

# **Train Detection & Alert System**

## **Status Document – 02**



B.Sc. (Hons) Degree in Information Technology  
Specialized Information Technology

**Department of Information Technology**

**Group: 23-302**

**Wijewardene L.L – IT20101824**

Submission Date :08/09/2023

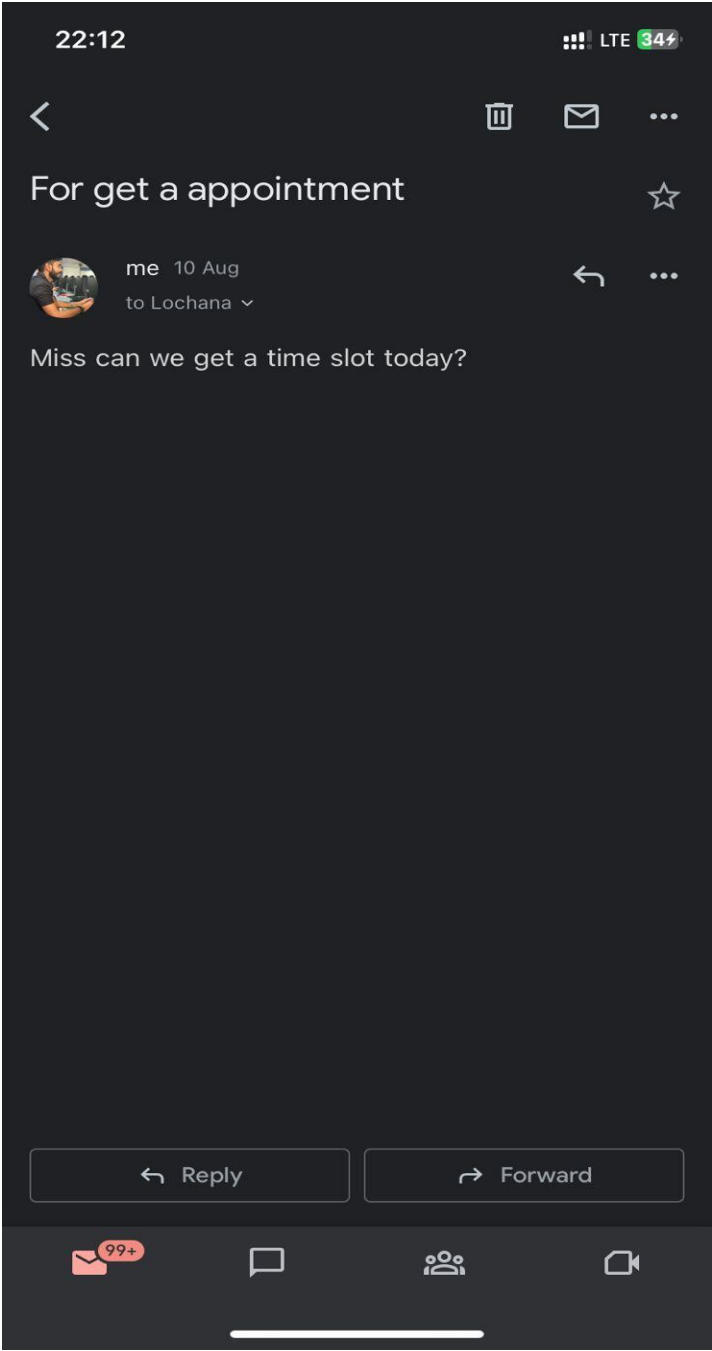
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01. Communication with Supervisors

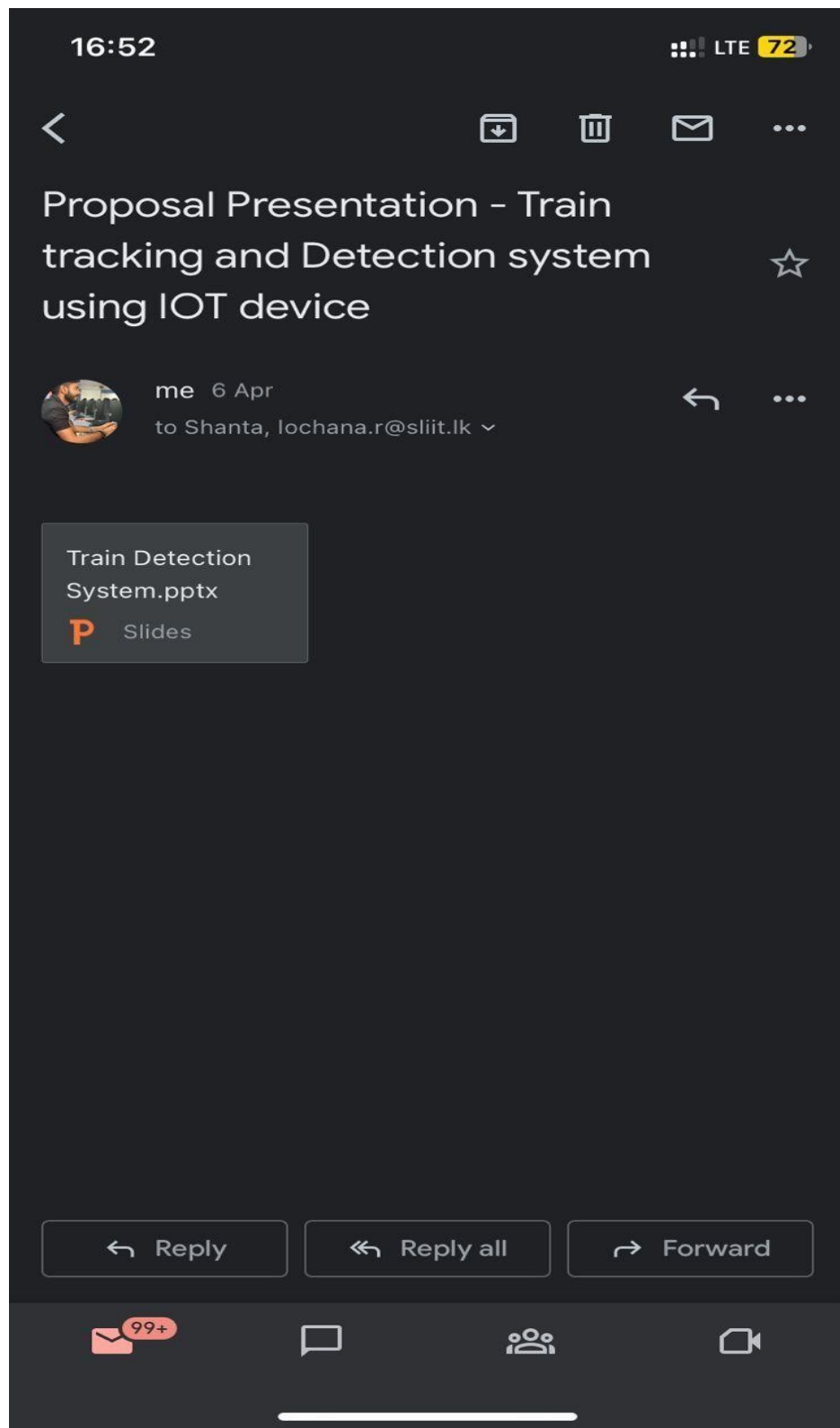
1.1. Visiting the Supervisor and the co-supervisor regularly.







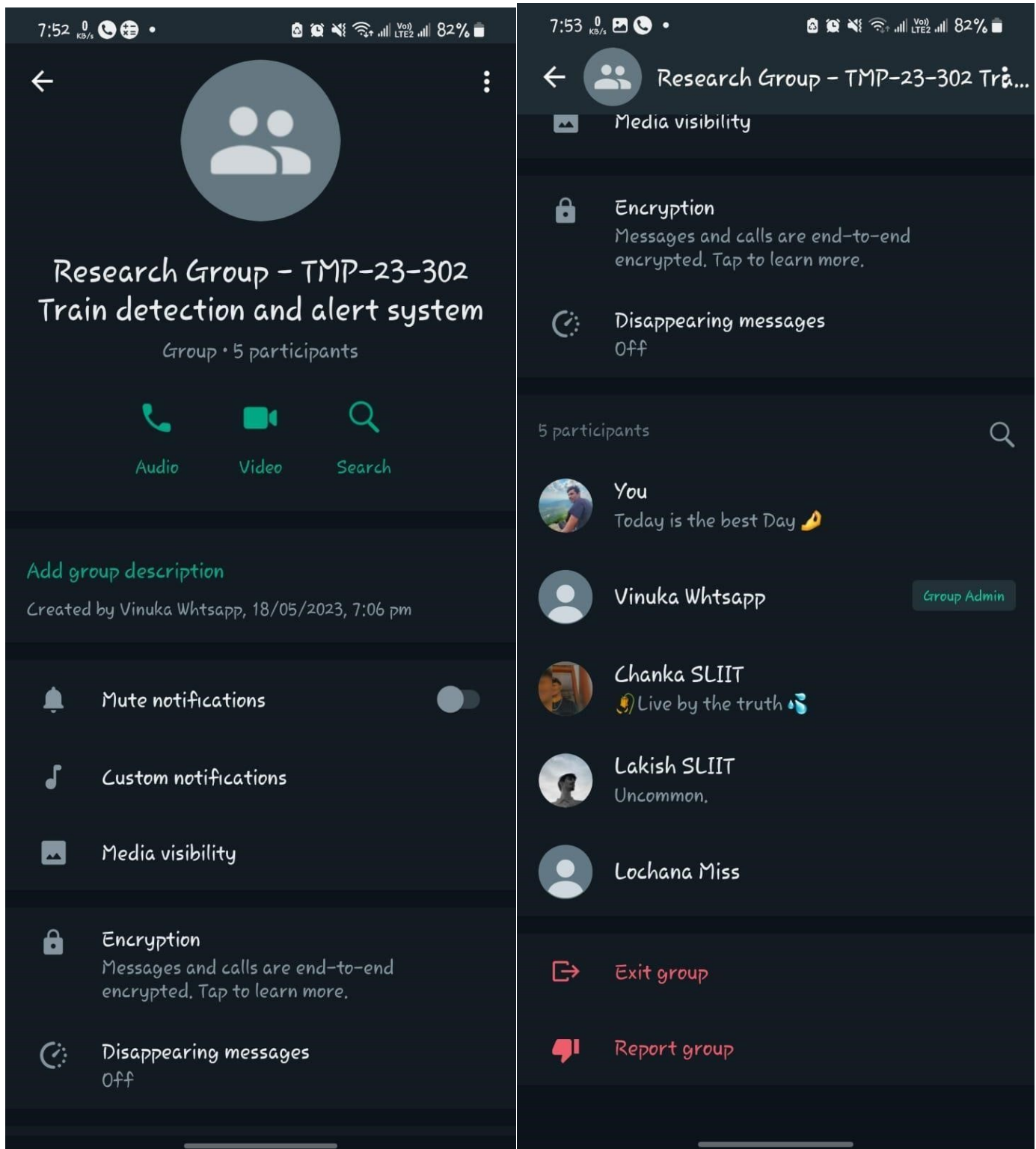
## 1.1. Sending research project-related files to the Supervisor and Co-supervisor



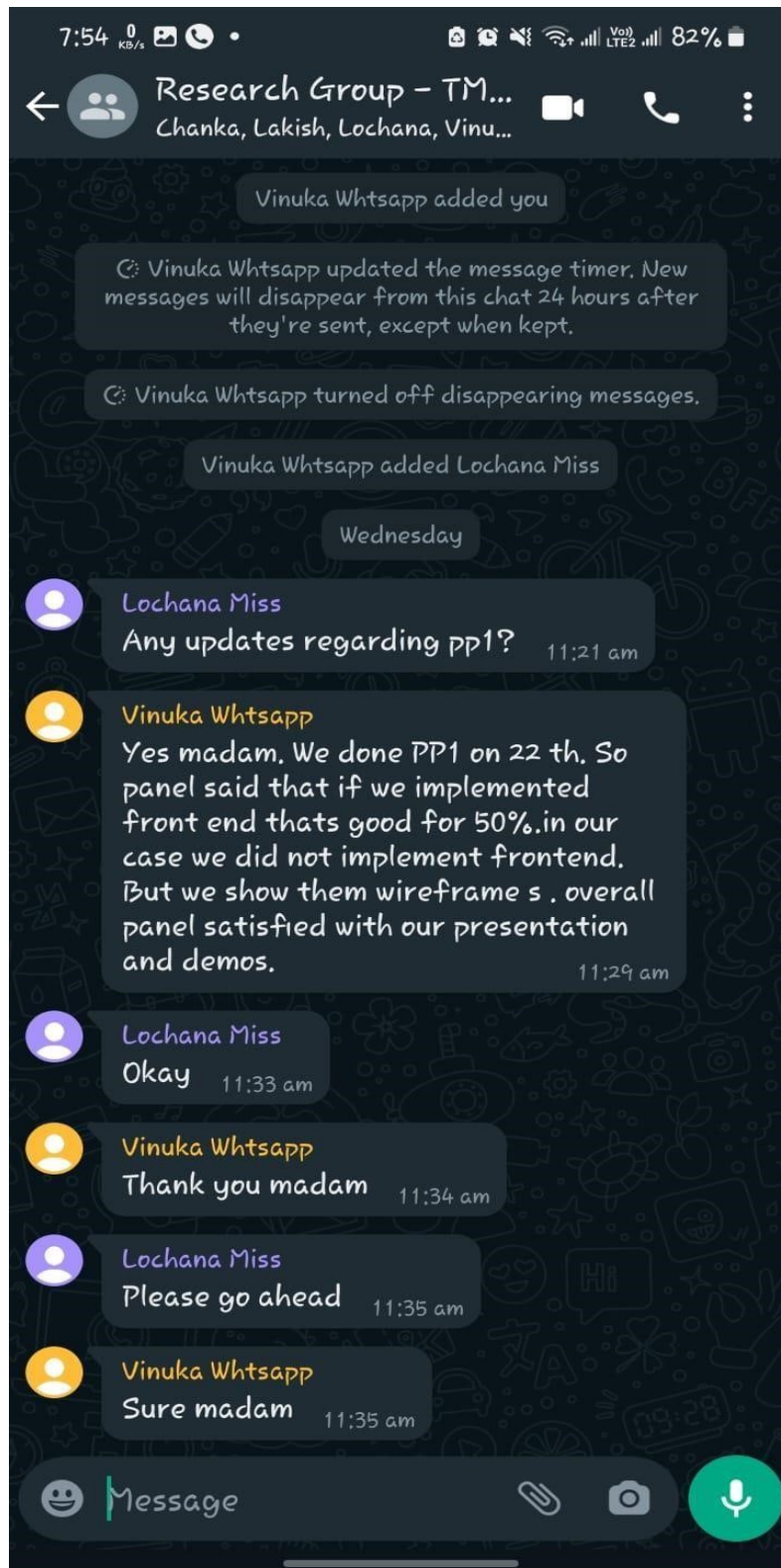




## 1.2. Create a WhatsApp Group with supervisor and co-supervisor

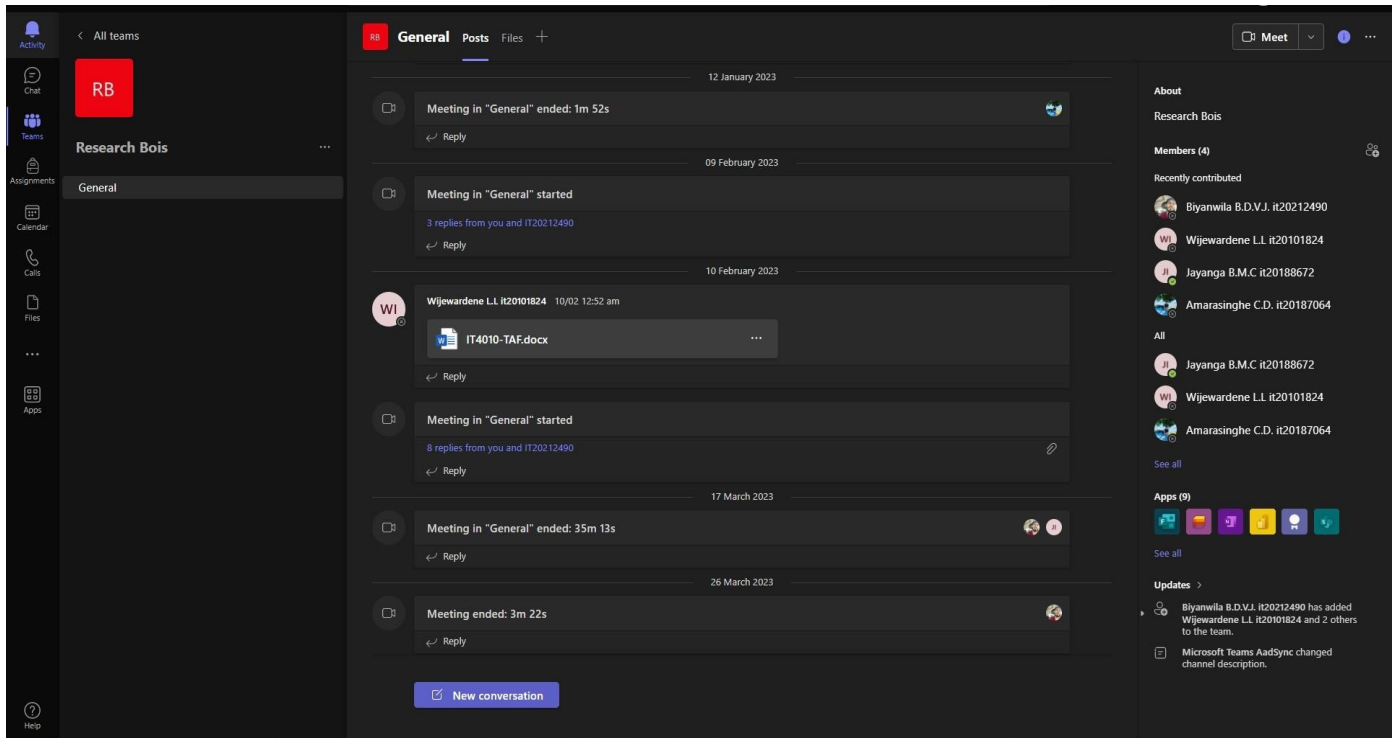


1.3. Share ideas with supervisor through WhatsApp chats.

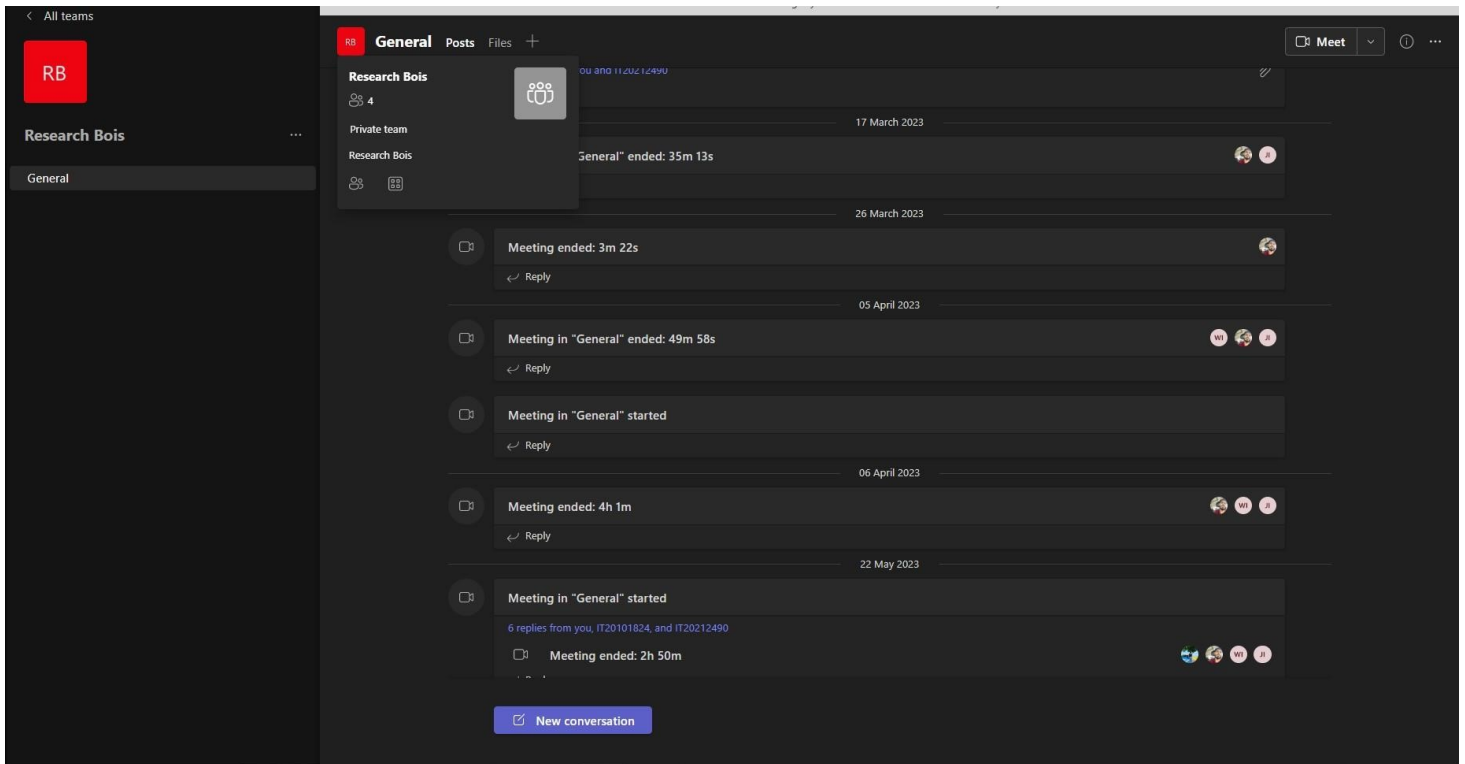


## 2. Research Group

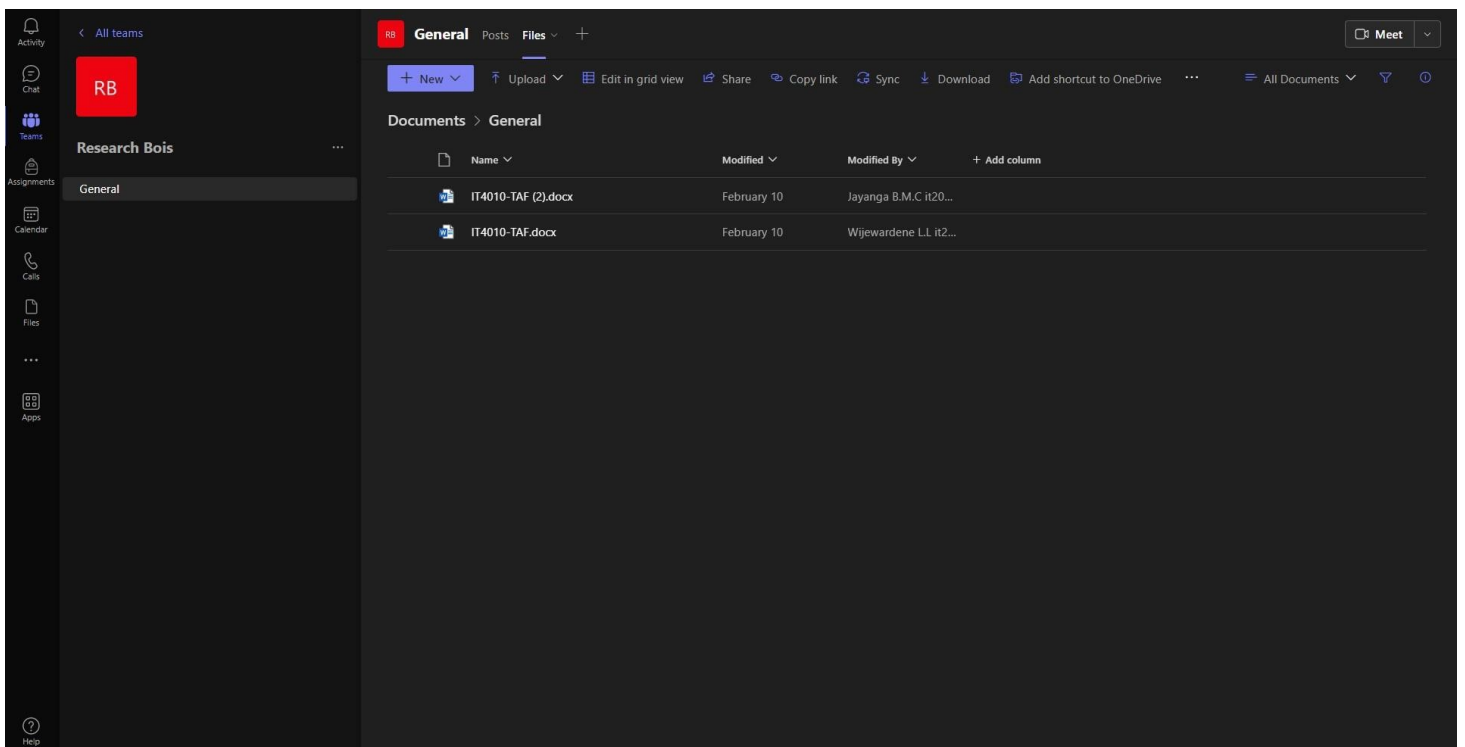
### 2.1. Create a MS team group with team members.



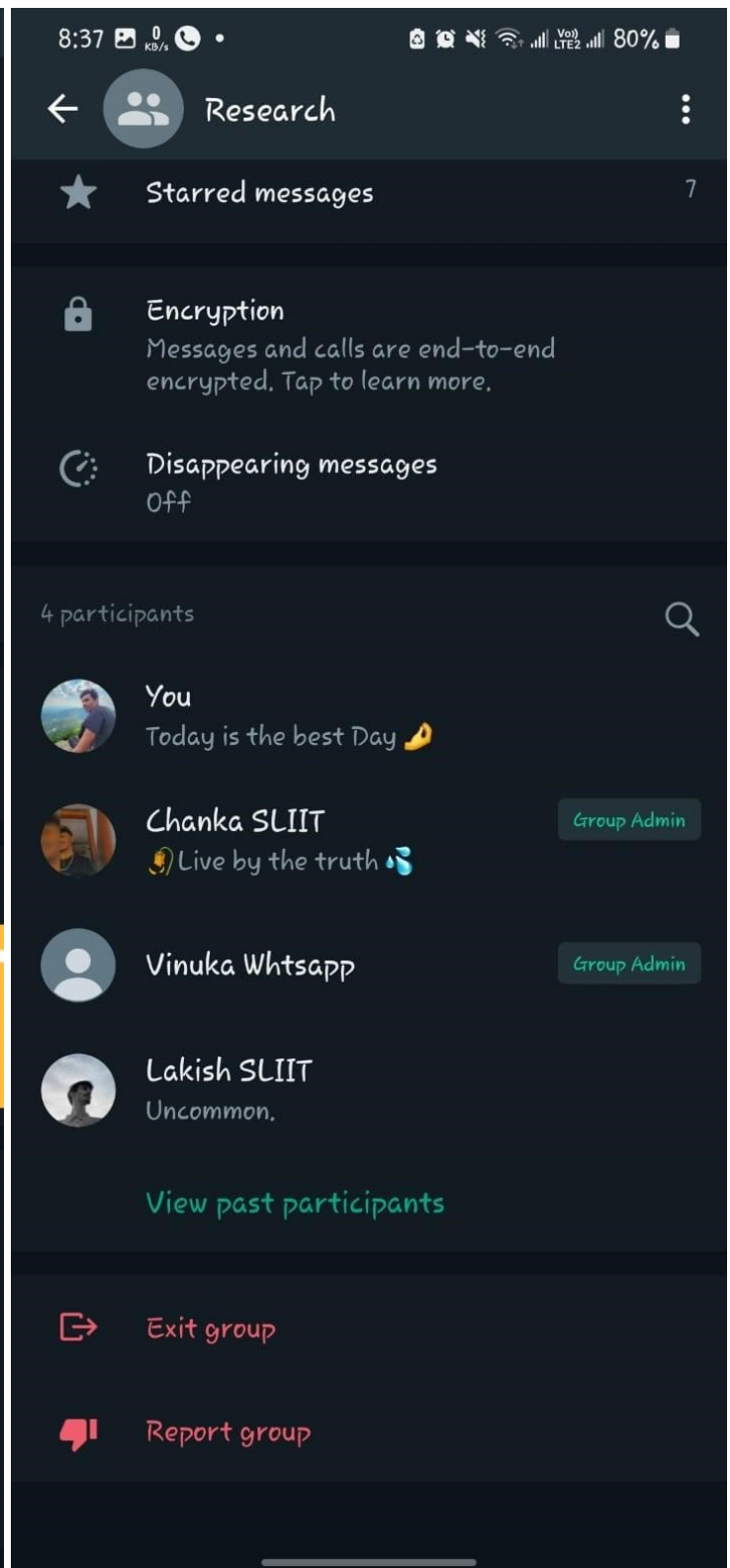
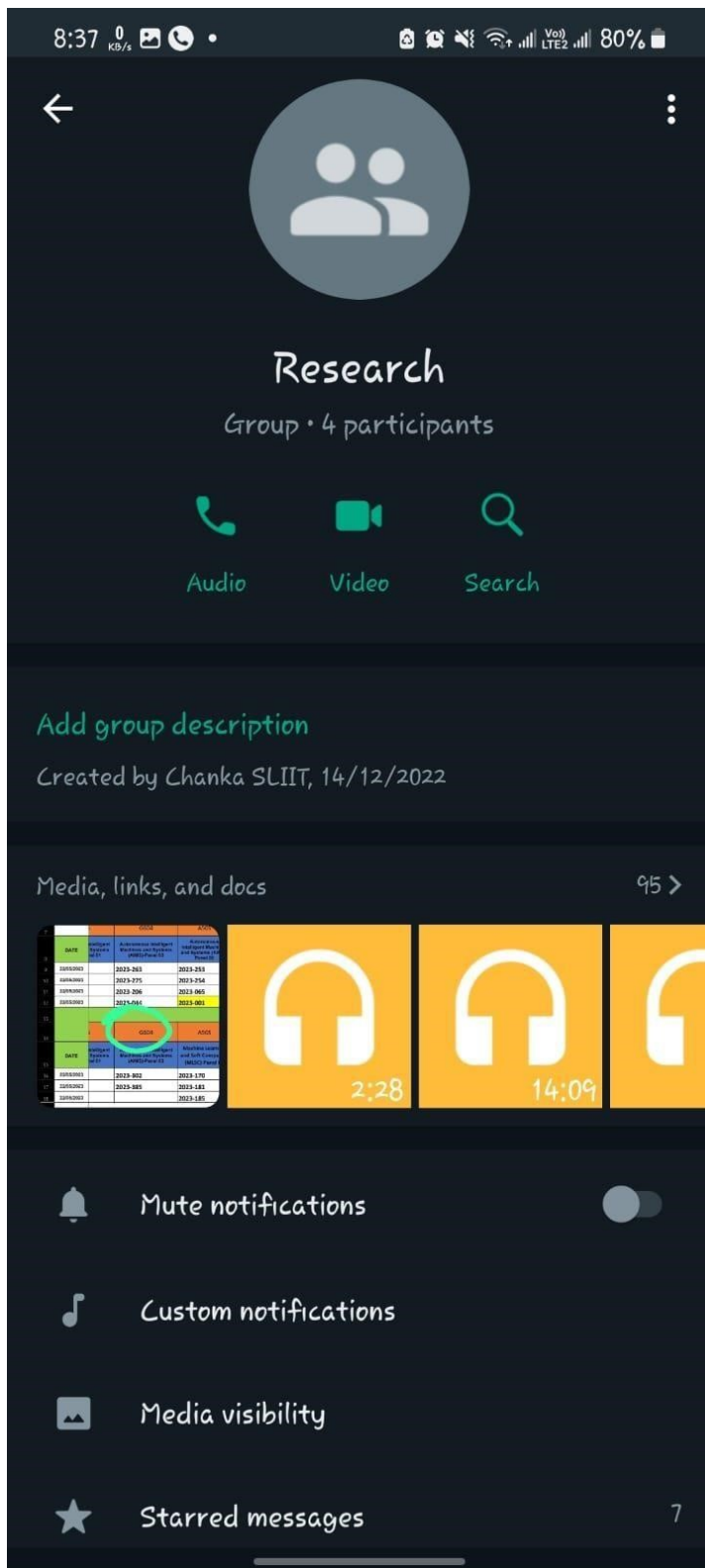
### 2.2. MS teams meetings with members.



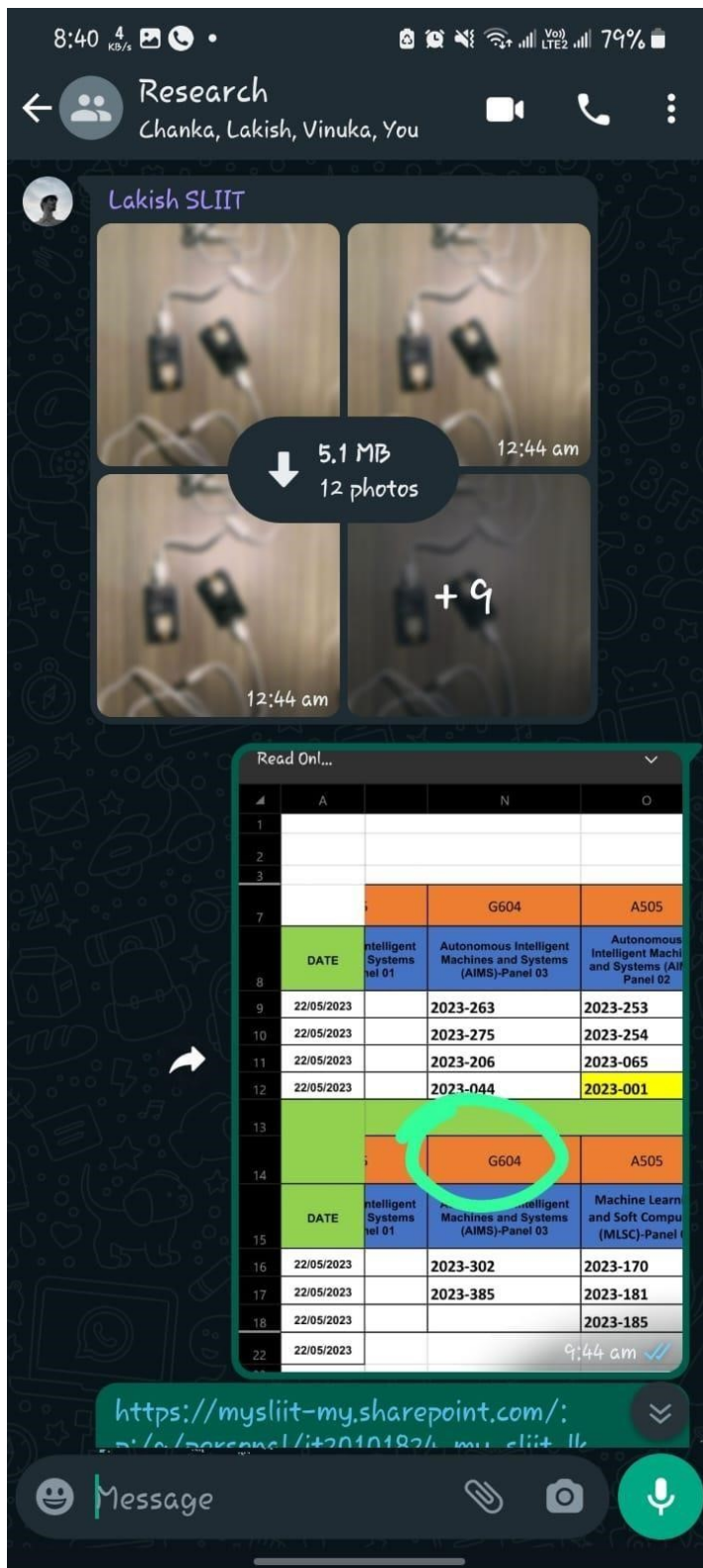
## 2.3. MS teams files



## 2.4. Create a WhatsApp group with team members.

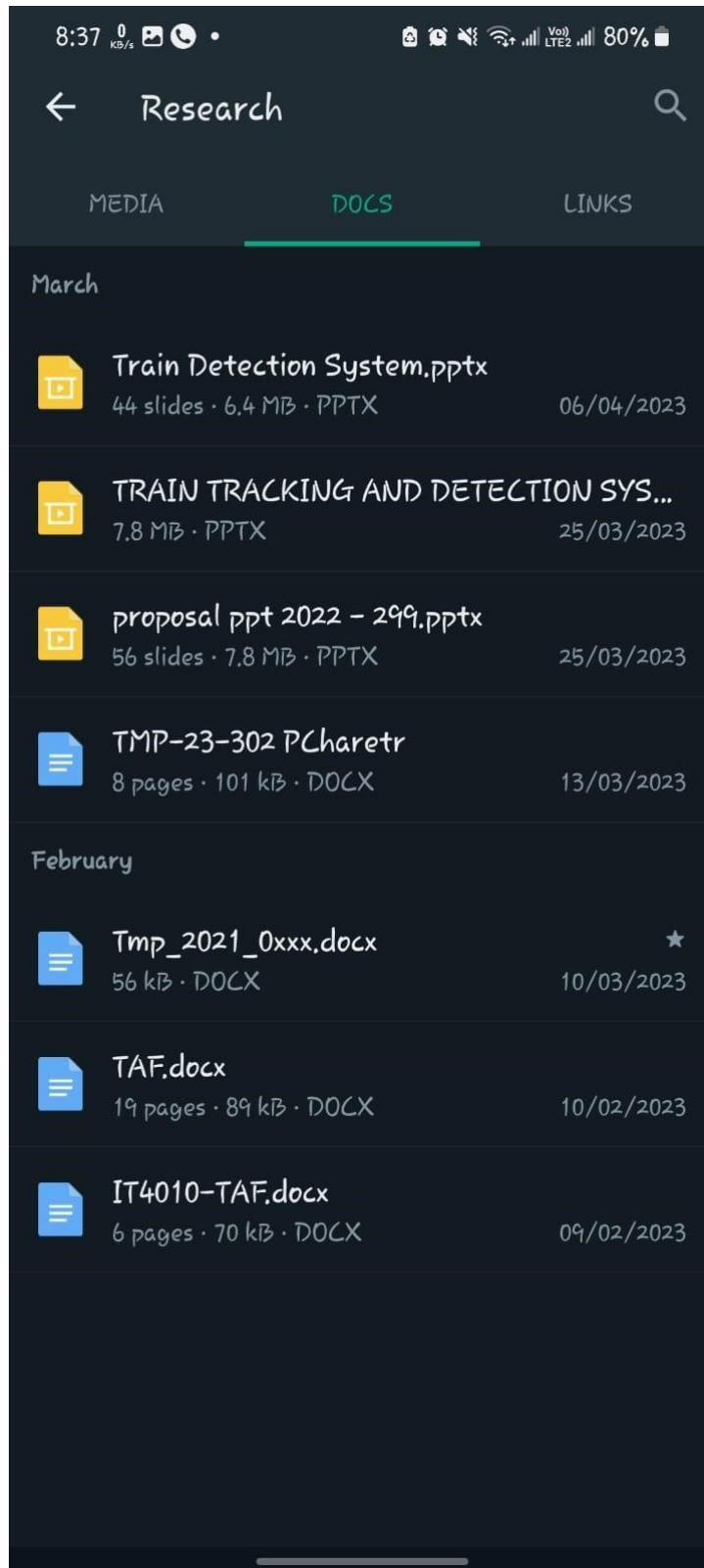


## 2.5. Chat in WhatsApp group with group members



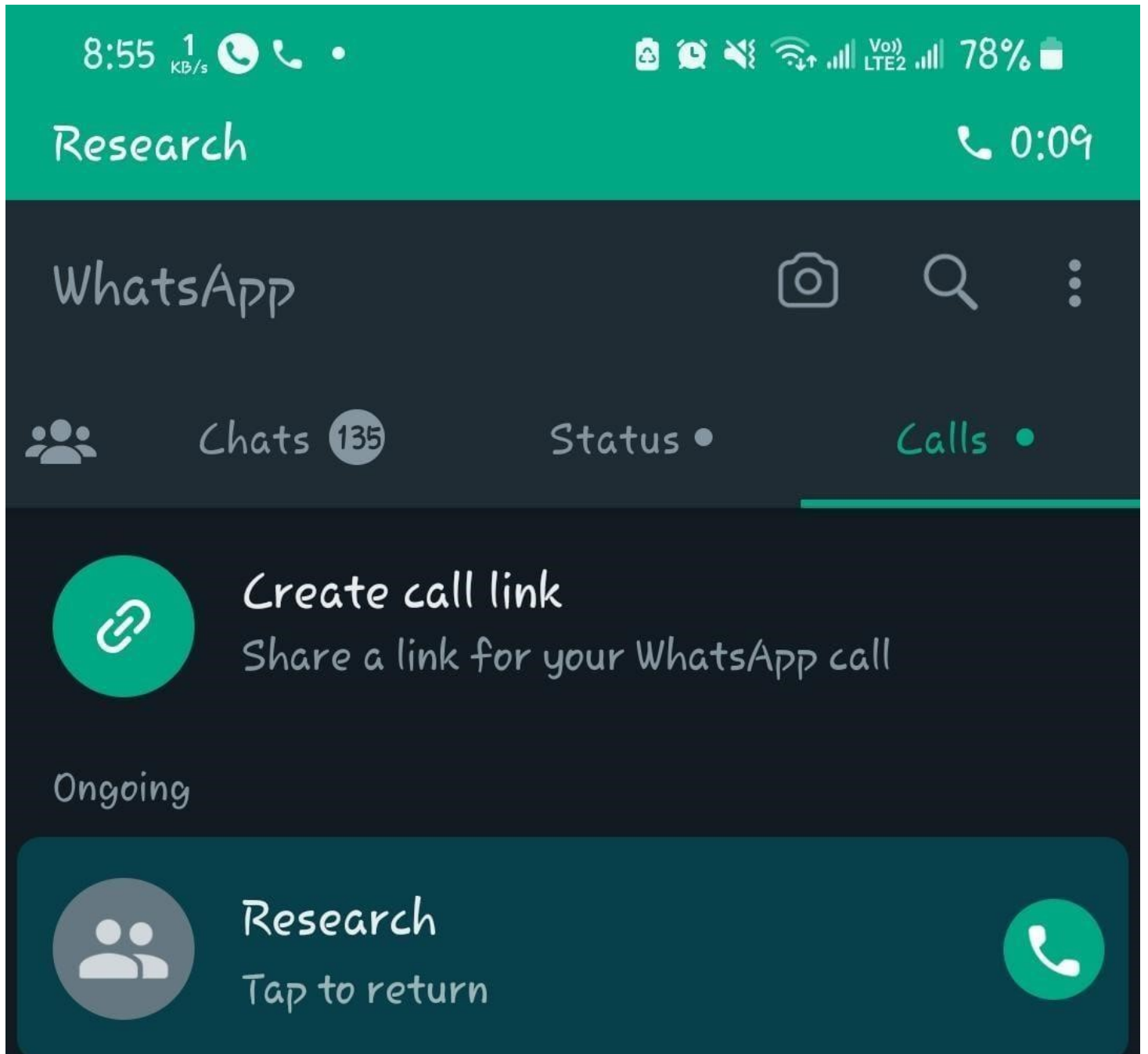
2.6. Files shared in WhatsApp group with group members





## 2.7. WhatsApp group calls.





### 3. Update CDAP Cloud Submissions

SharePoint

Search this library

CDAPSubmissionCloud

Private group

Not following

2 members

New

Upload

Share

Copy link

Sync

Add shortcut to OneDrive

Download

Export to Excel

Automate

Integrate

All Documents

2023RegCloud > 23-302-Students

Name	Modified	Modified By	File Size
1. Project Proposal	April 20	CDAP SLUIT	2 items
2. Status Document 1	April 20	CDAP SLUIT	5 items
3. Progress Presentation - 1	April 20	CDAP SLUIT	2 items
4. Research Paper	April 20	CDAP SLUIT	5 items
5. Progress Presentation - 2	April 20	CDAP SLUIT	3 items
6. Final Report & Presentation	April 20	CDAP SLUIT	2 items
7. Status Document 2	April 20	CDAP SLUIT	2 items
8. Website	April 20	CDAP SLUIT	1 item
9. Log Book	April 20	CDAP SLUIT	3 items
Marking Schemes	April 20	CDAP SLUIT	1 item
Project Registration Documents	April 20	CDAP SLUIT	5 items
Panel Comments for the Students.xlsm	July 2	CDAP SLUIT	47.8 KB

Count

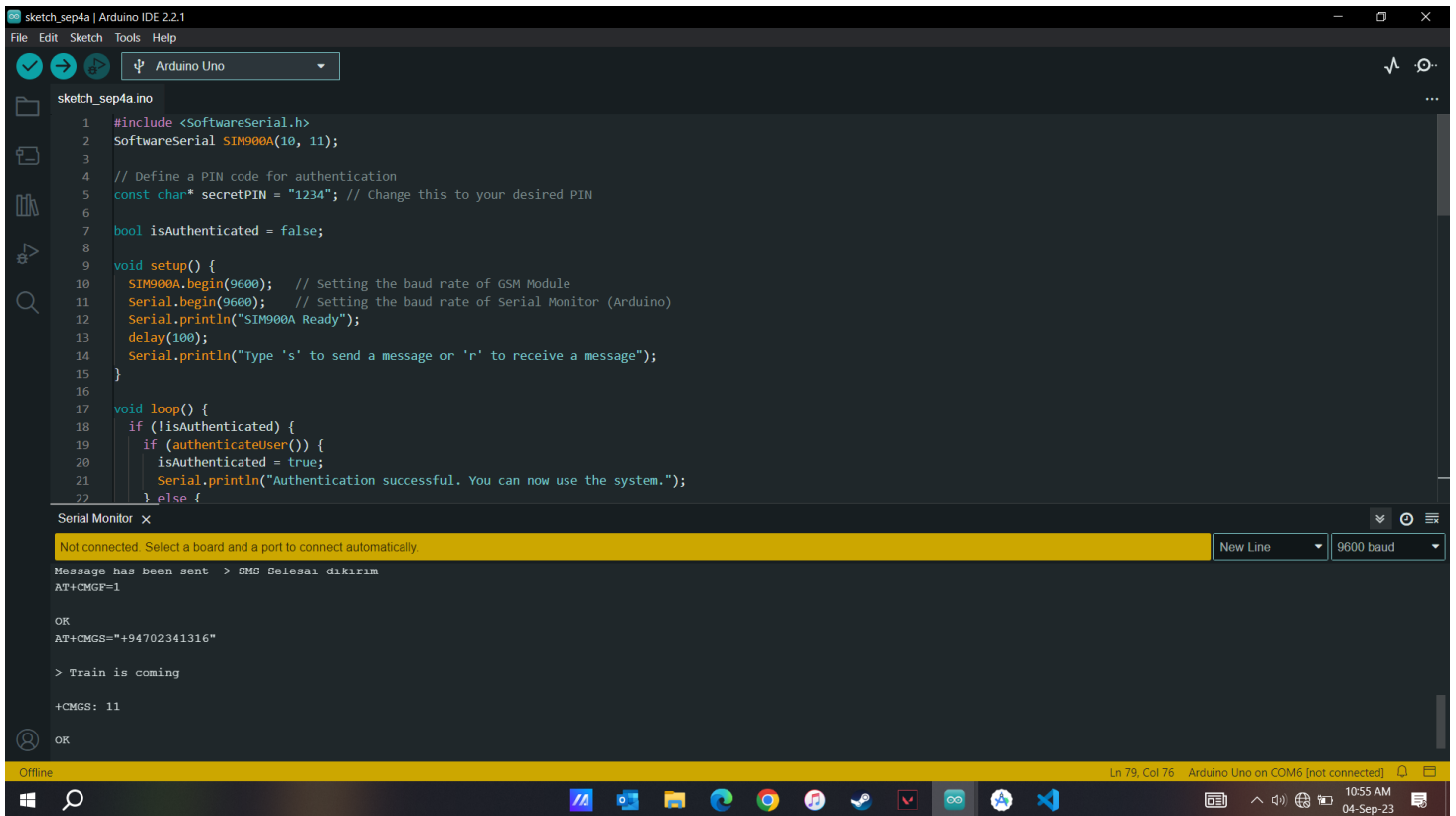
13

Count

2

## 02. Completion of 90% of the research project

### 02.1. Arduino Code for Sending the Messages



The screenshot displays the Arduino IDE interface. The main editor window shows the sketch 'sketch\_sep4a.ino' with the following code:

```
1 #include <SoftwareSerial.h>
2 SoftwareSerial SIM900A(10, 11);
3
4 // Define a PIN code for authentication
5 const char* secretPIN = "1234"; // Change this to your desired PIN
6
7 bool isAuthenticated = false;
8
9 void setup() {
10   SIM900A.begin(9600); // Setting the baud rate of GSM Module
11   Serial.begin(9600); // Setting the baud rate of Serial Monitor (Arduino)
12   Serial.println("SIM900A Ready");
13   delay(100);
14   Serial.println("Type 's' to send a message or 'r' to receive a message");
15 }
16
17 void loop() {
18   if (!isAuthenticated) {
19     if (authenticateUser()) {
20       isAuthenticated = true;
21       Serial.println("Authentication successful. You can now use the system.");
22     } else {
```

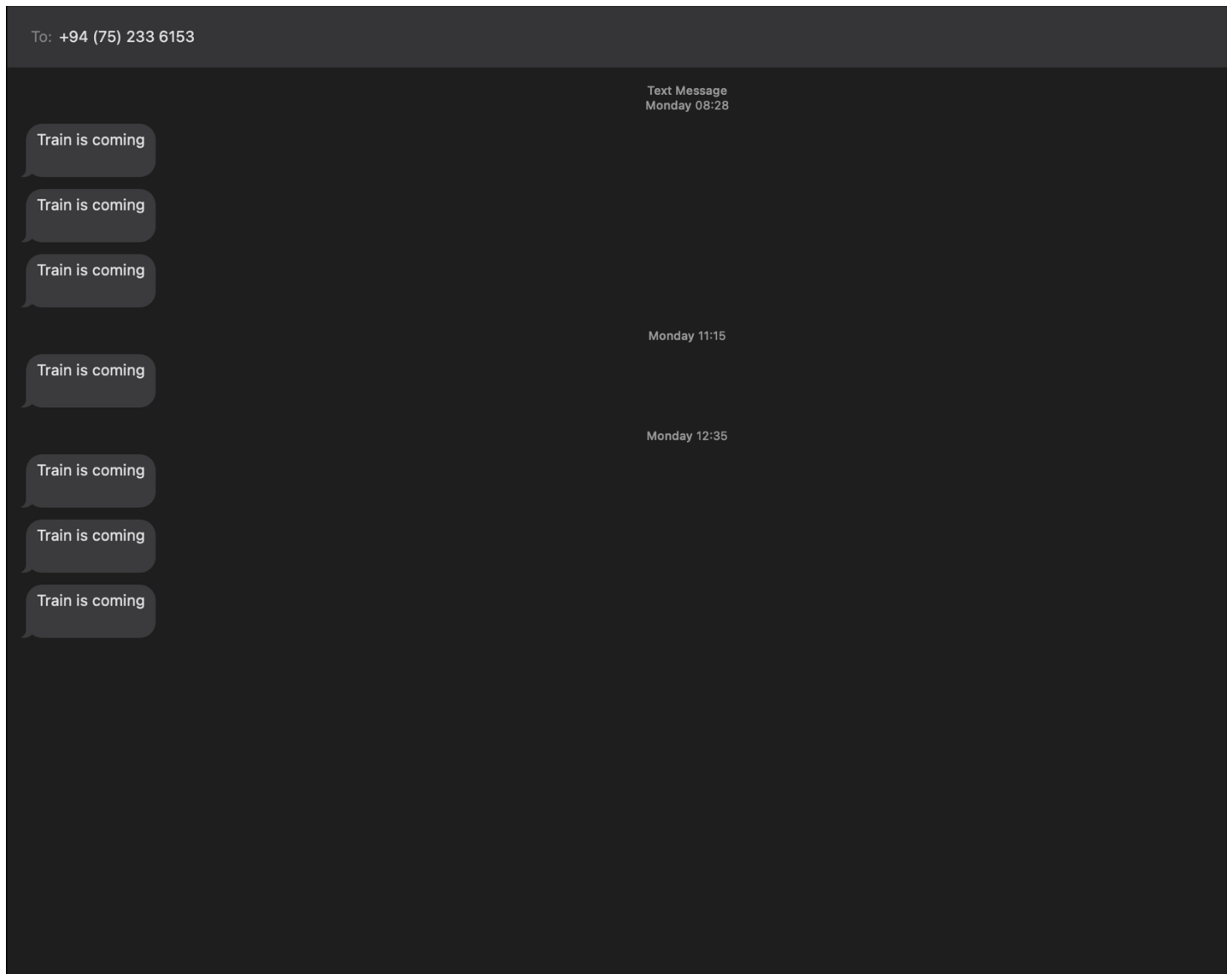
The Serial Monitor window at the bottom shows the following output:

```
Not connected. Select a board and a port to connect automatically.
Message has been sent -> SMS Selesai dikirim
AT+CMGF=1
OK
AT+CMGS="+94702341316"
> Train is coming
+CMGS: 11
OK
```

The status bar at the bottom indicates the IDE is offline and the board is not connected.

Figure 1: Screen Capture of Arduino Code

## 02.2.Arduino Code for Sending the Messages



*Figure 2: Screen Capture of End-Result of Receiving the Message for End-User*

### 02.3.IOT Devices used for the system



