A Major Project Stage1 Report

On

**Secure and Expressive Data Access Control For Cloud Storage**

*Submitted to JNTU HYDERABAD*

*In Partial Fulfillment of the requirements for the Award of Degree of*

# BACHELOR OF TECHNOLOGY

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

Submitted

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# CMR ENGINEERING COLLEGE

UGC AUTONOMOUS

(Approved by AICTE, NEW DELHI, Affiliated to JNTU, Hyderabad)

Kandlakoya, Medchal Road, R.R. Dist. Hyderabad-501 401)

**2022-2023**

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*Kandlakoya, Medchal Road, Hyderabad-501 401*

## Department of Computer Science & Engineering



**CERTIFICATE**

This is to certify that the project entitled **“Secure and Expressive Data Access Control For Cloud Storage”** is a bonafide work carried out by

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in partial fulfillment of the requirement for the award of the degree of **BACHELOR OF TECHNOLOGY** in **COMPUTER SCIENCE AND ENGINEERING** from CMR Engineering

College, affiliated to JNTU, Hyderabad, under our guidance and supervision.

The results presented in this Major project Stage1 have been verified and are found to be satisfactory. The results embodied in this Major project Stage1 have not been submitted to any other university for the award of any other degree or diploma.

**Internal Guide Major Project Coordinator Head of the Department**

**Mr.Y.Shyam Sundar**  **Mrs.G.Sumalatha**   **Dr.Sheo Kumar**

Assistant Professor Associate Professor Professor & H.O.D

CSE, CMREC CSE, CMREC CSE, CMREC

**DECLARATION**

This is to certify that the work reported in the present Major project stage1 entitled "**Secure and Expressive Data Access Control For Cloud Storage”** is a record of bonafide work done by us in the Department of Computer Science and Engineering, CMR Engineering College, JNTU Hyderabad. The reports are based on the project work done entirely by us and not copied from any other source.We submit our project for further development by any interested students who share similar interests to improve the project in the future.

The results embodied in this Major project stage1 report have not been submitted to any other University or Institute for the award of any degree or diploma to the best of our knowledge and belief.

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**ACKNOWLEDGEMENT**

We are extremely grateful to **Dr.A.Srinivasula Reddy**, Principal and **Dr.Sheo Kumar**, HOD, **Department of CSE, CMR Engineering College** fortheir constant support**.**

We are extremely thankful to **Mr.Y.Shyam Sundar,** Assistant Professor, Internal Guide, Department of CSE, for his/ her constant guidance, encouragement and moral support throughout the project.

We will be failing in duty if We do not acknowledge with grateful thanks to the authors of the references and other literatures referred in this Project.

We thank **Mrs.G.Sumalatha** ,Associate Professor ,CSE Department **,**Major Project Coordinator for her constant support in carrying out the project activities and reviews.

We express my thanks to all staff members and friends for all the help and co-ordination extended in bringing out this project successfully in time.

Finally, We are very much thankful to our parents who guided me for every step.

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**ABSTRACT**

IoT is one of the dominant positions all over the world in technological development. In Internet of Things technology the fire monitoring and safety management system are an important application. In this project, development of IoT based firemonitoring and safety management system. Fire monitoring systems need an accurate and effective fire monitoring and safety System. This project discusses about the requirements of user and key main issues of wireless sensor network hardware and software for monitoring fire. It discusses in elaborate the function of each module and implementation of that module in a detailed way. It also discusses application features of IoT technology and Wireless Sensor Network technology for according to fire-fighting requirements.

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## CHAPTER-1 INTRODUCTION

### Introduction of the project

Fire is very deadly, and it leads to loss of human life and property. Fire accidents claim roughly 65 victims every day. Fire detection systems are necessary to reduce fire accidents. So if we’re using smart fire systems, that will reduces the number of fire accidents. The Internet of Things is a collection of sensors, actuators, software, electronics embedded with home appliances, physical devices and vehicles which connect with each other to connect and exchange date, which helps in increasing the efficiency of everyday appliances using computer based systems.

A fire cause serious damage and disrupts daily life in a devastating manner. Hence, preventing them or reducing their effects is a top priority. Though there are many systems that have been created to tackle this problem, false alarms and remote monitoring are a challenge that is yet to be avoided.

Detection of fire in is necessary to avoid destruction of property due to fire accidents, both natural and induced. Detection of fire can prove to be very important as it could mean the difference between life and death. Fires can occur from anywhere and at any point of time; hence the presence of Fire Alarm System helps in keeping our safe. Some people don’t see the need to have a fire alarm system. They just assume that they could smell the fire and run out in time.

The average time for an anything to burn down nowadays is just 60 seconds. So, by the time you smell the fire and try to run away, the fire has probably engulfed. The Internet of Things (IoT) is a system of devices connected and accessible through the internet. The ‘Thing’ in IOT could refer to any physical device, varying from a toaster to an automobile.

These devices can be connected through the internet and help us manipulate or collect data from them. In this project, we will be using a wide variety of sensors to detect the presence of fire and alert its presence to the watchman and fire officials. It discusses in detail about the functions of each module and its implementation in an elaborate manner. It also discusses the application of Iot Technology in relation to fire detection technologies.

**Existing System:**

In Existing system, MQ-2 – Smoke Sensors Smoke is one of the main characteristics of fire. Thus, smoke sensors can play a vital role in detecting fire. The MQ-2 smoke sensor is sensitive to smoke. The smoke sensor has a built-in potentiometer that allows you to adjust the sensor sensitivity according to how accurate you want to detect smoke. The voltage that the sensor outputs changes accordingly to the smoke level that exists in the atmosphere. The sensor outputs a voltage that is proportional to the concentration of smoke. The output can be a digital output that can be read with a digital input of the Arduino and activate alarm.

### Disadvantages

* Not possible to monitor and analyses remotely
* Not Flexible.
* This output depends only on one sensor(MQ-2 Smoke sensor)

**Proposed System:**

In this proposed system, the flame sensor that we use is responsible for detecting the fire. When the sensor successfully detects the fire then it sends HIGH signals to the nodemcu. After it, you will receive an alert on your Smartphone that fire is detected. This project is very simple in working and also very interesting in making. This system is very cheap in price and if we install it in our homes and other places then we can prevent the accidents happens due to the fire. You will need the following materials for making this project.

### Advantages

* Full Automation
* possible to monitor and analyses remotely
* Flexible.
* This output depends only on Integration of two sensors (Smoke and Flame sensor)

## CHAPTER-2 LITERATURE SURVEY

### REVIEW OF LITERATURE

V. K. Singh, “Automation in fire protection system: a review,” Int. J. Sci. Res. Eng. Trends, vol. 5, pp. 1354–1356, 2019.

SMS is used to notify users of fires using the SIM900, MQ-2 smoke sensors,System can warn the homeowner if a fire occurs outside of the house.

Arduino UNO is used to control all the components.

V. P. Rashmi, “Design and development of forest fire detection system prototype,” Fire Detection System, p. 8266, 2021.

Temperature and smoke sensors used in this detector help detect fires early. System components consist of temperature sensors, smoke sensors, 0809 digitalto-analog converters, system controllers with AT89S52 microcontrollers, and an alarm system as an indicator of fire. Upon detecting fires using temperature and smoke sensor information, this prototype fire detection system activated an alarm as soon as the indicator sounded.

Sharma, Amit, Singh, Pradeep, Kumar, and Yugal, An integrated fire detection system for smart cities: Sustainable Cities and Society, vol. 61, Article ID 102332, 2020.

Researchers developed a system for fire accident notification. In addition to the temperature sensor (LM35), the microcontroller and GSM components were used. Sensors record an accident, and afterward, through GSM, it sends SMS to the police about the event’s location.

Bs 5839-1, “Fire detection and fire alarm systems for buildings—Part 1: code of practice for design, installation, commissioning and maintenance,” 2013.

Authors proposed an easy way to monitor changes in weather anywhere. Hardware equipment includes sensors and a Bluetooth microcontroller unit. To read the data sensors and send it via Bluetooth to the Arduino, an Android phone is connected to a DHT 11 and wind speed sensors. Nonetheless, all these systems send messages reading “fire alert” and the sound of an alarm only in the form of a short message service (SMS), along with information about the location of the fire.

T. Report, “Design & implementation of fire alarm circuit design & implementation of fire alarm circuit asok bala Md. Najmul hossain id: ece-

070200074 id: ECE-070300082 su pervised by ashraful arefin senior lecturer,” Department of EEE Cis Project submitted in par, 2015.

The system reads the data of heat and flame and analyzes it, and then immediately sends a call to the fire station through GSM and informs about its location. This research focuses on developing an affordable, responsive, and effective.

## CHAPTER-3 SYSTEM DESIGN

### SYSTEM REQUIREMENTS

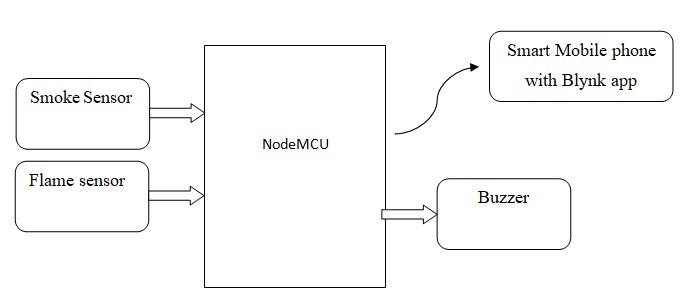
#### Hardware Required

* Power Supply
* NodeMCU
* Smoke Sensor
* Flame sensor
* Buzzer

#### Software Components

* IDE: Arduino
* Programming Language: Embedded C
* Blynk

### SYSTEM ARCHITECTURE DIAGRAM



### Modules

1. Power Supply Module
2. Control Module
3. IOT Module
4. Sensors Module

### Modules Description

#### Power Supply

Power supply block is providing sufficient power for all block from 230v AC to require 9v DC regulated power so here we are using 9V 1A DC SMPS.

#### Control Module

NodeMCU Microcontroller is used as the main processing unit. It is user for controlling (collecting data and send to IOT portal) all interfacing devices (IOT portal, Smoke and Flame sensor) according to given programming. Indult Wi-Fi Modem is used for the internet communication.

#### Sensors Module

Sensor modules have extra electronic circuitry along with a sensor that helps interface them with microcontrollers. In our project we measure Smoke and Flame sensor value to find fire accidents.

#### IOT Portal

In this we are using Blynk ,this Blynk is an IoT platform that is used to receive alerts from IOT devices (NodeMCU) via the Internet. This application is used to create a graphical interface or human machine interface (HMI) by compiling and providing the appropriate address on the available widgets.

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