traced back to the above-mentioned commodity.

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