Patrol Robot to Improve Safety in Blind Spots

BATCH - 04

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Objective

- To design an IoT device for patroling and monitoring blind spots along with image processing technology .
- Our system sends an message along with GPS location and with buzzer sounding in the device

Abstract

Security in blind spots is improved by the Patrol robot. Robot has the ability to patrol and move without collision. sends a live broadcast, sends the victim's location, and is capable of identifying potential victims. the YOLO prediction was 92% accurate.

Problem Statement

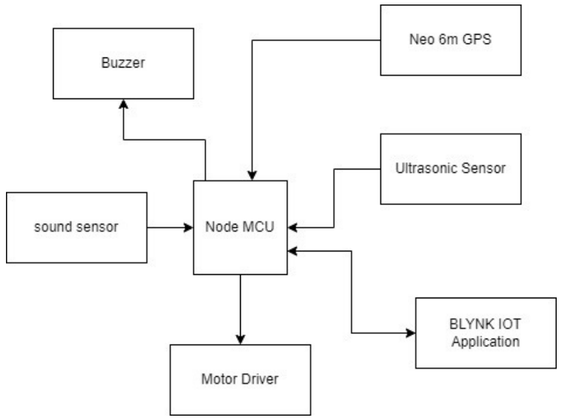
The crime rate in India has decreased from 487.8 in 2020 to 445.9 in 2021, according to the National Crime Records Bureau. Even though most of the places in India are under surveillance, there are still blind spots, and criminals take advantage of those places. Thus victimizing the people. And people in general feel unsafe taking a walk.

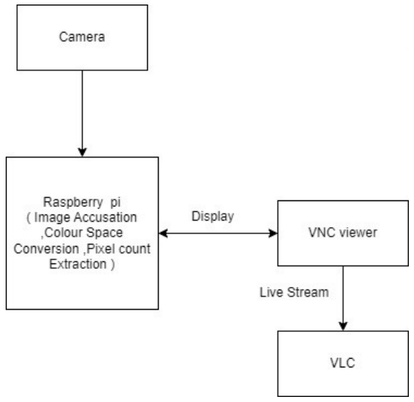
Proposed Solution

Module 1 - patrols and if a sound is detected sends live location

Module 2 - we have to train with suspects data. robot will identify the suspect and sends name along with other information of the suspect.

Block Diagram





Result

Module 1

1. Within 30 cm, it can hear normal sounds., Within 45–100 cm, it can hear loud sounds sensor.

Module 2

1. Within 15–150 cm, it can detect the face of the suspect, Had a YOLO Prediction accuracy of 92%

Conclusion

The patrol robots for improving Public safety in blind spots is a viable solution that can significantly reduce the incidence of crimes against people in public spaces. In future enhancements, install an IR or night vision camera, and make the camera rotate 360˚. We can also integrate both modules to work simultaneously. .