Graphic Era
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Project Report of

Security Alert System

Submitted by

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Department of Computer Science & Engineering
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CERTIFICATE

University Roll No: 2017537 **Class Roll No**: 15

This is to certify that Project Report entitled " ***Security Alert System***" which is submitted by **Rohan Saini** in partial fulfillment of these requirements at the **3rd Semester of B.Tech (CST)** Degree Course prescribed by the Graphic Era

University during the year **2021-22** is a record of the candidate's own work carried out by him under my/our supervision.

Date:

Faculty Signature

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CHAPTER 1
INTRODUCTION

1.1 Objective

The main aim of this system is to developing a technology for security System. This system will help about the security status.

1.2 Overview

As the name suggest this project is about security system. In our present there are many system which has develop for security purpose like CCTV camera. Even there is a technology which help us to know about the live footage. But sometimes it has a drawback of alert. So this system is developed for overcome to this problem. This System is helpful to do alert about the current situation. This system will tell that someone is/was there at a particular time. If you are out of country than also it can alert if you are under internet connectivity.

1.3 Why this Project?

As the present system can only record can only alert you in a particular range. So to overcome on this problem this project is designed. This project is helpful to develop a system which will alert you, if wherever you are.

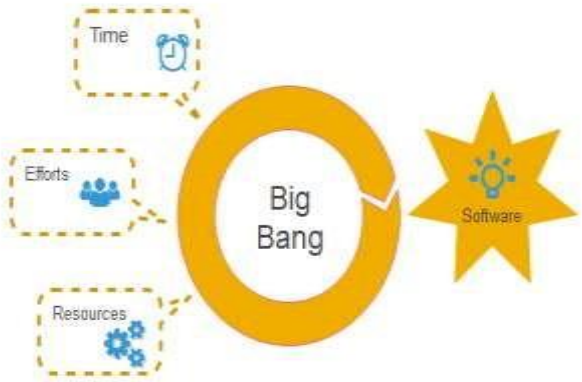
1.4 Methodology Used- Big Bang Model

This News Portal project follows the Big Ban model. This model is ideal for small projects with one or two developers working together and is also useful for academic or practice projects. Easy to manage and no formal procedures are required, Few resources required. Most important It is a good learning aid for newcomers or students. Database and design changed as per requirement .

It is recommended to go for the Big Bang model only due to the following cases i.e.

1. Developing a project for learning purposes or experiment purposes.

2. No clarity on the requirements from the user side.
3. When newer requirements need to be implemented immediately.
4. Changing requirements based on the current developing product outcome.
5. No strict guideline on product release or delivery date.



CHAPTER 2 TOOLS USED

2.1 HARDWARE USED

2.1.1 Pir Sensor

The PIR sensor (passive infrared sensor) detects changes in the amount of infrared radiation impinging upon it, which varies depending on the temperature and surface characteristics of the objects in front of the sensor. When an object, such as a human, passes in front of the background, such as a wall, the temperature at that point in the sensor's field of view will rise from room temperature to body temperature, and then back again.

Fig 2.1.1: Pir motion Sensor

2.1.2 Node Mcu

ESP8266 is a highly integrated chip designed for the needs of The NodeMCU (***N***ode ***M***icro***C***ontroller ***U***nit) is an open-source software and hardware development environment built around an inexpensive System-on-a-Chip (SoC) called the ESP8266. The ESP8266, designed and manufactured by Espressif Systems, contains the crucial elements of a computer: CPU, RAM, networking (WiFi), and even a modern operating system and SDK. That makes it an excellent choice for Internet of Things (IoT) projects of all kinds.

However, as a chip, the ESP8266 is also hard to access and use. You must solder wires, with the appropriate analog voltage, to its pins for the simplest tasks such as powering it on or sending a keystroke to the “computer” on the chip. You also have to program it in low-level machine instructions that can be interpreted by the chip hardware. This level of integration is not a problem using the ESP8266 as an embedded controller chip in mass-produced electronics. It is a huge burden for hobbyists, hackers, or students who want to experiment with it in their own IoT projects.

2.2.1 ARDUINO IDE

Arduino IDE(Integrated Development Environment) is the software for Arduino. It is a text editor like a notepad with different features. It is used for writing code, compiling the code to check if any errors are there and uploading the code to the Arduino. It is a cross-platform software which is available for every Operating System like Windows, Linux, macOS.

2.2.2 ANDROID STUDIO IDE

Android Studio provides extensive tools to help you test your Android apps with JUnit 4 and functional UI test frameworks. With Espresso Test Recorder, you can generate UI test code by recording your interactions with the app on a device or emulator. You can run your tests on a device, an emulator, a continuous integration environment, or in Firebase test lab.

2.2.3 FIREBASE

Firebase is a product of Google which helps developers to build, manage, and grow their apps easily. It helps developers to build their apps faster and in a more secure way. No programming is required on the firebase side which makes it easy to use its features more efficiently. It provides services to android, ios, web, and unity. It provides cloud storage. It uses NoSQL for the database for the storage of data.

CHAPTER 3 WORKING PRINCIPLE

3.1 Connection

3.2 Working

Step 1: Collect the data from pir motion sensor.

Step 2: Send the data to the connected firebase project with the help of Node Mcu.

Step 3: Send the data from firebase database to application.

3.3 Used Code

```
#define pirPin D1
#include <ESP8266WiFi.h>
#include <FirebaseArduino.h>

// Set these to run example.
#define FIREBASE_HOST "nodemcu-c02da-default-rtdb.firebaseio.com"
#define FIREBASE_AUTH "6cgrHK1hD2ajUc5vX0XI1KtSAD1ySdCpJYMUSp05"
#define WIFI_SSID "OPPOA53"
#define WIFI_PASSWORD "rony147896"

void setup() {
  pinMode(pirPin,INPUT);
  Serial.begin(9600);

  // connect to wifi.
  WiFi.begin(WIFI_SSID, WIFI_PASSWORD);
  Serial.print("connecting");
  while (WiFi.status() != WL_CONNECTED) {
    Serial.print(".");
    delay(500);
  }
  Serial.println();
  Serial.print("connected: ");
```

```
  Serial.println(WiFi.localIP());

  Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);
}

int n = 0;

void loop() {
  int value = digitalRead(pirPin);
  Serial.println(value);
  Firebase.setInt("PviceId/check" , value);
    if (Firebase.failed()) {
      Serial.print("pushing /logs failed:");
      Serial.println(Firebase.error());
      return;
  }
  delay(1000);
}
```

CHAPTER 4 RESULT & CONCLUSION

4.1 Results

4.2 Conclusion

This concept we can used in today's security system. Even this concept we can use in many field which has need to operate things from Internet Connectivity like Smart Home Automation system. Basicaly this concept is worked on Internet of things(IOT), because we are connecting things to the internet.

REFERENCES

1. https://youtu.be/082JBZ-Txvo
2. https://youtu.be/lnidtzL71ZA