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IOT BASED ANTI-THEFT FLOORING SYSTEM

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ABSTRACT

Most of the crimes occurs in big shops, jewelry shops, houses etc. all these places are implemented with a CCTV camera only and no any other security is provided to that shops. in that case most of the crimes are held and owners of that shops have to suffer from a big loss and the police catch those criminals after so many days or after many months or we can say crimes are usually found out after it is being committed. Crime rate is also increasing very rapidly and after looking all this I have decided to make smart monitoring system that is IOT based anti-theft flooring system. The main objective is to make this it will detect crime or any unnecessary actions that are performed and required actions will be taken at instant only. So that owners don't have to worry about their assets and their assets will be safe from stealing. It captures an image when any motion is detected is prevented in secured areas.

INTRODUCTION

IoT based antitheft flooring system is a system which is made for maintaining the security. it is a smart device for security purpose. This is a smart monitoring system; it is a device which is made for the security purpose. The main objective of this project is to make a smart monitoring device which monitors the area in which it is implemented. this device is installed in that area where no one is permissible to enter except the authorized persons. Only those people are allowed to enter who are authorized in that particular area. if any unauthorized person enters in that field than this smart device will capture the face of that person and if that person is legal then it is ok and if not then the buzzer of this will gets on and it sends an alert message to the owner of that place. In this device a camera is used and to make it smart different sensors are used like PIR sensors along with raspberry pi, for the sound purpose a buzzer is used and for the storage purpose cloud service is used.

USB also plays a very important role because the captured images are going to be saved there only and it saves the images and along with the basic details of the legal persons like its name, address, mobile number. Some legal persons details are already will be there so that when a legal person enter into that particular area the camera will capture the image and though devices it matches that images and when match found the buzzer will not make noise. This system is based on the concept of IOT(internet of things) and these types of

technologies are implemented for the better security purpose. By using this the security of that place will become stronger. This smart system should be installed everywhere the security will get stronger.

LITERATURE SURVEY

Subject matter linked to embedded systems is abundant, as the industry expands rapidly. We researched information from books, web publications, and reference manuals while working on this project. The knowledge we got from this exercise has greatly aided us in grasping the fundamental principles relevant to our project and has piqued our interest in the subject. Doug Abbott's book "Linux for Embedded and Real-Time Applications" has been quite helpful in offering an introduction to the process of developing embedded systems with Linux. It has aided us in comprehending the process of customizing and creating the Linux kernel, as well as the installation of toolchains. The document "The ARM Architecture" by Leonid Ryzhyk helped us understand the importance of ARM processors in embedded systems and their characteristics. The ARM architecture combines a number of important features that distinguish it from other peer processors. They are valuable in embedded applications because of their tiny size and low power consumption.

SYSTEM ARCHITECTURE

This system is mainly made to give the protection to the expensive things or to protect an asset from stealing. This system takes less electricity to work and also it works on the simple manner. In this system Raspberry pi, USB, Camera module, Buzzer, PIR sensor is used. In this the raspberry pi has been used as the heart of the system. The camera continuously checks the status of that particular place by camera and sensor. Person is entering is checked by the PIR sensor and if the person is an illegal then it sends a notification to the owner through message or e-mail and the buzzer will starts beeping. Camera continuously sends an image to the owner.

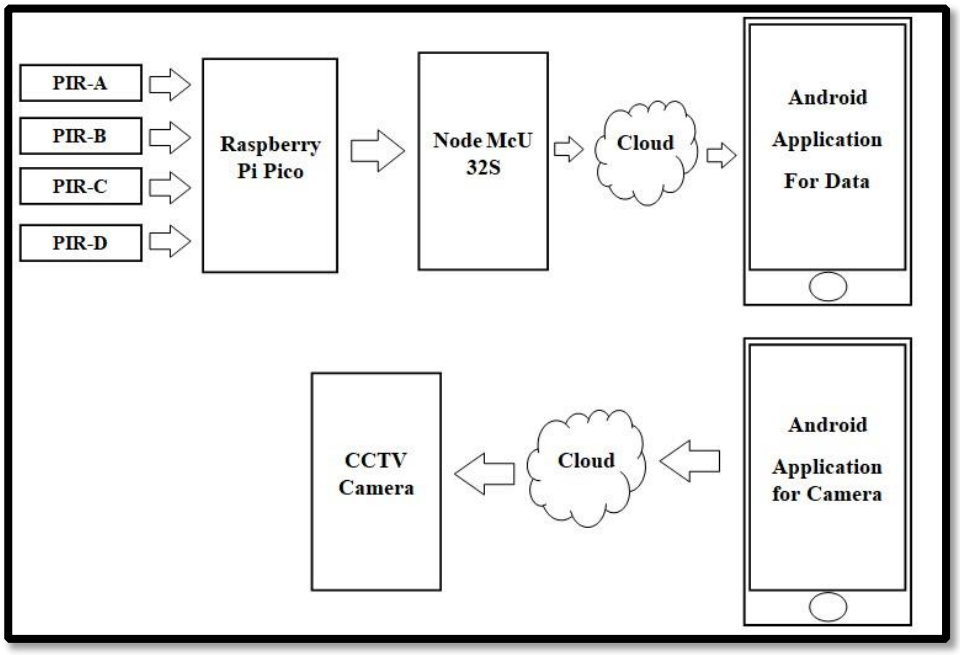

Figure 1.1. Block Diagram

Figure 1.1 shows the basic idea of interfacing, in which all the components are connected. The motor which is used for pumping the water runs on the power supplied by the solar panel. The moisture sensors sense the presence of moisture in the soil. Then it gives the input to Controller, after that controller sends the signal to ON or OFF the water pump.

WORKING

In this project raspberry pi 3B+ (model) has been used as heart of system. This proposed system is an intelligent system and it eliminates the need of continuous by human resource. Thus, any human extra work is ruled out. This system continuously checks the status of place by sensors that Is anyone entering in the shop or not. And sends the alert message to the owner with live images by rotating camera with different angles. In this security system human bodies are detected by PIZO sensor. The project consists of Raspberry Pi with sensor and camera. The whole system is placed in that place. If system detect someone in Bank/shop it sets the capture the live images and sent it on server.

RESULT

There are 3 steps for our program:

Step 1: To detect the face. Given an image we want to detect which part of our image is face.

Step 2: To generate the labels for the training data and then training our classifier.

Step 3: To predict the face. So given an image we want to predict whose face is it.

After that we will install both these via anaconda. In this way we can get the latest version of python so that it does not mess with system libraries. There are three folders numbered 0,1 In 0 random images of people are there then in folder 1 all the testing images are there and in folder.

Total Images	Correct Images	Wrong Images	Accuracy
40	**33**	**7**	**82.5%**

CONCLUSION

The research work that will be carried out in this thesis would be mainly focused to design and develop efficient and convenient motion detection surveillance i.e. an AntiTheft device to solve security problems which will help to reduce/stop theft. This system is suitable for small personal area surveillance. That is personal office cabin, bank locker room, parking entrance. Whenever the motion is detected through. The main Advantage of the project is Easy to implement, Low cost with High quality

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