Smart Visitors Monitoring System Using IOT

INTRODUCTION

The main objective of this project is to develop the smart visitors monitoring system using Arduino Uno and Esp8266 with Internet being remotely monitored by IOT platform (Thing speak) .To monitor the critical places without the physical presence of any Person Modern systems are gradually shifting from humans monitoring to the centralized control system which involves remotely monitored systems. All the time humans can't be active be present at some places to monitor so, this may lead to theft and misuse of the absence so remotely visitors monitored system provides a most modern solution with smart phones for those persons who want to monitor the places without physically presences on that place.

In order to achieve this a Arduino UNO board is used to control the Visitors Monitoring process and upload the Number of visitors at different time slot to the IOT Thing speak platform. The IR Sensors are used to detect and count the visitors and if there is no monitoring person present at that place.

EXISTING SYSTEM:

In the present situation, ensuring safety and security has become an inevitable essentiality. Since it is well known that influence of modern technology has reached its peak, demand for security systems are going up progressively. Modern home needs intelligent systems with minimum human effort. With the advent of digital and wireless technologies, automated security systems become more intelligent. Surveillance camera helps the user to get a remote view of his home. Surveillance is the monitoring of the location, behaviour or activities for the purpose of directing, managing and detecting intrusion. IOT refers to system of interrelated computing devices and it plays a major role in surveillance. Android phone helps user to view the location from the remote area without human intervention

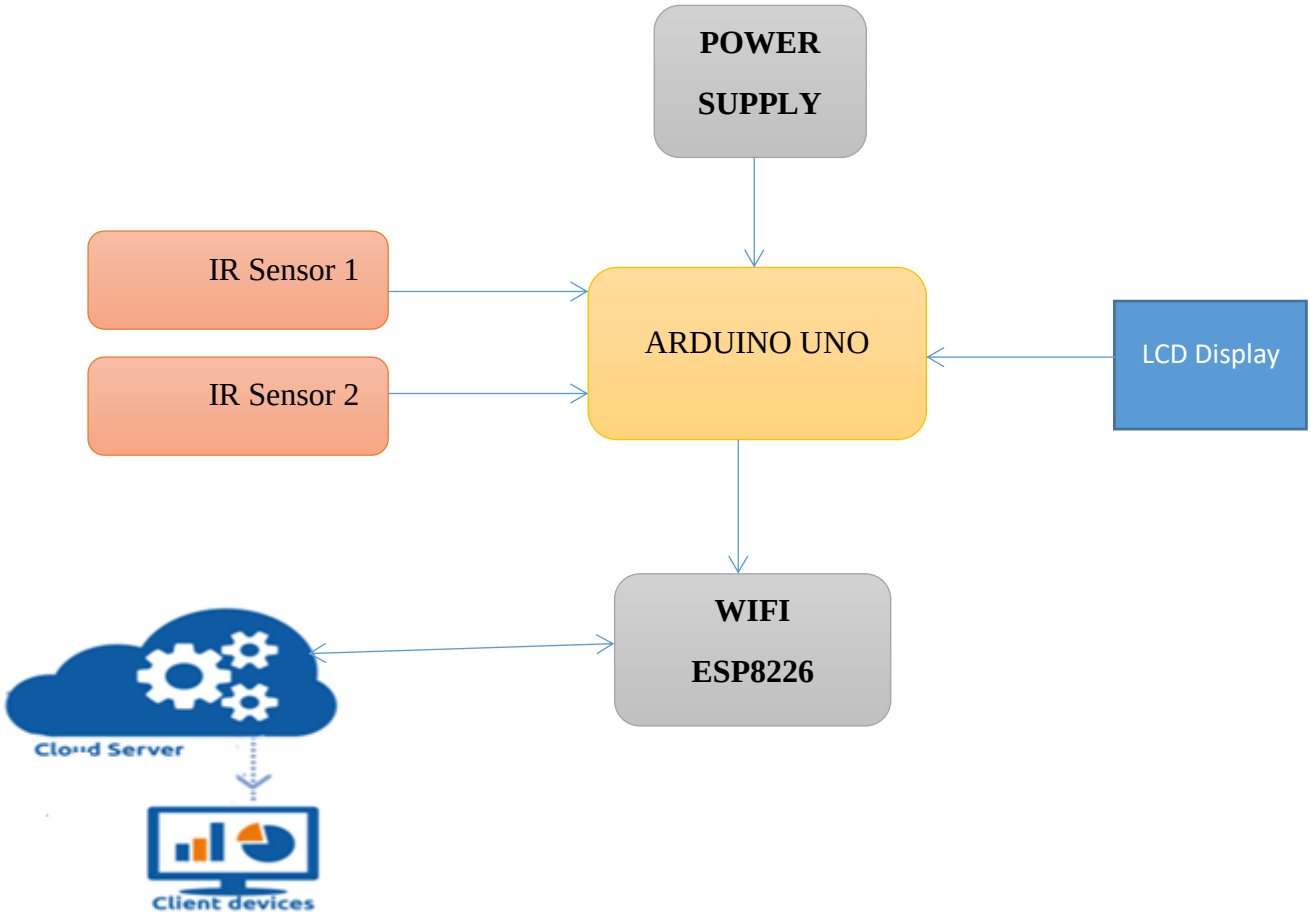
The internet of Things (IoT) is a revolutionary new concept that has the potential to turn virtually anything "smart". This extraordinary event has captured the attention of millions. Why is this so big today? So, imagine a world where machines function without any notion of human interaction. A future where machines communicate with other machines and make decisions based on the data collected and all independent of an end user. It might be difficult to see the significance of the IoT but every advancement made is to make everyday life simpler and safer.

With the growth of technology immensely, most of the social problems are being resolved. The main objective of this project is to serve in the field of trade and commerce, particularly with the problem of theft & misuse of the absence of an authorised person in a particular area.

PROPOSED SYSTEM:

The purpose of this project is to alert the owner about unauthorized person's entry in absence of owner by sending him/her message through GSM and update the information about entries and exits frequently in absence of owner using IoT Platform and Wi-fi Module.

BLOCK DIAGRAM:



METHODOLOGY:

The required components are interfaced as shown in the circuit diagram above. The 3 Pin Push button is used for logically indicating whether the authorised person of the room is present in that area or isn't present in that room. When the Push button is pressed, it indicates that the authorised person isn't present in that area. This activates the working of the smart visitor monitoring system. The IR sensors send the data collected i.e. number of persons entering the room to the Arduino UNO. Upon receiving the data from the sensors, the Arduino UNO sends the commands to ESP-01 WIFI module in order to transmit the data to the IOT Platform (Thing-speak) & Arduino also commands the GSM module to send the notification to the authorised user in the form of a text message indicating that a person has entered the area of the authorised user. If the Push button isn't pressed, it logically represents that the authorised person exist in that area this deactivates the working of smart visitor monitoring system. Hence no notifications will be made when a person enters his room.

OVERVIEW:

The summary of this project is to notify the owner about unauthorized person's entry, where IR sensors are used to get the information about person's entry and exit and update this information to IoT platform (Thing-speak) using ESP01 wi-fi module. It is also designed to send alert message to owner in absence of owner. Here Arduino UNO is used as control unit.

COMPONENTS REQUIRED:

1) IR sensor
2) Arudino uno
3) ESP-01
4) Power supply

SOFTWARE REQUIREMENTS:

- Serial terminal software like Hercules, Teraterm, Flashmagic etc.
- Embedded C compiler with IDE (Arduino, Energia, Keil etc.)
- Google Maps
- Windows XP or Higher
- Microsoft Office 2010 or higher

ADVANTAGES

- It used to for calculation of how many people exactly present in any hall or place.
- It is used for crud controlling
- It is used for estimating the amount collected in any cinema or drama theatre.

APPLICATIONS:

1) It can be implemented in Banking sectors (Banks & ATMs) which may help in case of Theft scenario.

2) It can be implemented in ornamental shops.

3) It can be used in smart home technology.

FUTURE SCOPE:

As we know that IoT is a trending platform which can make every object "Smart". This project named "Smart Visitors Monitoring System" can be used everywhere where safety is the foremost priority.

Further by interfacing camera module we can clearly know who has entered & exited the critical room or any other place & the visuals can be recorded. This recording act as important source in case of any theft or robbery.