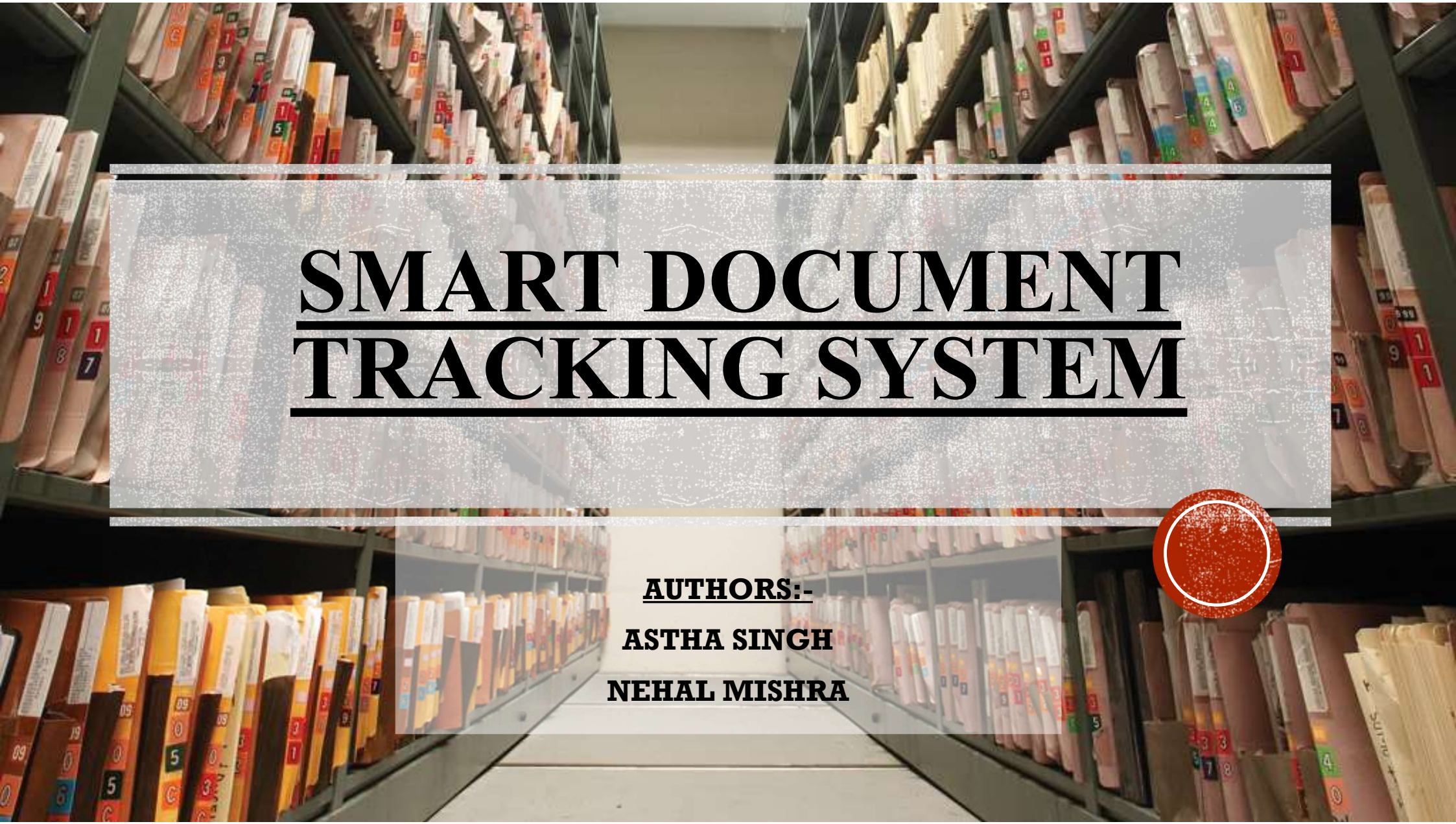


SMART DOCUMENT TRACKING SYSTEM

AUTHORS:-

ASTHA SINGH

NEHAL MISHRA

BACKGROUND

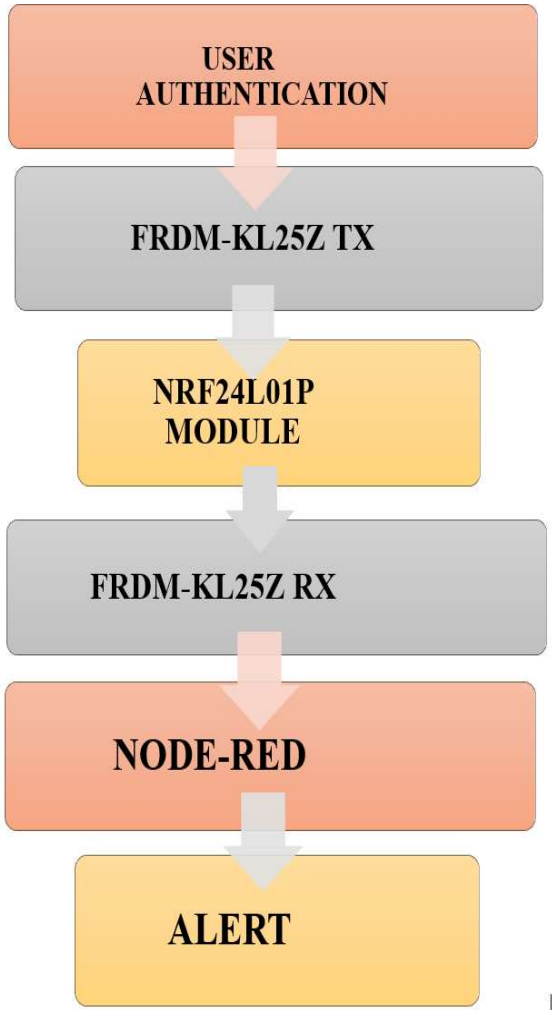
- The project paper group got motivated to work on a document tracking system after learning about the CBSE paper leaks which happened on April 7,2018 affecting more than 1 crore students.
- When organizations and offices lose sensitive documents, it may cost them billions to replace, and that's if the file and its data is even replaceable.
- Multiple uses in many different departments, including courts, law offices, police stations, financial offices, government agencies, insurance offices, libraries, pharmacies, and many more.

INTRODUCTION

Documentation plays a crucial role in any organization. The proposed paper is based on our project- Smart Document Tracking System.

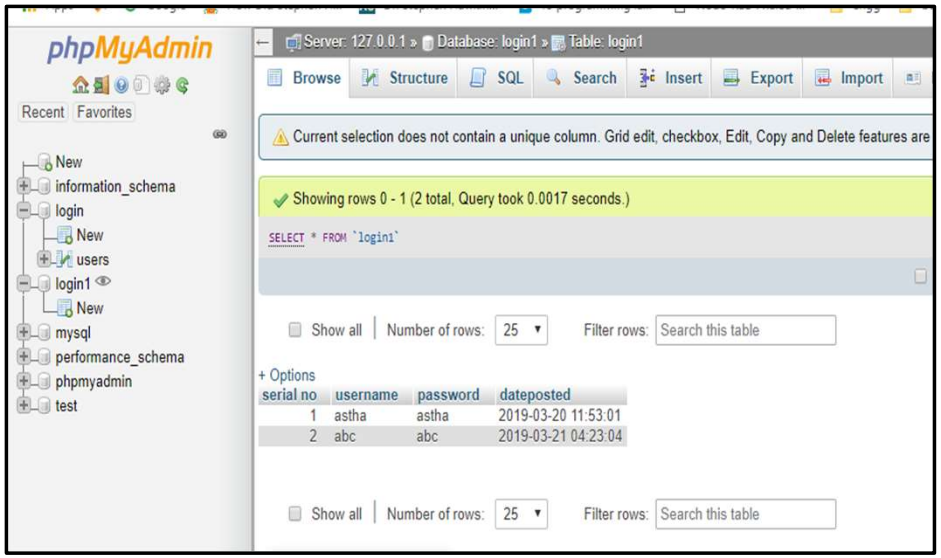
It is implemented in 4 steps:

- User authentication.
- Real time tracking of unauthorized displacement of document.
- Real time detection of the status of the document.
- Alert system.

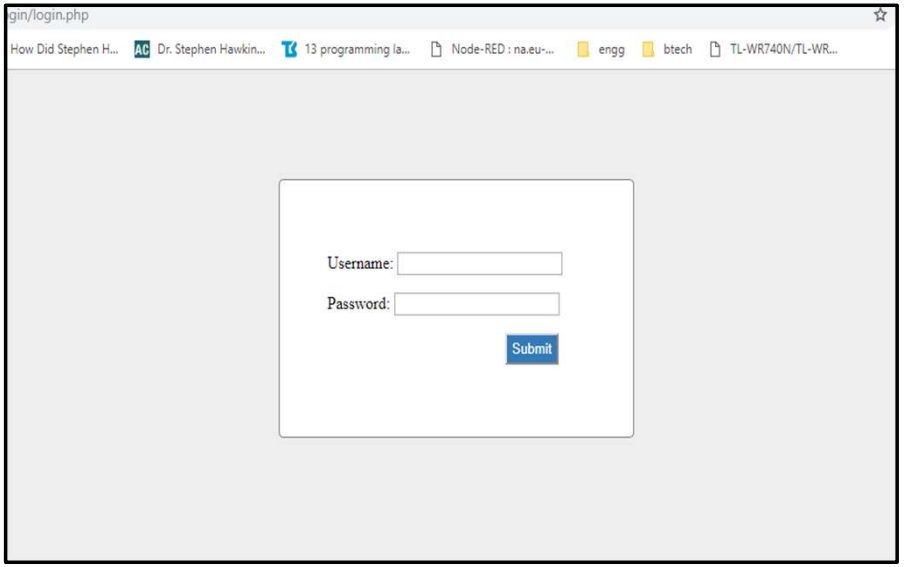


STEP-1:USER AUTHENTICATION:

- The user authentication system matches the details entered by the user on the webpage with the database of authorized users.



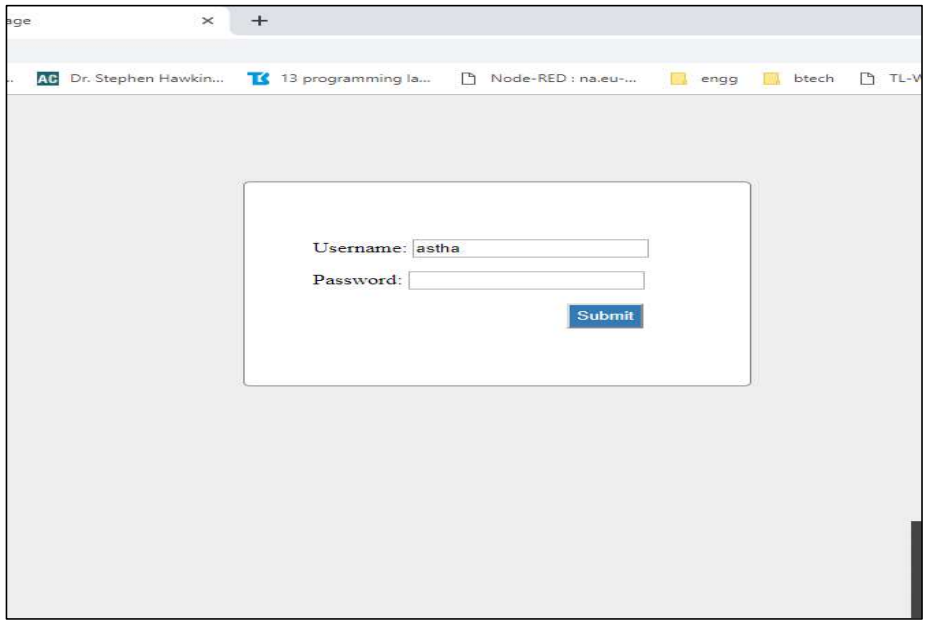
Database



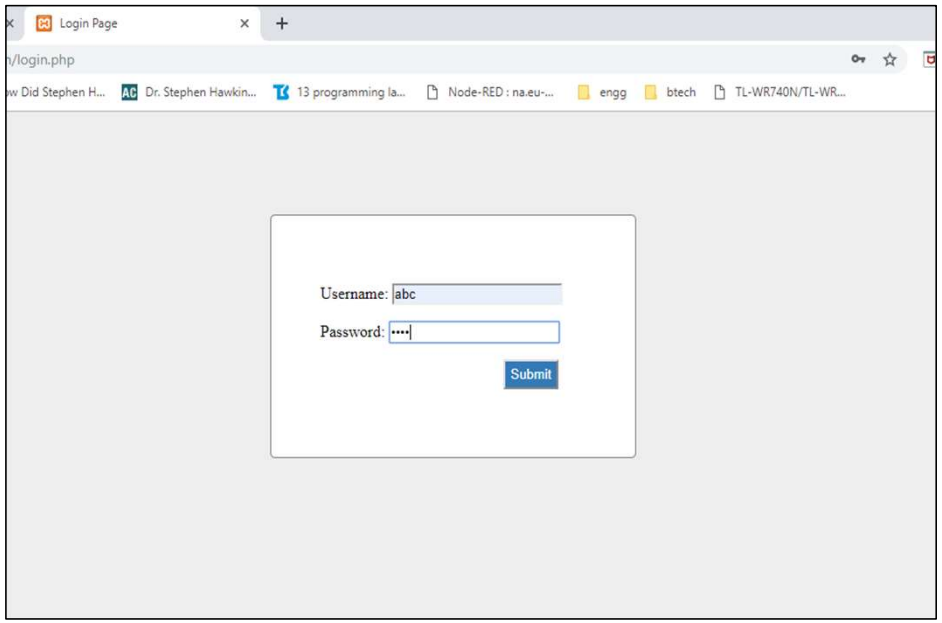
Authentication page

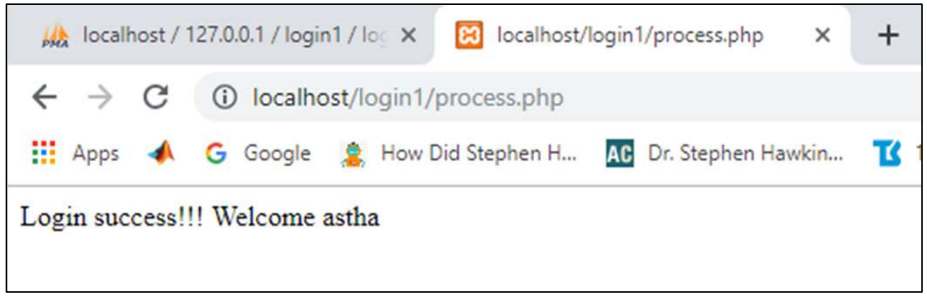
AUHENTICATION (RESULTS)

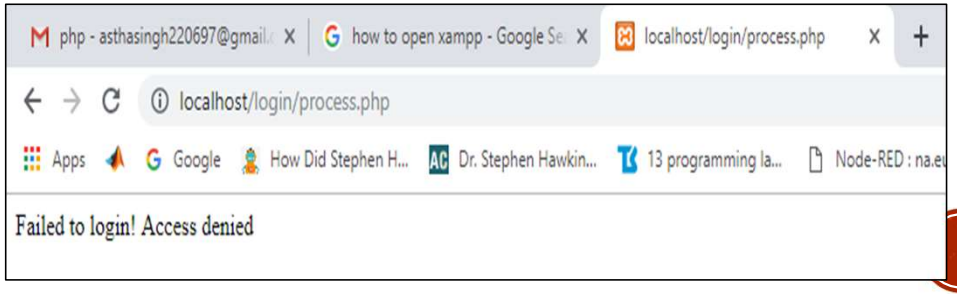
- CASE-1:AUTHORIZED ACCESS



- CASE-2:UNAUTHORIZED ACCESS

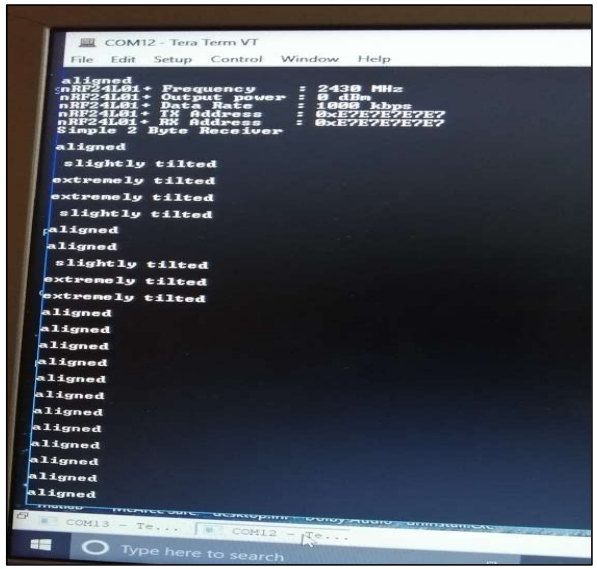






STEP-2. REAL TIME TRACKING OF UNAUTHORISED DISPLACEMENT OF THE DOCUMENT:

- The accelerometer will give the information if the document is displaced or not.
- The accelerometer values are divided into 3 ranges: aligned, slightly tilted and extremely tilted.



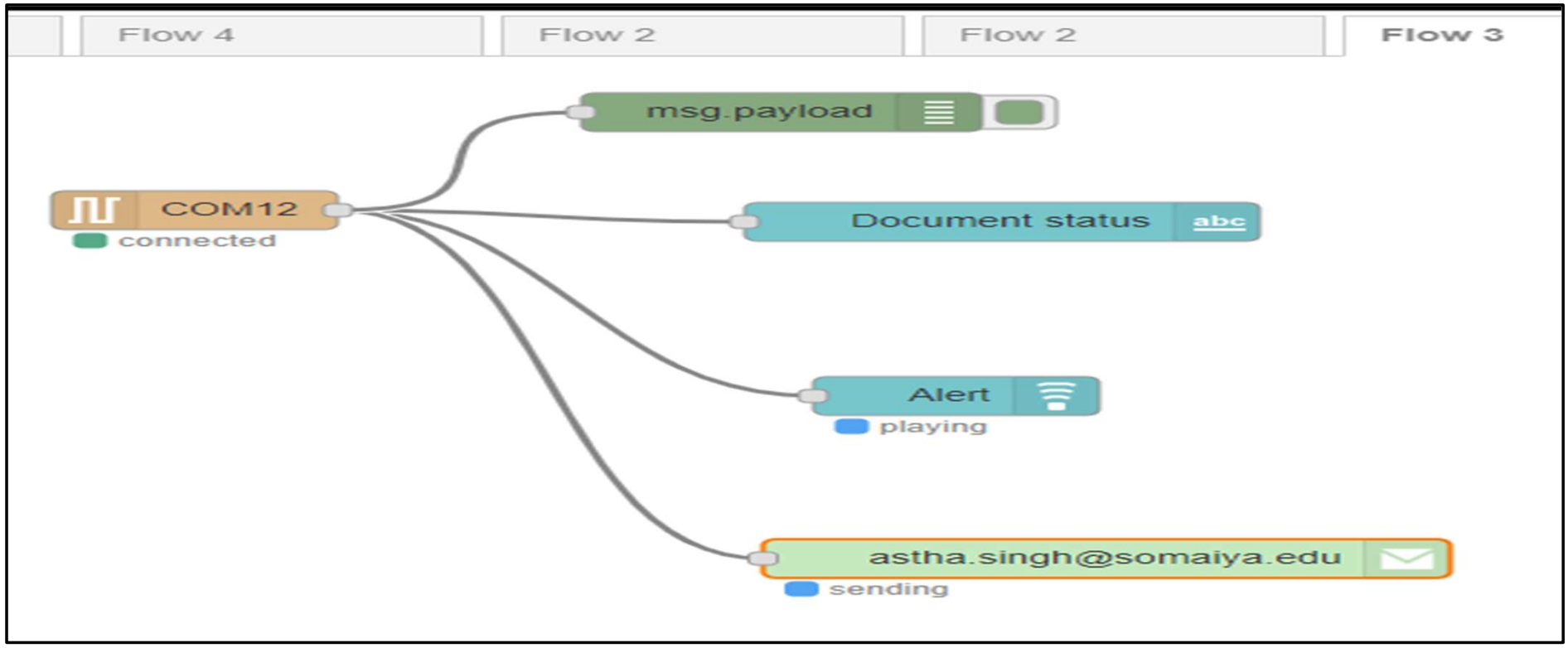
STEP-3. REAL TIME DETECTION OF THE STATUS OF THE DOCUMENT

- The accelerometer data is being sent to the supervisor using nRF24L01p module.
- It also detects whether the document is within the permitted area of access.

FRDM+NRF MODULE

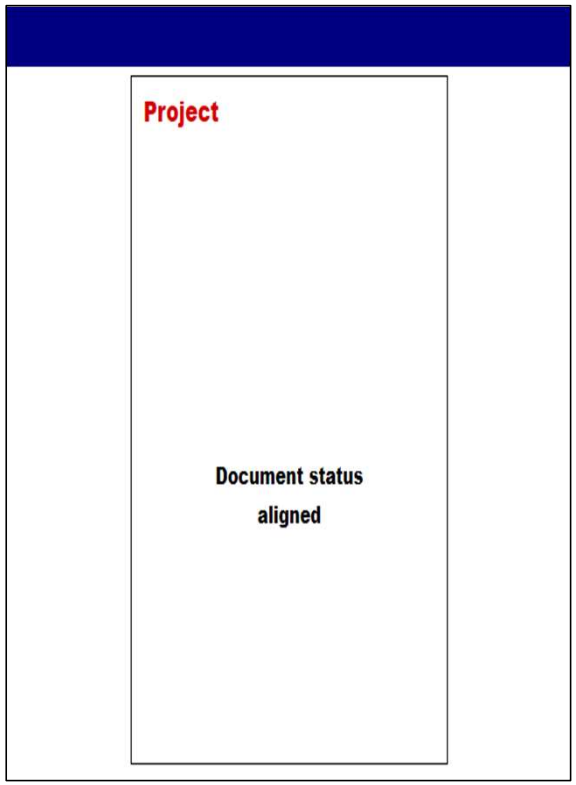
STEP-4.:ALERT SYSTEM (NODE-RED)

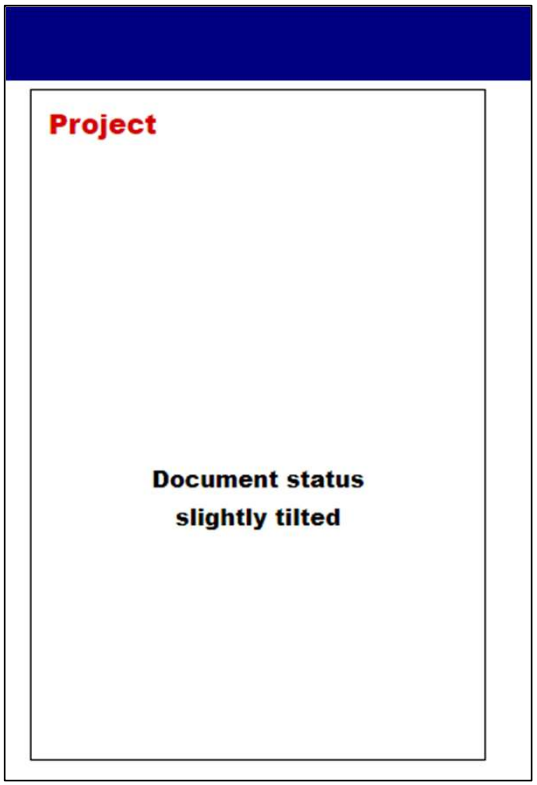
The alert system is built using Node-RED. Node-RED is a programming for wiring together hardware devices, APIs and online services.

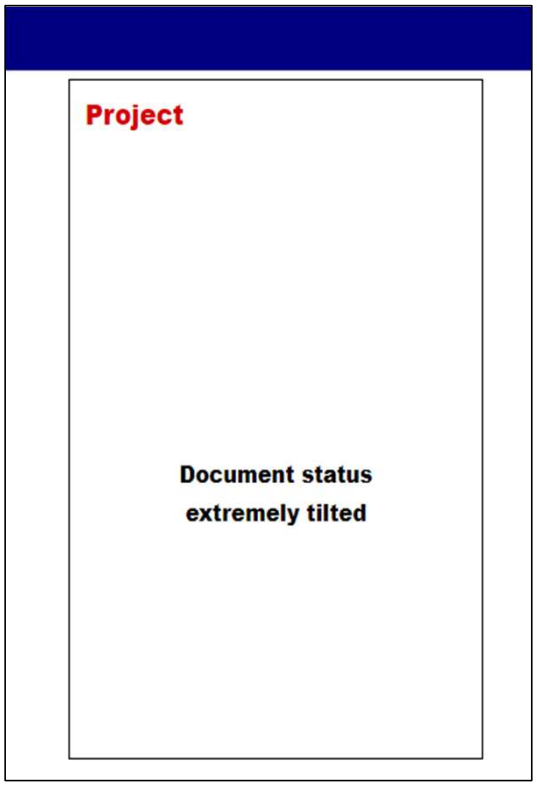


NODE RED FLOW

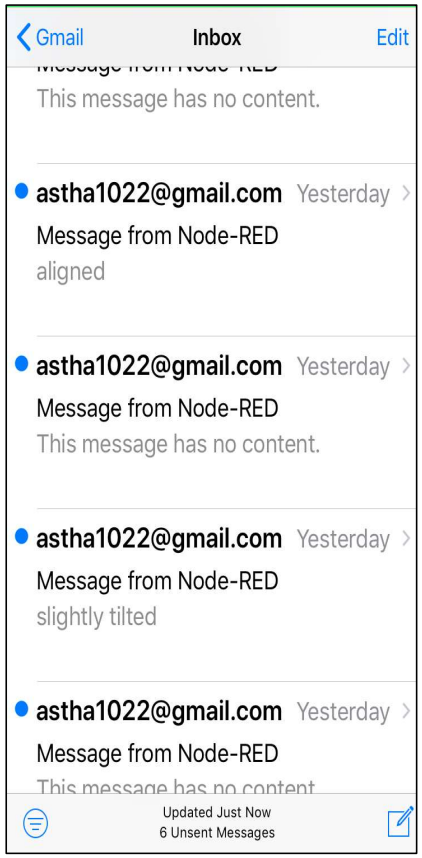
DOCUMENT STATUS (RESULTS)

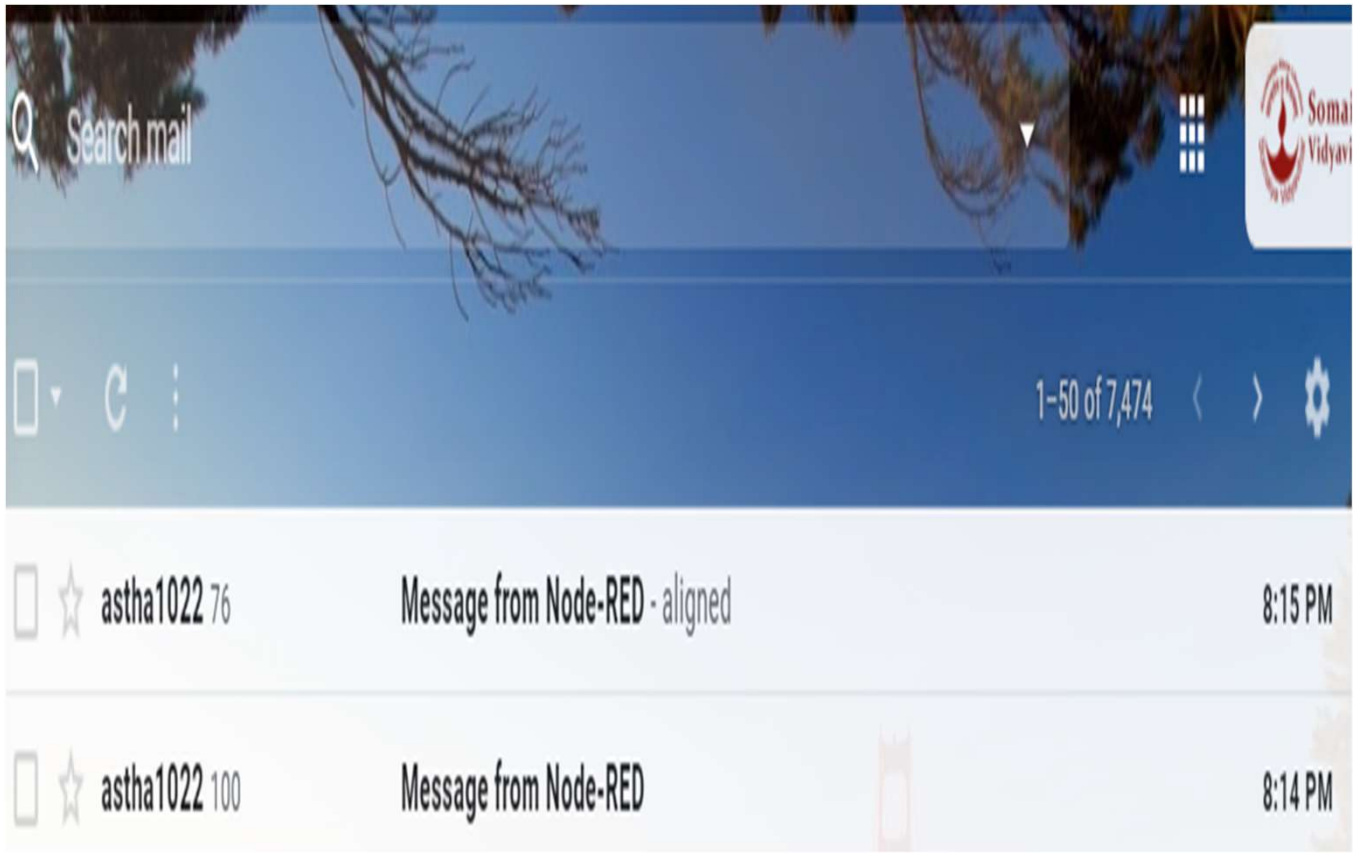






ALERT E-MAIL


Gmail
Inbox
Edit
This message has no content.
astha1022@gmail.com Yesterday
Message from Node-RED
aligned
astha1022@gmail.com Yesterday
Message from Node-RED
This message has no content.
astha1022@gmail.com Yesterday
Message from Node-RED
slightly tilted
astha1022@gmail.com Yesterday
Message from Node-RED
Updated Just Now
6 Unsent Messages


Search mail
1-50 of 7,474
astha1022 76
Message from Node-RED - aligned
8:15 PM
astha1022 100
Message from Node-RED
8:14 PM

CONCLUSION

- The User Authentication was implemented and validated the entered data and recorded the timestamp in the database of authorized users and warned in case of unauthorized access .
- The nRF24L01p module having a range of 5-10m was interfaced with FRDM-KL2Z board to detect any change in position or movement of document.
- In alert system the text status was updated every second and sound alert has a delay of 10 seconds in comparison to text box and email.
- In case of any break in communication between the transmitter and receiver the LED stops blinking and the sound system also stops thus the break can be detected.
- The future scope involves the following: increasing the security of the system in case of unauthorized access and making it more applicable for industrial use.

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THANK YOU