

## Women Safety Night Polling Robot

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**ABSTRACT:** Given the current state of affairs regarding women's rations, the primary and most pressing worries of every girl in the ongoing global overview are connected to their protection and security. With the push of a button, the victim may activate this little device, which uses the Raspberry pi camera to snap a photo of the assailant. In view of the present situation in our main cities, the nation's focus has shifted to ensuring the safety of women. Despite the prevalence of high-tech tools and devices, people still need a simple, cheap safety device that may help them in the case of an unexpected attack. Here we'll discuss the steps involved in making a model of an electrical gadget that might one day serve as a safety belt.

### KEYWORDS:

Following a queue, safety, machine learning, image processing, internet of things (IoT), sound sensors, nocturnal patrol robots, and more.

### INTRODUCTION:

The existing system compels women to compete with men in every sphere of society, regardless of the risk to their physical or mental health posed by sexual harassment, assault, or other types of public abuse. Their attempts to return to their homes or even their places of employment are met with constant interruption. When a woman encounters limitations, her sense of autonomy, along with her values and aspirations, may be crushed. This project concentrates on that matter inside a network that is particularly created to guarantee the safety of women. Given these arguments, it's clear that protecting women's rights is a growing national priority. Many women still

feel insecure venturing out on their own, especially at night, despite the fact that women's safety has become a major focus in modern society. The overwhelming fear of experiencing sexual or physical assault is the primary factor contributing to this. If harassment in public spaces wasn't awful enough, women may also face it in the comfort of their own homes. The most effective way to reduce the chances of being a victim of violent crime (such as robbery, sexual assault, rape, or domestic violence) is to be aware of the dangers, take defensive measures, and learn about ways to help oneself escape toxic situations. A lady may remain secure and seek assistance when she needs it with this device, which shares her current location. It will come in handy in times of crisis, when she loses her friends while out, when she has been the victim of sexual assault, or when she just cannot find her way back home.

communicating her medical history by text message and phone with her coworkers and the command centre. This device not only makes it easier to get in touch with family and the police, but it also makes getting medical help much quicker.

### 1. PROPOSED METHODOLOGY:

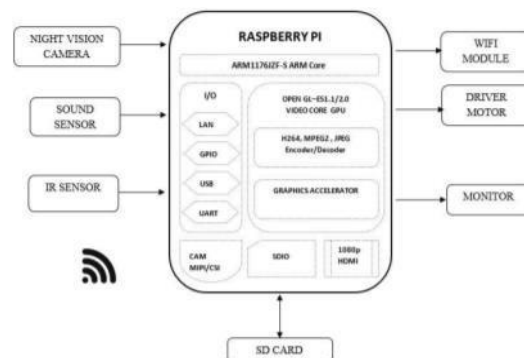
The suggested device's Node MCU has a built-in night vision camera, which allows the user to automate tasks and locate objects or problems. The device uses its built-in sound sensor to identify the detected region, then uses its Internet of Things (IoT) capabilities to automatically go there, take a picture, and communicate it to the user. In order to safeguard the larger area, the robot has a wealth of information. As soon as the obstacle is in front of the robot, it reverses

course to avoid it. Thanks to the Vision system, we can capture live photographs and movies. The robot's movement module only needs two generators to function. Less power consumption is achieved due to the reduced number of gears in the motor. Powered by a DC motor, this robot can go forward and backward on wheels. A dc engine is a device that converts voltage into mechanical motion. The sixty-degree torque that this motor produces is what really gets the wheels turning. In this case, the MCU-node is powered by a 12-volt battery. This is the spot where the MCU node establishes a wireless connection. The operator's mobile will be able to see the taken images after connecting to the Wi-Fi. In such case the operator may see the whole street by rotating the camera around 360 degrees. The robot makes use of a sound sensor. The person controlling the robot will keep an eye on both the visual and audio files.

## 1.1 BLOCK DIAGRAM DESCRIPTION:

The concept makes use of an infrared sensor to programme the robot to follow a predetermined course. A sound sensor can detect the ambient noise level in a given region. The captured picture is sent to the person using IoT. The Raspberry Pi is a tiny, inexpensive computer that resembles a credit card and can be controlled using a standard set of input devices like a keyboard and mouse. A masterwork in miniature form factor, it lets people of all ages learn to code in Python and Scratch on the go. Using high-definition cameras that are sensitive to infrared light in the 700–1,000 nm range allows for infrared night vision. The end product, which seems dull to the naked eye, shows up as a black and white figure on a standard monitor. Sound Sensor—This sensor picks up on the sound and measures how loud it is. IR Sensor—An infrared light detector designed to detect light with a certain wavelength. A direct current motor, sometimes known as a robot module, is able to transform an electrical current into mechanical force by means of a strong torque applied to the motor beam. Jessie, the operating system and Raspbian, are fine-

tuned to work with the low-response ARM CPUs used in Raspberry Pi models.



## 3 HARDWARE REQUIREMENTS

- Raspberry Pi
- Night Vision Camera
- DC Motor (Robot module)
- Monitor
- Ultrasonic sensor

## SOFTWARE REQUIREMENTS

- Python
- HTML

## 4 HARDWARE COMPONENTS USED:

### Raspberry pi

The micro-SD card is used for installing OS and the complete project will be done with python coding. Raspberry Pi is a small single-board Computer developed in UK by Raspberry Pi foundation to promote the teaching of computer science in schools and in developing countries.

### Night Vision Camera

The raspberry pi camera board contains a 5 M Pixel sensor, and connects via a ribbon cable to the CSI connector on the Raspberry pi. In Raspbian can be enabled

by the installing or upgrading to the latest version of the so and then Raspi-config and selecting the camera option.

## Ultrasonic sensor

This sensor is a high-performance ultrasonic range finder. It is compact and measures an amazingly wide range from 2cm to 4m.

5v Adapter power supply Raspberry pi power source to turn it on. 5v adaptor power supply is enough to power up.

## DC motor

Almost every mechanical movement that we see around us is accomplished by an electric motor. Electric machines are means of converting conventional energy. Motor take electrical energy and produce mechanical energy.

## L293D Motor Driver IC

A very easy and safe is to use popular L293D chip. It is a 16-pin chip. he L293D is designed to provide bidirectional drive currents of upto600-ma at voltage from 4.5v to 36v.

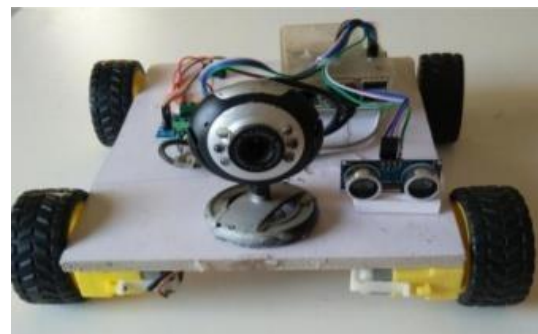
## 5. SOFTWARE USED:

In this setup, the microcontroller is programmed using the python software. Python code is quite similar to C code. Python is an object-oriented, high-level, interactive, scripting language. Python is a very readable programming language. Compared to other languages, it contains fewer syntactical structures and employs English terms more often than punctuation. The interpreter processes Python at runtime, making it an interpreted language. Before

running your programme, compiling it is not necessary. In many ways, it resembles PHP and PERL. You can develop programmes in Python by sitting at a prompt and interacting with the interpreter directly; this makes Python interactive. An Object-Oriented programming style or approach that wraps code into objects is supported by Python, making it object-oriented. A Language for Novice Programmers: Python Python is an excellent language for programmers just starting out. It allows for the creation of a broad variety of programmes, from web browsers to games, and even basic text processing.

## 6 RESULTS

Incorporating state-of-the-art security measures, the suggested design would address pressing concerns women have while out at night. This technology will empower women and give them a sense of independence, regardless of whether society changes its view. Readout from infrared sensor cleared Welcome to the webcam video display! Go Ahead Approved Transfer Backwards Approved Left Turn Approved I accept the turn right. End Result Granted Acknowledgement of ultrasonic sensor



## REFERENCES

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