

**THIRD EYE – A MOBILE APPLICATION FOR VISUALLY  
IMPAIRED PEOPLE TO ASSIST WITH DAILY TASKS**

22\_23-J 83

Status Document 1

M.C.J Costa– IT17088138

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

Department of Computer Science and Software Engineering

Sri Lanka Institute of Information Technology  
Sri Lanka

February 2023

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# 1. Submissions

## 1.1 Individual Submissions

The screenshot shows a SharePoint document library interface. At the top, there's a blue header bar with the SharePoint logo, a search bar containing 'Search this library', and various navigation icons. Below the header, the library title is 'CDAPSubmissionCloud' with a small orange icon, and it's described as a 'Private group'. To the right, there are status indicators: 'Not following' with a star icon, '2 members' with a person icon, and other standard SharePoint icons like gear, question mark, and help.

The main content area displays a list of documents. The first item is 'IT17088138.docx', which was uploaded on October 13, 2022, by Costa M.C.J. it17088138. The list includes columns for Name, Modified, and Modified By. Navigation links at the top of the list show the path: '22-23JuneCloud > 22\_23-J-83-Students > 1. Project Proposal > Individual Reports > Costa M.C.J. it17088138'.

Name	Modified	Modified By
IT17088138.docx	October 13, 2022	Costa M.C.J. it17088138

## 1.2 Group Submissions

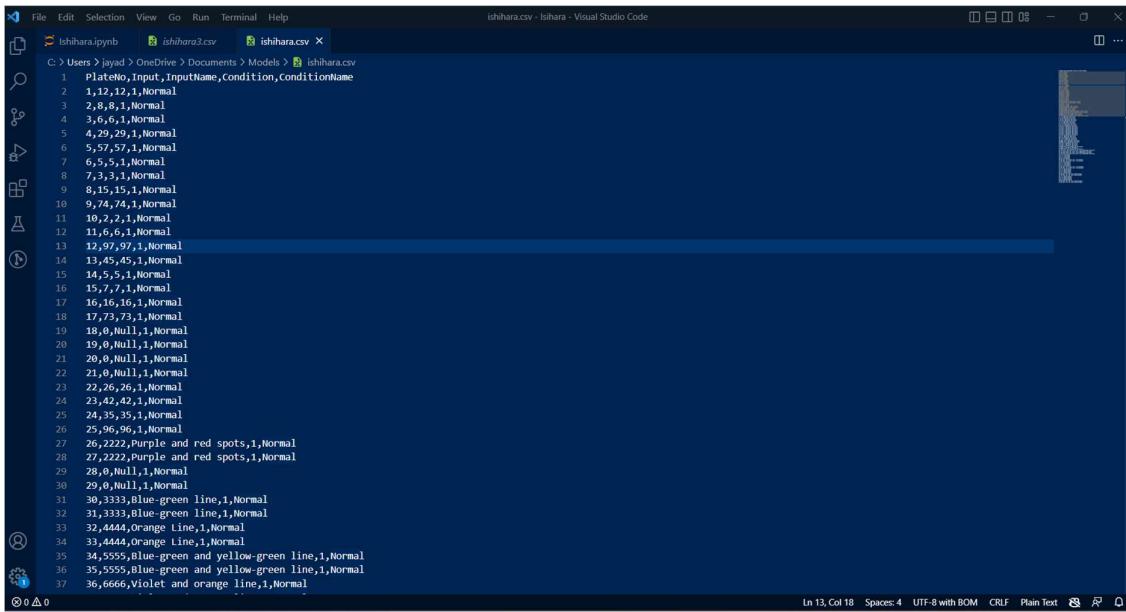
The screenshot shows a SharePoint document library interface. At the top, there's a blue header bar with the SharePoint logo, a search bar, and various navigation icons. Below the header, the library title is "CDAPSubmissionCloud" and it's described as a "Private group". On the right side of the header, there are buttons for "Not following" and "2 members". The main content area shows a list of documents under the path "22-23JuneCloud > 22\_23-J-83-Students > 1. Project Proposal > Presentation". The list includes:

Name	Modified	Modified By
Edited proposal presentation	October 20, 2022	Amarasinghe A.D.it9133f
22_23-J-83 - Third Eye.pptm	October 13, 2022	Costa M.C.J.it17088138
Proposal-Presentation-Template.potm	September 27, 2022	CDAP SUIT
ReadMe.txt	September 27, 2022	CDAP SUIT

This screenshot shows the same SharePoint document library interface as the previous one, but it has zoomed in on a specific document. The path is now "22-23JuneCloud > 22\_23-J-83-Students > 1. Project Proposal > Presentation > Costa M.C.J.it17088138". The list shows only one item:

Name	Modified	Modified By
22_23-J-83 - Third Eye.pptm	October 13, 2022	Costa M.C.J.it17088138

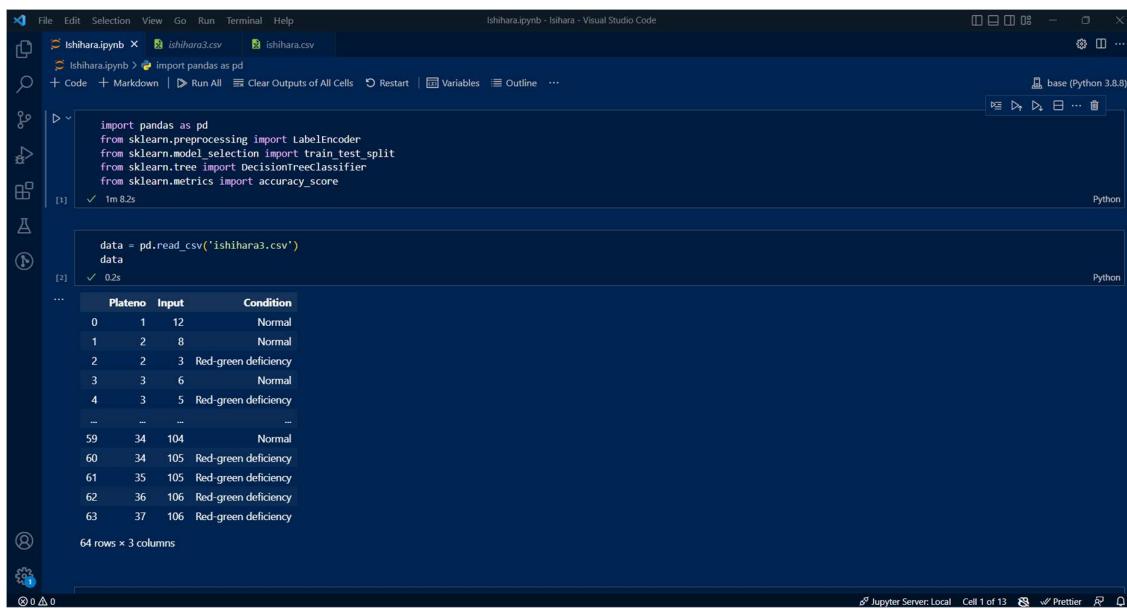
## 2. Task Outputs



ishihara.csv - Ishihara - Visual Studio Code

```
C:\> Users > jayd3 OneDrive > Documents > Models > ishihara.csv
1,Plateno,Input,InputName,Condition,ConditionName
2,1,12,12,1,Normal
3,2,8,8,1,Normal
4,3,6,6,1,Normal
5,4,29,29,1,Normal
6,5,57,57,1,Normal
7,6,5,5,1,Normal
8,7,3,3,1,Normal
9,8,15,15,1,Normal
10,9,74,74,1,Normal
11,10,2,2,1,Normal
12,11,6,6,1,Normal
13,12,97,97,1,Normal
14,13,45,45,1,Normal
15,14,5,5,1,Normal
16,15,7,7,1,Normal
17,16,16,1,Normal
18,17,73,73,1,Normal
19,18,0,Null,1,Normal
20,19,0,Null,1,Normal
21,20,0,Null,1,Normal
22,21,0,Null,1,Normal
23,22,26,26,1,Normal
24,23,42,42,1,Normal
25,24,35,35,1,Normal
26,25,96,96,1,Normal
27,26,2222,Purple and red spots,1,Normal
28,27,2222,Purple and red spots,1,Normal
29,28,0,Null,1,Normal
30,29,0,Null,1,Normal
31,30,3333,Blue-green line,1,Normal
32,31,3333,Blue-green line,1,Normal
33,32,4444,Orange line,1,Normal
34,33,4444,Orange line,1,Normal
35,34,5555,Blue-green and yellow-green line,1,Normal
36,35,5555,Blue-green and yellow-green line,1,Normal
37,36,6666,Violet and orange line,1,Normal
```

In 13, Col 18 Spaces: 4 UTF-8 with BOM CRLF Plain Text ⚙️ 🔍 🗑️



Ishihara.ipynb - Ishihara - Visual Studio Code

Ishihara.ipynb > import pandas as pd

+ Code + Markdown | ▶ Run All ⌂ Clear Outputs of All Cells ⌂ Restart ⌂ Variables ⌂ Outline ...

base (Python 3.8.8)

```
[1]: import pandas as pd
      from sklearn.preprocessing import LabelEncoder
      from sklearn.model_selection import train_test_split
      from sklearn.tree import DecisionTreeClassifier
      from sklearn.metrics import accuracy_score
```

[1]: 1m 8.2s

```
[2]: data = pd.read_csv('ishihsara3.csv')
      data
```

[2]: ✓ 0.2s

	Plateno	Input	Condition
0	1	12	Normal
1	2	8	Normal
2	2	3	Red-green deficiency
3	3	6	Normal
4	3	5	Red-green deficiency
...	...	...	...
59	34	104	Normal
60	34	105	Red-green deficiency
61	35	105	Red-green deficiency
62	36	106	Red-green deficiency
63	37	106	Red-green deficiency

64 rows × 3 columns

Jupyter Server: Local Cell 1 of 13 ⚙️ ✅ Prettier ⚙️

Ishihara.ipynb - Ishihara - Visual Studio Code

Ishihara.ipynb > import pandas as pd

+ Code + Markdown | Run All | Clear Outputs of All Cells | Restart | Variables | Outline ...

base (Python 3.8.8)

```
import matplotlib.pyplot as plt
plt.stem(X['PlateNo'], y)
plt.xlabel('Plate Number and Input')
plt.ylabel('prediction')
plt.show()
```

1.2s

prediction

Plate Number and Input

```
# Train the Decision Tree Classifier
clf = DecisionTreeClassifier()
clf.fit(X_train, y_train)
```

0.4s

```
... DecisionTreeClassifier()
```

```
# Predict the class labels for the test set
y_pred = clf.predict(X_test)
```

Jupyter Server: Local Cell 1 of 13

Ishihara.ipynb - Ishihara - Visual Studio Code

Ishihara.ipynb > import pandas as pd

+ Code + Markdown | Run All | Clear Outputs of All Cells | Restart | Variables | Outline ...

base (Python 3.8.8)

```
# Train the Decision Tree Classifier
clf = DecisionTreeClassifier()
clf.fit(X_train, y_train)
```

0.4s

```
... DecisionTreeClassifier()
```

```
# Predict the class labels for the test set
y_pred = clf.predict(X_test)
```

0.3s

```
# Evaluate the accuracy of the model
accuracy = accuracy_score(y_test, y_pred)
print("Accuracy:", accuracy)
```

0.3s

```
... Accuracy: 0.8461538461538461
```

```
import pickle
```

```
# Save the model to disk
filename = 'ishihara.pkl'
pickle.dump(clf, open(filename, 'wb'))
```

0.3s

```
[11] # Load the model from disk
loaded_model = pickle.load(open(filename, 'rb'))
```

Jupyter Server: Local Cell 1 of 13

Ishihara.ipynb - Ishihara - Visual Studio Code

```

File Edit Selection View Go Run Terminal Help
Ishihara.ipynb X ishihara3.csv ishihara.csv
Ishihara.ipynb > # Load the model from disk
+ Code + Markdown | Run All Clear Outputs of All Cells Restart | Variables Outline ...
base (Python 3.8.8)

import pickle

# Save the model to disk
filename = 'ishihara.pkl'
pickle.dump(clf, open(filename, 'wb'))
[11] ✓ 0.3s Python

# Load the model from disk
loaded_model = pickle.load(open(filename, 'rb'))

# Import the necessary libraries
import numpy as np

in1 = input("Enter the plate no: ")
in2 = input("Enter the input: ")

# Define the test data
input_data = np.array([[in1, in2]])

# Make a prediction
prediction = clf.predict(input_data)

if prediction[0] == 0:
    print("Normal")
elif prediction[0] == 1:
    print("Red-green deficiency")
[12] ✓ 15.2s Python

... Normal

```

Jupyter Server: Local Cell 12 of 12 ✘ Prettier

Ishihara Classification.ipynb - Ishihara - Visual Studio Code

```

File Edit Selection View Go Run Terminal Help
Ishihara.ipynb ishihara3.csv ishihara.csv Ishihara Classification.ipynb X
C:\Users\jayad\OneDrive\Documents\Models> Ishihara Classification.ipynb > from sklearn.svm import SVC # Support Vector Classification model
+ Code + Markdown | Run All Clear Outputs of All Cells Outline ...
Python 3.10.9

import seaborn as sns
sns.pairplot(data, hue='ConditionName')
[7] ... <seaborn.axisgrid.PairGrid at 0x1d67b5b4550>
</>



```

```

x = data.drop('ConditionName', axis=1)
x.sample(5)
[8] ... PlateNo Input
42 6 2 Python

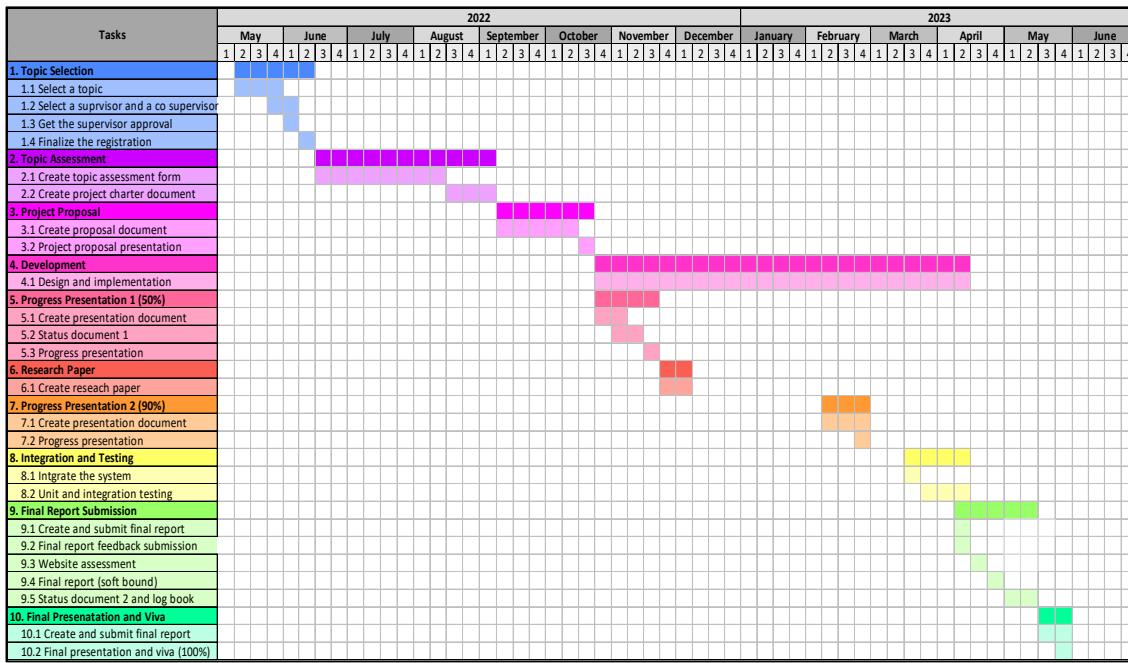
PlateNo Input

```

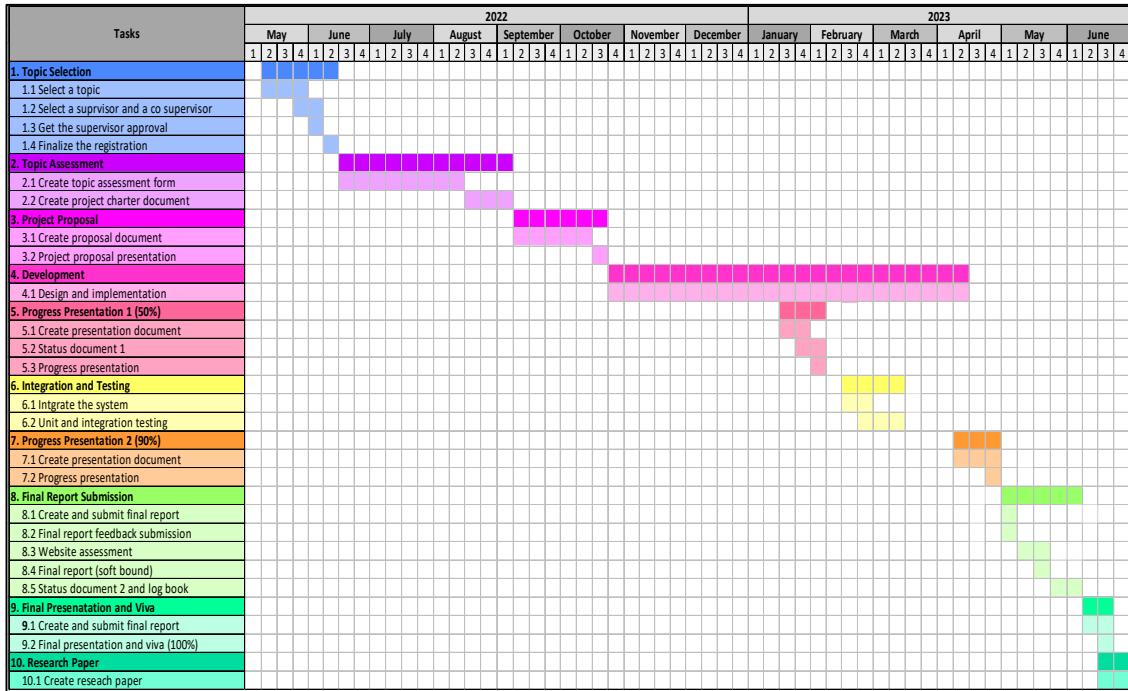
Jupyter Server: Local Cell 1 of 13 ✘

### 3. Gantt Chart

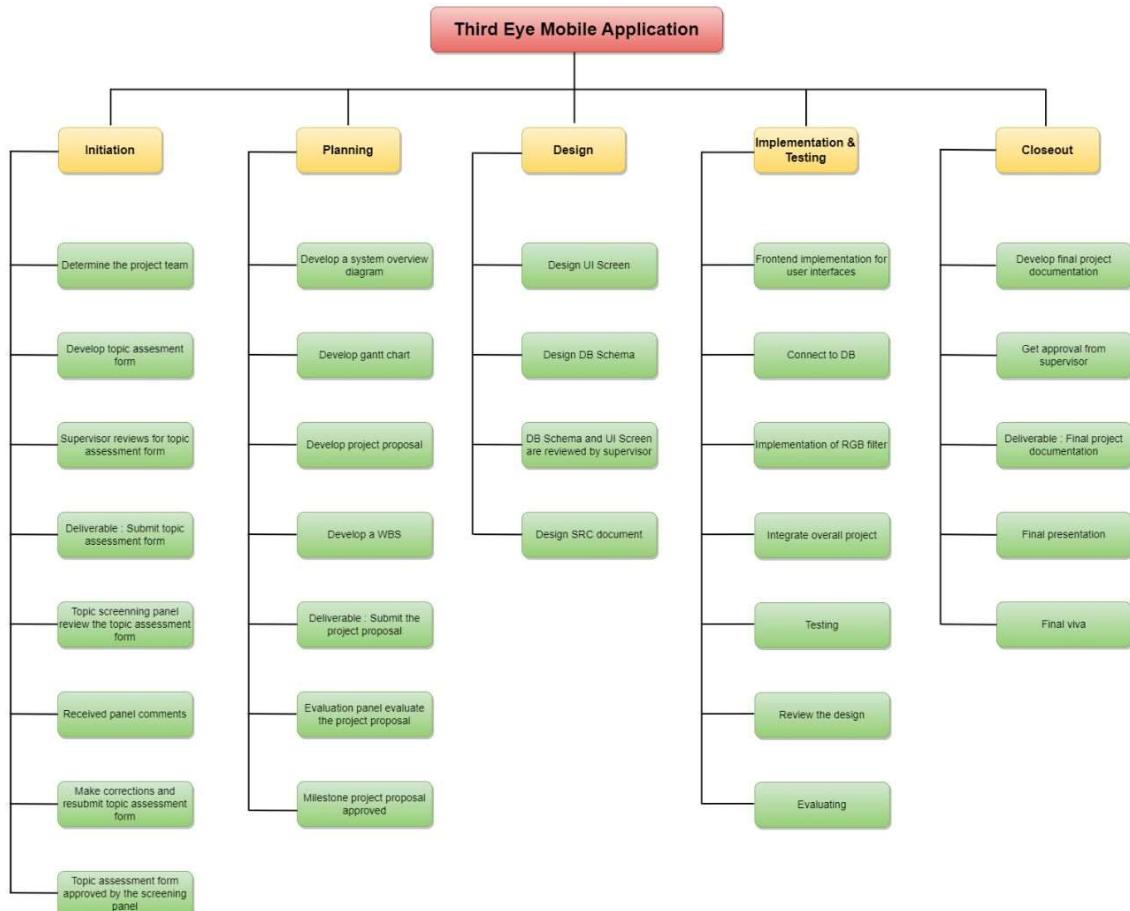
#### 3.1 Initial Gantt Chart



#### 3.2 Updated Gantt Chart

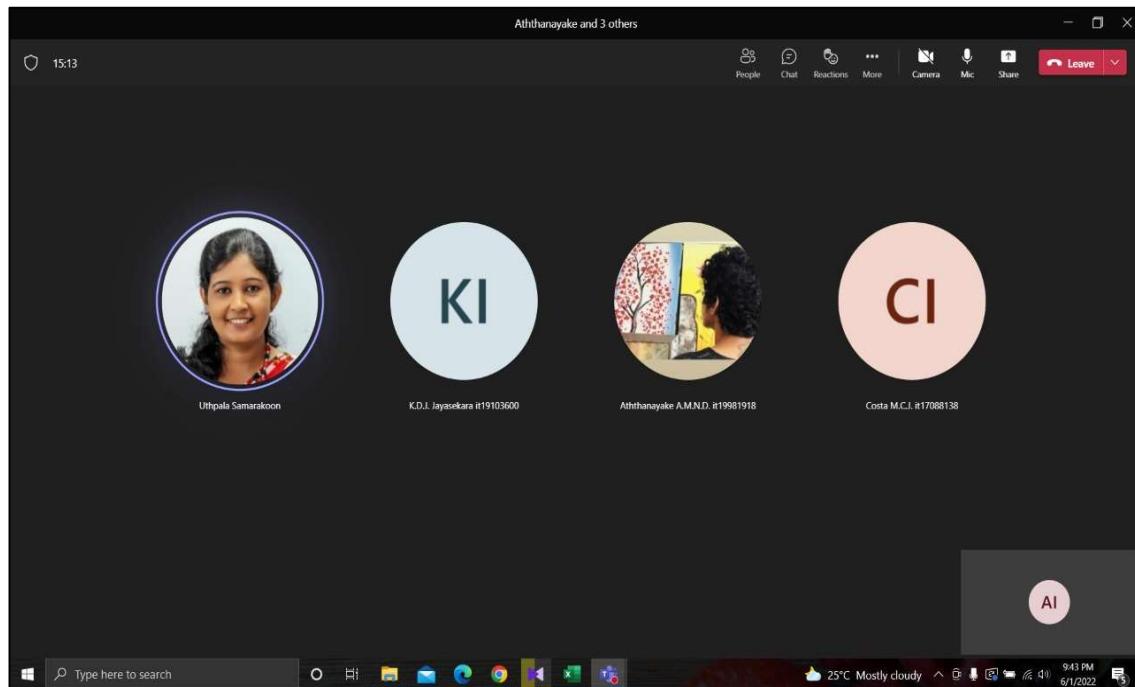
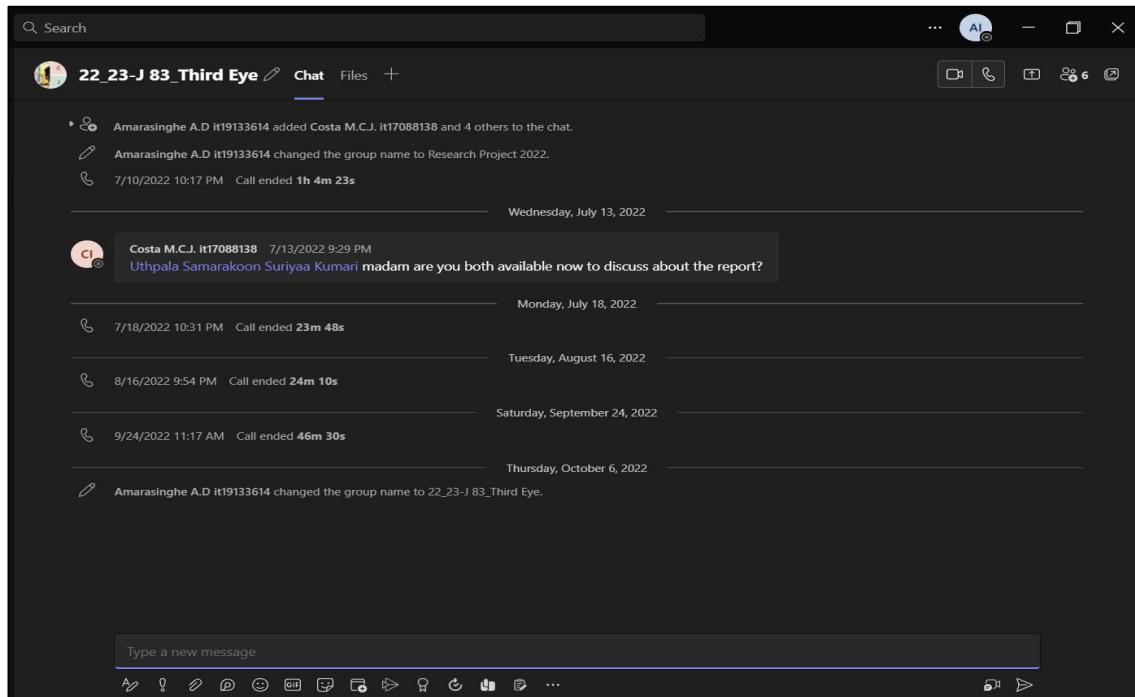


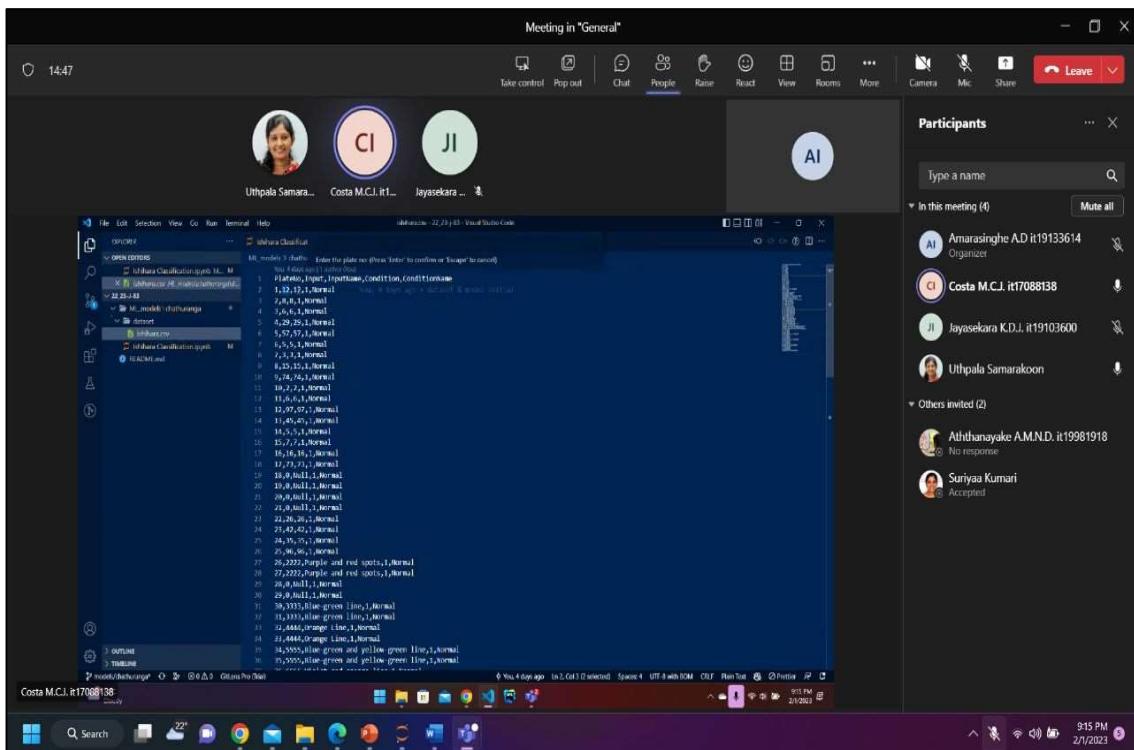
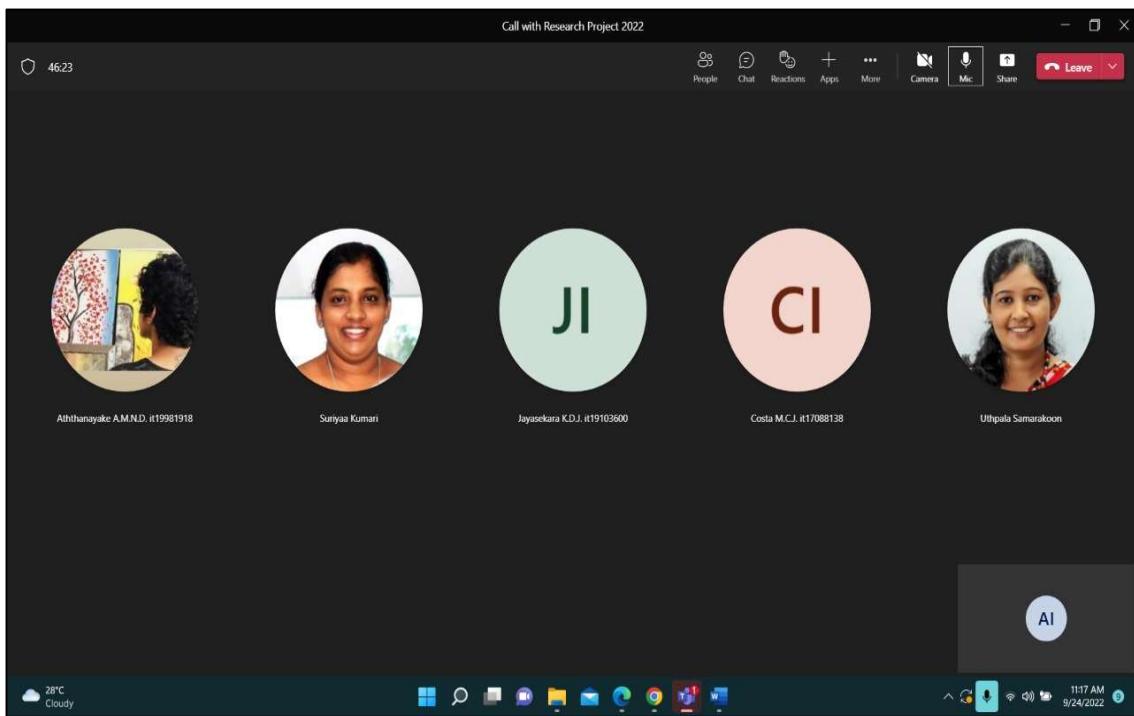
## 4. Work Breakdown Structure

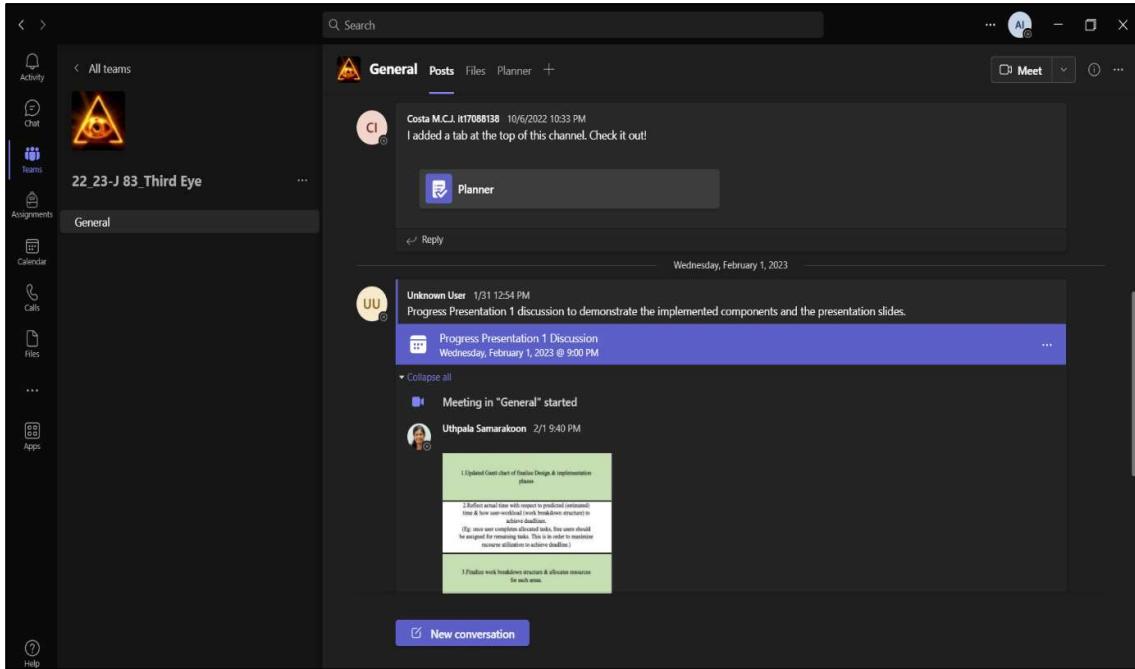


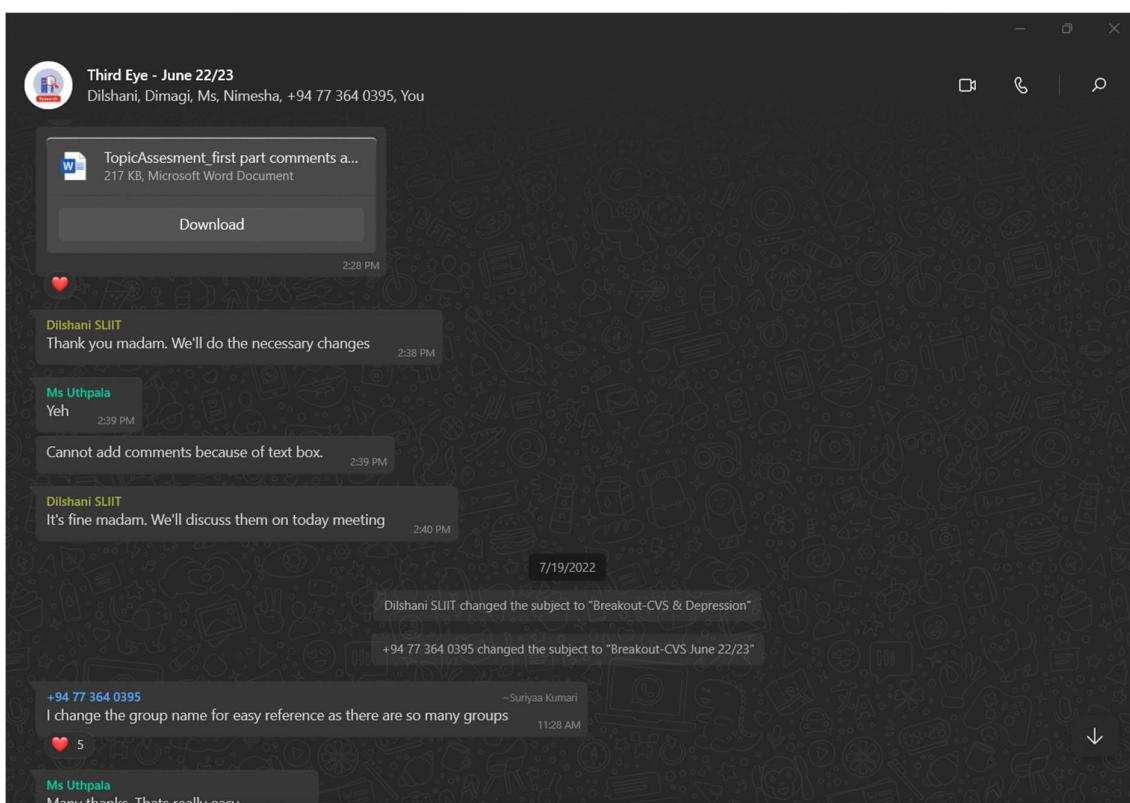
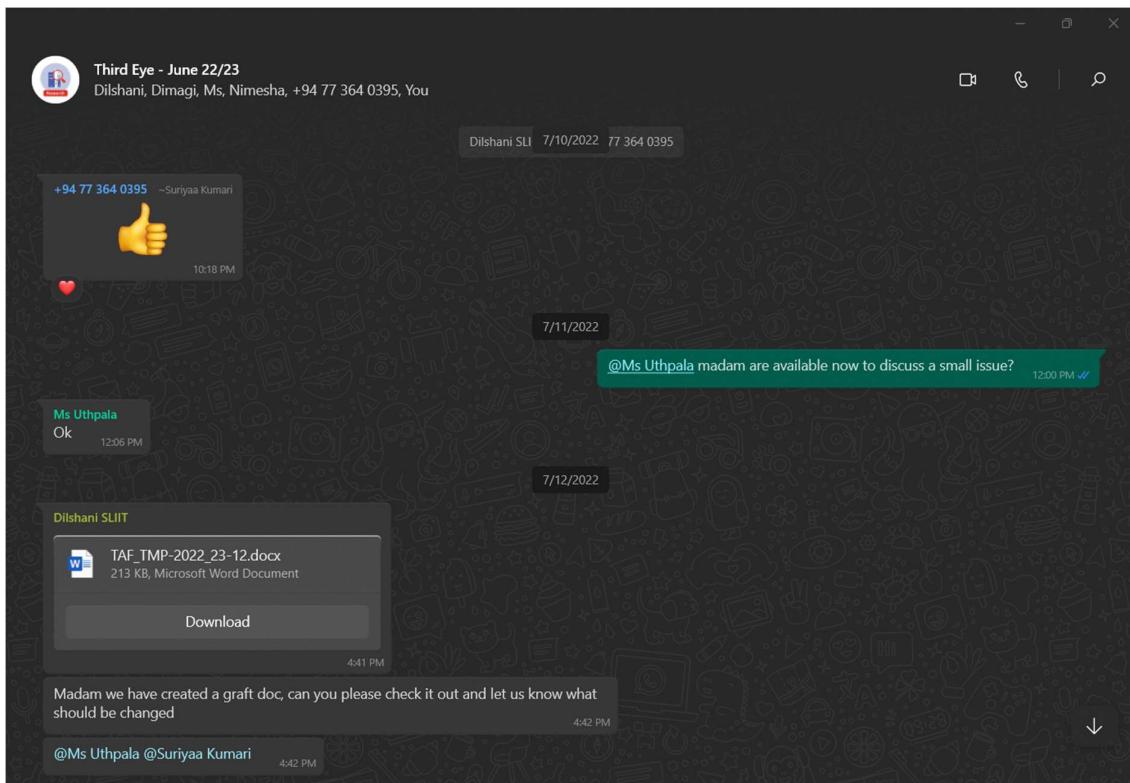
## 5. Project Management

### 5.1 Supervisor meetings, calls and messages from Teams and WhatsApp









**Third Eye - June 22/23**  
Dilshani, Dimagi, Ms, Nimesha, +94 77 364 0395, You

Dilshani SLIIT  
TAF\_TMP-2022\_23-12.docx

Yes madam, according to the panel's comments, the scope of 3 members is not enough for a research components

+94 77 364 0395 ~Suriyaa Kumari  
You have to immediately talk with the ms.rehka and find more about the related factors

The panel says research scope not enough

Member 1  
your approach more need to explain how you are planning to implement

+94 77 364 0395 ~Suriyaa Kumari  
your approach more need to explain how you are planning to implement

It was my part madam the thing is the whole scenario related for the topic is explained top to bottom in the problem area and the solution area. But we didn't explain that much in the area where the components are divided to members since we explained it above. Maybe that's the reason?

8/18/2022

Dilshani SLIIT  
TAF\_TMP-2022\_23-12.docx  
1.5 MB, Microsoft Word Document  
Download

7/20/2022

Here's the final document  
Thank you very much for @Ms Uthpala and @Suriyaa Kumari for your support ❤️

@Jay Costa you can submit this now 😊

+94 77 364 0395 ~Suriyaa Kumari  
👍

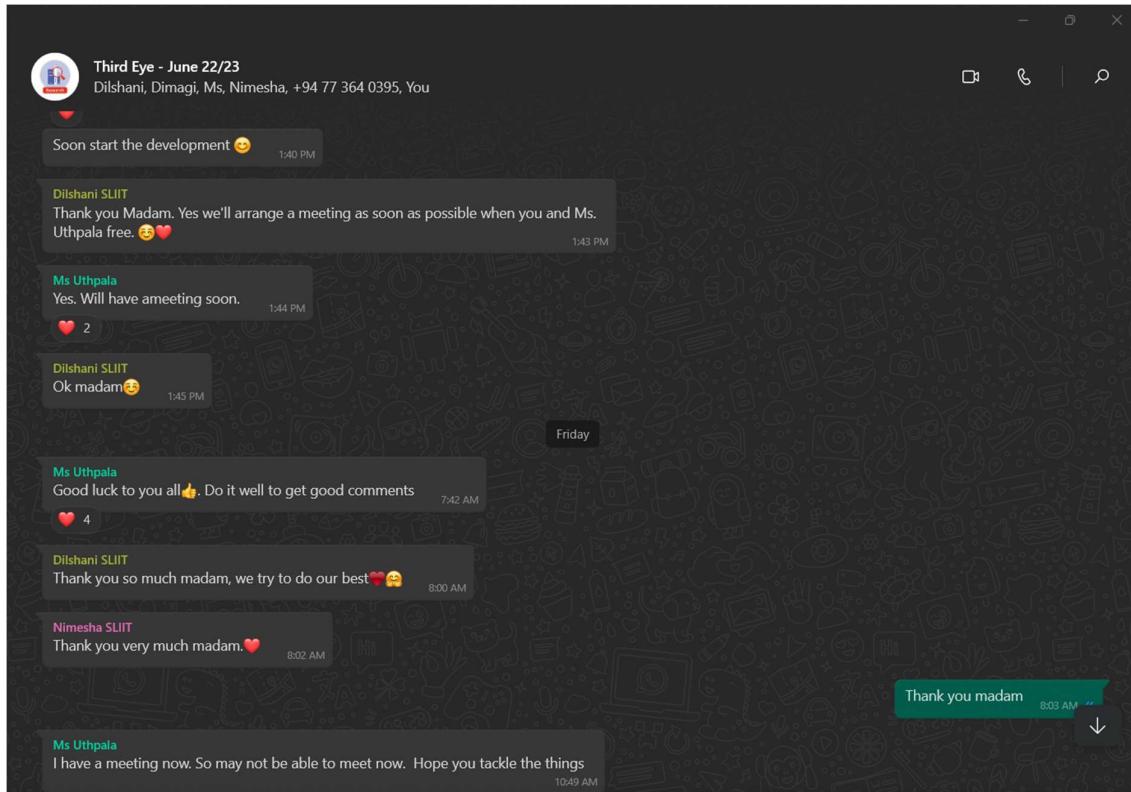
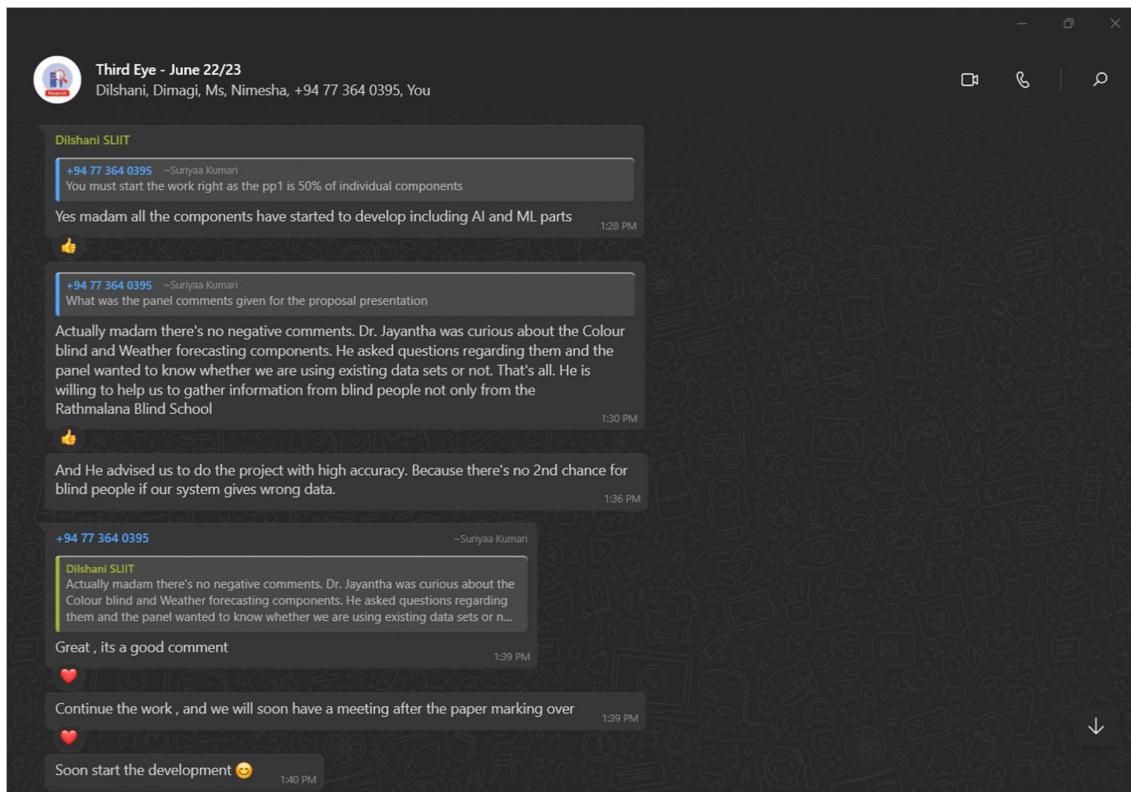
Yeah sure I will submit it now

8/7/2022

Your security code with Dilshani SLIIT changed. Select to learn more.

8/15/2022

+94 77 364 0395 ~Suriyaa Kumari  
What is your topic assessment decision



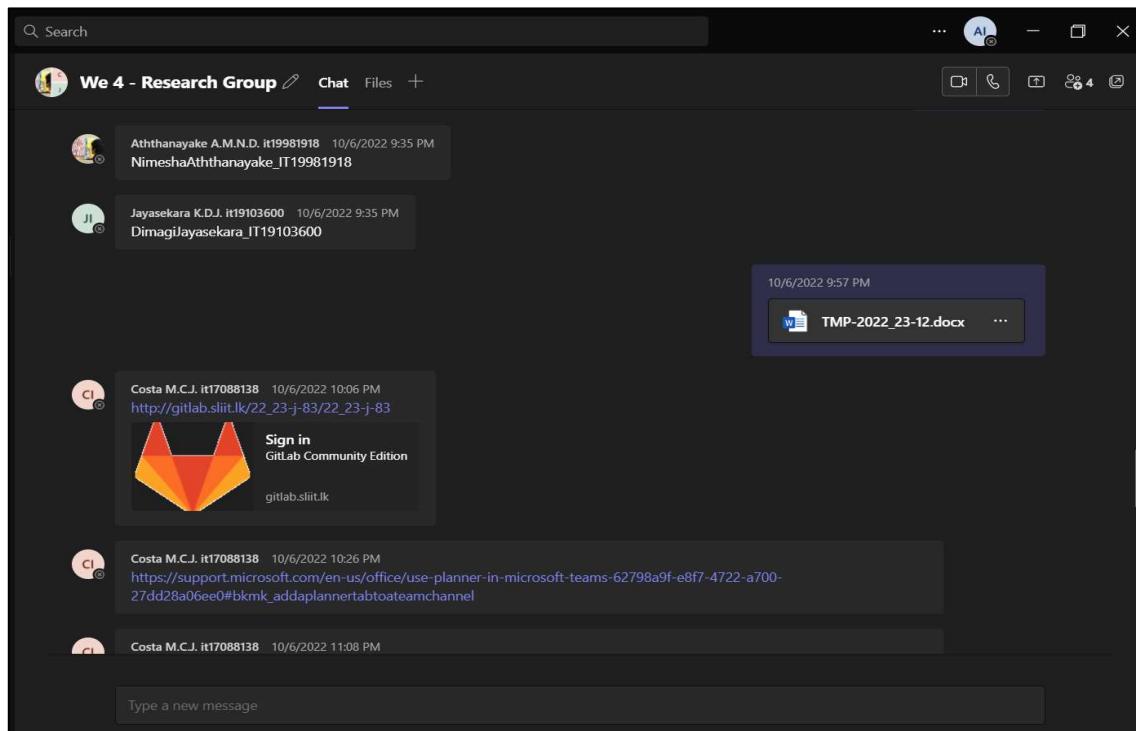
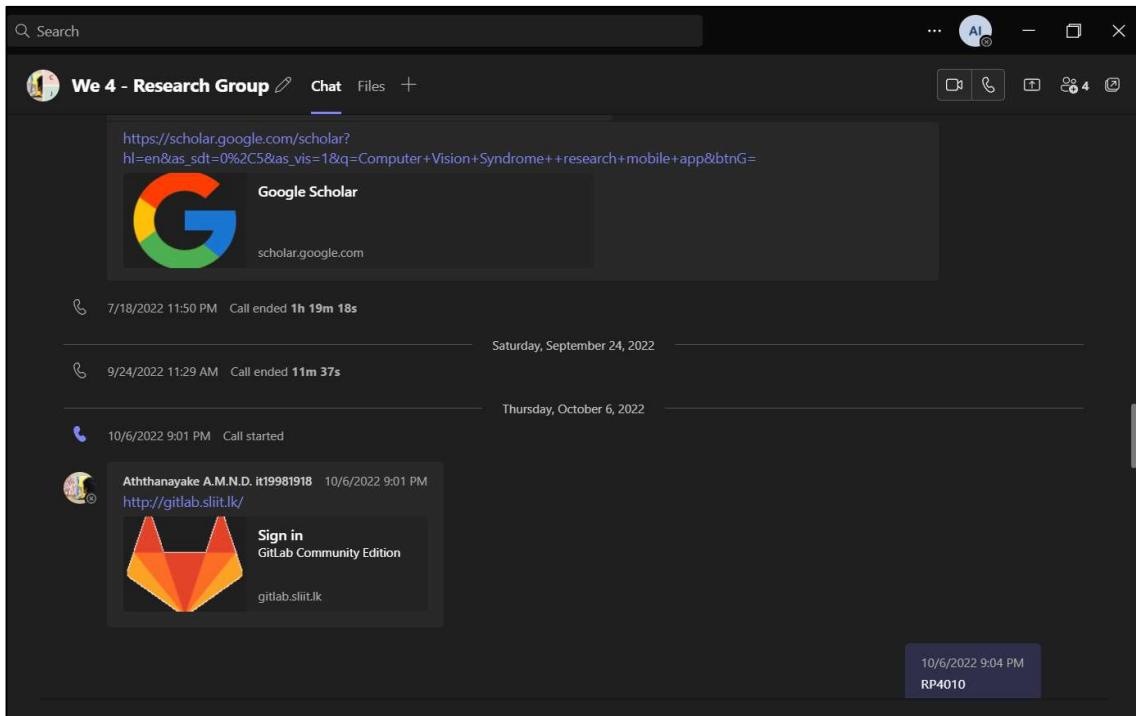
## 5.2 Group meetings, calls and messages from Teams and WhatsApp

The screenshot shows a WhatsApp group chat interface. At the top, it says "We 4 - Research Group". Below the header, there's a list of messages:

- Amarasinghe A.D. added Aththanayake A.M.N.D. and 2 others to the chat.
- Amarasinghe A.D. changed the group name to "Research Group - We 4".
- 7/11/2022 10:45 PM Call started
- 7/11/2022 11:52 PM Call ended 1h 6m 59s
- 7/13/2022 10:35 PM Call started
- Costa M.C.J. shared a link: <https://www.sciencedirect.com/science/article/pii/S1877042813054335>
- Costa M.C.J. shared a link: <https://www.mdpi.com/1660-4601/16/19/3584/htm>  
Long-Term Symptoms of Mobile Phone Use on ...  
This study aimed to compare the mean scores of mobile phone use, mobile phone addiction, and depressive...  
[www.mdpi.com](https://akjournals.com/view/journals/2006/9/3/article-p551.xml)
- Costa M.C.J. shared a link: <https://www.bibme.org/ieee-with-url/website-citation/new>
- BibMe: Generate IEEE (with URL) website citation...  
BibMe lets you easily and automatically create website citations and build your bibliography in IEEE (with URL). It...  
[www.bibme.org](http://www.bibme.org)
- BibMe: Generate IEEE (with URL) website citation...  
BibMe lets you easily and automatically create website citations and build your bibliography in IEEE (with URL). It...  
[www.bibme.org](http://www.bibme.org)
- Aththanayake A.M.N.D. shared a link: <https://ieeexplore.ieee.org/abstract/document/8787406>  
IEEE Xplore®  
Mobile Mental Health: A Review of Applications...  
Depression is a mental disorder characterized by persistent sadness, loss of interest, and a set of behavioral changes....  
[ieeexplore.ieee.org](https://ieeexplore.ieee.org)
- 7/11/2022 11:51 PM Shared a file: RpTopicAssessmentForm\_2022June (1).docx

The screenshot shows a WhatsApp group chat interface. At the top, it says "We 4 - Research Group". Below the header, there's a list of messages:

- Costa M.C.J. shared a link: <https://www.bibme.org/ieee-with-url/website-citation/new>
- BibMe: Generate IEEE (with URL) website citation...  
BibMe lets you easily and automatically create website citations and build your bibliography in IEEE (with URL). It...  
[www.bibme.org](http://www.bibme.org)
- BibMe: Generate IEEE (with URL) website citation...  
BibMe lets you easily and automatically create website citations and build your bibliography in IEEE (with URL). It...  
[www.bibme.org](http://www.bibme.org)
- Aththanayake A.M.N.D. shared a link: <https://ieeexplore.ieee.org/abstract/document/8787406>  
IEEE Xplore®  
Mobile Mental Health: A Review of Applications...  
Depression is a mental disorder characterized by persistent sadness, loss of interest, and a set of behavioral changes....  
[ieeexplore.ieee.org](https://ieeexplore.ieee.org)
- 7/11/2022 11:51 PM Shared a file: RpTopicAssessmentForm\_2022June (1).docx



Search ... AI

We 4 - Research Group Chat Files +

https://support.microsoft.com/en-us/office/use-planner-in-microsoft-teams-62798a9f-e8f7-4722-a700-27dd28a06ee0#bkml\_addaplannertabtoteamchannel

Costa M.C.J. it17088138 10/6/2022 11:08 PM https://mynslit.sharepoint.com/sites/CDAPSubmissionCloud/2223JuneCloud/Forms/AllItems.aspx?id=%2Fsites%2FCDAPSubmissionCloud%2F2223JuneCloud%2F22%5F23%2D%2D83%2DStudents&viewid=cd1630e5%2D1b2a%D4444%2Daf18%2D8f66366000c1

10/6/2022 11:30 PM Call ended 2h 29m 21s

Sunday, October 16, 2022

Aththanayake A.M.N.D. it19981918 10/16/2022 9:03 PM gmuda cl ekk

10/16/2022 9:06 PM Call started

Costa M.C.J. it17088138 10/16/2022 11:21 PM http://4.bp.blogspot.com/\_4dloC40IMEs/S-ybU4J0mVI/AAAAAAAACCI/VafeuUFsvuw/S1600-R/Daltonize.png

Costa M.C.J. it17088138 10/16/2022 11:40 PM Faster R-CNN

Monday, October 17, 2022

10/17/2022 12:18 AM Call ended 3h 12m 20s

Search ... AI

We 4 - Research Group Chat Files +

Sign in GitLab Community Edition gitlab.sliit.lk

Recording has started

1/28 6:51 PM Call ended 1h 7m 57s

Recording has stopped. Saving recording...

This recording is set to expire. View or change the expiration date here. Learn more

28m 57s

Aththanayake A.M.N.D. it19981918 changed the group name to We 4 - Research Group.

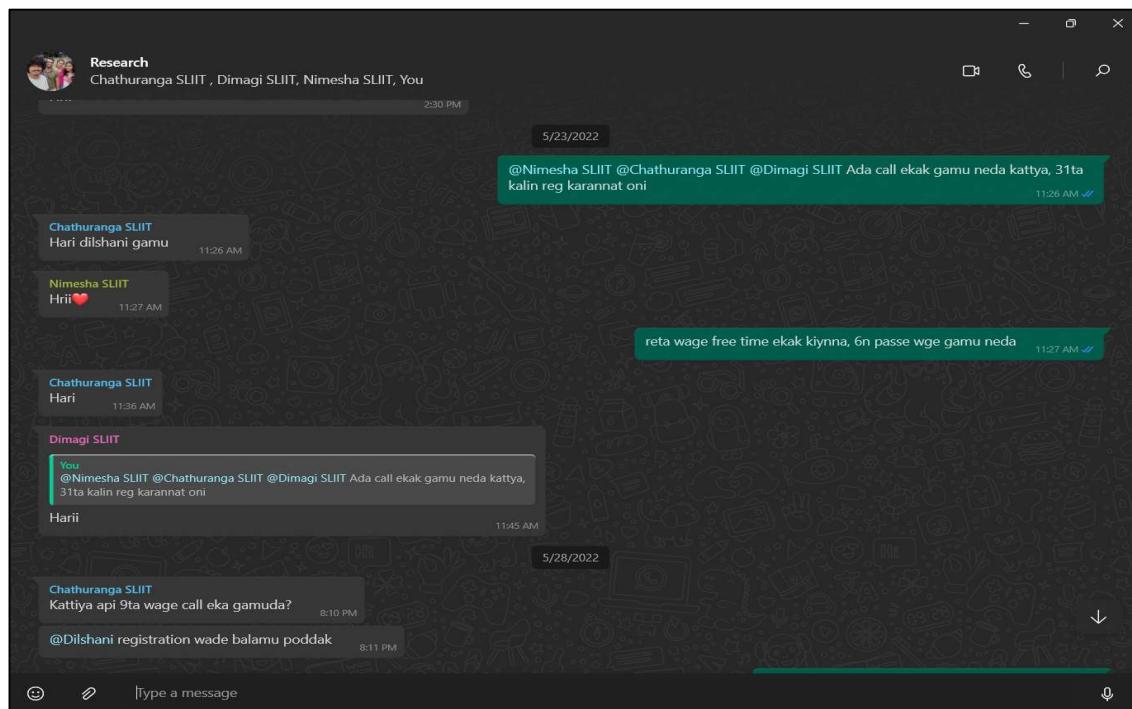
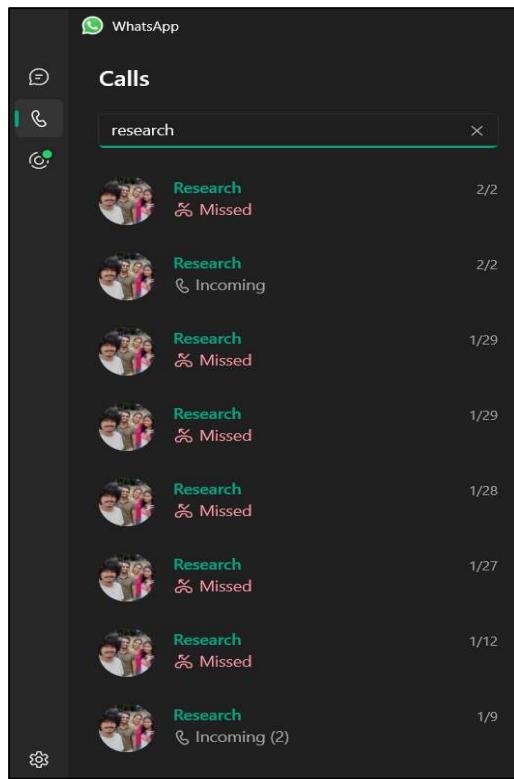
Sunday, January 29

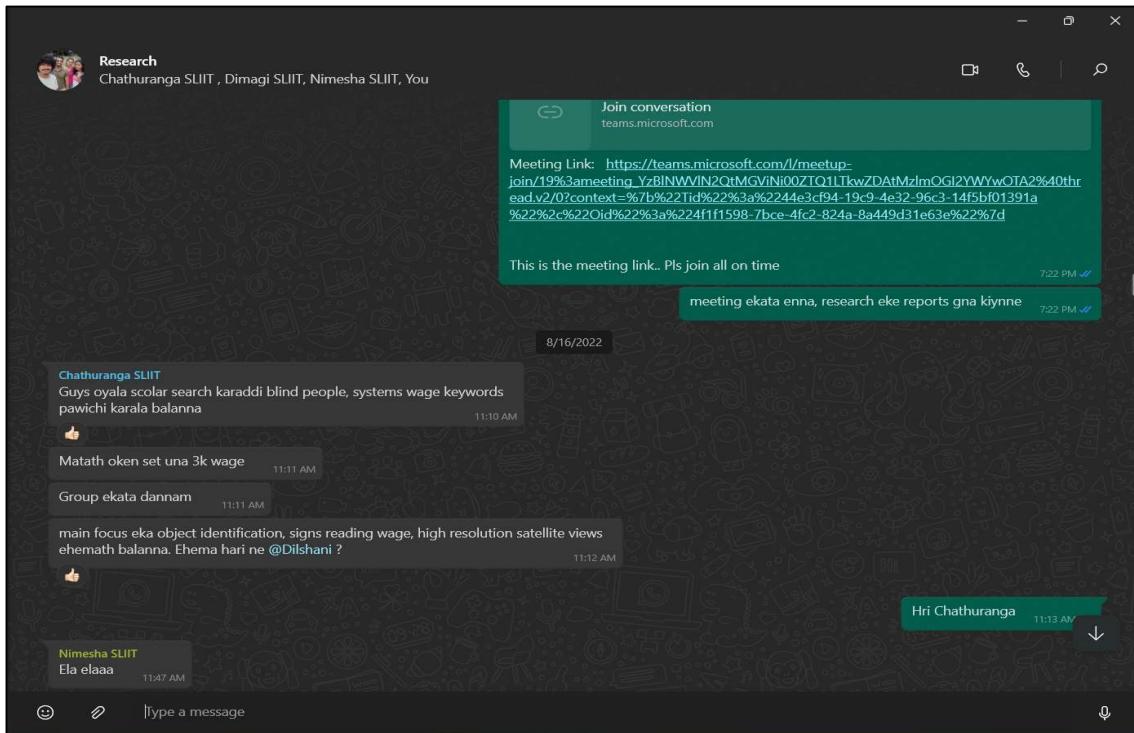
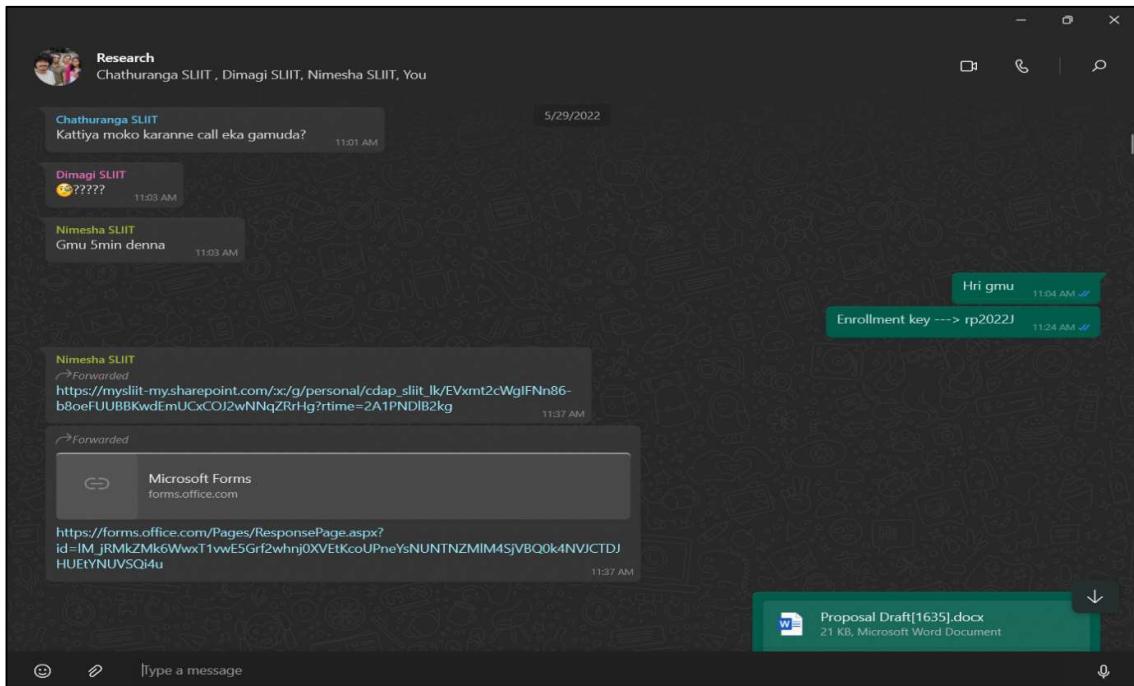
1/29 10:30 PM Call ended 1h 39m 16s

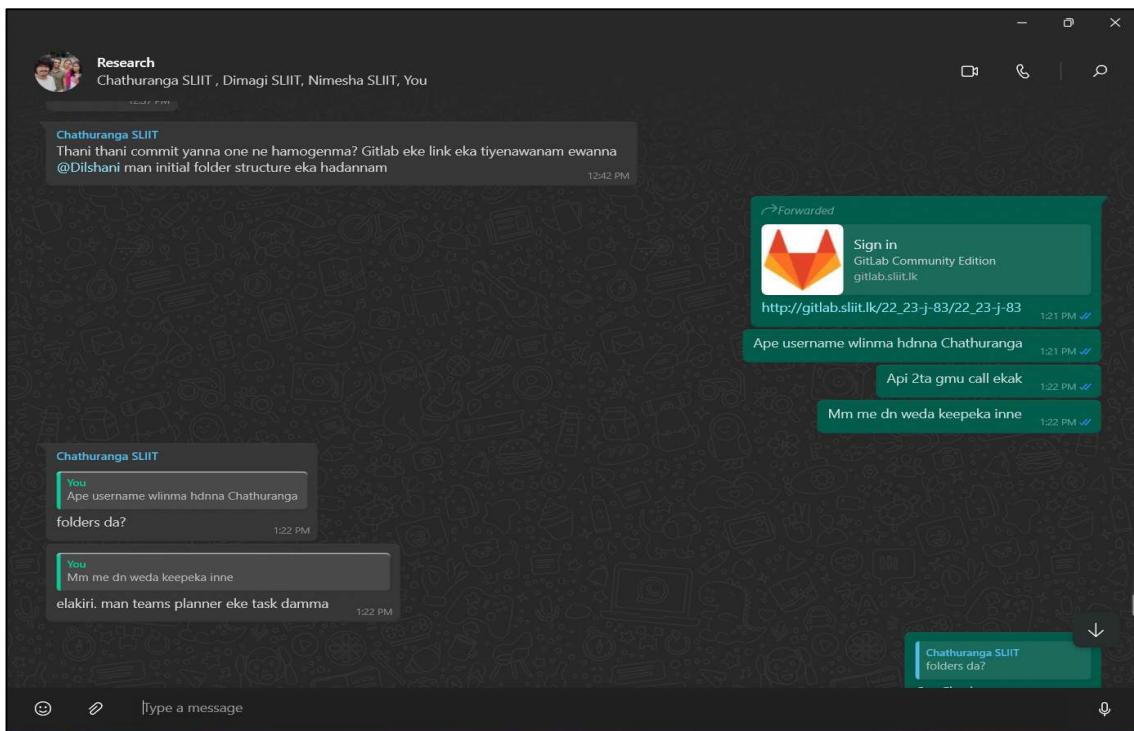
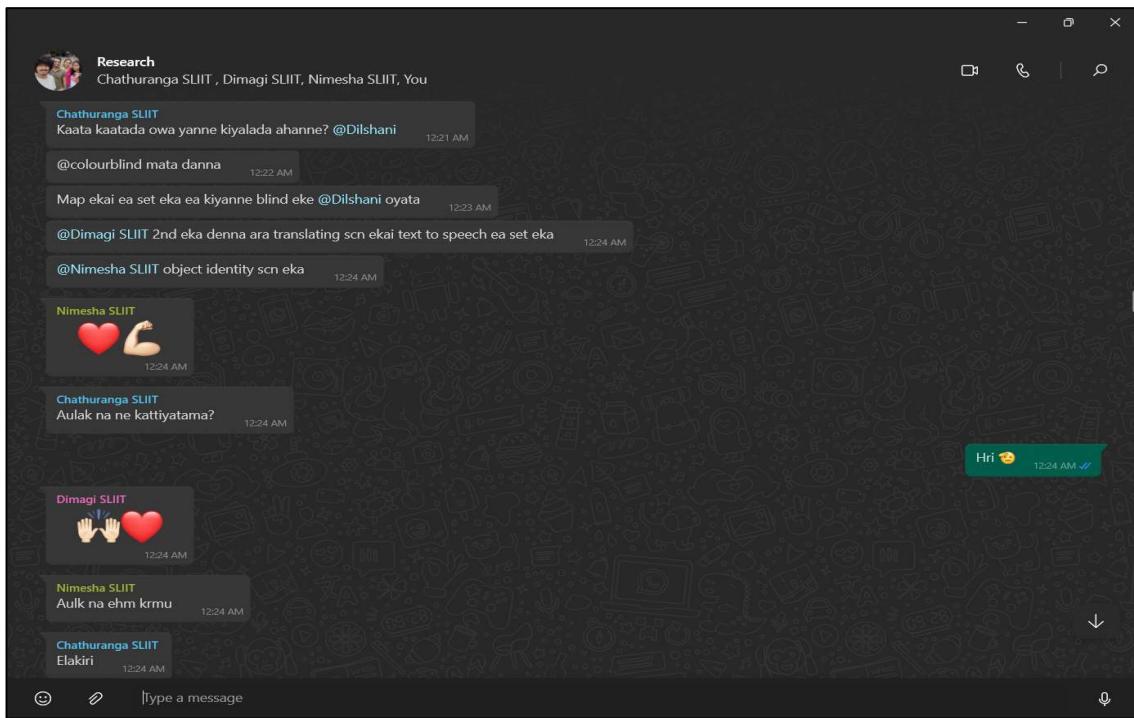
Wednesday, February 1

2/1 9:49 PM Call ended 1m 8s

2/1 11:41 PM Call ended 1h 14m 40s







### 5.3 GitLab Contribution

2 22\_23-j\_83

Project overview Repository

Commits

Branches Tags Contributors Graph Compare

Issues Merge Requests CI / CD Operations Analytics

Collapse sidebar

22\_23-j\_83 > 22\_23-j\_83 > Commits

models/dilshani 22\_23-j\_83

Create merge request Filter by commit message

28 Jan, 2023 15 commits

- Merge remote-tracking branch 'origin/general/develop\_1' into models/dilshani  
Dilshani-97 authored 1 week ago f6e2e19b
- Merge branch 'models/nimesha' into 'general/develop\_1'  
Chathuranga Costa authored 1 week ago 7e5c22e8
- Model path updated  
Dilshani-97 authored 1 week ago 724efbb3
- Voice assistant model init  
Dilshani-97 authored 1 week ago 6841129a
- Voice assistant dataset init  
Dilshani-97 authored 1 week ago 78c707b6
- object detection model init  
nimesha00 authored 1 week ago 7c8820be
- Merge branch 'models/dimagi' into 'general/develop\_1'  
Chathuranga Costa authored 1 week ago e8cbe38b
- currency identifier model  
Dimagi authored 1 week ago 0601b9c9
- dataset added for currency identifier  
Dimagi authored 1 week ago 49ba64c5

2 22\_23-j\_83

Project overview Activity

Details Releases

Repository Issues Merge Requests CI / CD Operations Analytics

Wiki Snippets Settings

Collapse sidebar

Nimesha Dilnuwan Aththanayake @NimeshaAththanayake\_JT19981918  
Pushed to branch models/nimesha  
c0a1c403 · yolov4-tiny added 1 week ago

Nimesha Dilnuwan Aththanayake @NimeshaAththanayake\_JT19981918  
Pushed to branch models/nimesha  
acf8a2e8 · Merge branch 'models/dilshani' into 'general/develop\_1'  
... and 5 more commits. Compare 7c8820be...acf8a2e8 1 week ago

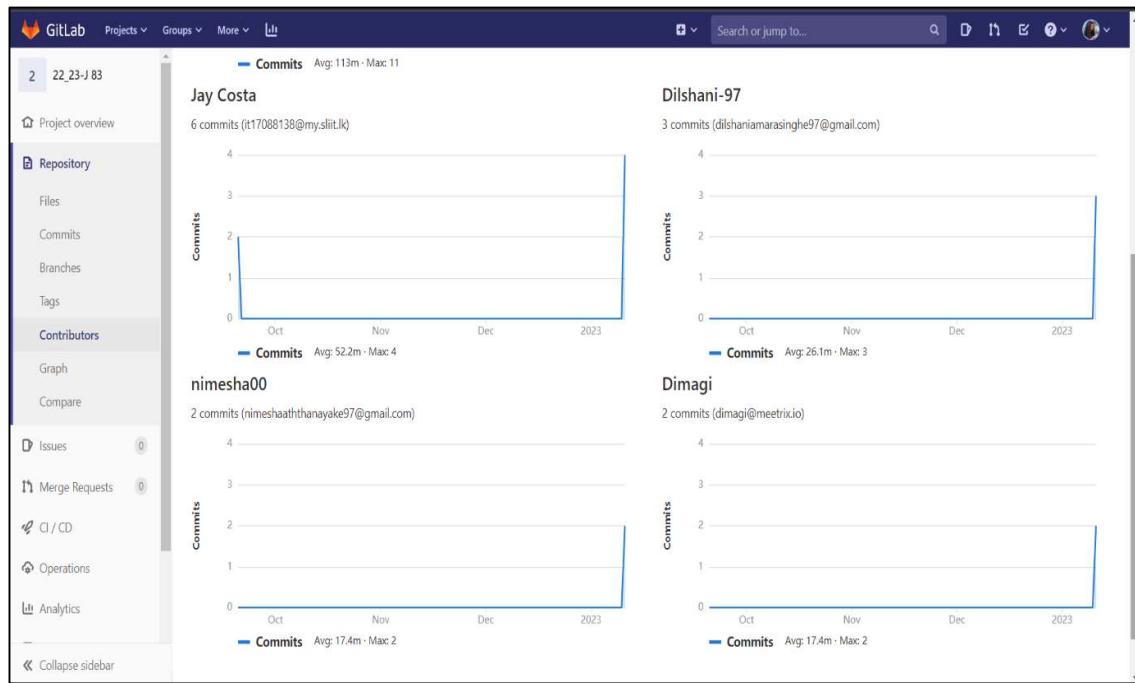
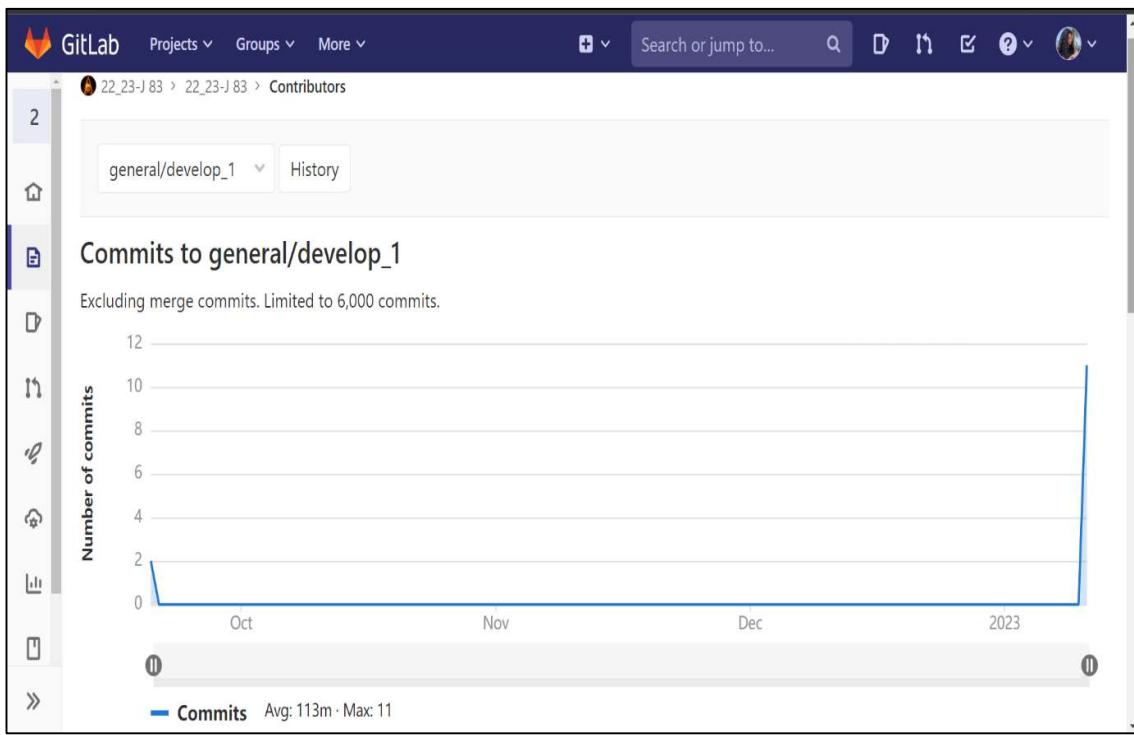
Chathuranga Costa @ChathurangaCosta\_JT17088138  
Accepted merge request !6 "Models/dilshani" 1 week ago

Chathuranga Costa @ChathurangaCosta\_JT17088138  
Pushed to branch general/develop\_1  
acf8a2e8 · Merge branch 'models/dilshani' into 'general/develop\_1'  
... and 4 more commits. Compare 7e5c22e8...acf8a2e8 1 week ago

Dilshani Amarasinghe @DilshaniAmarasinghe\_JT19133614  
Opened merge request !6 "Models/dilshani" 1 week ago

Dilshani Amarasinghe @DilshaniAmarasinghe\_JT19133614  
Pushed to branch models/dilshani  
f6e2e19b · Merge remote-tracking branch 'origin/general/develop\_1' into models...  
... and 2 more commits. Compare 724efbb3...f6e2e19b 1 week ago

Chathuranga Costa @ChathurangaCosta\_JT17088138  
Pushed to branch general/develop\_1  
7e5c22e8 · Merge branch 'models/nimesha' into 'general/develop\_1' 1 week ago



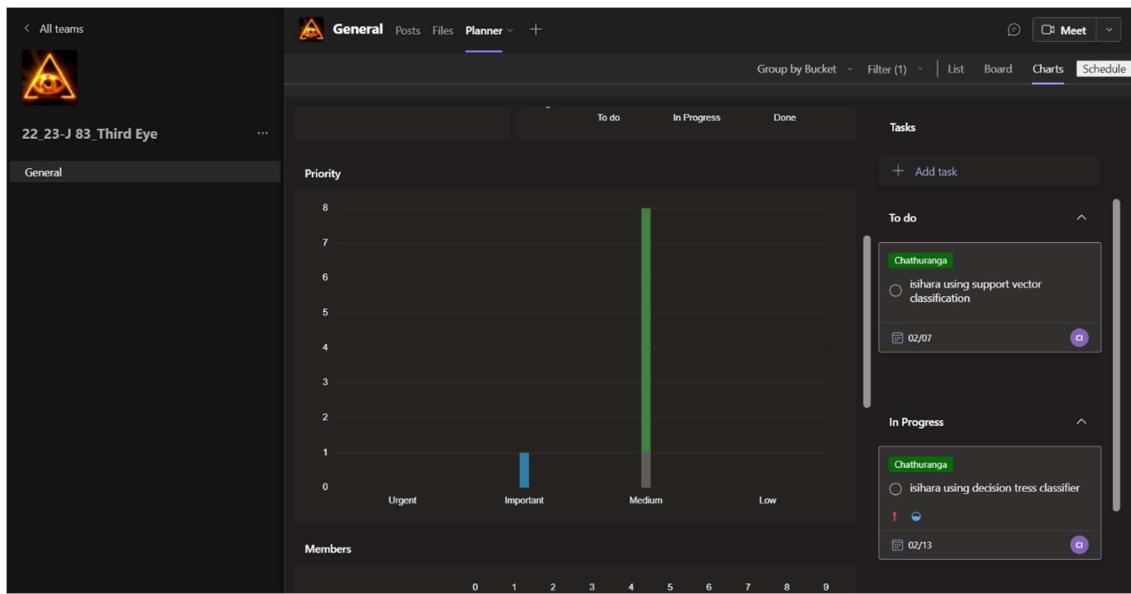
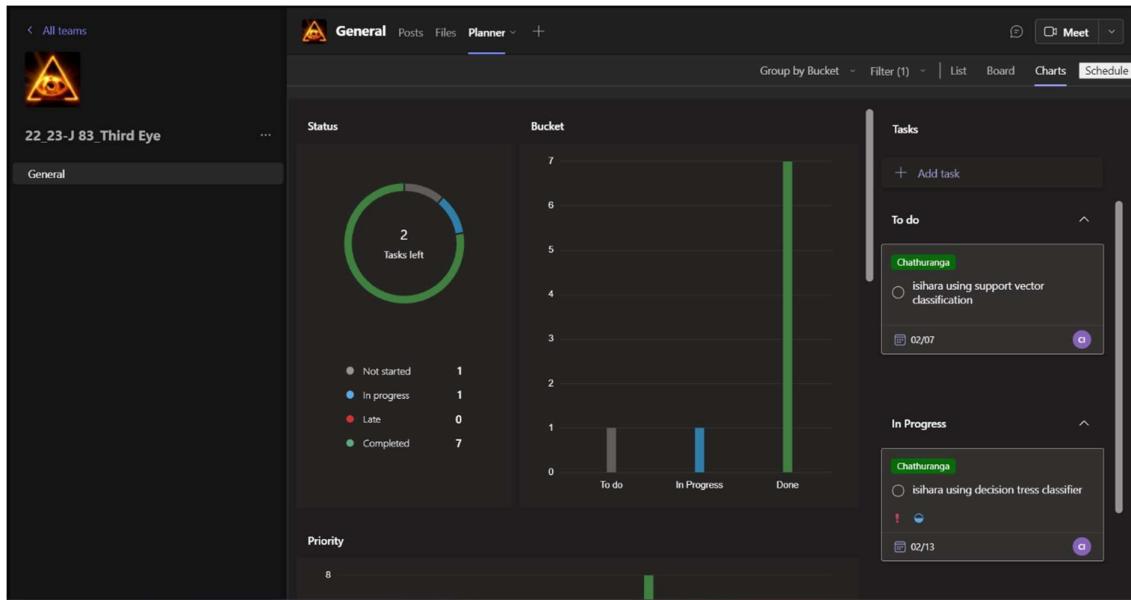
## 5.4 Teams Planner

The screenshot shows the Microsoft Teams Planner interface for the 'General' team. The left sidebar displays the team name '22\_23-J 83\_Third Eye' and a 'General' category. The main area is titled 'General' and shows a list of tasks:

Task title	Completed by	Priority	Completed	Status
check ishihara model accuracy	Costa M.C.J. it17088...	2/1	2/1	Done
commit individual commits	Costa M.C.J. it17088...	2/1	2/1	Done
commit changes to gitlab	Costa M.C.J. it17088...	2/1	2/1	Done
plan presentation slides	Amarasinghe AD it...	2/1	2/1	Done
Individual Proposal Doc - Costa	Costa M.C.J. it17088...	10/2022	10/2022	Done
Create planner+MS Teams	Costa M.C.J. it17088...	10/2022	10/2022	Done
Create Gitlab Repository	Costa M.C.J. it17088...	10/2022	10/2022	Done

The screenshot shows the Microsoft Teams Planner interface for the 'General' team. The left sidebar displays the team name '22\_23-J 83\_Third Eye' and a 'General' category. The main area is titled 'General' and shows a list of tasks:

Task title	Assigned to	Priority	Due	Bucket
isihara using support vector classification	Costa M.C.J. it17088138	2/7		To do
isihara using decision tree classifier	Costa M.C.J. it17088138	2/13		In Progress



The screenshot shows a Microsoft Planner board titled "General". The board is organized into four main sections: To do, In Progress, Done, and Completed tasks.

- To do:**
  - Nimesha: create formula for other objects (due 02/11)
  - Chathuranga: isihara using support vector classification (due 02/07)
  - Dimagi: currency identification train dataset improving (due 02/13)
  - Dithshani: voice assistant responses dataset improving (due 02/13)
- In Progress:**
  - Nimesha: improve object identifier distance with focal length formula (due 02/06)
  - Dimagi: currency identification coin identification not working (due 02/06)
  - Chathuranga: isihara using decision tree classifier (due 02/13)
  - Dithshani: (no visible tasks)
- Done:**
  - Nimesha: calculate distance for a person using formula (Completed by Amarasinghe A.D. ...)
  - Dimagi: plan presentation slides (Completed by Amarasinghe A.D. ...)
  - Nimesha: check model accuracy for object detection (Completed by Amarasinghe A.D. ...)
- Completed tasks:** 14