

## Introduction

In today's fast-paced academic environment, effective communication is crucial. This project addresses connectivity issues by ensuring reliable SMS-based notifications.

## Problem

Missed exam updates, delayed emergency alerts, unnoticed equipment failures, food safety risks, and unreliable transport notifications disrupt daily life. A smart SMS system ensures real-time, reliable communication—anytime, anywhere.

## Solution

NotifyTrack, is a smart SMS notification gateway that ensures real-time delivery of alerts through the integration of various technologies. It connects Google Calendar for event scheduling, IoT sensors for environmental monitoring, and uses a web dashboard for user and admin control, all powered by a Raspberry Pi and Azure IoT Hub.

## Components



Raspberry Pi



DHT22  
Sensor

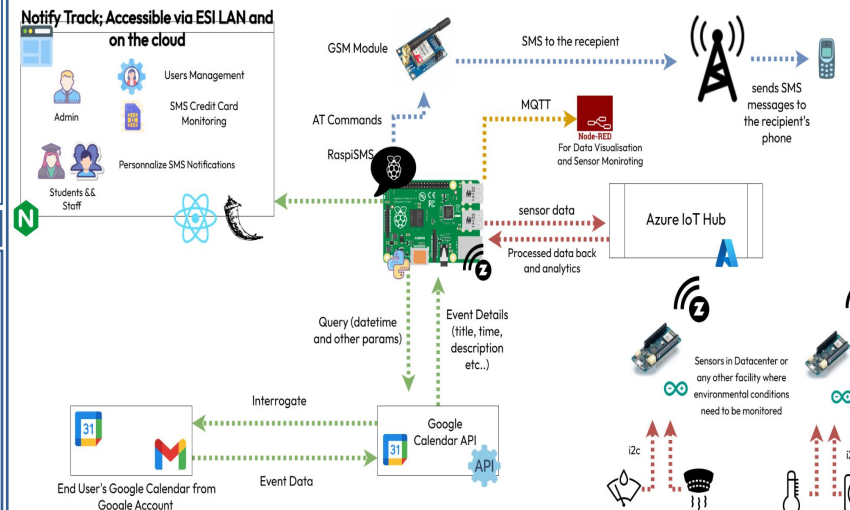


GSM Module

# Smart SMS-Gateway - GSM Module integration with Google Calendar API and Cloud Platforms

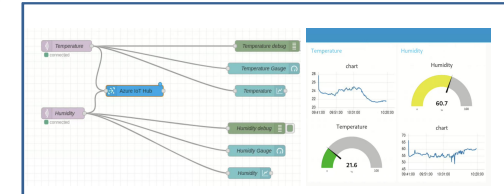
## Dashboard

## General Architecture



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## Node-RED



## Constraints

- GSM Compatibility Issues between Raspberry Pi, RaspiSMS.
- Difficulty in integration between different technologies :RaspiSMS, cloud services, and IoT devices
- Network Dependency: Unstable GSM coverage may affect SMS delivery.

## Perspectives

- Scale the system with more sensors and devices.
- Use Zigbee and Arduino for lot coverage.
- Add predictive analytics using Machine Learning.
- Develop a mobile version of the platform .

## Conclusion

Providing a reliable SMS-based notification system, NotifyTrack ensures timed communication even with poor internet connectivity. By combining IoT sensors, cloud services, and a user-friendly dashboard, it improves operational efficiency.