

# **Train Detection & Alert System**

## **Status Document – 01**



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

**Department of Information Technology**

**Group: 23-302**

**Biyanwila B.D.V.J – IT20212490**

Submission Date :26/05/2023

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## 1. Communication with Supervisors

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



16:51

LTE 72



## Re: For Research Progress Meeting

Inbox



**Lochana Rajamanthri** 24 May

to me ▾



Dear Vihan,

Come and meet me at 9.30 am.

Best Regards,  
Lochana Rajamanthri

Lecturer| SLIIT Business School | SLIIT |  
[www.sliit.lk/business](http://www.sliit.lk/business) <<http://www.sliit.lk/business>>

Phone: +94(0)11 754 4801 - Ext 4614 | Email:  
[lochana.r@sliit.lk](mailto:lochana.r@sliit.lk)

[cid:9b4528d7-0575-4a0d-a6eb-94d7daa594e6]  
<<https://www.facebook.com/fobsliit/>>  
[cid:33b68246-b587-455d-9de1-1555a4c7af6f]  
<<https://twitter.com/sliitbusiness>> [cid:a3a1ef60-5cde-4fb5-9e86-9e82f00f0e45]  
<<https://www.linkedin.com/in/sliitbusinessschool/>>  
[cid:88295679-b7f8-435f-a5ab-f93ea4386997]  
<<https://www.instagram.com/sliitbusinessschool/>>  
[cid:7a3ce6b1-7a36-42b3-8f9b-7911246ec592]  
<[https://www.youtube.com/channel/UCMCyQmsdpdjJev8I4pliyhA?view\\_as=subscriber](https://www.youtube.com/channel/UCMCyQmsdpdjJev8I4pliyhA?view_as=subscriber)> [cid:edacb115-b90c-4a24-ba1c-db7d8105dfbd] <<http://www.sliit.lk/business>>  
</>



16:51

LTE 72

Thank you madam



Lochana Rajamanthri 24 May

to me ▾



Dear Vihan,

Tomorrow I will be a little bit late to come to the office. So please come around 1.30 pm.

Thank you.

Best Regards,  
Lochana Rajamanthri

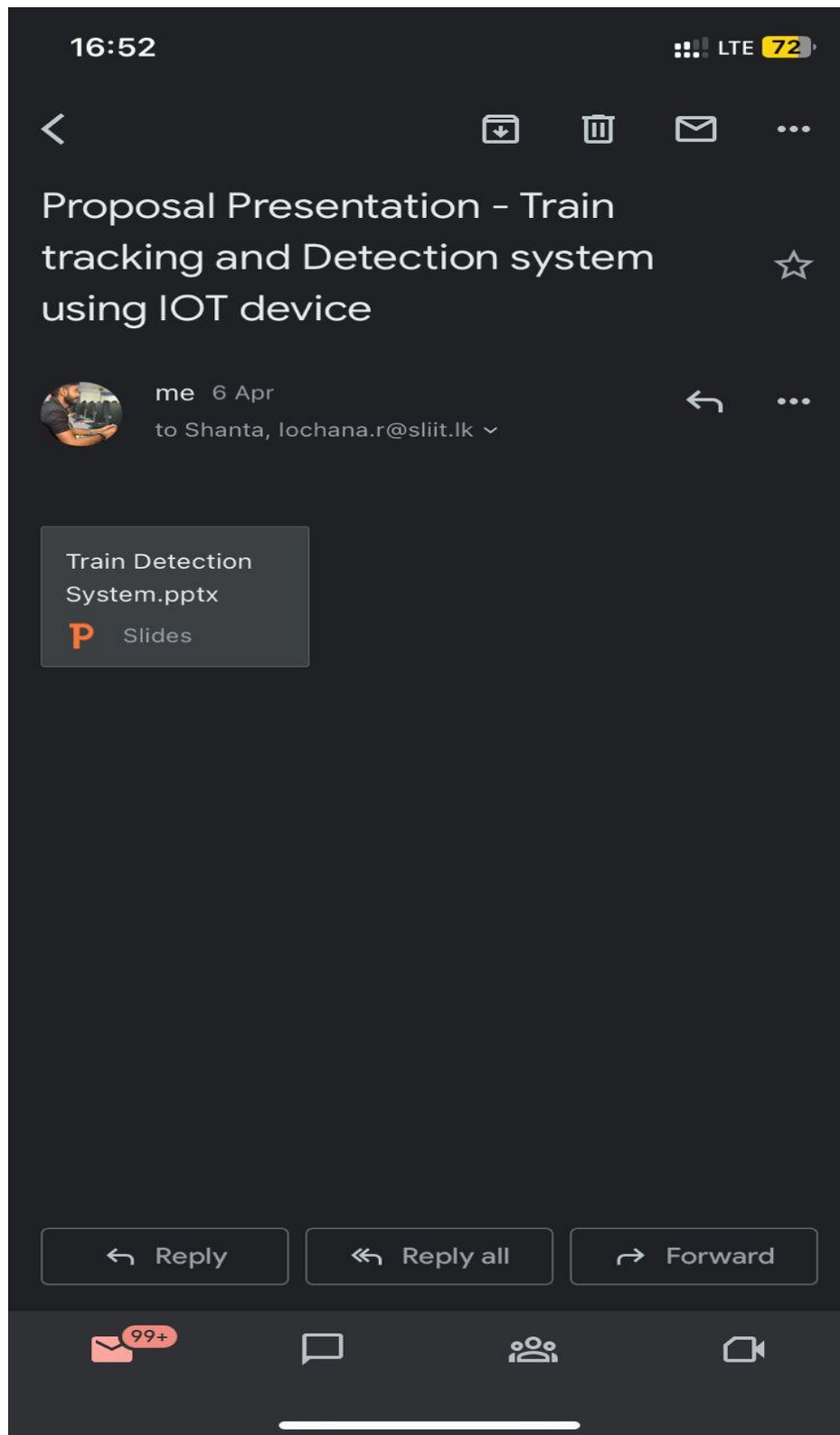
Lecturer| SLIIT Business School | SLIIT |  
[www.sliit.lk/business](http://www.sliit.lk/business) <<http://www.sliit.lk/business>>

Phone: +94(0)11 754 4801 - Ext 4614 | Email:  
[lochana.r@sliit.lk](mailto:lochana.r@sliit.lk)

[cid:5d42ff13-d6cc-47de-9f43-ab9fd02c69d3]  
<<https://www.facebook.com/fobsliit/>>  
[cid:7c0eb0c7-8227-45cc-8ec3-d06f97a3bc26]  
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<[https://www.youtube.com/channel/UCMCyQmsdpdjJev8I4pliyhA?view\\_as=subscriber](https://www.youtube.com/channel/UCMCyQmsdpdjJev8I4pliyhA?view_as=subscriber)> [cid:5466e5d6-acae-436c-b8a0-8f0a0925d645] <<https://www.sliit.lk/business/>>



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



16:52

LTE 72



## Train Tracking and Detection System for Citizens



me 14 Mar

to Shanta, lochana.r@sliit.lk



Train Tracking and Detection S...

zip

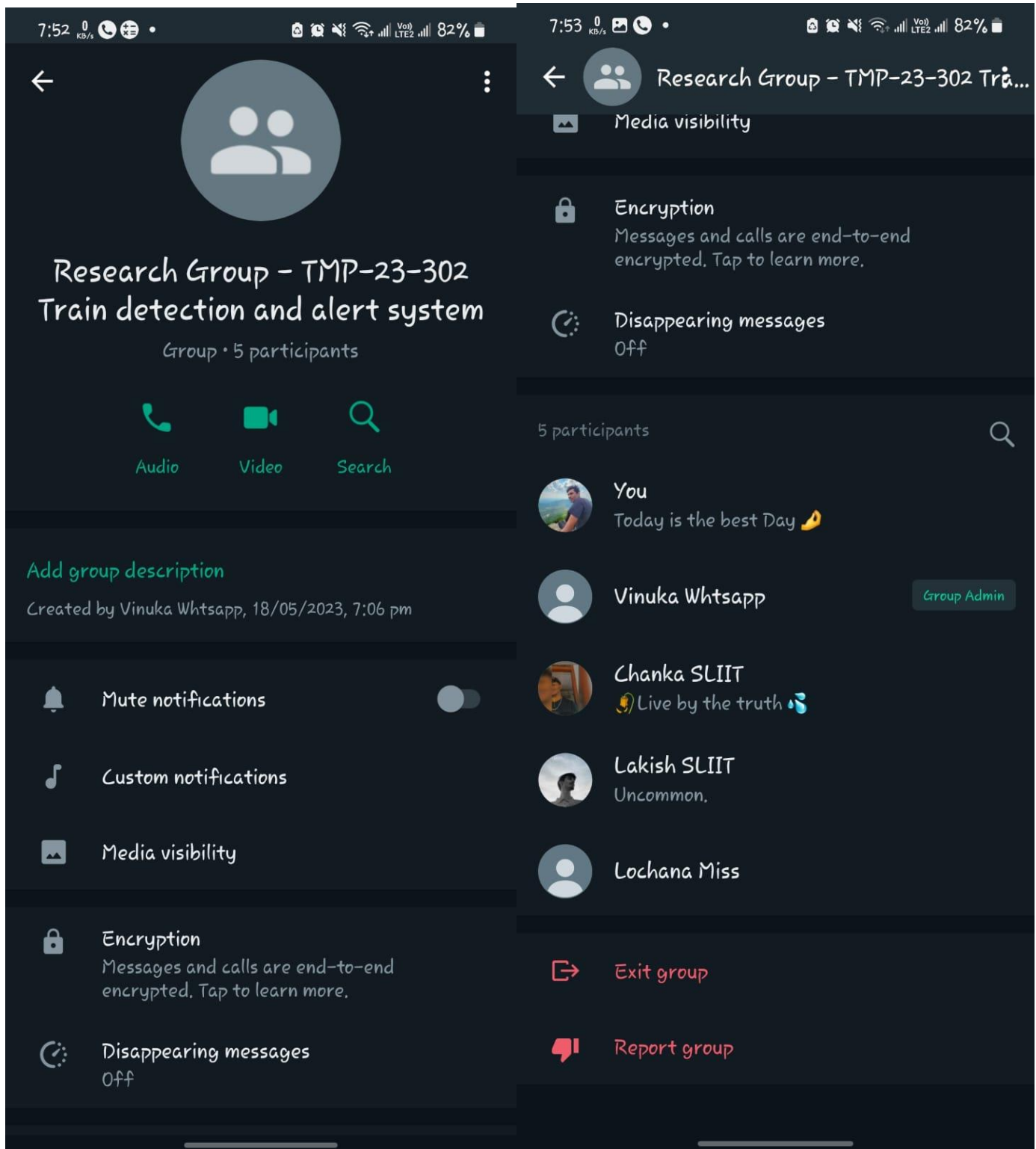
Reply

Reply all

Forward

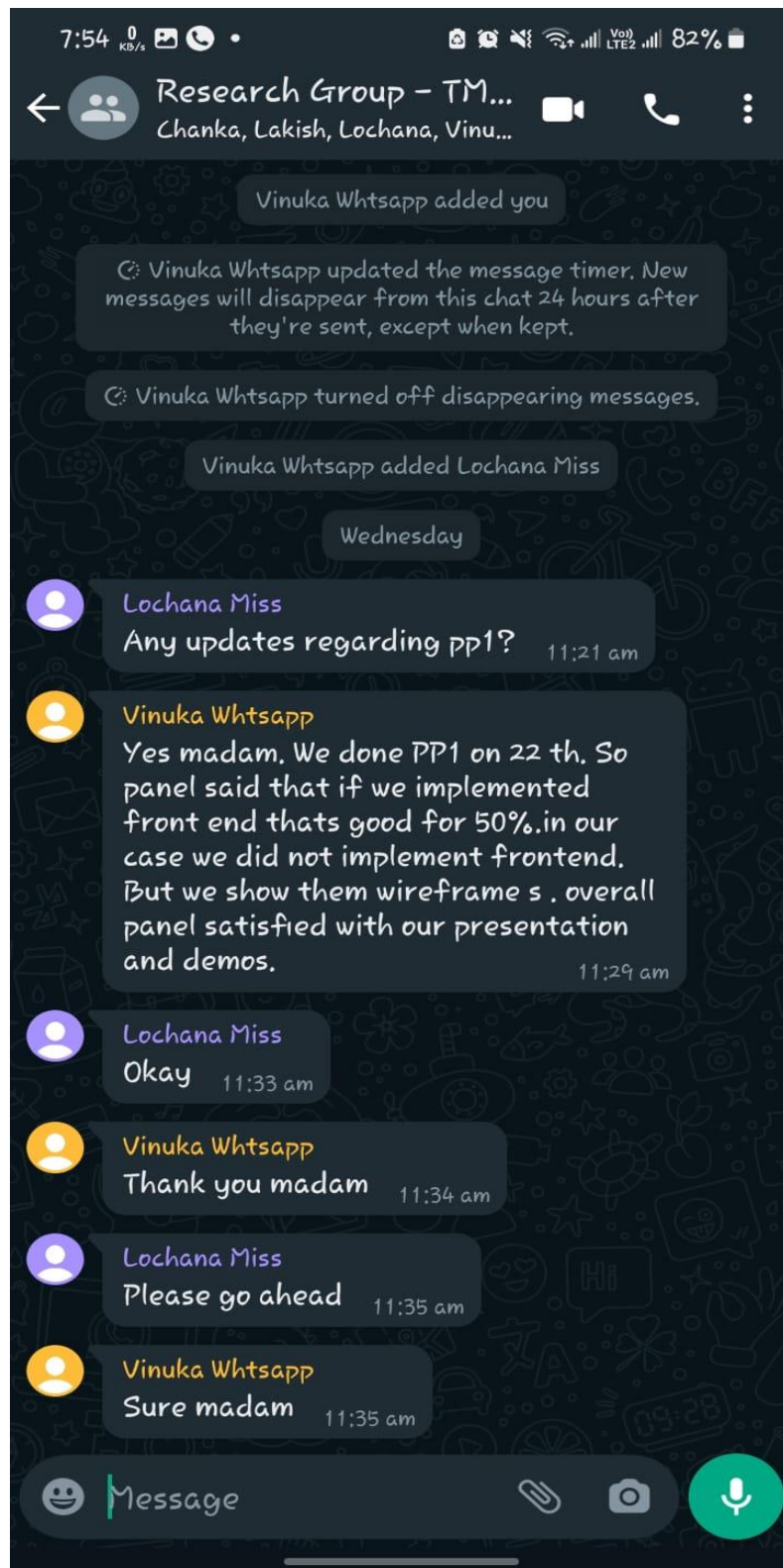


### 1.3. Create a WhatsApp Group with supervisor and co-supervisor



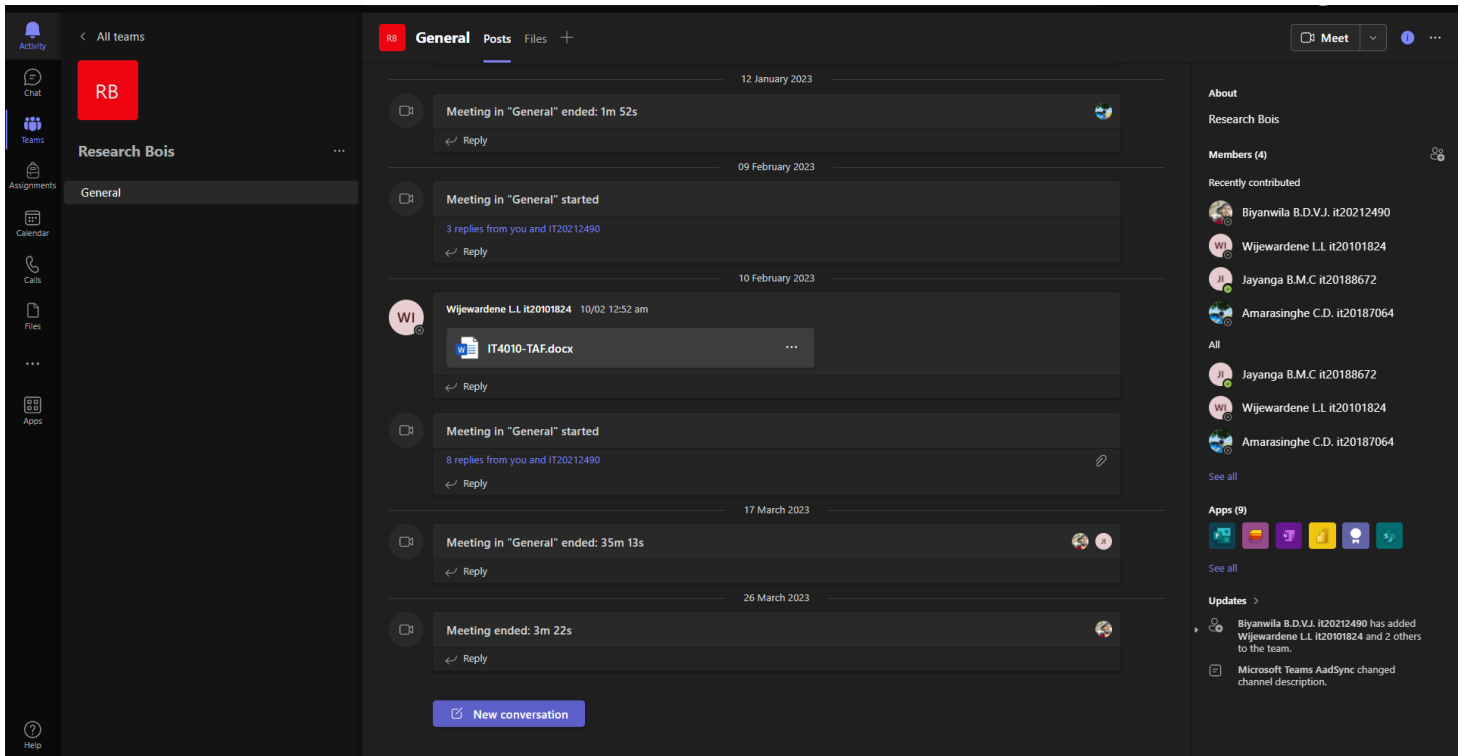


#### 1.4. Share ideas with supervisor through Whatsapp chats.

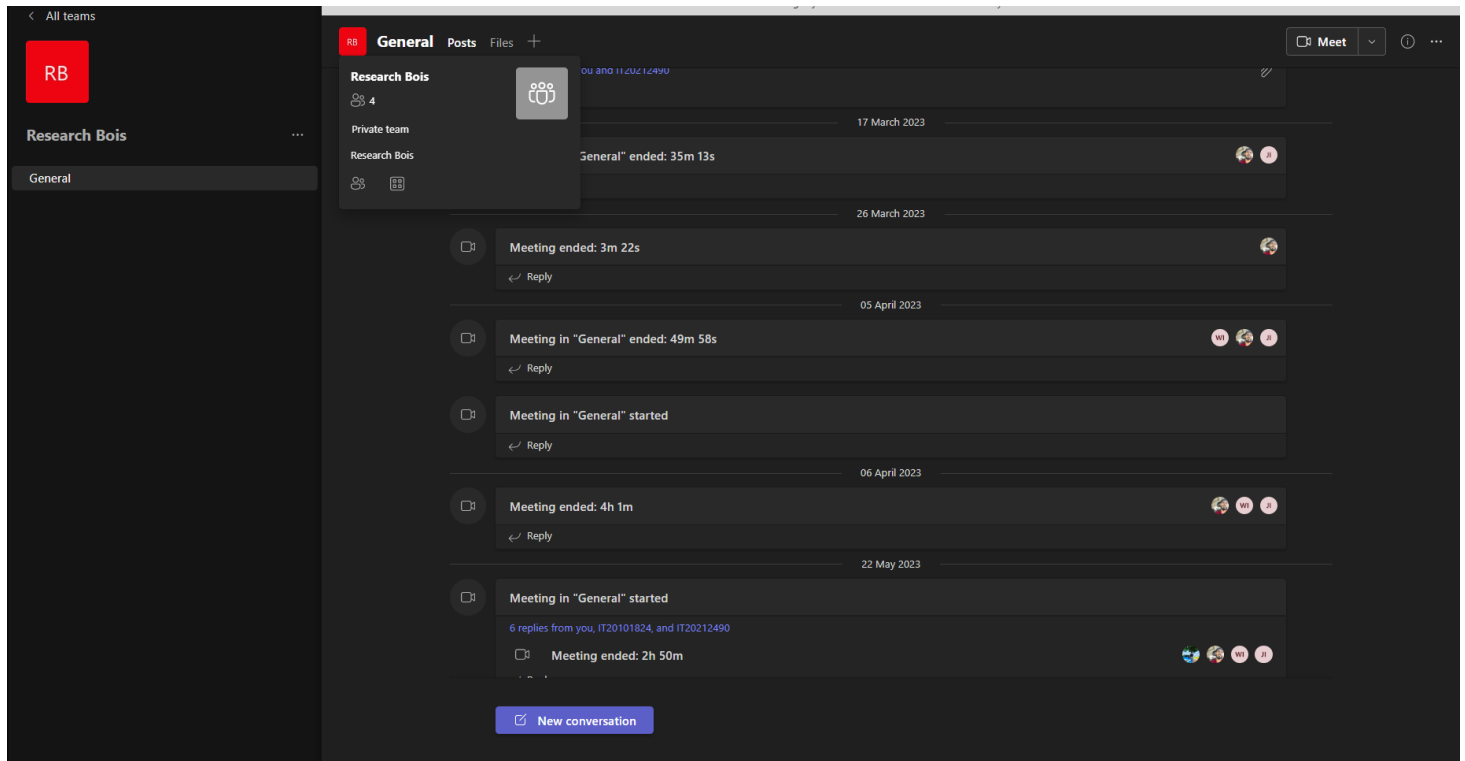


## 2. Research Group

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



## 2.2. MS teams meetings with members.

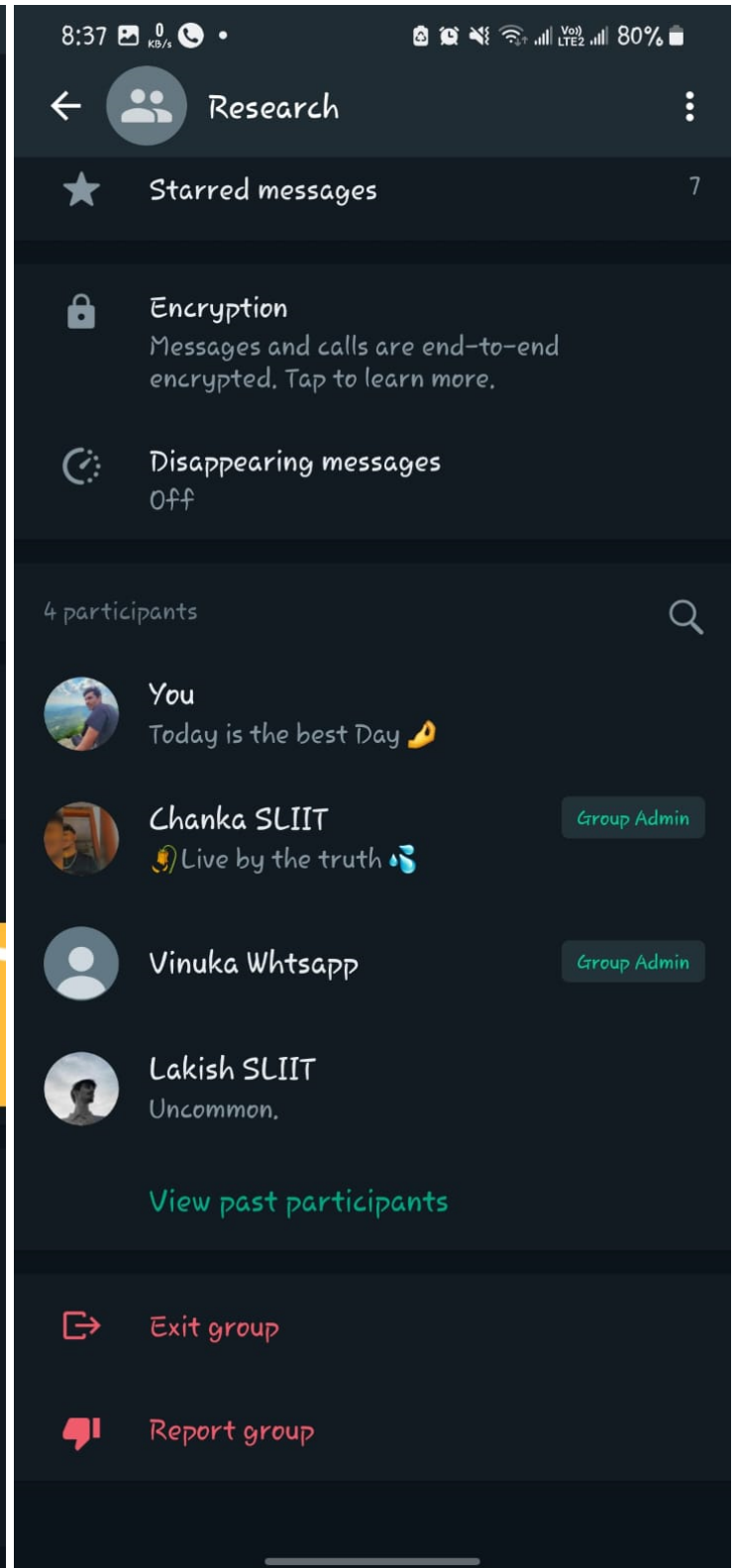
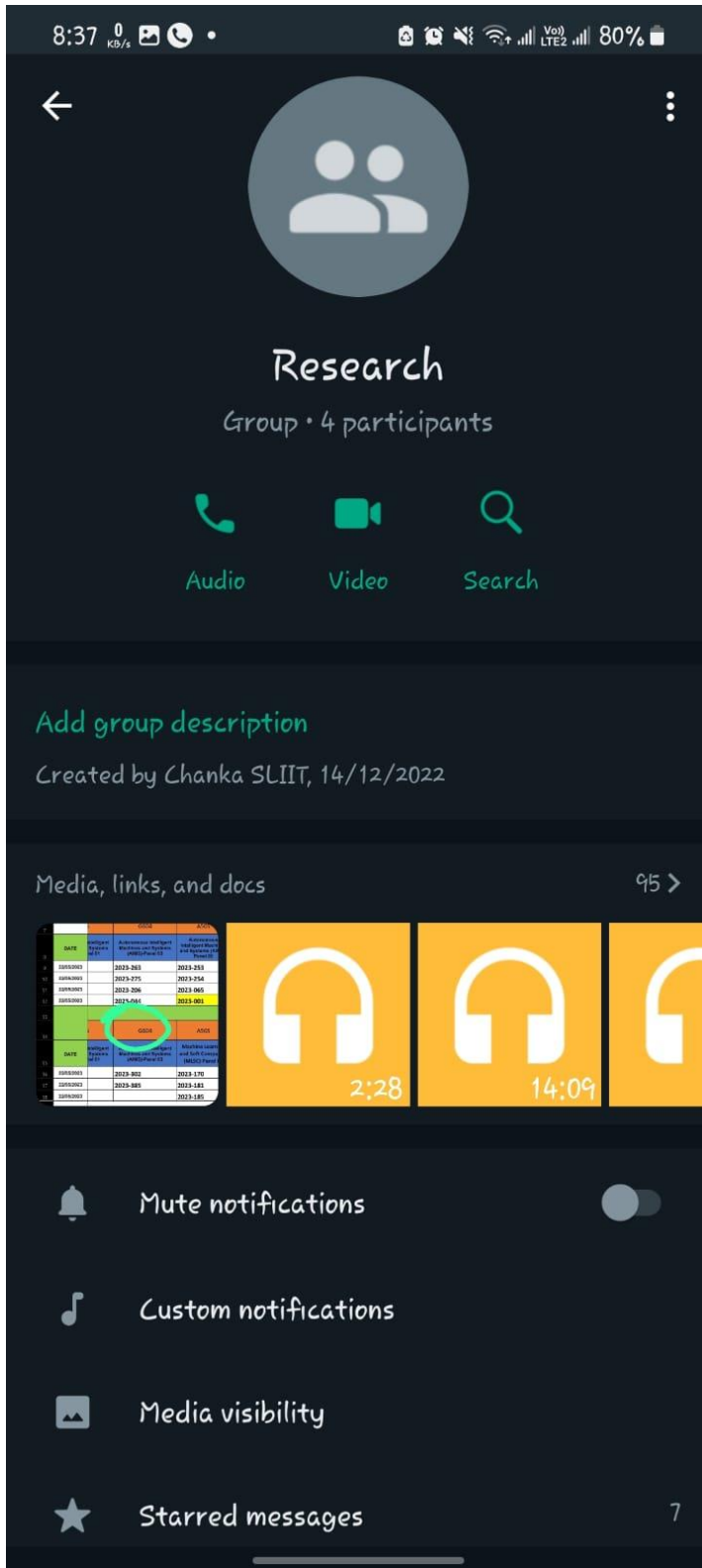


## 2.3. MS teams files

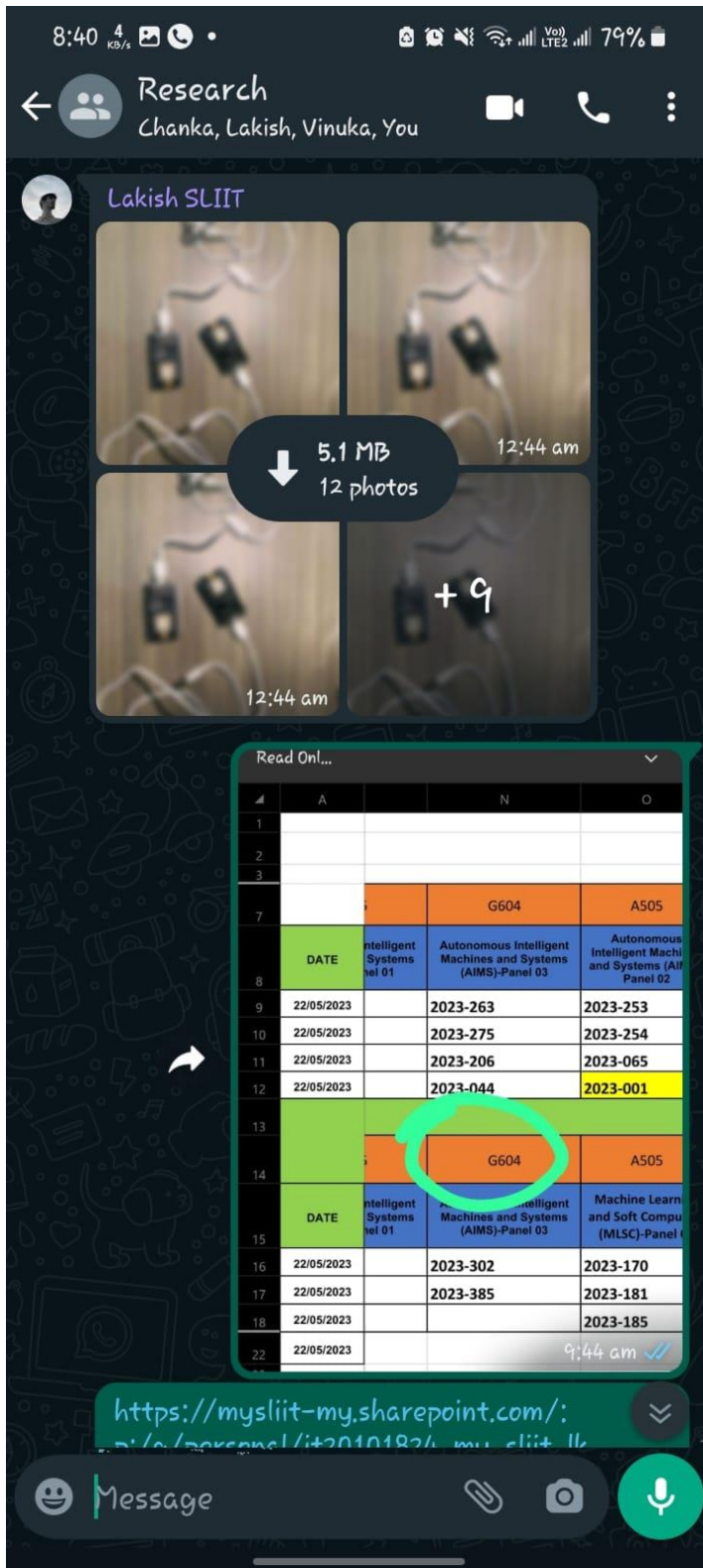
The screenshot shows the Microsoft Teams interface. On the left is a dark sidebar with navigation icons for Activity, Chat, Teams, Assignments, Calendar, Calls, Files, and Apps. The main area is titled 'Research Boiz' with a red 'RB' icon. Below this, the 'General' channel is selected. At the top of the main area, there are tabs for 'General', 'Posts', and 'Files'. The 'Files' tab is active, showing a toolbar with options like '+ New', 'Upload', 'Edit in grid view', 'Share', 'Copy link', 'Sync', 'Download', and 'Add shortcut to OneDrive'. Below the toolbar, the 'Documents > General' section displays a table of files.

Name	Modified	Modified By	+ Add column
IT4010-TAF (2).docx	February 10	Jayanga B.M.C it20...	
IT4010-TAF.docx	February 10	Wijewardene L.L. it2...	

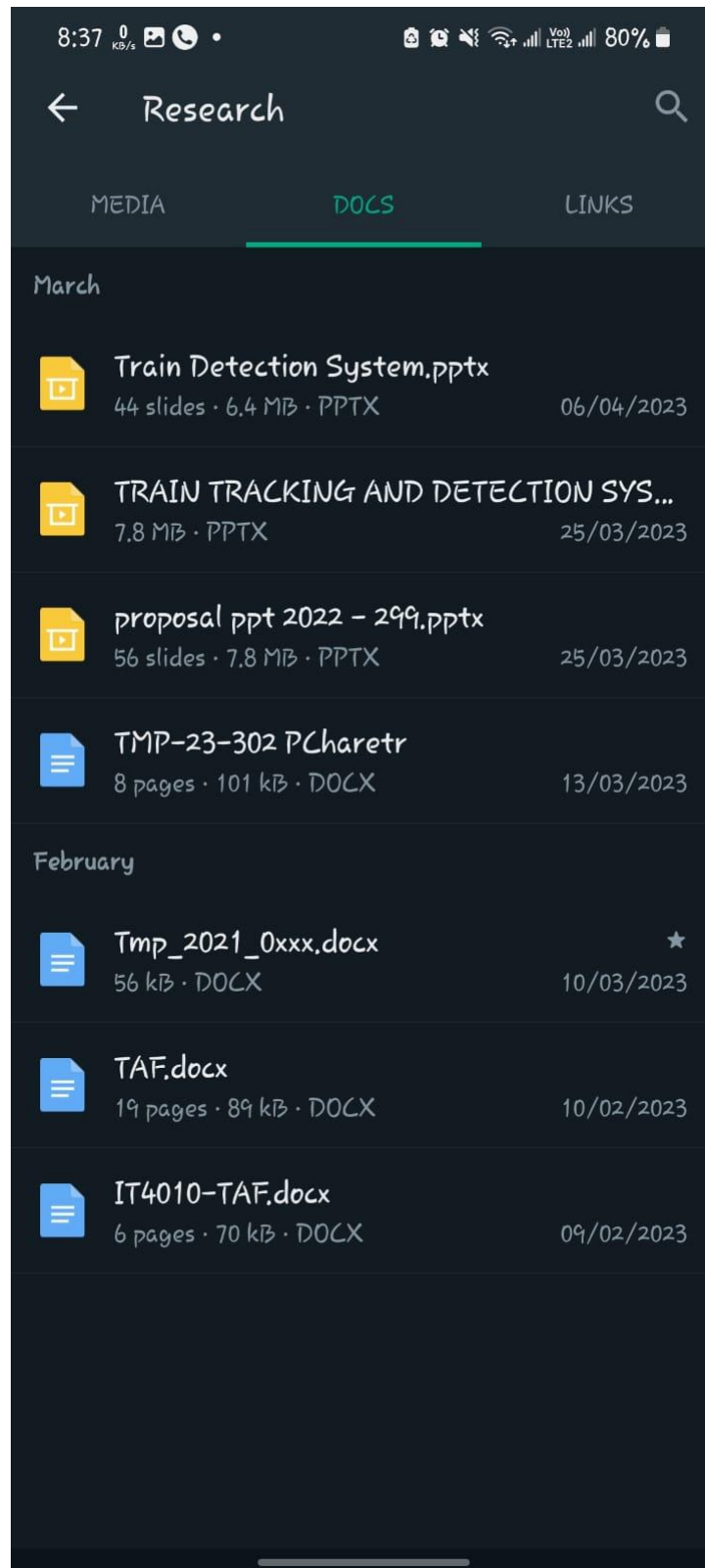
#### 2.4. Create a WhatsApp group with team members.



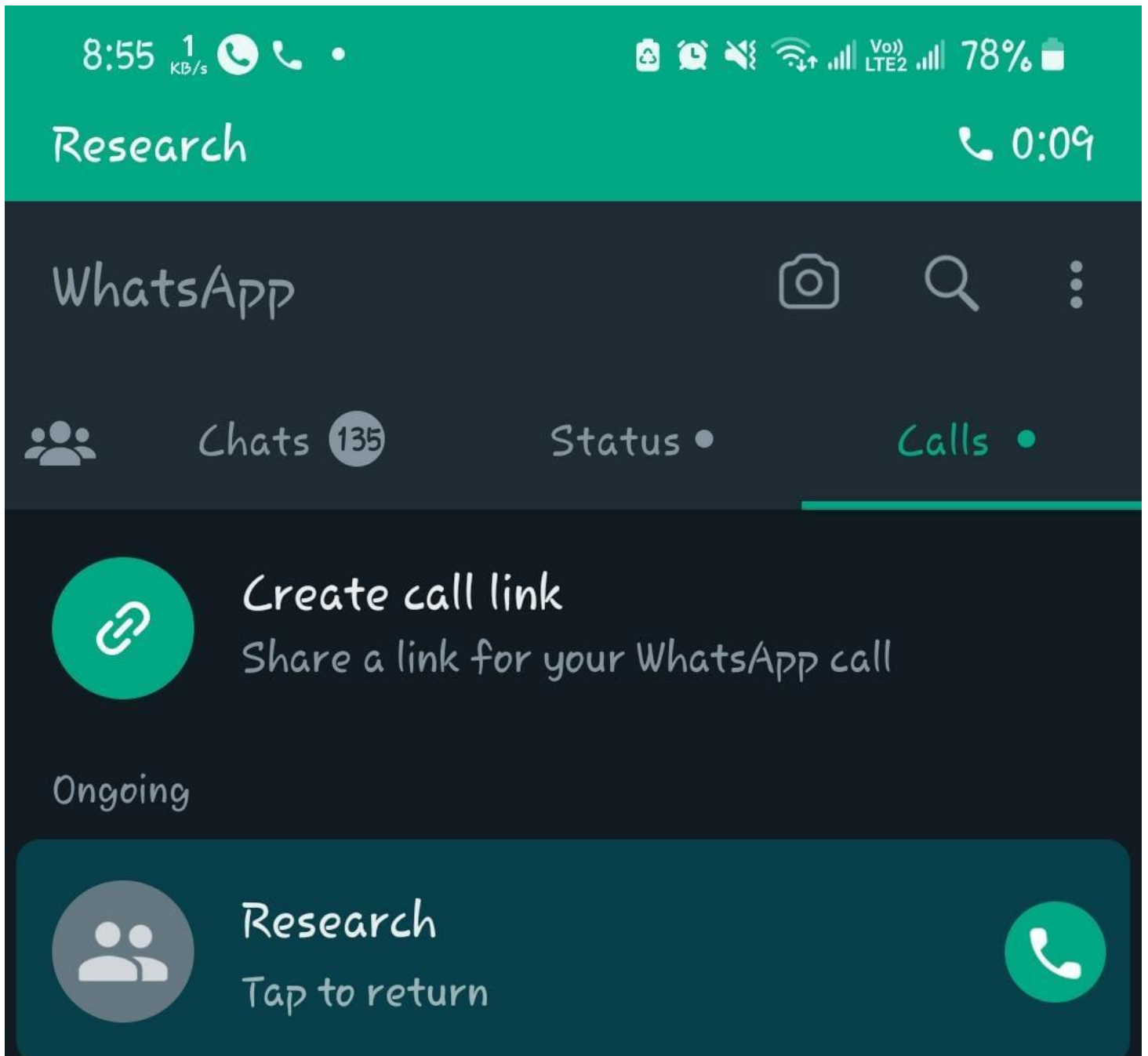
## 2.5. Chat in WhatsApp group with group members



## 2.6. Files shared in WhatsApp group with group members



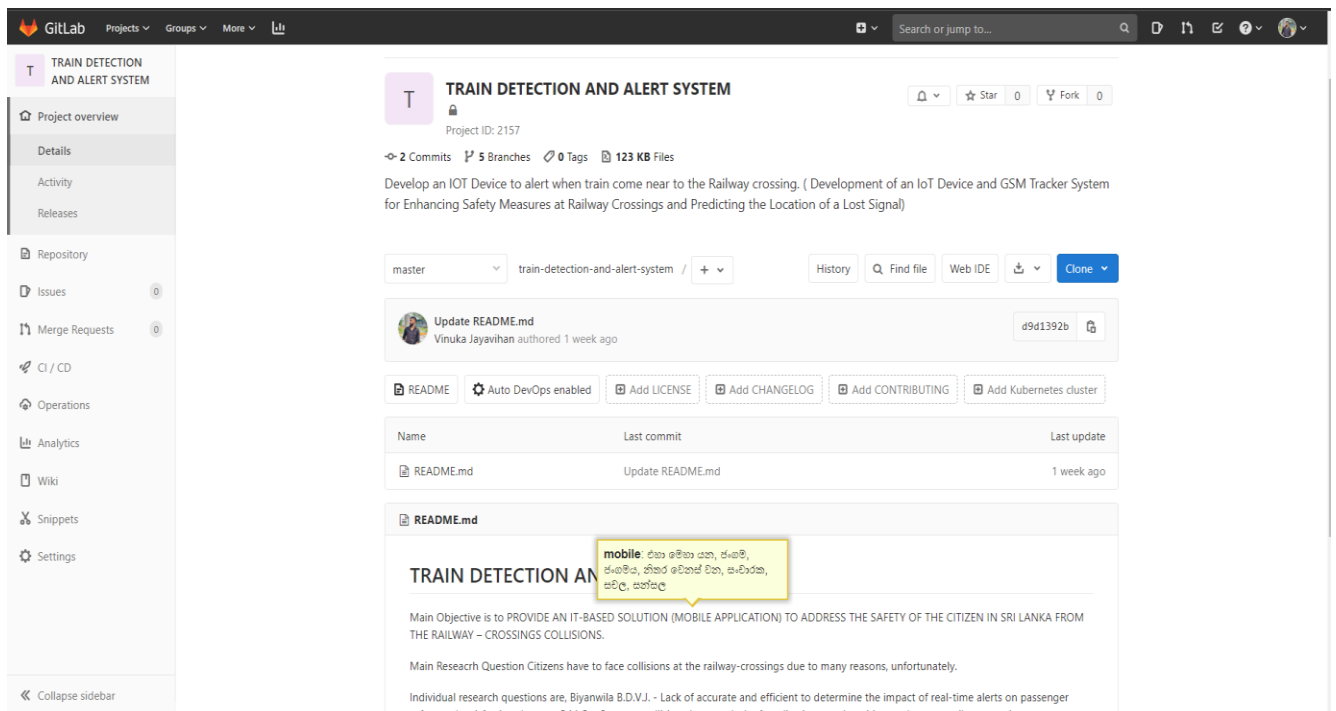
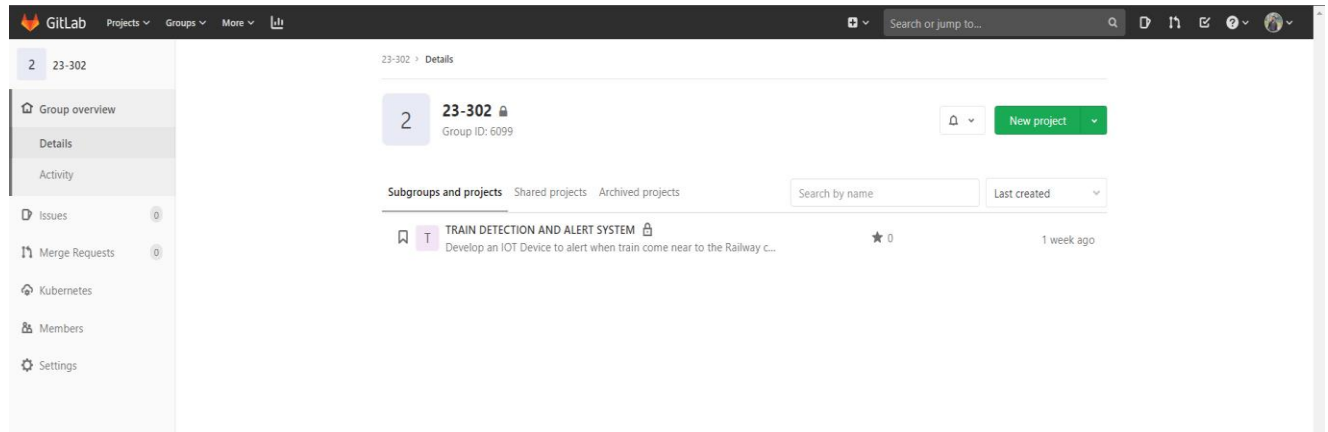
## 2.7. WhatsApp group calls.





## 3. Screenshots of GitLab

### 3.1. Group



- Merge Requests 0
- CI / CD
- Operations
- Analytics
- Wiki
- Snippets
- Members

## TRAIN DETECTION AND ALERT SYSTEM

Main Objective is to PROVIDE AN IT-BASED SOLUTION (MOBILE APPLICATION) TO ADDRESS THE SAFETY OF THE CITIZEN IN SRI LANKA FROM THE RAILWAY – CROSSINGS COLLISIONS.

Main Research Question Citizens have to face collisions at the railway-crossings due to many reasons, unfortunately.

Individual research questions are, Biyanwila B.D.V.J. - Lack of accurate and efficient to determine the impact of real-time alerts on passenger safety and satisfaction. Jayanga B.M.C. - So many collisions because lack of applications to alert citizens who cross railway crossings. Amarasinghe C.D. - There are many problems which occur in railways as there are no proper system implemented for the railways in Sri Lanka. Wijewardene L.L - So many collisions because of lack of real-time flooding alerting systems near railway crossings.

Individual Objectives are, Biyanwila B.D.V.J. - To develop a system that utilizes GSM trackers on trains and IoT devices at railway crossings to predict and alert potential blind spots on the train. Jayanga B.M.C. - Analyse the past patterns of vehicles and predict if they are likely to cross the railway crossing on a given day. Amarasinghe C.D. - To develop a system to provide the security for the mobile application. Wijewardene L.L. - Sending the flooded messages from the IOT device for the SIM users who are within a 1.5km radius.

## 3.2. Members

2

23-302

Group overview

Issues 0

Merge Requests 0

Kubernetes

Members

Settings

Choose a role permission

Guest

Read more about role permissions

Access expiration date

Expiration date

Invite

Existing shares 5 Pending 1

Members with access to 23-302

Search

2FA Everyone Sort by Name, ascending

<div>Chanka Dewmin @IT20187064</div> <div>Given access 1 week ago</div>	Developer	Expiration date	
<div>Chashira Jayanga @it20188672</div> <div>Given access 1 week ago</div>	Developer	Expiration date	
<div>Lochana Rajamanthri @lochana.r</div> <div>Given access 1 week ago</div>	Developer	Expiration date	
<div>Vinuka Jayavihan @IT20212490</div> <div>Given access 1 week ago</div> <div>It's you</div>			Owner
<div>Wijewardene L.L @IT20101824</div> <div>Given access 1 week ago</div>	Developer	Expiration date	

## 3.3. Activities

ProjectsGroupsMore

23-302

TRAIN DETECTION AND ALERT SYSTEM

Activity

Search or jump to...

Project overview

Details

Activity

Releases

Repository

Issues0

Merge Requests0

CI / CD

Operations

Analytics

Wiki

Snippets

Settings

AllPush eventsMerge eventsIssue eventsCommentsTeam

Wijewardene L.L. @IT20101824

1 week ago

Pushed new branch Alerting\_system\_from\_IoT\_Device\_to\_GSM

Chashira Jayanga @it20188672

1 week ago

Pushed new branch Sending\_alert\_messages\_only\_to\_the\_app\_users\_who\_are\_approaching\_a\_railway\_crossing

Vinuka Jayavihan @IT20212490

1 week ago

Pushed to branch master  
d9d1392b · Update README.md

Chanka Dewmin @IT20187064

1 week ago

Pushed new branch Security\_analysis\_for\_train\_tracking\_system

Vinuka Jayavihan @IT20212490

1 week ago

Pushed new branch  
Development\_of\_an\_IoT\_Device\_and\_GSM\_Tracker\_System\_for\_Enhancing\_Safety\_Measures\_at\_Railway\_Crossings\_and\_Predicting\_the\_Location\_of\_a\_Lost\_Signal

Vinuka Jayavihan @IT20212490

1 week ago

Pushed new branch master

Vinuka Jayavihan @IT20212490

1 week ago

Created project 23-302 / TRAIN DETECTION AND ALERT SYSTEM

## 4. Diagram

### 4.1. Gantt Chart

No	Task List	December	January	February	March	April	May	June	July	August	September	October	November
1	Initial Stage												
	Research Topic Selection												
	Requirement Gathering												
	Study on Research Area												
	Topic Evaluation form submission												
	Topic Evaluation (Project pre-assessments) resubmission												
	Topic Approved												
	Project Charter												
2	Proposal Stage												
	Proposal Draft Submission												
	proposal Presentation												
3	Implementation Stage 1												
	System Design and Planning												
	Implementation of functions												
	Integration and testing Level 1												
	Progress presentation -50%												
	Prepare Research Paper												
4	Implementation Stage 2												
	Implementation of functions												
	Integration and testing Level 2												
	Progress presentation -100%												
5	Final Stage												
	Final Thesis												
	Final Presentation												

## 4.2. Work Break Down Chart

