

# "Bank Locker system" Internet of Things (IOT)

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**Abstract:** *The fundamental point of this undertaking is to foster a gadget for the bank storage security reason for cautioning robbery and to auto capture the hoodlum in bank itself from concentrated observing unit and control framework utilizing IOT advancements. Indeed, even the most recent innovation for example, finger impression sensor lock can be opened effortlessly. So to beat this issue, this undertaking propose the utilization of Internet of Things(IoT) to give secure access just to approved individual. Individual Security is one of the principal concern when it comes to office, individual working environment in home, bank and so on. Soto defeat this issue, this venture recommend the utilization of Internet of Things(IoT) to give secure access just to approved individual , SMS is likewise send assuming there is an unapproved individual recognition. The Raspberry Pi catches the picture when an individual attempts to get to the bank storage and afterward process it and is contrasted and the prepared dataset If people face matches after picture handling on the caught picture then give approval to the Raspberry Pi is ship off open the lock and on the off chance that it doesn't match then the framework sends SMS to the bank authority. So to have exceptionally gotten storage we are utilizing this proposed technique.*

**Keywords:** Pi, Internet of Things (IoT), Bank Locker, Face Recognition

## I. INTRODUCTION

The Bank, which is a spot that demonstrate extremely undeniable level security. In everyday life each individual are associated with banking exchange. In view of undeniable level security, we utilizes bank storage spaces to get our significant records, costly adornments, or money ect in it. Subsequently it has turned into a vital part for each normal human being. To languish in this world and over a ceaseless turn of events; the financial area necessities to oblige a very hige rise security. As we probably are aware new branches are opening by thinking about the public interest. Consequently greater security for each area is required. On account of advancement current framework and administrations becomes independent and banking administration isn't such a long ways from that. Different explores shows that there are responsibility in gadgets and advances in security framework. The identification of movement will be finished by the actual camera and equipment associated with it which gives multisatge security for example utilizing PIR sensor and RFID framework, cautioning message and the face acknowledgment which distinguishes the client face, and furthermore by utilizing double keys. Sporadically the biometric component for example fingerprints are utilized which gives high security. For informing a GSM module, email alert or getting an ongoing update IOT will be used. To languish in this world and over a persistent turn of events; the financial area needs to oblige a very pivot rise security. As we probably are aware new branches are opening by thinking about the public interest. Thus greater security for each area is required. In view of improvement current framework and administrations becomes independent and banking administration isn't such a long ways from that. Different explores show that there are responsibility in gadgets and advances in security framework. In programmed security frameworks for the most part passwords, recognizable proof cards and PIN check methods are being utilized yet the weakness is that the passwords could be hacked and a card might be taken or lost. The most gotten framework is unique mark acknowledgment in light of the fact that a finger impression of one individual never matches the other. Biometrics concentrates ordinarily incorporate unique mark, face, iris, voice, mark, and hand math acknowledgment and confirmation. Numerous different modalities are in different transformative phases and appraisal.

## II. LITERATURE SURVEY

J. Thirumalai, Gokul. R, Ganasekaran. P, Manellore Murali. M, " An IoT based Bank Locker Security System ", International Journal of Engineering Research Technology (IJERT), 2020

An Automated Safety Vault with Double Layered Defense Mechanism was planned [1]. The arrangement included an Electronic Lock driven by secret key check and a Biometric validation for clients utilizing a Fingerprint checking and detecting device. Both of these two layers guaranteed the credibility of the client by forestalling any unapproved admittance to the Vault. The framework was then, at that point, executed in a model extension for testing and approval of the recommendations.

The carried out framework and testing information showed that the Automated Wellbeing Vault with all its security highlights had fruitful activity. The particular of the entire framework as well as the outcomes was noticed and checked

2. Pooja K M and Chandrakala K G , "Finger impression Based Bank Locker Security Framework ", International Journal of Engineering Research Technology (IJERT), 2018

Planned and carry out a bank storage security framework in view of Finger print what's more, OTP innovation. This can be coordinated in bank, workplaces and homes. In this framework just the confirm individual recuperate the records or cash from the storage spaces. In this security framework unique finger impression and OTP is utilized. In this framework first individual select client name and secret word and versatile number. On the off chance that client name also, secret key coordinates then Finger of individual will recognize and store with ID. In the event that the ID gets pairs. Then four digit code will be sent on approved individual portable to open. So biometric and Bluetooth security is more benefits than other framework. This framework can likewise make a log containing check in and checkout of every client alongside essential data.

3. Ajay Kumar and Priyan Sood , "Internet of Things (IoT) for Bank Locker Security System", IEEE Access 2020.

The thought was to foster a Bank Locker Security framework that allows the supervisor to see the events from a disconnected region and find the casing depending on its benefit. This will be acclimatized by arranging site pages, associating them with the information base, picture getting by raspberry pi, face affirmation, face disclosure, organizing of the application and allowing/denying the client passage

4. Shashikanth, " Multifold Security for Bank Locker System utilizing ARM", International Journal of Engineering Research Technology (IJERT). Given two choices to an approved individual to have an admittance to his storage.

One is Face Recognition framework and other choice is OTP alongside static secret key. Our definitive test would be the way successfully and precisely we will execute this system. The framework has Object Detection sensor for identifying object inside the storage. At the point when someone goes into bank then the ringer will be on. The framework incorporates the Object Detector, Wireless Movement Detector (WMD), microcontroller, LCD show, bell and 5V power provided to work the framework.

## III. SYSTEM ARCHITECTURE

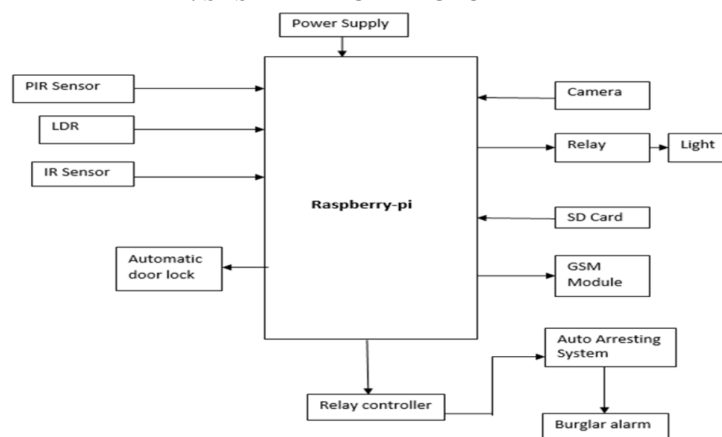


Figure: System Architecture

In this framework, in the event that an individual attempts to get to the storage the sign molding unit will be actuating the total circuit. LDR is utilized to detect power of light. If force of light is under a predefined limit then light will be turned on, on recognition of individual in night mode. For controlling light a hand-off will be utilized which will be controlled through raspberry pi. The camera and PIR sensor is stayed close to the storage. Assuming PIR recognizes any existences it on's the camera. A picture is caught and the caught picture is contrasted and the prepared dataset of bank clients. If the caught Image is matched the storage gets open and the individual can get to this storage. Incase the caught picture doesn't coordinate with the prepared picture the lock stays in the locked state and a message is ship off the approved individual of bank, the sms is triggered by utilizing GSM 800a. Expect bank was locked and a cheat enters at bank then this structure will give a wariness through the robbery activity. PIR sensor was fixed in different piece of bank also, IR sensor was fixed in the entry of each and every room, every one of the entryways are associated with attractive locks constrained by hand-off and thief alert associated with the transfer circuit. We use the IR Sensor for getting the current area of cheat inside the bank. Hence PIR sensor distinguish the movement and presence and deal back to the microcontroller. While in focal handling unit every one of the activities were observed by the chiefs and data will be passed to the bank supervisors and nearby police headquarters. After that assuming the robbery was affirmed by the leaders by checking the upsides of a few sensor inputs, chiefs enact the capturing framework which locks every one of the entryways inside the bank like supervisor room, storage space, .and so on.. Then, at that point, the cheat will be captured with auto capture framework. We connect all sensors in the IOT terminal.

#### IV. EXPERIMENTAL RESULTS

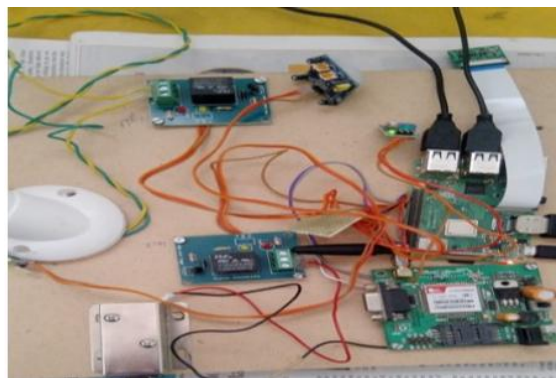


Fig : Hardware Setup



Fig: Rpi 3B+



Fig: GSM Module

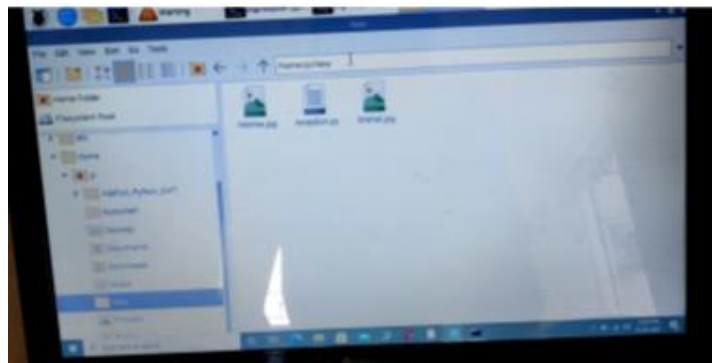


Fig: Rpi Os system

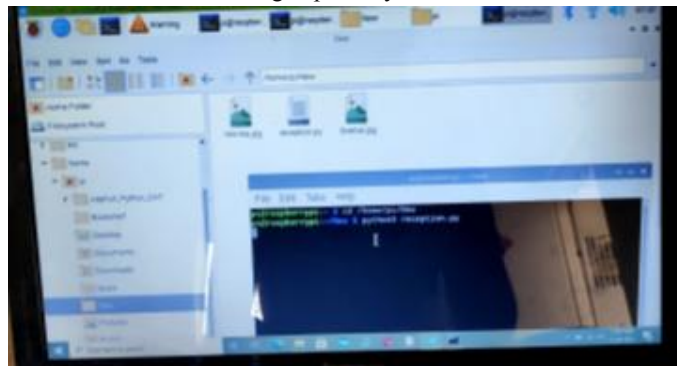


Fig: Execute Command

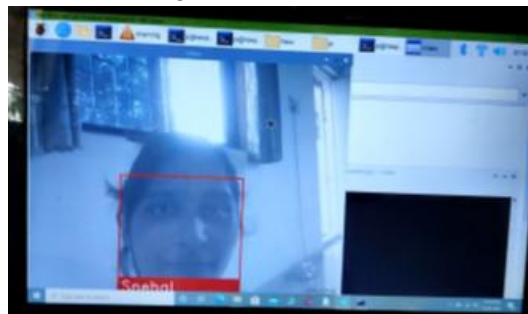


Fig: Face Recognition



Fig: Face Recognition

## V. CONCLUSION

In this undertaking we introduced a framework that permits assuming an individual attempts to get to the storage the sign molding unit will be initiating the total circuit and it will be sending the Call alarm to the verified client by means of GSM. To get the admittance to storage he needs to enter the secret phrase, what's more, the camera is stayed close to the storage. The individual who is attempting to get to the storage will be caught by the camera and afterward it the framework will contrast the face and dataset utilizing CNN. The Face dataset of clients are prepared and continued to utilize CNN methods. In the event that the individual in the picture is known to the client, he/she can allow the storage to open. Else assuming the individual in the picture is of obscure to the framework, the framework caution will be created and a call to bank approved will be passed. Hence the bank storage will be of exceptionally gotten from obscure individual.

## REFERENCES

- [1]. Ajay Kumar, Priyan Sood, Utkarsh Gupta ,“Internet of Things (IoT) for Bank Locker Security System ”,IEEE 2020.
- [2]. Rekha Dewangan, Vishnu Kumar Mishra, Megha Mishra , “A Review on Secured Bank Locker System using Finger Print, Image and RFID Technique ”, International Research Journal of Engineering and Technology (IRJET), July 2020
- [3]. J.S Vimali, Senduru Srinivasulu, Gowri. S , “IoT Based Bank Security System”, International Journal of Recent Technology and Engineering (IJRTE), 2019
- [4]. Lokesh M. Giripunje ,Suchita Sudke ,Pradnya Wadkar ,Krishna Ambure “BASED SMART LOCKER SECURITY SYSTEM”, International Journal of Advance Research in Science and Engineering,2018
- [5]. Bhupesh Mankar , Digvijay Raut , Akash Bobde , Ishant moon, “Performance Survey on IOT Based Security System for Social Safety”, International Journal of Innovative Research in Computer and ommunication Engineering, October 2018
- [6]. Hiloni S. Detroja and Disha D. Kotadiya and Prutha J. Vasoya, “GSM Based Bank Locker Security System using RFID, Password and Fingerprint Technology”, International Journal for Innovative Research in Science Technology, April 2016