HOME AUTOMATION BY TELEGRAM APP USING RASPBERRY PI

PROJECT TEAM
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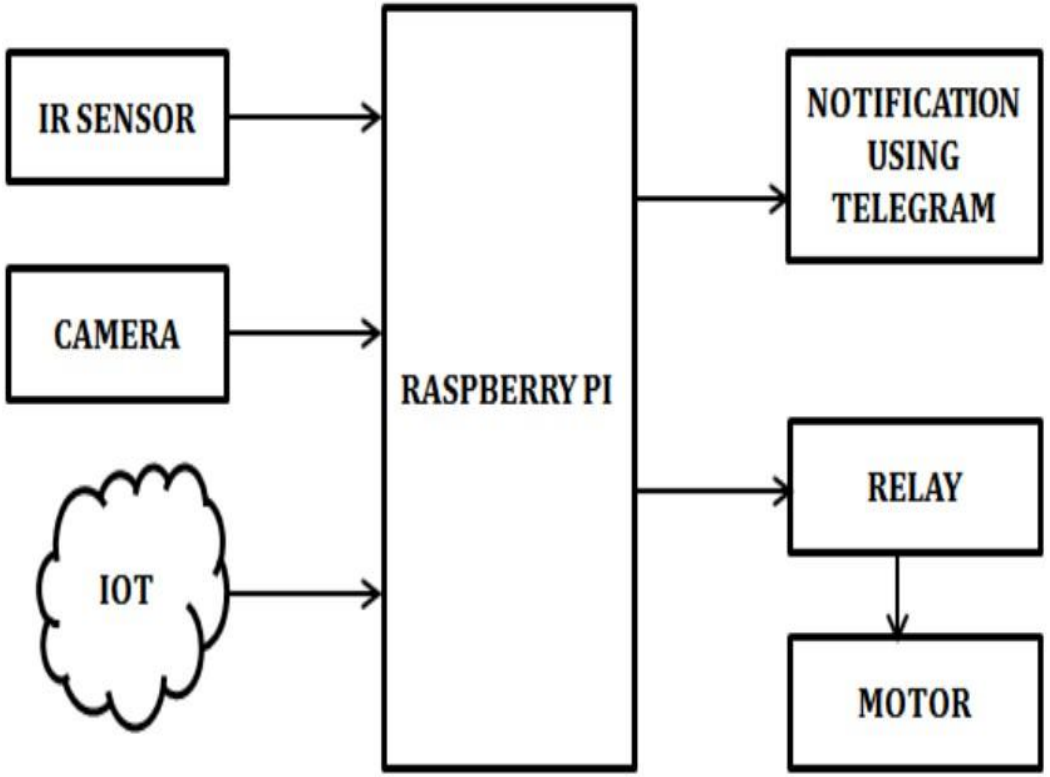
ABSTRACT

Automated secure entry is a basic need in today's Home Automation System. To accomplish this need, we are proposing secure home entry system using Internet of Things. This proposal is an attempt to construct a smart, innovative and secure entry by using the raspberry pi controller, camera and various other associated sensors. To enhance the home security system, the best possible way is to use facial recognition and has been implemented in our proposal. Due to popularity and flexibility of using current social network for all type of generation, we are proposing home security system using Telegram notification.

BLOCK DIAGRAM



Raspberry Pi the system is connected with the Internet to get chat messages from the Telegram and the appliances which we have to control should be connected to the GPIO pins of Raspberry Pi through relay circuit.

PROJECT DESCRIPTION :

- Raspberry Pi which connected to the Network, which is programmed for receiving chats from Telegram app, whenever we send messages to the configured number to switch on the light as chat lights get turned on similarly appliances can be turned off by sending OFF chats. Command chats can be configurable.

HARDWARE AND SOFTWARE REQUIREMENTS

- Raspberry Pi
- IR Sensor
- DC Motor
- Relay
- Power Supply

✓ Raspbian OS
✓ Python
✓ NOOBS
✓ Adafruit

ADVANTAGES

- High security
- More efficient
- Avoids manpower
- Building
- Factories
- Home

FUTURE SCOPE

- Computer vision can be used for motion detection and alerting through telegram.
- The system can be used in many fields, for example industrial control and monitoring, automation
- Information applications, intelligent systems, and so on. We can implement as a full sensor network.
- Further advanced concepts of shocking for unauthorized persons can be adopted to provide ultimate security to the home.

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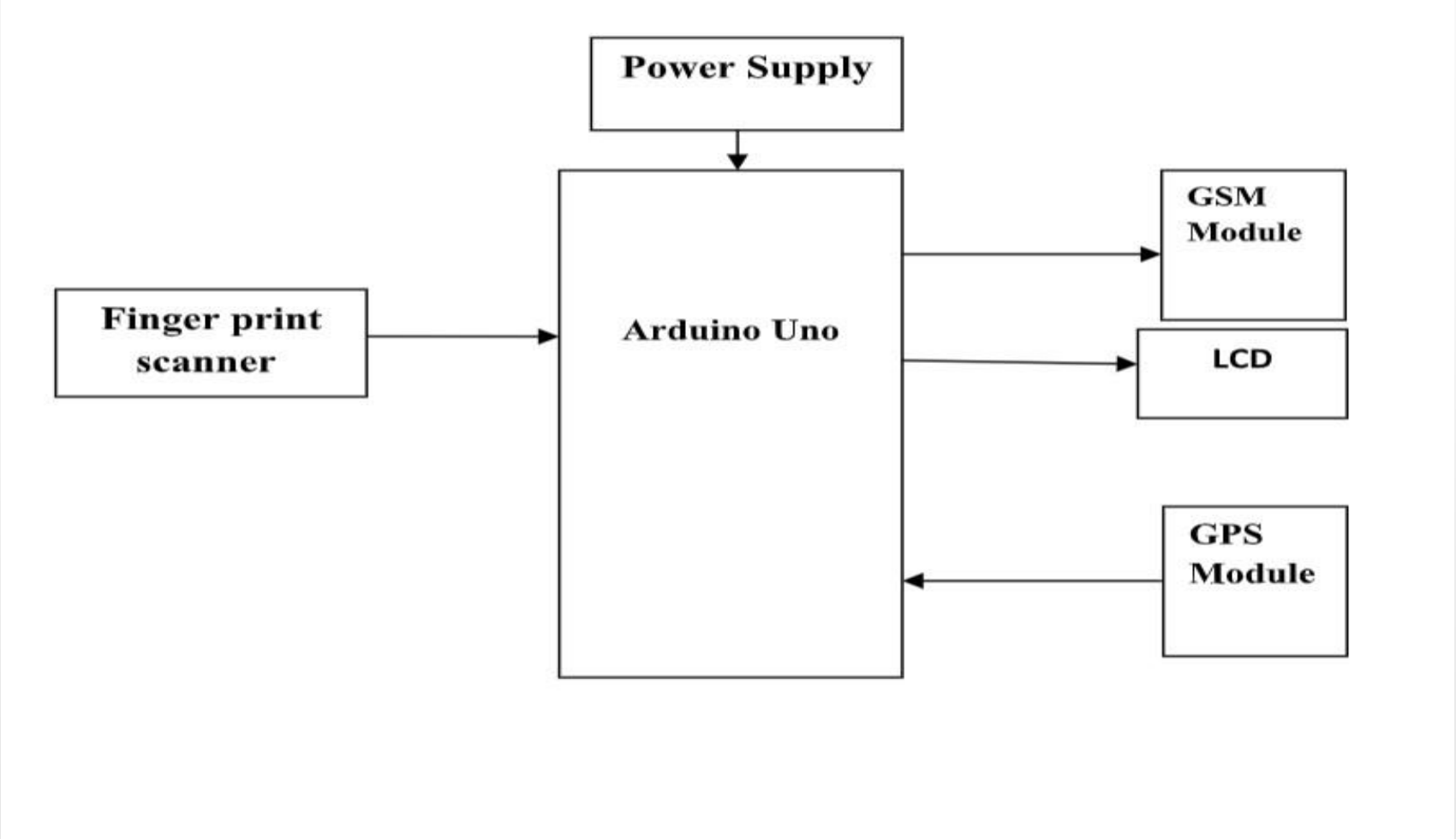
SMART BAG FOR WOMEN SAFETY

ABSTRACT

With the advancement in wireless technology, many tools have been developed to control a device from a remote location. These eliminate the need of physical availability of a person for controlling the device manually. Generally GSM and GPS technology is used in these tools to locate and control a device. But the tools which use only these technologies for their operation are highly insecure and inefficient. The fingerprint module increases the authenticity of the device and enables multiple users to control the device. These modules are integrated to a simple Arduino microcontroller to demonstrate various functionalities.

BLOCK DIAGRAM



ADVANTAGES

- Safety Device which can be conveyed by everybody.
- Ultra low power utilization.
- Compact in size with Wireless network.
- Easy and quick to install & Easy Maintenance.
- Low taken a toll with elite.

HARDWARE REQUIREMENTS

- Arduino uno
- Fingerprint scanner
- LCD
- GSM
- GPS
- Power supply

ANY QUERIES?

THANK YOU.

FRUIT SEGREGATION FOR FARMERS

ABSTRACT

- An automatic fruit quality inspection system for sorting and grading of tomato fruit and defected tomato detection discussed here . The main aim of this system is to replace the manual inspection system
- This helps in speed up the process improve accuracy and efficiency and reduce time. This system collect image from camera which is placed on conveyor belt.
- Then image processing is done to get required features of fruits such as texture, color and size
- Defected fruit is detected based on blob detection, color detection is done based on thresholding.
- Size detection is based on binary image of tomato. Sorting is done based on color and grading is done based on size.

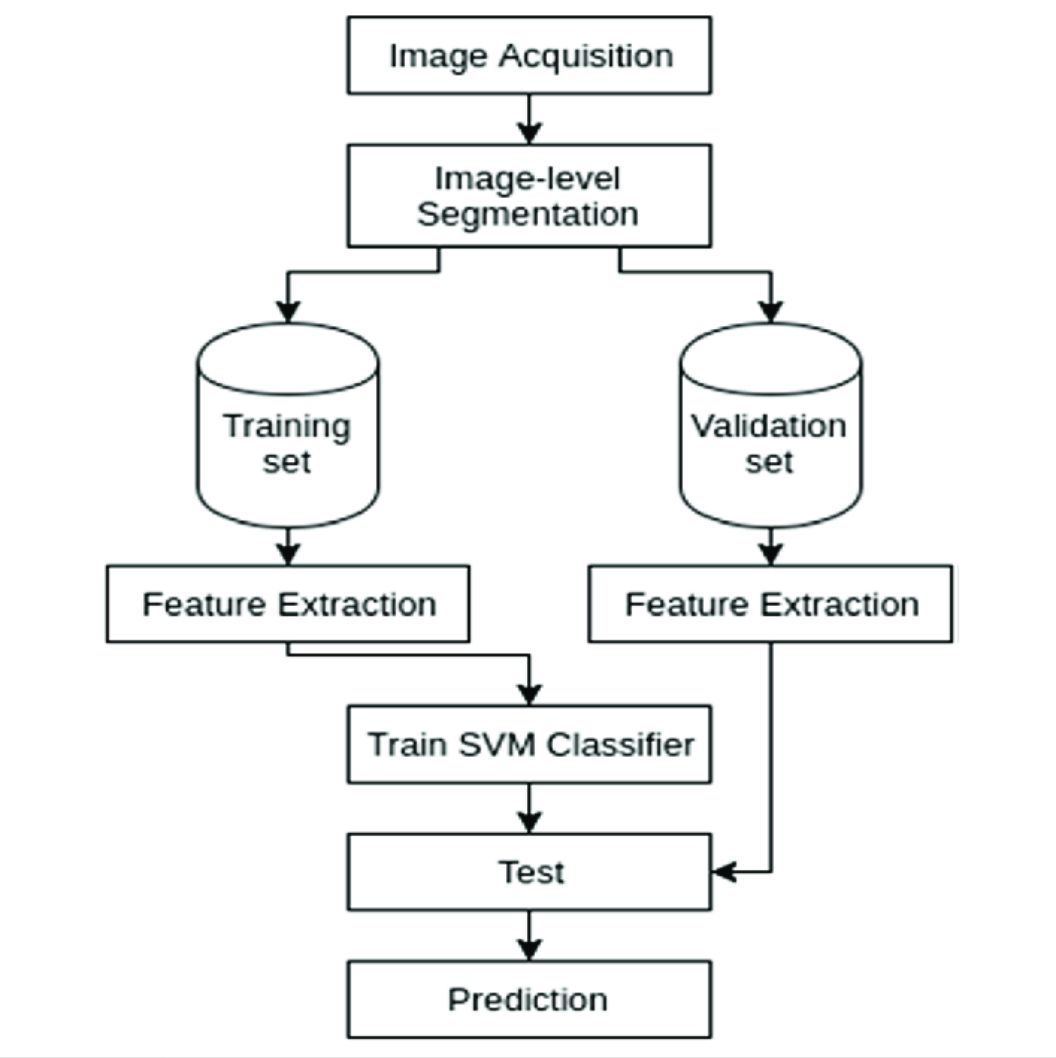
INTRODUCTION

- India is an agriculture country . All the pre-harvest and post harvest process manually with help of labour
- The post harvest process includes sorting and grading of fruits ,different quality factors like texture, shape , color, size and volume, and internet quality factors are taste, sweetness, flavour, aroma, nutrients, carbohydrates present in that fruit are consider for sorting and grading of fruits
- Automation is playing important role in day today life . Their main source of income is agriculture , exporting of fresh fruit is increased day to day from india. People are very conscious about their health; they prefer only fresh good quality fruit.
- There is confusion between tomato is a fruit or vegetable as per fruit definition fruits are developed from ovary fruit contains seeds of plant. So based on above tomato is a fruit indian market export tomatoes to foreign countries.

INTRODUCTION

- Texture , color and size are the important parameters for fruit quality identification.
- The color recognition is very important process in ripeness detection . The ripeness detection is external quality factor. But texture is also very important
- Because of texture defected fruit can be recognised . Texture analysis detects the non uniformity of the fruit outer surface.
- The size is also important parameter . It clearly seen parameter all customer select fruit based on size.

OVERVIEW OF PROPOSED SYSTEM



PROCESSING FLOW

- Image preprocessing
- Color detection
- Sorting of fruit based on color

CONCLUSION

The automatic vision based system is discussed for sorting and grading of fruit based on its colour and size respectively. The test performed on tomato for defect detection detects defected fruit . This test is performed for three color detection red , green and yellow . And for conveyor and light, camera resolution affects the system the accuracy of green color detection is 94.28%

Which more than red and yellow . The accuracy of defect fruit detection is up to 90% . This system is much closer to manual expert judge.