Multi-Model Approach to Recommend Personalized Music Playlist

TMP – 2023 – 24 - 065

Status Document – 2

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Sri Lanka

March 2024

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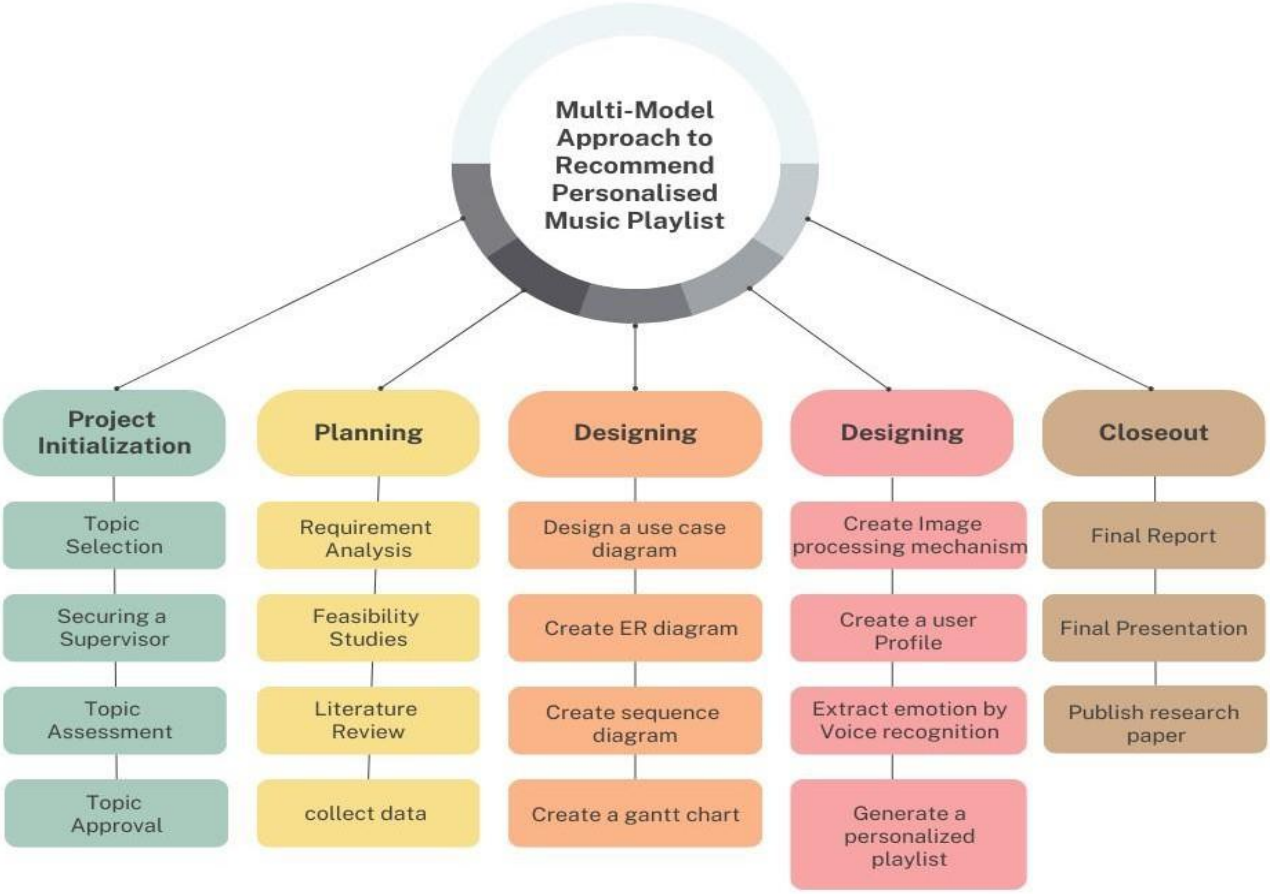
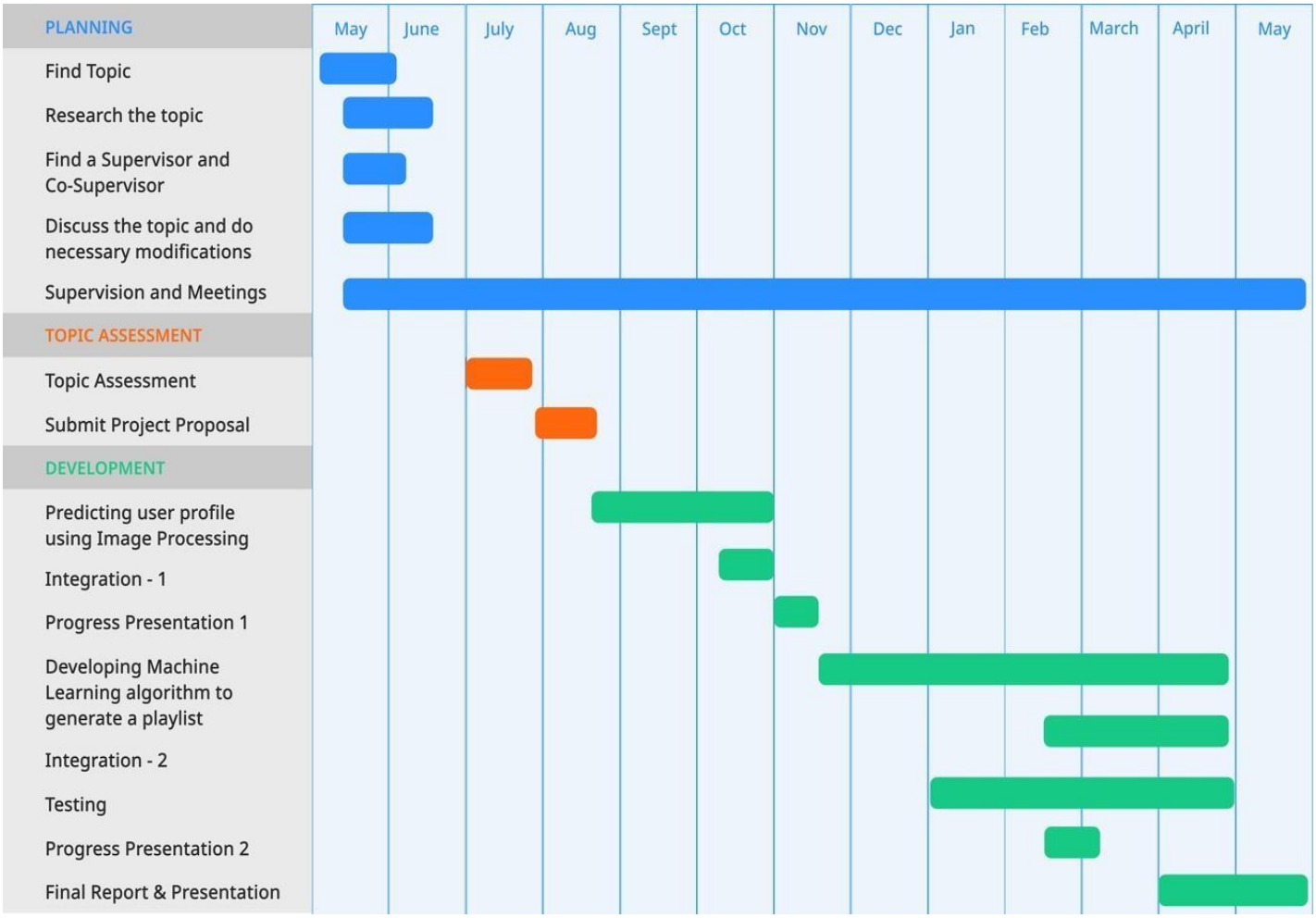
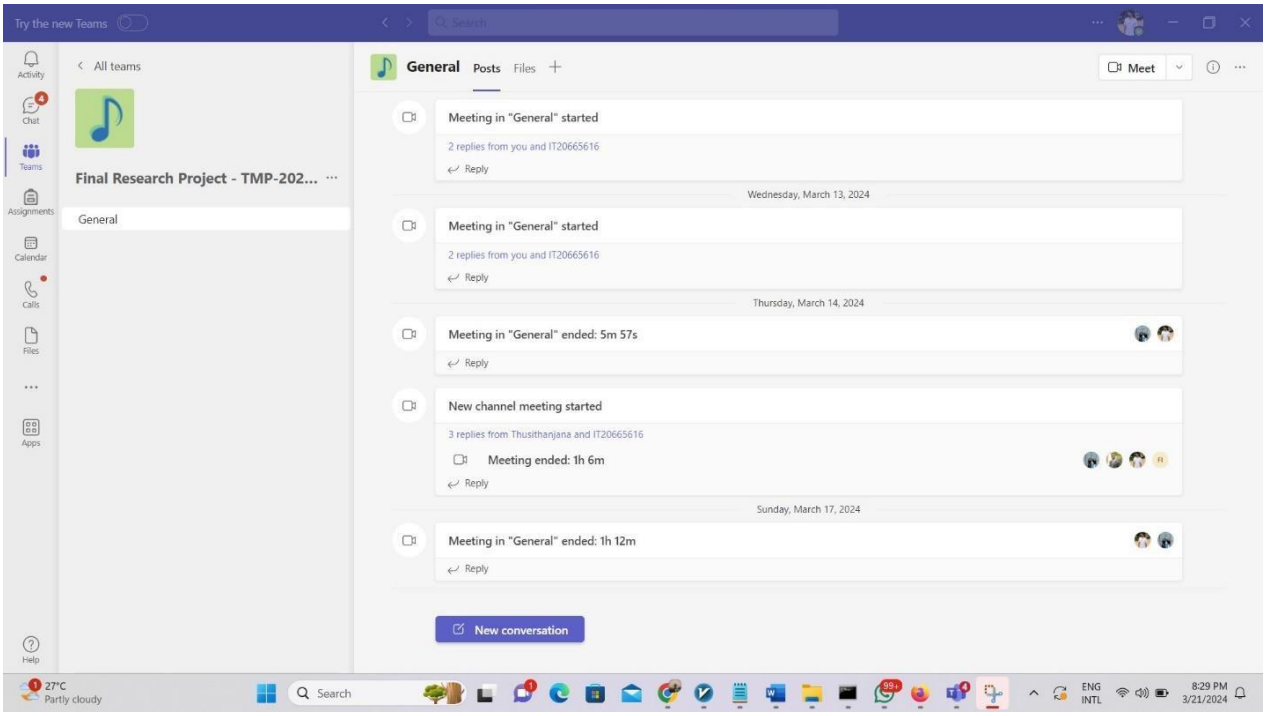
Work Breakdown Chart

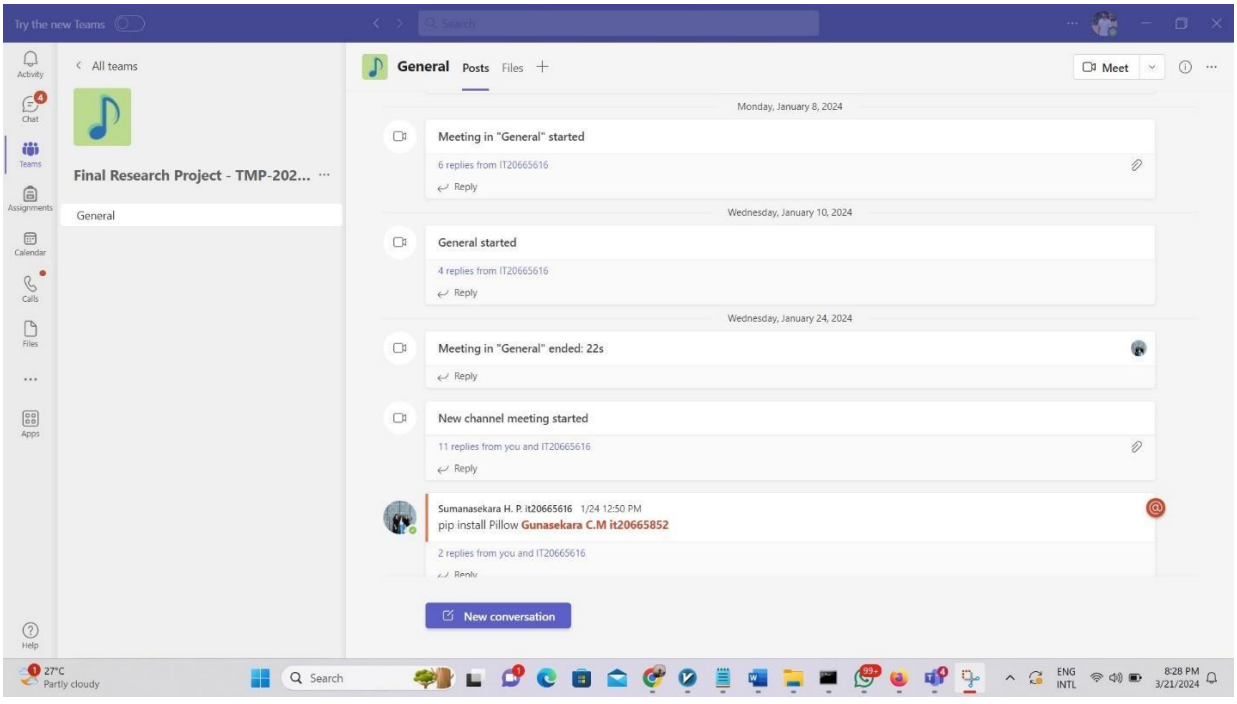


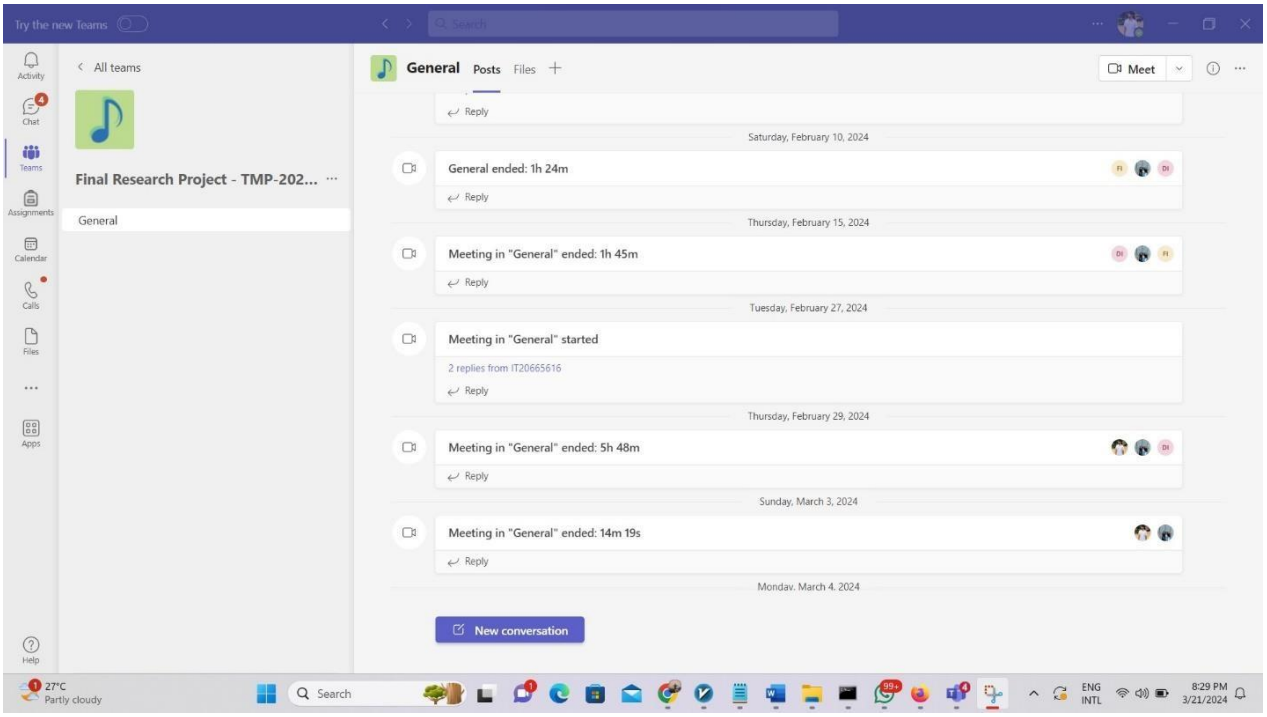
Gantt Chart

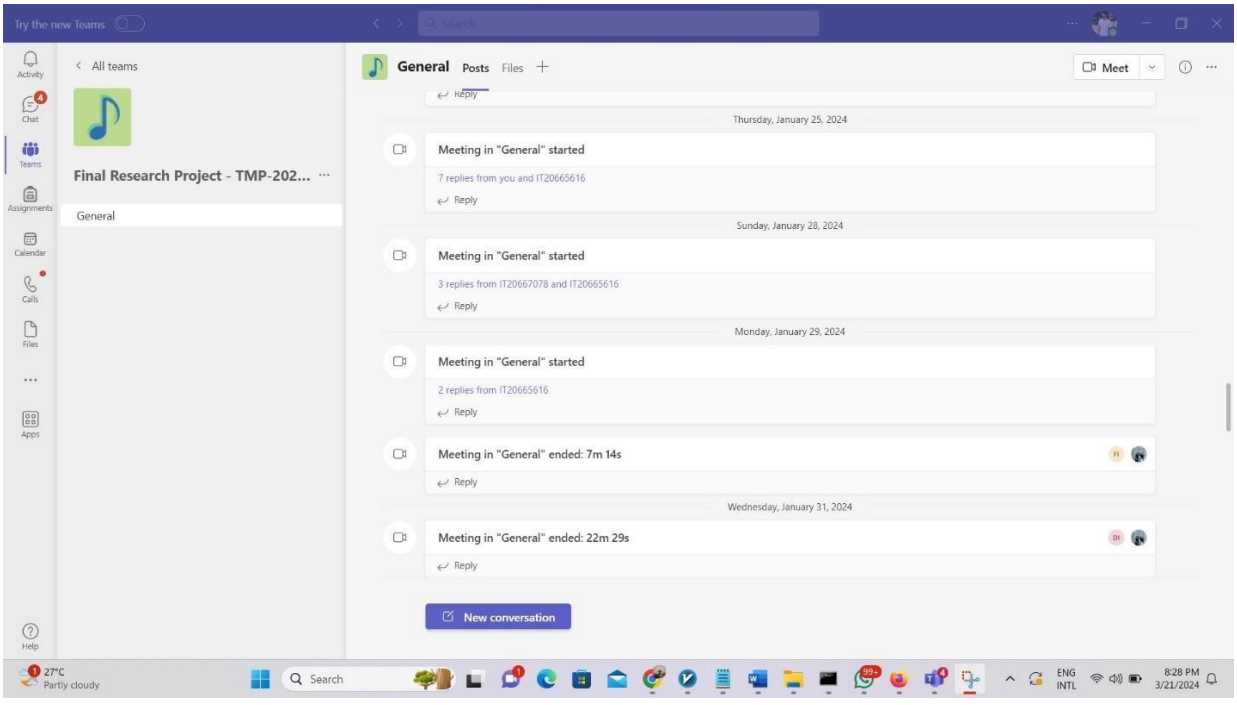

PLANNING
Find Topic
Research the topic
Find a Supervisor and Co-Supervisor
Discuss the topic and do necessary modifications
Supervision and Meetings
TOPIC ASSESSMENT
Topic Assessment
Submit Project Proposal
DEVELOPMENT
Predicting user profile using Image Processing
Integration - 1
Progress Presentation 1
Developing Machine Learning algorithm to generate a playlist
Integration - 2
Testing
Progress Presentation 2
Final Report & Presentation
May
June
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
March
April
May

Continuous Team Collaboration via MS Teams.

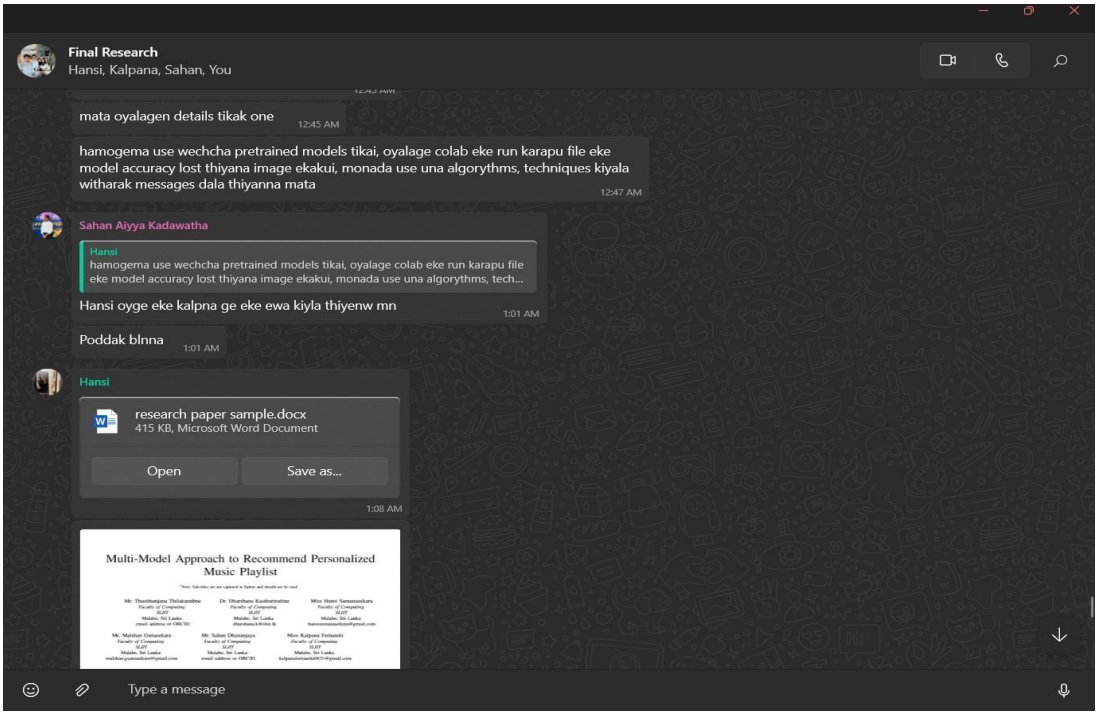


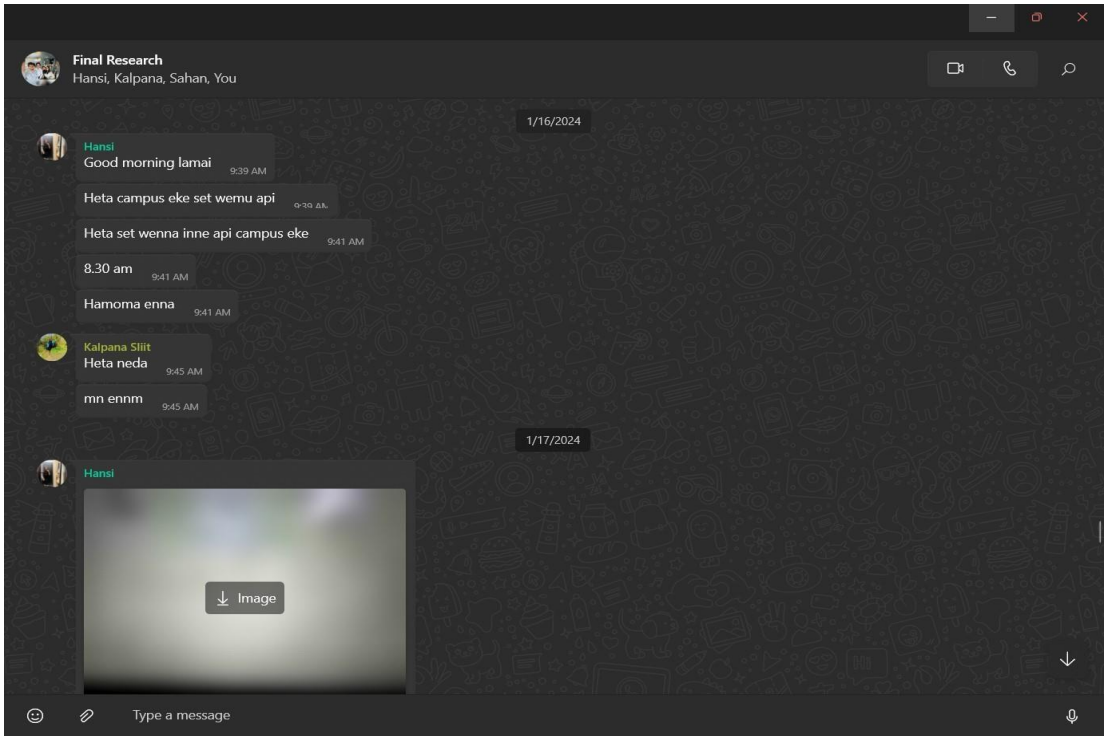


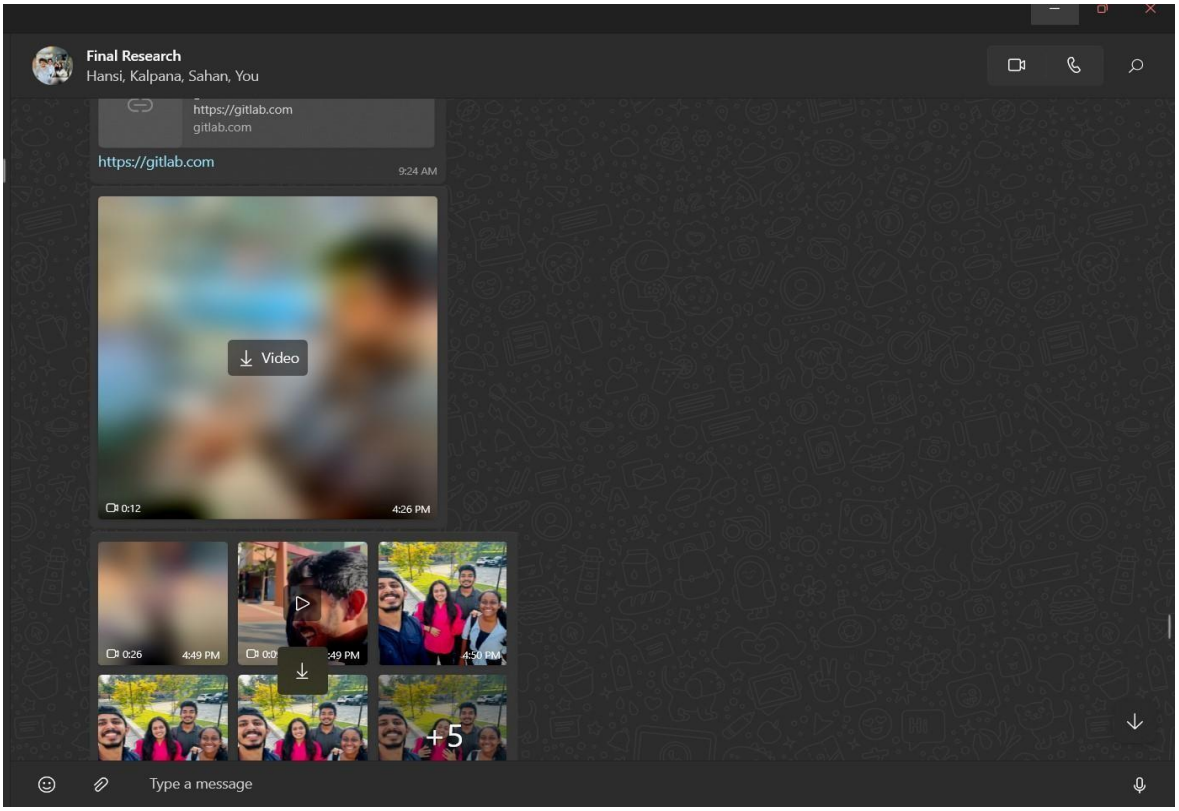

Try the new Teams
All teams
Final Research Project - TMP-202...
General
General Posts Files
Meet
Reply
Saturday, February 10, 2024
General ended: 1h 24m
Thursday, February 15, 2024
Meeting in "General" ended: 1h 45m
Tuesday, February 27, 2024
Meeting in "General" started
2 replies from IT20665616
Thursday, February 29, 2024
Meeting in "General" ended: 5h 48m
Sunday, March 3, 2024
Meeting in "General" ended: 14m 19s
Monday, March 4, 2024
New conversation
Activity
Chat
Teams
Assignments
Calendar
Calls
Files
Apps
Help
27°C
Partly cloudy
Search
ENG
INTL
8:29 PM
3/21/2024

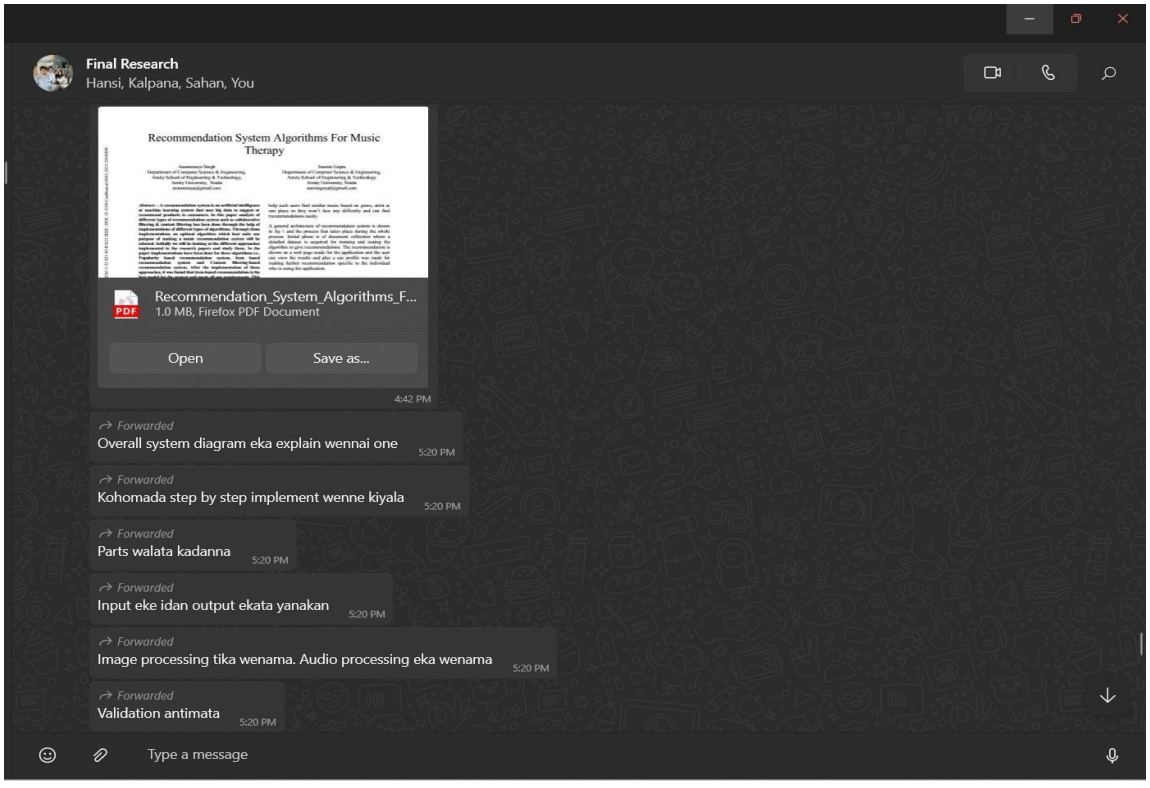

Try the new Teams
All teams
Final Research Project - TMP-202...
General
General Posts Files
Meet
Thursday, January 25, 2024
Meeting in "General" started
7 replies from you and IT20665616
Sunday, January 28, 2024
Meeting in "General" started
3 replies from IT20667078 and IT20665616
Monday, January 29, 2024
Meeting in "General" started
2 replies from IT20665616
Meeting in "General" ended: 7m 14s
Wednesday, January 31, 2024
Meeting in "General" ended: 22m 29s
New conversation
Activity
Chat
Teams
Assignments
Calendar
Calls
Files
Apps
Help
27°C
Partly cloudy
Search
ENG
INTL
8:28 PM
3/21/2024

Sample WhatsApp chats

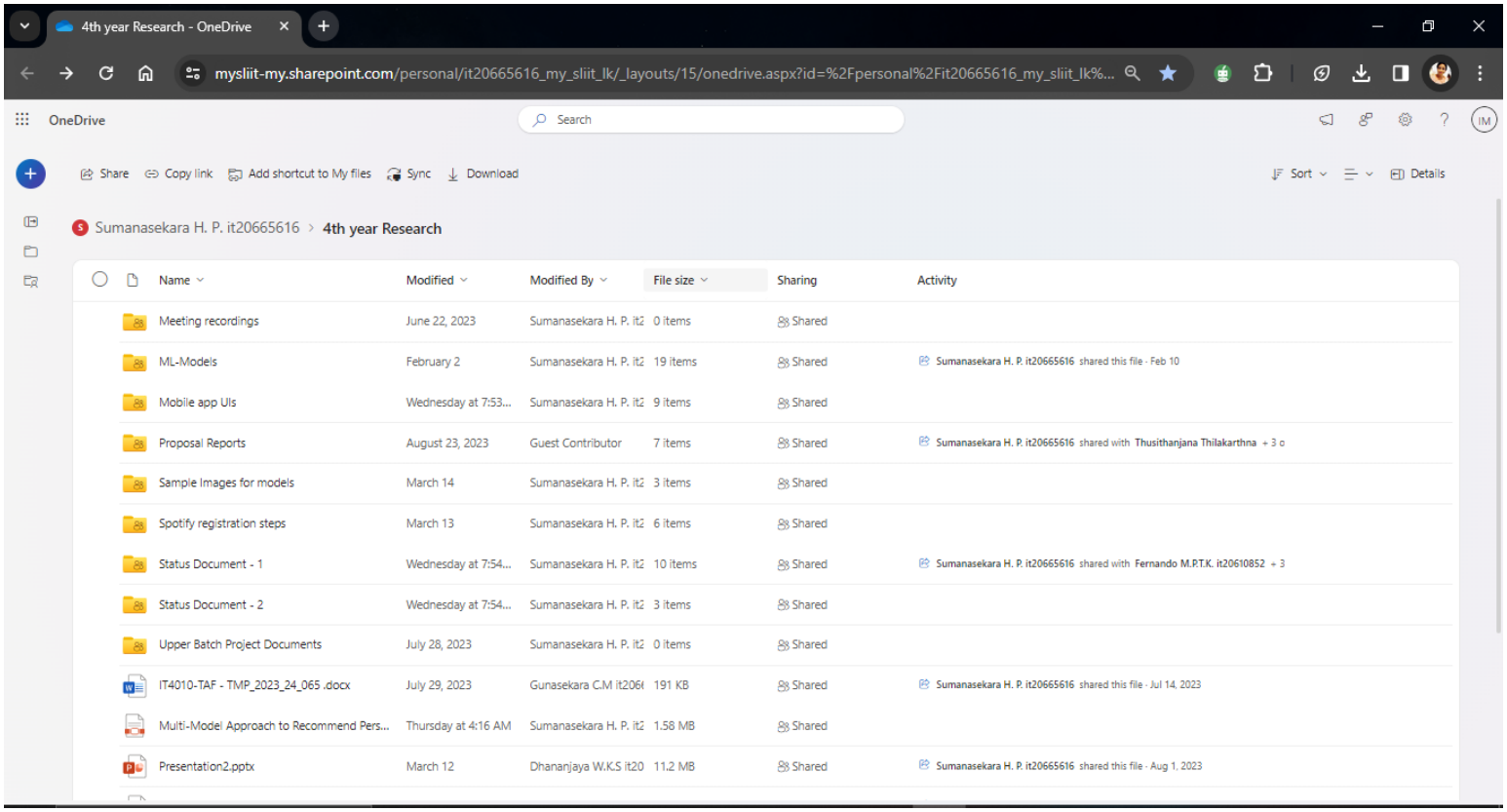




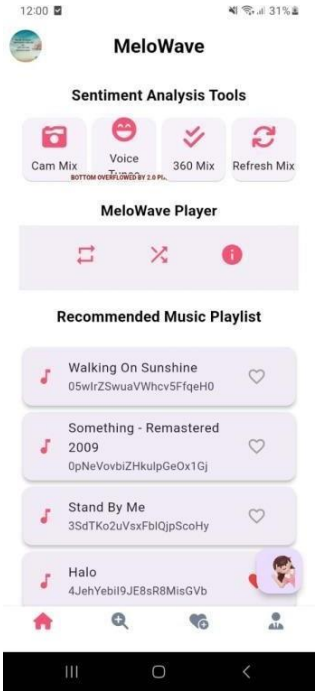

Final Research
Hansi, Kalpana, Sahan, You
https://gitlab.com
gitlab.com
https://gitlab.com
9:24 AM
Video
0:12
4:26 PM
0:26
4:49 PM
4:50 PM
+5
Type a message

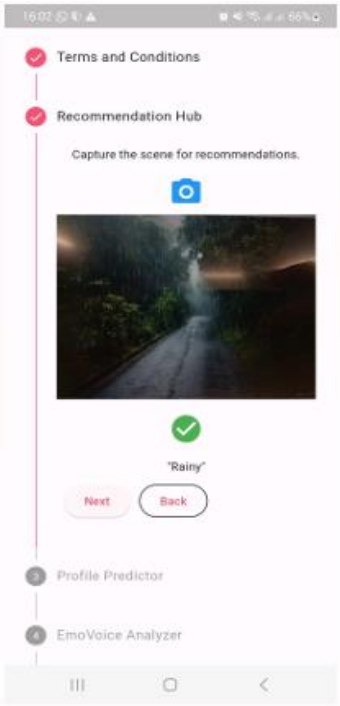

Final Research
Hansi, Kalpana, Sahan, You
Recommendation System Algorithms For Music Therapy
Recommendation_System_Algorithms_F...
1.0 MB, Firefox PDF Document
Open
Save as...
4:42 PM
Forwarded
Overall system diagram eka explain wennai one
5:20 PM
Forwarded
Kohomada step by step implement wenne kiyala
5:20 PM
Forwarded
Parts walata kadanna
5:20 PM
Forwarded
Input eke idan output ekata yanakan
5:20 PM
Forwarded
Image processing tika wenama. Audio processing eka wenama
5:20 PM
Forwarded
Validation antimata
5:20 PM
Type a message

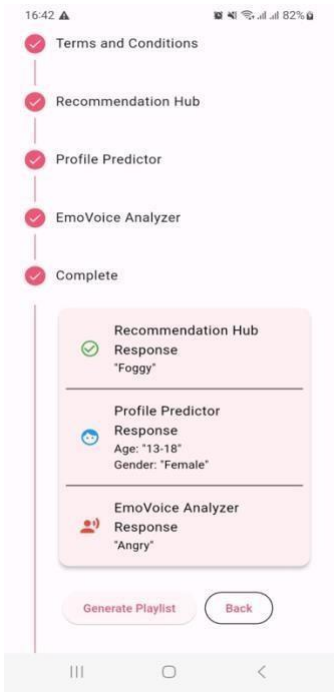
Team Collaboration and project management via OneDrive.

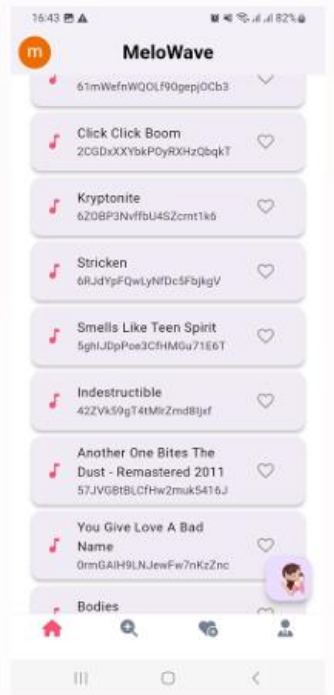


User Interfaces of the ‘MeloWave’ Mobile Application.









Model accuracy and loss & Prediction Model

Weather-prediction.ipynb

File Edit View Insert Runtime Tools Help Save failed

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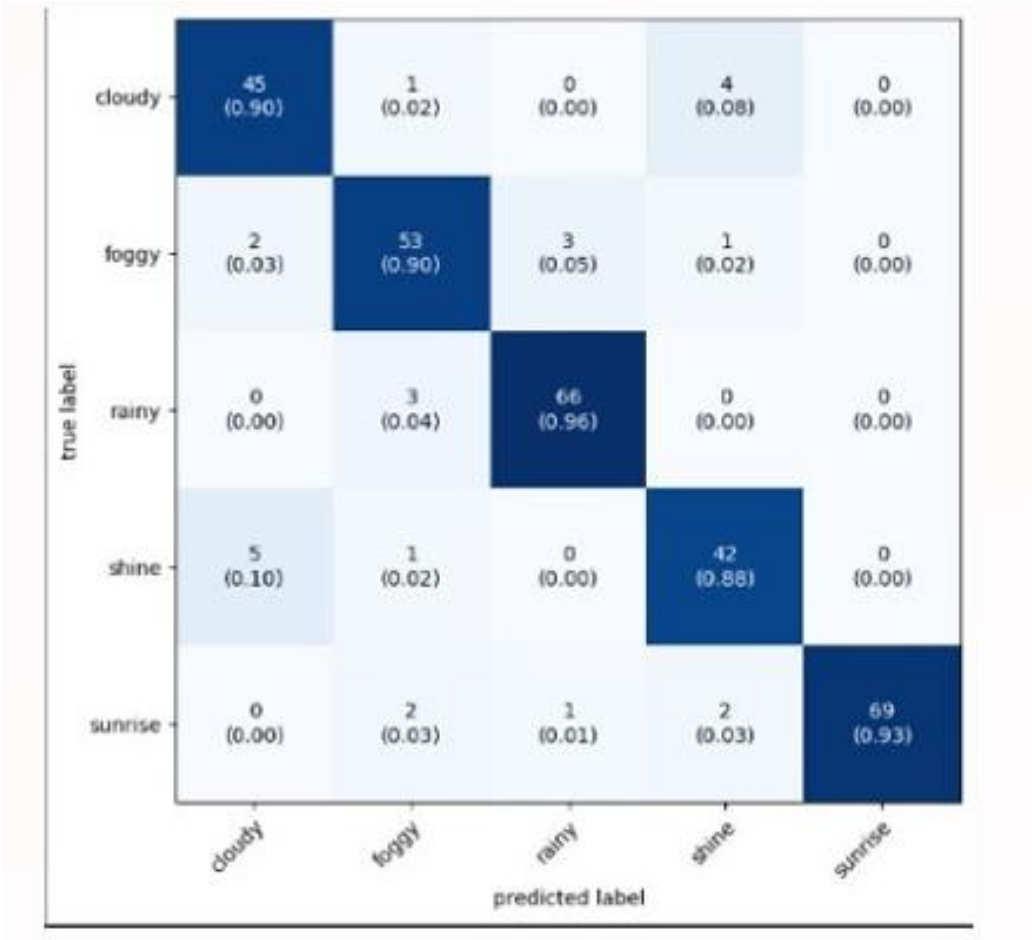
Colab AI

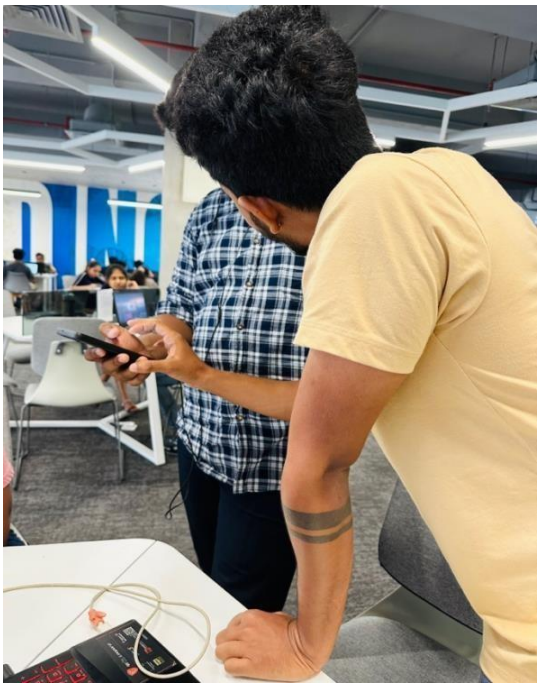
```
150/150 [==============================] - 7s 44ms/step - loss: 0.0431 - accuracy: 0.9925 - val_loss: 0.3560 - val_accuracy: 0.9067
[34] Epoch 11/30
149/150 [============================>.] - ETA: 0s - loss: 0.0381 - accuracy: 0.9966
Epoch 11: val_accuracy did not improve from 0.90667
150/150 [==============================] - 6s 42ms/step - loss: 0.0381 - accuracy: 0.9967 - val_loss: 0.3708 - val_accuracy: 0.8800
Epoch 12/30
149/150 [============================>.] - ETA: 0s - loss: 0.0342 - accuracy: 0.9941
Epoch 12: val_accuracy did not improve from 0.90667
150/150 [==============================] - 6s 42ms/step - loss: 0.0342 - accuracy: 0.9942 - val_loss: 0.3931 - val_accuracy: 0.8700
Epoch 13/30
149/150 [============================>.] - ETA: 0s - loss: 0.0275 - accuracy: 0.9983
Epoch 13: val_accuracy did not improve from 0.90667
150/150 [==============================] - 6s 43ms/step - loss: 0.0276 - accuracy: 0.9983 - val_loss: 0.4452 - val_accuracy: 0.8700
Epoch 14/30
149/150 [============================>.] - ETA: 0s - loss: 0.0251 - accuracy: 0.9983
Epoch 14: val_accuracy did not improve from 0.90667
```

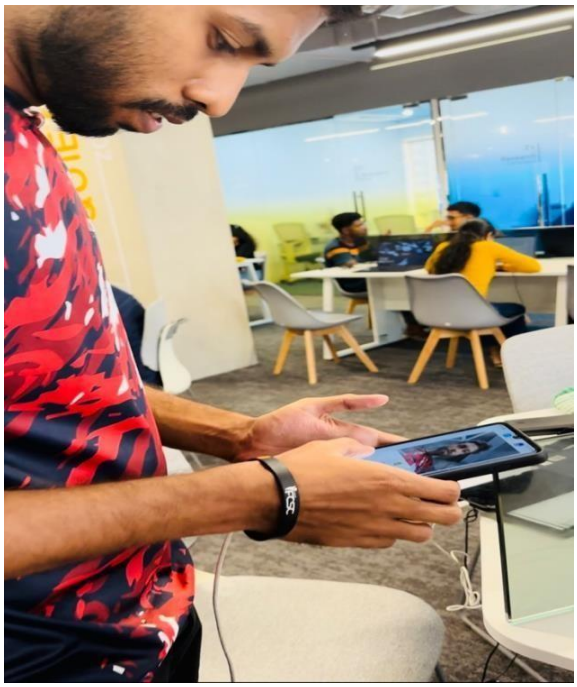
```
[35] loss,accuracy = model.evaluate(x_test,y_test)
print(f"Loss: {loss}")
print(f"Accuracy: {accuracy}")
```

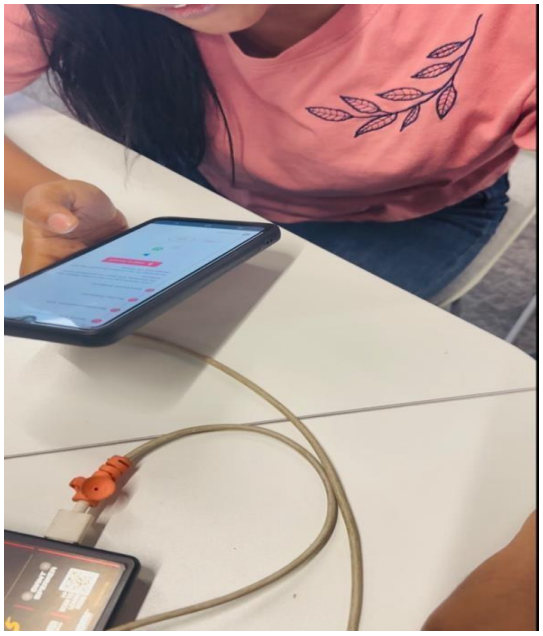
```
10/10 [==============================] - 6s 270ms/step - loss: 0.3769 - accuracy: 0.8833
Loss: 0.37687984108924866
Accuracy: 0.8833333253860474
```

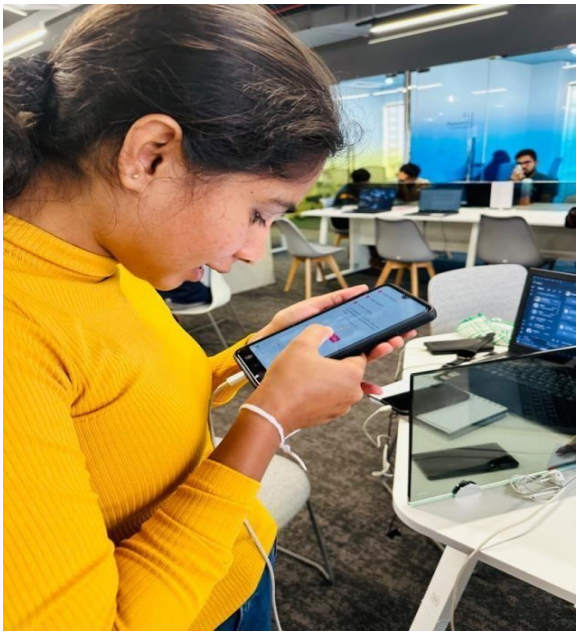


Field testing









App testing feedbacks

2. Is your gender predicted correctly?

More Details Insights

yes	9
No	2

4. Is your surrounding predicted correctly?

More Details Insights

Yes	7
No	1
Slightly different	2
Completely different	1

5. Is your emotion state predict correctly?

More Details Insights

Yes	8
No	0
Maybe	3

6. Generate accurate playlist based on your current emotion state ?

More Details Insights

Agree	9
Disagree	0
Partially agree	1
Partially disagree	0
Other	1