

Anti- Theft Flooring System

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Abstract: The Anti-Theft Flooring System is an innovative security solution designed to protect valuable assets and prevent unauthorized access in various environments. The flooring system detects and alerts against unauthorized weight or movement. Its adaptability and reliability make it an effective deterrent against theft, enhancing security measures in museums, laboratories, and high-security facilities. The project aims to provide a comprehensive and scalable solution to address the rising concerns of asset protection and security in diverse industries.

Security and safety have always been a basic necessity for the urban population. With the rapid increase in urbanization and development of big cities and towns, the graph of crimes has also increased rapidly. By using IR blocking clothes or hiding behind objects, the basic anti-theft security system can be avoided or simply identifying and disabling them. To secure and guard our house in our absence, we propose the IOT based Anti-theft Flooring System using IOT devices

Keywords: ESP32, Piezo Sensor, Camera, Arduino Nano, GSM Module.

I. INTRODUCTION

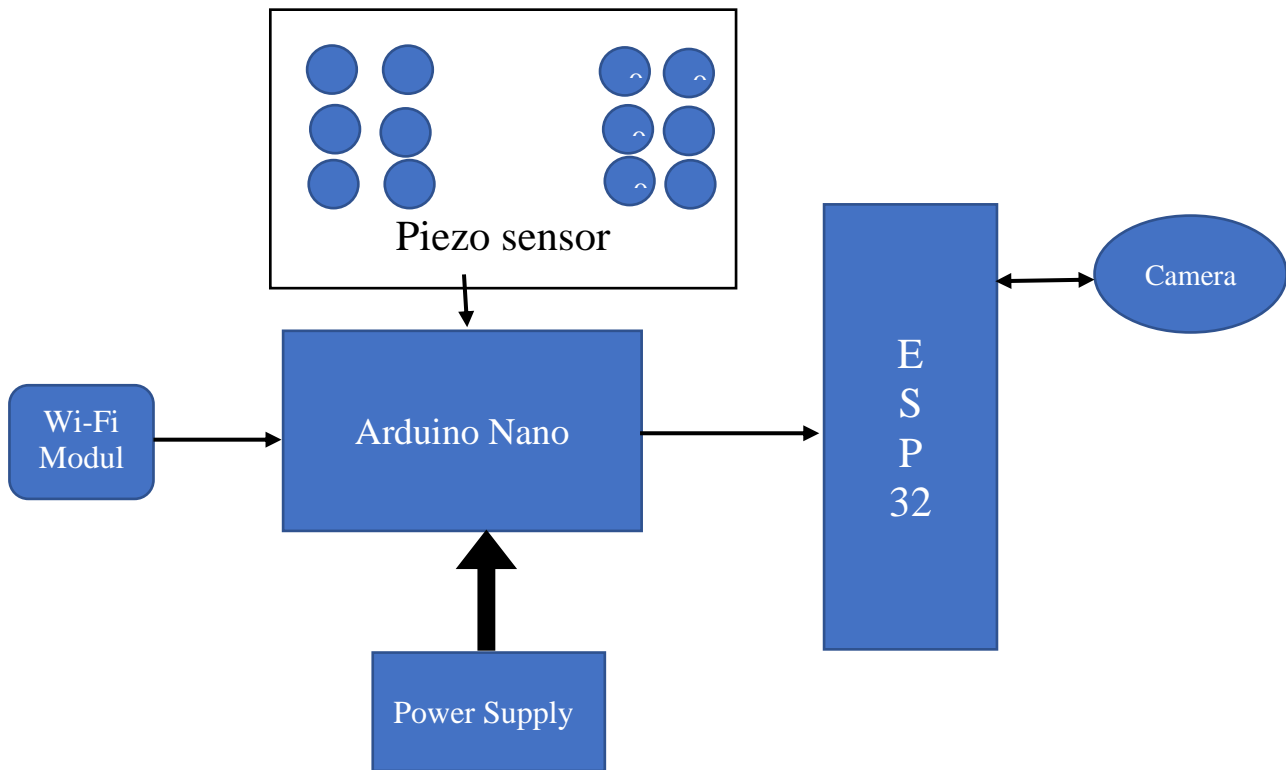
Now a day's technology has become an integrated part of people's lives therefore the security of one's home, shop, or any space must also not be left behind. The purpose of this project is to design a system which will protect our house or any place from thief in our absence by using a camera module operated by Arduino. This system mainly consists of a Web camera to detect guests, Arduino, Wi-Fi module, sensors, servo motor, resistor, ESP32 and a Mobile device for interfacing with the system. Whenever someone is entering in the house, immediately their movement will be sensed by the sensor which passes on the signal to Arduino controller. If the controller finds the request as valid after processing, then it turn on the camera which is linked to the controller to the area where the motion was detected and then sends it to the user over the Internet to check the footage. Sensors are linked to the Arduino processing unit. An input signal is generated by the sensors when they detect the motion. Once input signal is generated it will be transmitted to Arduino unit and it validates the request. Camera linked to the Arduino will capture the video based on the input signal. Video frames which are collected by the camera are transmitted to the owner over the internet using Wi-Fi module. The owner in turn can take the required action in order to protect his/her house or shop from robbery.

II. LITRATURE SURVEY

M.Suresh.et.al [1] has proposed research methodology aims to design a generally framework for notifying a home owner right away of an ongoing theft. The camera would see and alert the home owner if a burglar entered the house through the door. A smartphone may be used to operate the door, and the technology claims to integrate home security. The key flowing this paper is that it only warns the owner via a pop-up warning when a burglar is only passing through the door.

Chalamasetty Edward PradeepKumar.et.al [2] has proposed the innovative security technology to see a person's moment. In our life, security frames the most crucial part. In this project, an IOT is combined with computer vision to determine the personal traits of each person. In the absence of the Owner, sensors are used to identify people. The sensor recognizes when a burglar enters the home and notifies the home's owner by sending a message, making a phone call, or taking a picture of the thief. The fundamental flaw in this article is that while it warns the owner through message, phone, or picture, it misses fast moving items and corner areas.

Siddalingesha.et.al [3] has proposed a burglar-detection smart house anti-theft system Additionally, the system offers to incorporate real-time video data handling for home security. Even when the owner is not at home, the user may still keep an eye on the house from a distance. It does away with the need for a lot of memory for storing. This project guards against a cutting-edge smart home prevention technique. When an invader is a non-human, the system may successfully identify them and avoid false alerts. These procedures all result in the immediate reporting of intrusion by sending out notifications in real time. The sensor can identify the burglar and only records live video when he goes over the sensor, which is the paper's biggest flaw.

III. BLOCK DAIGRAM

The IoT based Security System using Arduino capture the entire floor for movement. An alert over IoT will be generated once it detects the movement on the floor. This is a secure system which is connected with IoT and it is to be turned on when we go out of home, then whoever try to enter into the house, information will be passed over the IoT. This system is powered by Arduino which is included in the security system. Whenever someone is entering in the house, immediately their movement will be sensed by the sensor which passes on the signal to Arduino controller. If the controller finds the request as valid after processing, then it turn on the camera which is linked to the controller to the area where the motion was detected and then sends it to the user over the Internet to check the footage. Sensors are placed in such a way that they are not visible to the person who is entering the house. These sensors are linked to the Arduino processing unit. An input signal is generated by the sensors when they detect the motion. Once input signal is generated it will be transmitted to Arduino unit and validates the request. Camera linked to the Arduino will capture the video based on the input signal. Video frames which are collected by the camera are transmitted to the owner over the internet using Wi-Fi module.

IV. CONCLUSION

This smart IOT based surveillance system is been developed with the goal to design in such a way that it can fulfil the requirement of user or an organization for particular surveillance area. The accuracy or performance of entire system can be measured in terms of the sensor accuracy, and face detection or recognition accuracy. Additional features can be added to the proposed model like electronic device control along with the home automation system by adding the additional sensors and actuators.

V. REFERENCES

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