



## WOMEN SAFETY SYSTEM WITH PORTABLE VISVUAL MONITORING SYSTEM

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### ABSTRACT:

*Women safety becomes the topmost priority of Indian government, as considering the increasing number of crime against women. Thus, it seems necessary to take a step against the crime. In today's world, people are using smart phones a lot and hence, we are making use of smart phone for the security purpose. The unique feature of this application is to send message to the contacts which has Been registered. After the button clicked on the device, the application can continuous track the location of user who is in danger. Study of crime data can help us analyze crime pattern and important hidden relations between the crimes.*

### I.INTRODUCTION OF PROJECT

A woman is a symbol of love, purity, knowledge, sacrifice, etc. peace and prosperity lie in the society where a woman is happy and honored. Remembering the goddesses you bow down to in the same house where you raise your hand at the actual goddess of your home. Nowadays, women are keeping pace with men in life, unfortunately at cost of being subjected to abuse, harassment, and violence in public and even at their own houses. They cannot step out of their houses at any time, They cannot wear clothes as per their wish, nor can they even go for work in peace. This all takes away their freedom but also loose their confidence and dreams. Due to the above reasons, it is quite apparent that there is a striving need for women security in the country. In past decades, women won't step out from their houses to work, so there was more safety. But in present scenario, women want to be

employed, and they want to work outside. But there is lack of safety

One of the third of the women may suffer from violence in her lifetime. Such incidents are more common nowadays. There are many systems that have been built to provide safety for women. There cannot be cop who always guarding the women, but there can be safety measures which women can use by them. This paper, therefore, aims to apply the current trend in technology, IOT. The Internet of Things is an ecosystem of physical objects that are accessible through the web. It refers to the ever-growing network of physical objects that feature an IP address for internet connectivity. According to National Crime Records Bureau, crime against women has significantly increased in recent years. We illustrate that how social development may lead to crime prevention. So we are developing the system which can be used to detect the crimes for the area where the person or user currently stand.

### II. LITERATURE SURVEY

**Women Safety Devices and Applications, July 2018[1]** : In this paper, paper involves few precautionary devices and applications in order to prevent problems faced by women. It helps the women deal with the problems faced in the past. The safety and security of a woman can never be at rest, no matter what new device is on the market or no matter how nice a new

application is made, there always can be something added to it. There cannot be a cop always guarding a woman, but there can be secret safety measures with them which can be easily used at the time of threat and let the nearby people know that there is something bad happening and their support is need. By keeping all these things in mind many safety devices have been made and few of them are discussed in this paper.

**Smart Device for Ensuring Women Safety Using Android App, January 2018[2]** : The proposed design is used to solve the critical situation This system can give the self-confidence to the women to face the incident which is against her safety and security. This paper attempts to deal with a community concern that has been destroying the lives of uncountable individuals and their families. A device like this improves the level of safety of women and girls. As technology is advancing, there are better means of getting on hand information about unsafe women. Since this device is smaller in size, all the women can carry it without much effort. The main purpose of the proposed system is to save the women before any intolerable incidental occurs, and this is achieved through this work.

**A Study Based On Women Security System, August 2017[3]** : Although a lot of women safety systems are already available in the market but still a more sophisticated system is required to provide more safety and security. Thus in this paper an alternative method is proposed for women security that may serve as a better alternative to rest of the available security methods. Here the system is designed around Arduino micro-controller that uses GPS, GSM, watch, shockwave generation circuit and an accelerometer for better security.

**WOMEN TRACKING DEVICE USING CONCEPT OF “INTERNET OF**

**THINGS”**, february 2016[4]: The goal of this paper is to implement prototype tracker device using GSM and GPS, based on Internet of Things. In our system we use the woman safety module for the purpose of security. Here we are using Android application as an interaction module.

### III.DESIGN OF HARDWARE

This chapter briefly explains about the Hardware. It discuss the circuit diagram of each module in detail.

#### ARDUINO UNO

The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

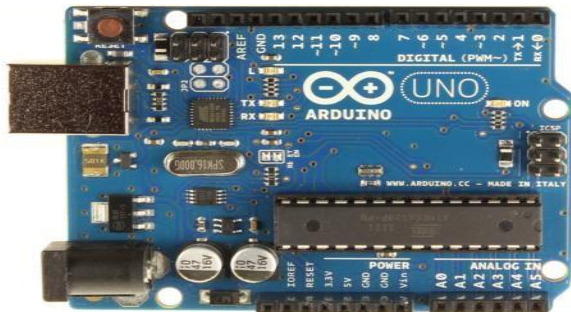
The Uno differs from all preceding boards in that it does not use the FTDI USB-to-serial driver chip. Instead, it features the Atmega16U2 (Atmega8U2 up to version R2) programmed as a USB-to-serial converter. Uno board has a resistor pulling the 8U2 HWB line to ground, making it easier to put into DFU mode. Arduino board has the following new features:

- 1.0 pin out: added SDA and SCL pins that are near to the AREF pin and two other new pins placed near to the RESET pin, the IOREF that allow the shields to adapt to the voltage provided from the board. In future, shields will be compatible both with the

board that use the AVR, which operate with 5V and with the Arduino Due that operate with 3.3V. The second one is a not connected pin, that is reserved for future purposes.

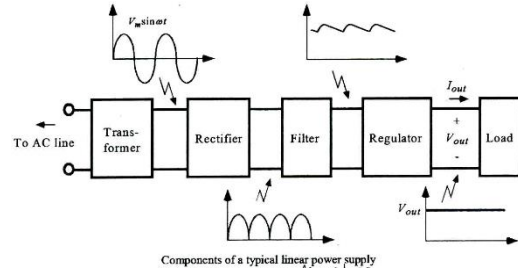
- Stronger RESET circuit.
- Atmega 16U2 replace the 8U2.

"Uno" means one in Italian and is named to mark the upcoming release of Arduino 1.0. The Uno and version 1.0 will be the reference versions of Arduino, moving forward. The Uno is the latest in a series of USB Arduino boards, and the reference model for the Arduino platform; for a comparison with previous versions, see the index of Arduino boards.



**Fig: ARDUINO UNO POWER SUPPLY:**

The power supplies are designed to convert high voltage AC mains electricity to a suitable low voltage supply for electronic circuits and other devices. A power supply can be broken down into a series of blocks, each of which performs a particular function. A d.c power supply which maintains the output voltage constant irrespective of a.c mains fluctuations or load variations is known as "Regulated D.C Power Supply".



**Fig: Block Diagram of Power Supply**

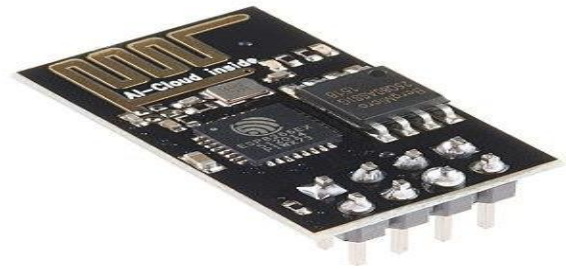
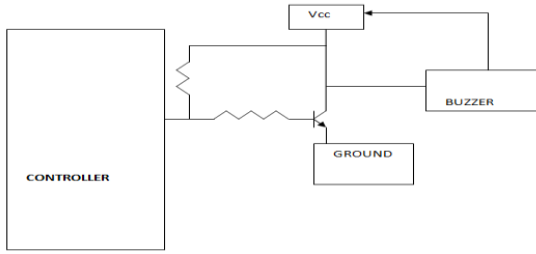
### LCD DISPLAY

A model described here is for its low price and great possibilities most frequently used in practice. It is based on the HD44780 microcontroller (Hitachi) and can display messages in two lines with 16 characters each. It displays all the alphabets, Greek letters, punctuation marks, mathematical symbols etc. In addition, it is possible to display symbols that user makes up on its own. Automatic shifting message on display (shift left and right), appearance of the pointer, backlight etc. are considered as useful characteristics.



**Fig: LCD BUZZER**

Digital systems and microcontroller pins lack sufficient current to drive the circuits like relays, buzzer circuits etc. While these circuits require around 10milli amps to be operated, the microcontroller's pin can provide a maximum of 1-2milli amps current. For this reason, a driver such as a power transistor is placed in between the microcontroller and the buzzer circuit.



### WIFI MODULE:

The **ESP8266** is a low-cost Wi-Fi microchip with full TCP/IP stack and microcontroller capability produced by Shanghai-based Chinese manufacturer, Espressif Systems.<sup>[1]</sup>

The chip first came to the attention of western makers in August 2014 with the **ESP-01** module, made by a third-party manufacturer, Ai-Thinker. This small module allows microcontrollers to connect to a Wi-Fi network and make simple TCP/IP connections using Hayes-style commands. However, at the time there was almost no English-language documentation on the chip and the commands it accepted.<sup>[2]</sup> The very low price and the fact that there were very few external components on the module which suggested that it could eventually be very inexpensive in volume, attracted many hackers to explore the module, chip, and the software on it, as well as to translate the Chinese documentation.<sup>[3]</sup>

The **ESP8285** is an ESP8266 with 1 MiB of built-in flash, allowing for single-chip devices capable of connecting to Wi-Fi.<sup>[4]</sup>

The successor to these microcontroller chips is the ESP32.

### PUSH BUTTON:

A switch is an electrical component that can break an electrical circuit, interrupting the current or diverting it from one conductor to another. The most familiar form of switch is a manually operated electromechanical device with one or more sets of electrical contacts. Each set of contacts can be in one of two states: either 'closed' meaning the contacts are touching and electricity can flow between them, or 'open', meaning the contacts are separated and non-conducting.



**Fig 4.3 : Push Buttons.**

### NODE MCU:

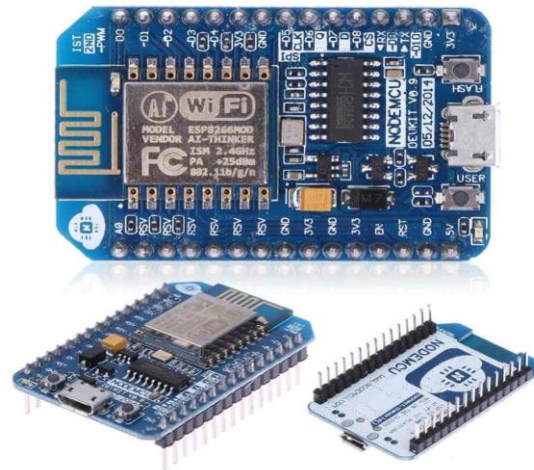
NodeMCU is a low-cost open source IoT platform. It initially included firmware which runs on the ESP8266 Wi-Fi SoC from Espressif Systems, and hardware which was based on the ESP-12 module.<sup>[6][7]</sup> Later, support for the ESP32 32-bit MCU was added

NodeMCU is an open source firmware for which open source prototyping board designs are available. The name "NodeMCU" combines "node" and "MCU" (micro-controller unit).[8]. The term "NodeMCU" strictly speaking refers to the firmware rather than the associated development kits.

Both the firmware and prototyping board designs are open source.

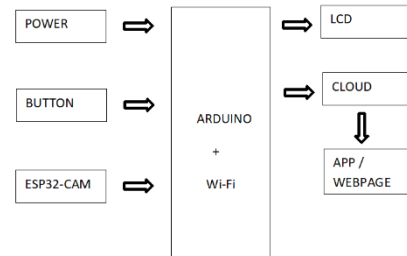
The firmware uses the Lua scripting language. The firmware is based on the eLua project, and built on the Espressif Non-OS SDK for ESP8266. It uses many open source projects, such as lua-cjson[10] and SPIFFS.[11] Due to resource constraints, users need to select the modules relevant for their project and build a firmware tailored to their needs. Support for the 32-bit ESP32 has also been implemented.

The prototyping hardware typically used is a circuit board functioning as a dual in-line package (DIP) which integrates a USB controller with a smaller surface-mounted board containing the MCU and antenna. The choice of the DIP format allows for easy prototyping on breadboards. The design was initially was based on the ESP-12 module of the ESP8266, which is a Wi-Fi SoC integrated with a Tensilica Xtensa LX106 core, widely used in IoT applications



**NodeMCU Development Board v0.9 (Version1)**

**IV.BLOCK DIAGRAM:**



**V.CONCLUSION**

The developed model will help to reduce crimes and will help the crime detection in many ways that is from arresting the criminals to reducing the crimes by carrying out various necessary measures. Android system is developed for controlling the crimes in our society, We are using KNN algorithm for finding nearest location so any necessary action will be taken by user and police stations. The product is built as lab prototype to show how the real world can implement this into their day to day life to take any precautions. The main objectives are to provide security and taking proper precautions. The main objectives are to provide security and taking proper

precautions to avoid the incident which can harm our society values.

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