

# SMART HOME AUTOMATION USING RASPBERRY PI BY TELEGRAM APP

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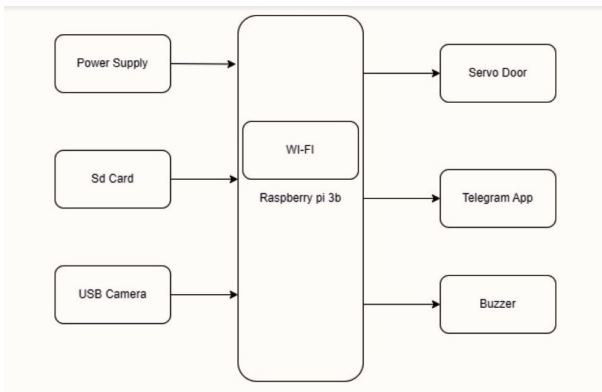
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# Abstract

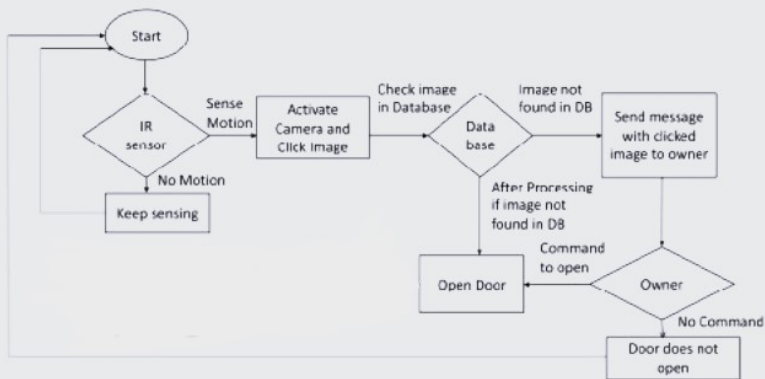
In today's generation we are facing security issues in every aspect. So, we have to resolve these issues by using streamlined technology. Instead of monitoring that through passwords or pins, unique faces can be made use of as they are one's bio-metric characteristic. The goal of this project is to help users improve the door security of sensitive places by using face detection and recognition. If any unauthorized faces was detected automatically system will capture the image and will send the image to authorized person through telegram.

# Block Diagram

In this proposal to increase the interaction with home security system various additional modules like image processing and Telegram are used.



# Control Flow



# Requirements

## **Hardware Components :**

- Raspberry Pi
- USB Camera
- Sd card
- Servo Motor(door)
- Jumper wires

## **Software Components :**

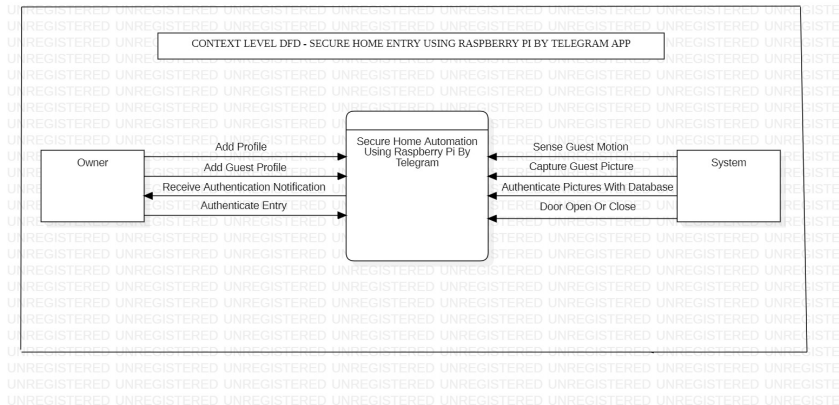
- IDLE Software
- Python language

# Advantages

Face recognition verifies who you are, not what you carry (key card) or what you know (PIN). Hence, it's inherently more secure for controlling access to buildings. Hands free we can simply walk up and look at the reader and the door unlocks.

# Data Flow Diagrams

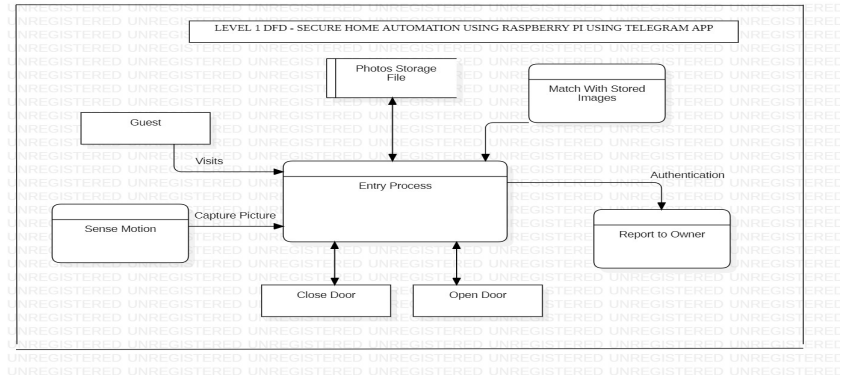
## Level 0 DFD :





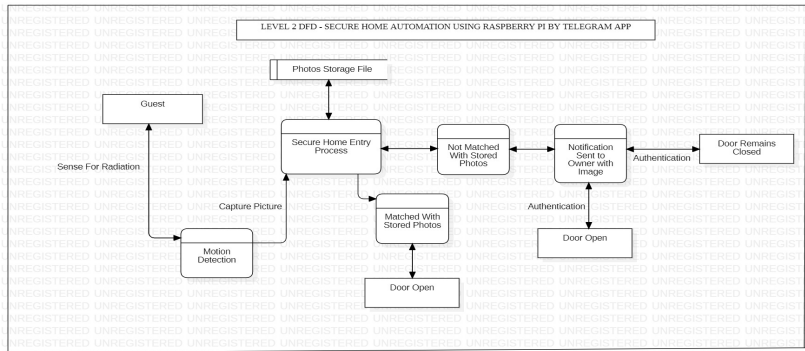
# Data Flow Diagrams

## Level 1 DFD :



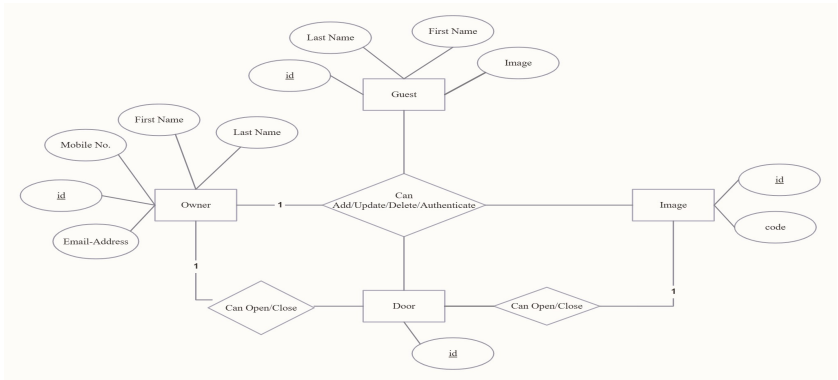
# Data Flow Diagrams

## Level 2 DFD :



# (ER)Entity Relationship Diagram

## ER Model :



## Future Scope

- By using the raspberry pi the proposed system can be used as a Smart Surveillance Monitoring security system. As we are using open CV in our project which can be used for designing an attendance system of the class. Therefore, no one can mark proxy of another student. The technology is scalable, upgrading can be done easily with the proposed work.

## Conclusion

For high level of security, this proposed system is smart, innovative, secure and is of low cost, low power consuming system. One of the advantages of this proposal is the Telegram notification. Telegram notification can be easily used by older generation as it does not require Email and Twitter accounts. The proposed work is implemented using Raspberry pi which can be interface with mobile or PC hence the user can operate the system easily. Our proposed system is an integrated solution of all the existing work in which IR sensor is used for object detection which in turns trigger the camera for Authentication.

# ANY QUERIES ?

# THANK YOU !