

GSM & GPS BASED WOMEN SAFETY SYSTEM BASED ON ARDUINO

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Abstract— In sophisticated cosmopolises, securing the salvation of women may be an urgent need. Women's redemption remains a global analysis even though many legal and scientific pathways are being pursued over the world. Enforcement authorities alter illegal archives, which are frequently inaccessible to the general public in an understandable format. While there are certain wearable bias devices and smartphone applications that claim to be the women's salvation, they only involve a little amount of societal intervention. When it comes to protecting the ladies as needed, they are not very effective. The crime response, crime analysis, and crime prevention strategies almost always feel disjointed and leave gaps in women's salvation. Our primary goal is to create a framework for crime prevention and emergency response leveraging societal participation in women's safe operations. This study uses the Geographic Data System (Civilians) to pinpoint crime hotspots and patterns. For crime response, analysis, and prohibition, the suggested system combines data from the mobile operator and/or wearable device prototyped as a component of this study. While the designed wearable or mobile device gives the average person a cost-effective outcome, the many components are combined into a website for executive operation and might be used by law enforcement organisations.

Keywords— *women's safety; wearable bias; emergency response; Geographic data system.*

I. INTRODUCTION

One of the biggest challenges in the world now is the protection of women. In today's environment, the majority of women leave their homes for employment at any time. While numerous technologies are introduced for girls still hijacking, dusk teasing and importunity are happening in our nation. The number of crimes against

women has somewhat increased recently. Women get tired not only in the evening or at night, but also at events, at work, while shopping, etc. during the day. There are many women that are afraid of outsiders for their own protection. About 80 cent of the women in our nation worry about their safety. In once decades women's generally wo n't venture out from their house for work, so there was more safety. But within the recent situation, women's want to use

and need to figure outdoors, but there is the deficit of safety; colourful systems are erected to give safety for girls. Each system uses a definite nicely ways to descry the unsafe situation of ladies. A number of them used fear detectors to descry the condition of the ladies by twinkle change in women's body. In the worst case scenario, whenever we press a switch in those days with a position location, a message requesting assistance is conveyed to the Control station that is set up for the memory IC. When a problem arises, one must press the regulator's input switch, and the regulator also assists in positioning the GPS device toward the Garmin. So that they are aware of the location and can protect the seeker, the concerned Authorities. A computer system that is designed to continuously carry out one or more dedicated tasks while under real-time processing restrictions qualifies as a bedded product. In contrast, an all-purpose computer, or pc, is designed to be adaptable and to meet a variety of criteria for finish-stoners. In order to start the gadget as low as feasible, the handle for such product is typically designated. This means that the programmer must make do with sluggish processors and patchy memory while still spending time fighting for an efficiency factor that is not present in the majority of PC operations. A list of problems unique to the bed field may then appear. "An earlier mass- created bedded system was the Autonetics D- 17 guidance computer for that Minuteman bullet, published in 1961".

II.LITERATURE SURVEY

Over the last few millennia, India's status of women has seen numerous significant changes. The history of women in India has been turbulent, going from having equal status with men in the past to the low moments of the mediaeval era to the advocacy of equal rights by numerous reformers. Women have improved high-ranking positions in contemporary India, including those of Speaker of the Lok Sabha, Leader of the Opposition, President, and Prime Minister. According to a global survey by Thomson Reuters, India is the fourth most hazardous country on earth for women and the worst country for women among the G20 nations. Women in India still endure social hurdles and are frequently the targets of abuse and violent assaults. "A 23-year-old lady who was riding in a bus at 9:30 PM was the victim of an incident that may have been a gang rape in the Indian capital of 2013". These are some of the several difficulties that affect women on a daily basis. The IT businesses are anticipating the security vulnerability and require a system that can effectively assess the issue of girls employees' security when working night shifts. It is regrettable to note that during the past ten years, crimes against women have increased significantly. "The National Crime Records Bureau estimates that 93 women were physically abused daily in India in 2015". Rights advocates, however, assert that given the stigma associated with sex crimes and the apparent lack of reporting of many incidents, the data are probably not an accurate reflection of the scope of the problem. "All-India Progressive Women's Association secretary Kavita Krishnan cautioned people to exercise caution when analysing the numbers". " The death in December 2012 of a woman who was gang-

raped on a bus in New Delhi brought sexual violence against women in India to the attention of the world”. The savage assault led to huge protests across India about the high rates of violence against Indian women and children as well as domestic and international condemnation. Attacks and other forms of violence against women have been increasing at a startling rate in recent years.

III.EXISTING SYSTEM

The existing system consists of several mobile operations available for women's safety. The majority of these actions are reactive; they can trigger an alert if the user is in danger. These operations give the means to communicate with the police, named contact persons, or guardians when triggered. Transferring warnings to connections at a faraway location, however, may not be of much service because only

technology to connect to a smartphone for mobile use and use the smartphone's characteristics to send warnings to specified connections, police.

IV.PROPOSED SYSTEM

The proposed system consists of a prototype system that can be thought of as a wearable device that transmits signals whenever the women are in danger. Due to the fact that every city is different, we recommended that in order to effectively ensure the protection of women, community should really be involved rather than exclusively relying on law enforcement.. The use of wearable gadget is optional. Wearable gadget designed in the system can be utilized as a standalone device and hence, can be used to trigger alerts even when the smartphone is not active.

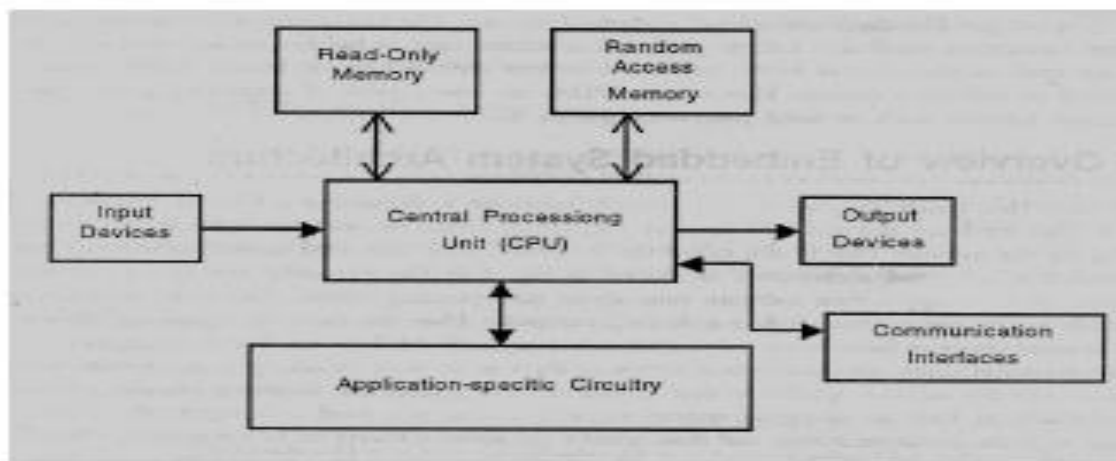


Figure 2 block diagram of proposed system

the police force will be able to provide assistance. If anyone goes to a distant position down from the connections utmost of the operations don't offer backing in advising women about a peril-prone area. A lot of the current apps employ Bluetooth

V. IMPLEMENTATION

The implementation of a women's safety system focuses mainly on three major aspects of the system they are

hardware design, software design, and working of the system.

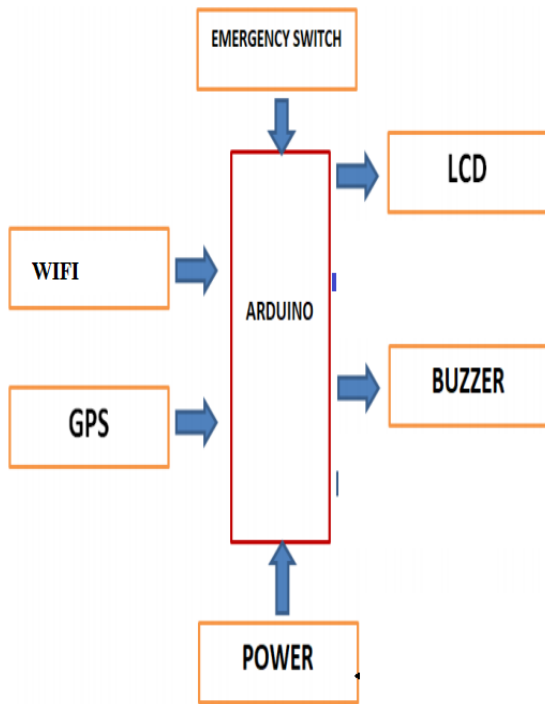


Figure 2 Block diagram of hardware setup

A. HARDWARE DESIGN



Figure 3 Arduino UNO

The design and implementation of the Internet of Things-based Women Safety System is briefly explained in this chapter. The following are the components used in making prototype of wearable device.

- Arduino Uno
- A push buttons
- Pezeo sensors
- GSM
- LCD Display
- GPS

These components are arranged in the manner shown in figure 5.

B. SOFTWARE DESIGN

The software design is done using Arduino IDE. It is open-source software that acts as an integrated development environment. It is used to write programs, compile, debug and assembling. The following are the steps to be followed to setup the Arduino IDE

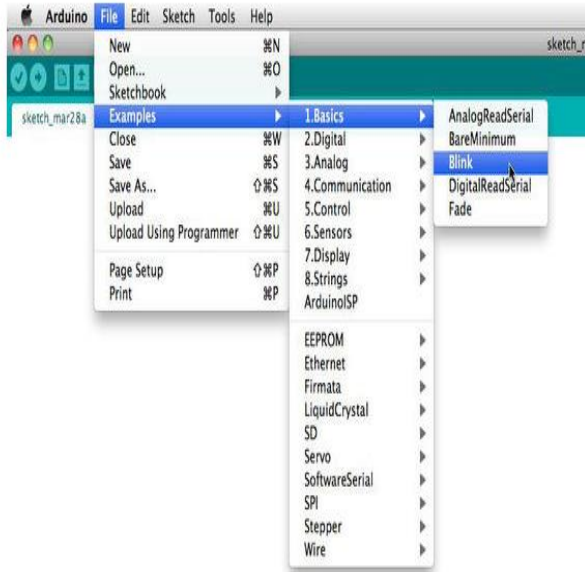


Figure 4 Software setup

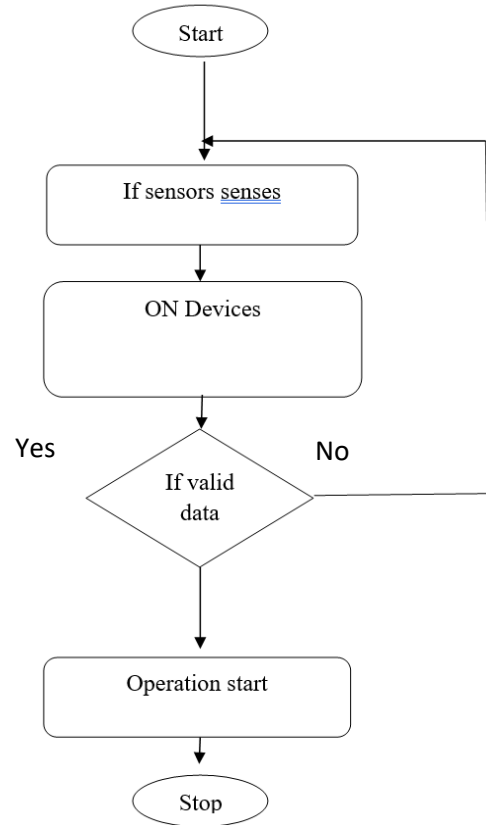


Figure 5 Flowchart of the working of IOT

STEPS TO SET THE BOARD

To set the board, attend the following:

- Tools --> Boards

To set the port, visit the following:

- Tools --> interface

Next upload the program sketch:

- File --> Examples --> 1. Basics --> Analog Read Serial

C. Working

The way this initiative operates is that any time a woman feels threatened, all she needs to do is hold on to the device's button. When the device is turned on, it uses GPS to track the whereabouts of the women and communicates that information to a server in the police control room over GSM. The following figure 4 shows the flowchart of the working of the wearable gadget.

VI.



HARDWARE RESULTS

Figure 7 Modem initialising



Figure 6 Proposed hardware system



Figure 7 Women Safe Condition



Figure 7 Message Sent

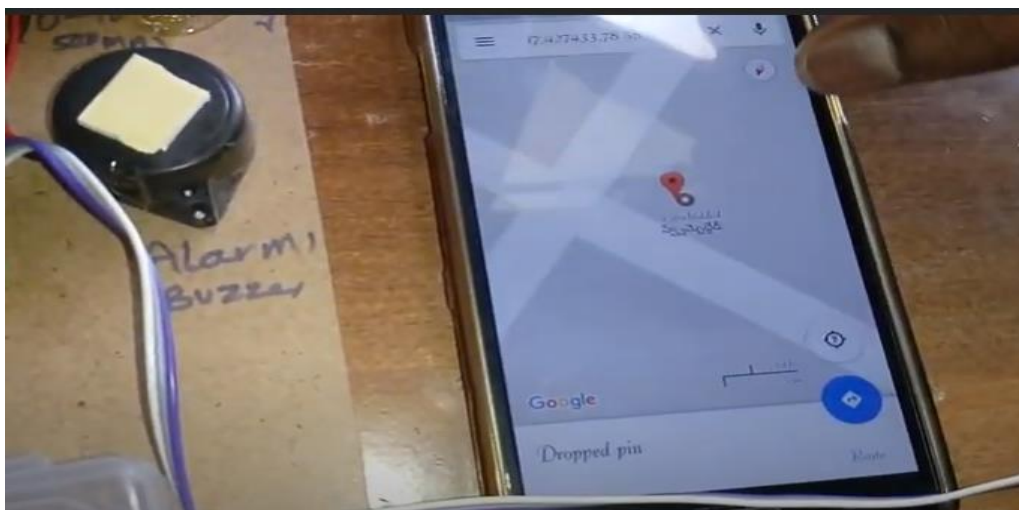


Figure 8 GPS Track

VII. CONCLUSION

This is the “**GSM & GPS BASED WOMEN SAFETY SYSTEM BASED ON ARDUINO**” which mostly for the safety of females, is a very helpful application. We will utilise this programme if we feel that we are in a life-threatening circumstance, such as when we are driving

alone in a dark cab or car. in order for us to send the station's management our location with just a click.. In addition to safety, the health condition may be sent with the placement. t mostly for the safety of females, is a very helpful application. If we believe that our lives are in danger, such as when we are alone behind the wheel of a dark automobile or cab, we will use this programme. so that we may click once to tell the management of the station our location.

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