# Iot Based Smart Automated Security System For Secreat Bank Locker Room Using Raspbery PI-3B Plus

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*Abstract-* *The purpose of this paper is to outline the innovations utilised for security reasons. This paper presents the advancement cycle in a security framework that utilises CCTV for security reasons. The Raspberry Pi B is used to implement this security framework. By consolidating the products and cameras, this framework is utilised as a wise checking system. The proprietor receives complete security in full view at all times, regardless of where it is performed. The image is sent via IOT (to the owner's "Gmail record"). Technology has arrived at a point where mounting cameras to catch video symbolism is cheap, but seeing as it is accessible human resources to sit and watch, that is symbolism. Like different frameworks, it does not need nonstop reconnaissance of human resources; a machine will accomplish the entire work...*

*Keywords-* Raspberry pi, sensors,camera, IOT,Gmail, Gas emitting machine, putty software

## I. INTRODUCTION

This is a Canny Observing framework. A canny observing framework is an application which is created according to the security perspective. The fundamental goal of this undertaking is to foster a framework that screens the region in which it is carried out. This framework is pertinent in the space where nobody is passable to enter, likewise in region where we want to distinguish the offense action . In this framework CMOS camera is utilized and alongside that various sensors have been utilized. The camera is utilized to get the live pictures of wrongdoing occurring, in various heading through the presence of servomotor. The caught pictures are put away specifically organizer in raspberry-pi. The pictures will be then usefull to deal with. When sensors recognize movement, caught pictures are shipped off versatile through IOT. So that the owner(user) will get mindful of wrongdoing occurring and will get continuous picture of that. After criticism from proprietor gas transmitting machine will go to make a necessary move on crime.Through this framework proprietor can get continuous picture of region whenever in various course.

## II. OBJECTIVE OF PROJECT

Presently a days the vast majority of the violations happens in rich shop(jewellery). Besides in such regions cctv is utilized. In any case, work of typical cctv camera is nonstop reconnaissance of that region under the human resourse. What's more, wrongdoings are typically figured out after it is being commited. By seeing this large number of boundary we chose to make a wise security framework which will identify wrongdoing or any sort of offense move and required activity will be made right then and there as it were. Proprietor should no concern even in his nonattendance dueto ongoing picture criticism utilized in this framework
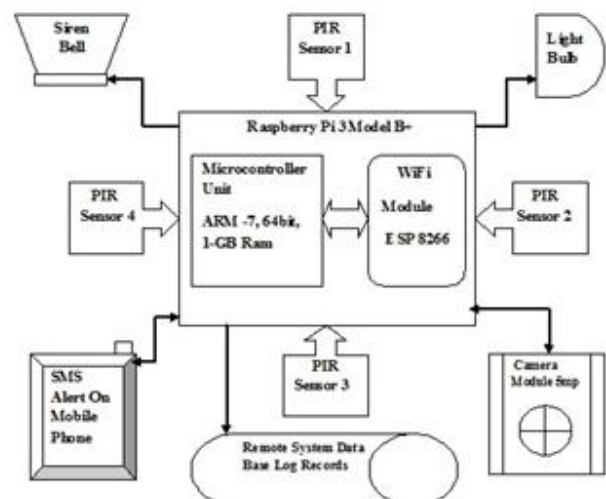
## III. SYSTEM BLOCK DIAGRAM



Fig.1 Block diagram of Raspberry-pi based anti-theft Security system with image feedback

### Rasp-Pi camera

OV5647 variety CMOS QSXGA is a 5 megapixel camera, which is fit for catching ongoing pictures and video.The fps(frames each second) of this camera is 120.

| Picture formats | JPEG (accelerated), JPEG + RAW, GIF, BMP, PNG, YUV420, RGB888 |
|---|---|
| Video formats | raw h.264 (accelerated) |
| Effects | negative, solarise, posterize, whiteboard, blackboard, sketch, denoise, emboss, oilpaint, hatch, gpen, pastel, watercolour, film, blur, saturation |
| Exposure modes | auto, night, nightpreview, backlight, spotlight, sports, snow, beach, verylong, fixedfps, antishake, fireworks |
| Metering modes | average, spot, backlit, matrix |
| Automatic white balance modes | off, auto, sun, cloud, shade, tungsten, fluorescent, incandescent, flash, horizon |
| Triggers | Keypress, UNIX signal, timeout |

### Stepper Motor

A stepper engine is a brushless DC electric engine that partitions full turn into various equivalent advances. The engines position can then be instructed to move and hold at one of these means with no criticism. sensor, as long as the engine is painstakingly measured to the application in regard to force and speed.

### PIR Sensor:-

PIR sensors permit you to detect movement, quite often used to distinguish whether a human has moved in or out of the sensors range. They are little, economical, low-power, simple to utilize and don't break down. Hence they are usually found in apparatuses and devices utilized in homes or organizations. They are frequently alluded to as PIR, "Uninvolved Infrared", "Pyroelectric", or "IR movement" sensors

### RASPBERRYPI3 (MODELB):-
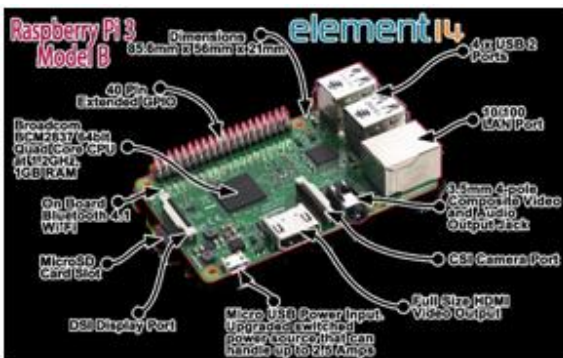


Raspberry pi is Broadcom BCM2837 64bit ARMv7 Quad Center    Processor controlled Single Board PC running at 1.2GHz

Inbuit::

- BCM43143 WiFi ready
- Bluetooth Low Energy (BLE) on board
- Miniature SD port for stacking your working framework and putting away information
- 1GB Slam
- 40pin broadened GPIO
- 4 x USB 2 ports
- 4 post Sound system result and Composite video port
- Redesigned exchanged Miniature USB power source (presently upholds up to 2.4 Amps)
- CSI camera port for associating the Raspberry Pi camera

### Sound detector:-

The sound indicator is a little board that consolidates Mouthpiece and some handling hardware. It gives a sound result, yet in addition a parallel sign of the prescence of sound, and a simple portrayal of it's sufficiency

### Temperature sensor:-

A temperature sensor is a gadget, normally, a thermocouple or RTD, that accommodates temperature estimation through an electrical sign. A thermocouple is comprised of two dis-comparable metals that create electrical voltage in direct extent to changes in temperature.

### The main module of the Project

1. Camera interfacing
2. Image capturing and storing
3. Hardware interfacing
4. Motion Detection
5. Explosion Detection
6. Sound Detection

### IV. WORKING

This proposed framework is an insightful framework and it takes out the need of constant observation by human resourse. Hence, any human additional work is precluded. In this venture raspberry pi 3B(model) has been utilized as heart of framework.

This framework consistently checks the situation with place by sensors that Is anybody entering in the shop or not. Furthermore, sends the alarm message to the proprietor with live pictures by pivoting camera with various points.

In this security framework human bodies are identified by PIR sensor while other , that are recognized by ultrasonic sensor.

The fundamental point of this task is to make a computerized security framework for rich shop (jwellary).The project comprises of raspberrypi with camera,sensors and caution. The entire framework is put in that place.if framework distinguish somebody in shop it sets the alarm,capture the live pictures and sens it on email. What's more, hang tight for the criticism. In the wake of getting positive criticism it sets the gas producing machine.
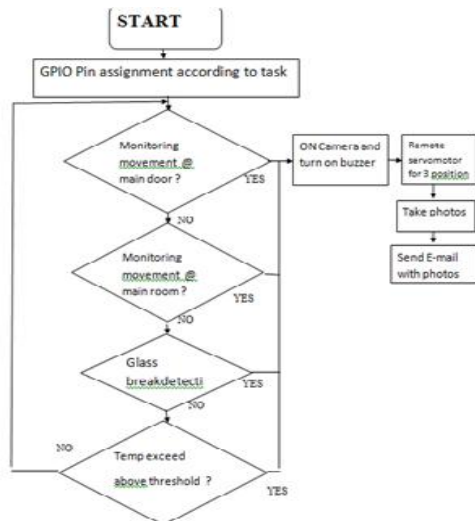
## V. FLOWCHART



Fig:-flowchart

## VI. CONCLUSION

The normal point of this undertaking is to make a mechanized framework for security reason. Timestamped picture catching let clients catch subtleties of occasions definitively right then and there .Advances in PC based observation programming currently permit anybody with a webcam to arrangement a vigorous, compelling and economical reconnaissance framework.

## VII. APPLICATIONS

1. Jewellary Shop
2. Army Surveillance
3. Bank Security
4. Museum Security
5. Home Security

## HARDWARE RESOURCES REQUIRED

Table 2.1: Hardware Requirements

| Sr. No | Parameter | Minimum Requirement | Minimum Requirement |
|---|---|---|---|
| 1 | CPU Speed | 2 GHz | Remark Required |
| 2 | RAM | 512 MB | Remark Required |
| 3 | Hard Disk | 2 GB | Remark Required |
| 4 | Raspberry pi 3 | ARM 2.1GHz | Remark Required |
| 5 | PIR sensor | 4 modules | Remark Required |
| 6 | Pi Camera | Single module V2.1 | Remark Required |

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