Development and Implementation of Intellect Home Security System

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ABSTRACT-The proposed venture focuses on advancement and execution of and web application to give total home security utilizing IoT sensors. This is a web application that gives interface to the property holder or individual from the home to know the condition, status of the sensors which are actualized at their home. The main goal of this venture is to give security to the home from fire-mishaps, against robbery kind of calamities. The entire undertaking depends on IoT domain and reactjs to create interface for the client. The philosophy of the task follows the IoT sensors sending and usage of those sensors. Complete home security requirements like alert of burglary, robber caution, alarm to Fire-mishaps and Gas spillage are viewed as the principle destinations of this undertaking. Particular sensors are utilized and combination of them is done, the qualities brought from those sensors are appeared on the UI and ready when mishaps happen.Alerting user when motion is detected by sensor and notifying neighbors of the home from burglar alarm. The installed alarm turns ON whenever a motion is detected by sensor, Gas leakage, smoke detected, and also this alarm can be used as fire alarm. Hence integration of all these sensors combining work as home security system.

Key word: Home automation, security, IoT, MQ2 sensor, PIR sensor, DHT11.

1.INTRODUCTION

In Present days burglary has become significant issue all over the place, everybody needs security at their homes and shops, made sure about gives us true serenity in the multiple times when we are away from home or shop and when we are at home[1]. We realize gas is a helpful part in condition. A few gases don't cause any mischief whenever radiated in abundance sum yet some do. Gas like LPG is utilized family unit reason for preparing food. In family reason as well as in lodgings, cafes, and so forth where there is human connection. On the off chance that there is any measure of spillage of these sort gases it can make a gigantic misfortune life and property. So consider the possibility that we get an approach to stop this misfortune. The innovation is quickly spreading over very few days now, which prompts an enhancement to the home security system. Automation in security segment makes it progressively valid. There are numerous electrical hardware's are accessible in home which are in need of checking from a remote zone all at once.SinceIoT permits us to gather data from all sort of mediums, for example, people, creatures, vehicles, kitchen machines.[2]

2. BODY OF PAPER

Project implementation is simple. The home owner will have to install the proposed system in their home or office. Proposed project is giving a home security to the burglary by actualizing PIR sensor. Presently a-days, the IoT assumes a significant job in numerous fields via automation The sensors utilized in this project is PIR, temperature sensor, Gas detection sensor. PIR is an

electronic sensor that distinguishes the movement of items, by estimating the degree of IR radiation. By and large, in security frameworks that are utilized in homes, shops, workplaces, infrared or laser transmitters and beneficiaries are utilized for exactness and accuracy in quality. In any case, these techniques require great financial support for Security Frameworks, in which a PIR sensor is utilized rather than transmitter or reciever. This saves power utilization just as it is an ease usage. The primary thought of the circuit is to give security. This depends on PIR sensor with an IC that produces alarm. The PIR sensor recognizes the IR radiations discharged from the people and it delivers an digital signal to the Arduino UNO. The result of digital signal from the PIR Sensor, Arduino UNO then triggers the alarm. This guideline is utilized to identify the more interesting going into the house. Temperature sensor and gas detection sensor are utilized to monitor and control the fire accident that happens in a house. The owner of the system will have interface developed using reactjs a javascript library to know the status of the sensor or get notified when human motion is detected and turn off the burglar alarm. So this proposed project will turn ON the burglar alarm at following cases

1. When motion of intruder is detected.
2. When fire accidents occur and smoke detection sensor is activated.
3. When temperature of the room or place where system is installed drastically changes.

And also user of the system can know the current temperature and humidity of their place directly from interface provided to them. Project includes the following stages:
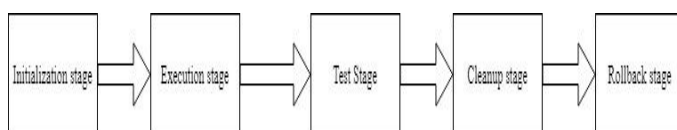
Fig-1: Various stages in Intellect Home Security System

3.EXISTING SYSTEM AND PROPOSED SYSTEM

Existing System

The existing system is manual and system comes with assigned security guard for home security. Numerous people keep security boy. In any case, security boy can't constantly have observation at property and they can't give that greater security, as there are some limitations. Now a days numerous people groups additionally lean toward CCTV cameras for security or investigations, however CCTV can just record and store the photos that can be valuable after burglary has happened. Existing system will notify user once after the burglary has happened, this is major drawback of this system and system would not notify the neighbors about the on-going theft. Also notifying owner/client about gas spillage, fire accidents are not defined combinely with theft detection. Many proposed system uses camera to detect authorized faces of home, video recorder to record to mishap in home when user not in place. Many systems use biometric to locks and doors but such technologies does not alert user about the intruder entry and require much financial support for installation, thus many owners of house cannot afford them. However installing such system for door locks may not barricade the intruder.

Proposed System

Proposed system uses some of the sensors in IoT like motion detection sensor for detection of motion by the intruder, Flammable gas and smoke sensor to get know about the fire mishaps, also temperature and humidity sensor used to know the drastic change in temperature of room where system is installed which alerts about the upcoming fire accidents and take respective actions about this.

Development and implementation of intellect home security system is an IoT based home automation project.

Proposed work concentrate on providing home security to the clients in case of burglary or any other mishaps like fire accidents. The user will be alerted in such cases and neighbors of the home as well. The user of this system is given with developed interface where user can know the status of the sensors installed in their place. The interface helps to turn off the burglar alarm once the detection of intruder motion is found and alarm is turned ON. The system also helps to avoid the mishap which may happen due to fire, gas spillage. In such cases burglar alarm is turned ON and people nearby are alerted in that sense. The gas detection from sensor helps to find the fire accident that going to happen due to excessive smoke formation. The drastic change in the temperature of the room where system is installed will also turn ON the buzzer so that also helps to avoid the mishaps like fire accidents and detect intruder entry due to change in the temperature of the room. All sensors integrated with developed interface results in providing home security system.

Advantages of Proposed System:

1. Real-time data from installed sensors.
2. Cost-effective.
3. Easy Implementation.
4. Maintenance free.
5. System is small enough, so portable from one place to another.
6. User can interact with system remotely.
7. Integration of individual sensors increases efficiency.
8. Burglar alarm can alert the people nearby, so can take necessary measures.
9. Stores the recorded data into database, so can be viewed at any time.
10. Eliminates the legacy system of appointing humans for security purpose.

4.CONCLUSION

"Development and implementation of Intellect Home Security System" is an IoT bases home automation project, which focuses on providing complete home security using some of the IoT sensors. Integration of sensors results a model of home security. The proposed work will promise in providing security to home from intruder's entry, gas spillage and mishap like fire accident, take precautionary measures before they actually happen.

LITERATURE REVIEW

This section contains the overview about literature survey of project idea, existing system and proposed system, technologies used and unresolved problems in the project also motivation to take up this project.

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