DEVELOPMENT OF A PREDICTIVE IOT-BASED SYSTEM FOR REAL-TIME AIR QUALITY MONITORING AND ROUTE OPTIMIZATION

Project ID: 2024 - 078

Project Status Document 11 – Individual

IT21152832 – KUMARI J.M.D

Supervisor: Ms. Chathurangika Kahandawarachi

Co-Supervisor: Ms. Pipuni Wijeseri

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

Sri Lanka Institute of Information Technology

September 2024

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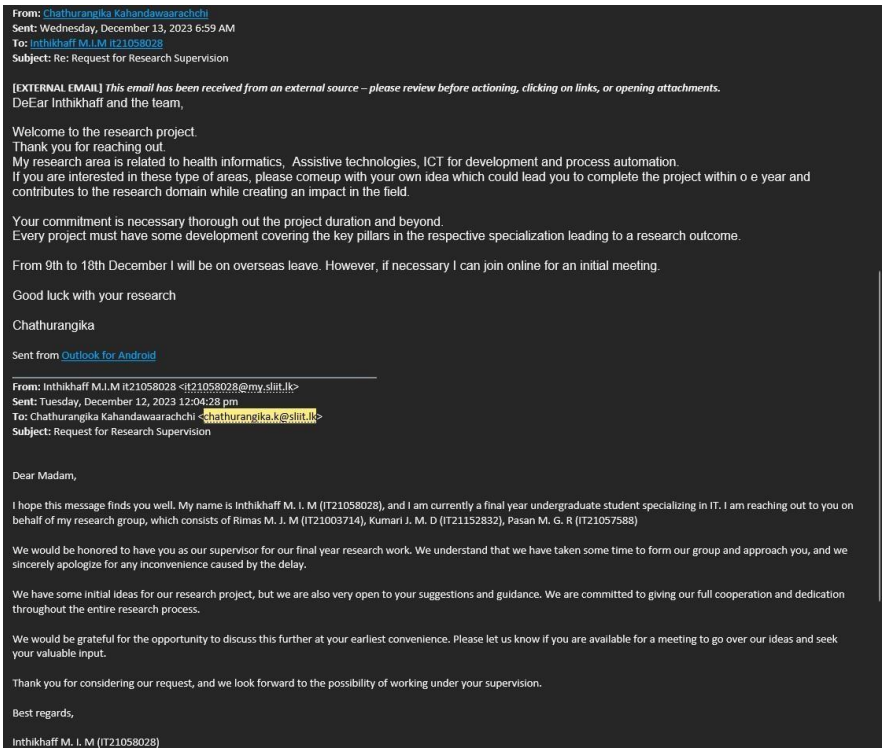
1. supervision and supervision accept our team.



From: Chathurangika Kahandawaarachchi
Sent: Wednesday, December 13, 2023 6:59 AM
To: Inthikhaff M.I.M it21058028
Subject: Re: Request for Research Supervision

[EXTERNAL EMAIL] ***This email has been received from an external source – please review before actioning, clicking on links, or opening attachments.***
DeEar Inthikhaff and the team,

Welcome to the research project.
Thank you for reaching out.
My research area is related to health informatics, Assistive technologies, ICT for development and process automation.
If you are interested in these type of areas, please comeup with your own idea which could lead you to complete the project within o e year and contributes to the research domain while creating an impact in the field.

Your commitment is necessary thorough out the project duration and beyond.
Every project must have some development covering the key pillars in the respective specialization leading to a research outcome.

From 9th to 18th December I will be on overseas leave. However, if necessary I can join online for an initial meeting.

Good luck with your research

Chathurangika

Sent from Outlook for Android

From: Inthikhaff M.I.M it21058028 <it21058028@my.sliit.lk>
Sent: Tuesday, December 12, 2023 12:04:28 pm
To: Chathurangika Kahandawaarachchi <chathurangika.k@sliit.lk>
Subject: Request for Research Supervision

Dear Madam,

I hope this message finds you well. My name is Inthikhaff M. I. M (IT21058028), and I am currently a final year undergraduate student specializing in IT. I am reaching out to you on behalf of my research group, which consists of Rimas M. J. M (IT21003714), Kumari J. M. D (IT21152832), Pasan M. G. R (IT21057588)

We would be honored to have you as our supervisor for our final year research work. We understand that we have taken some time to form our group and approach you, and we sincerely apologize for any inconvenience caused by the delay.

We have some initial ideas for our research project, but we are also very open to your suggestions and guidance. We are committed to giving our full cooperation and dedication throughout the entire research process.

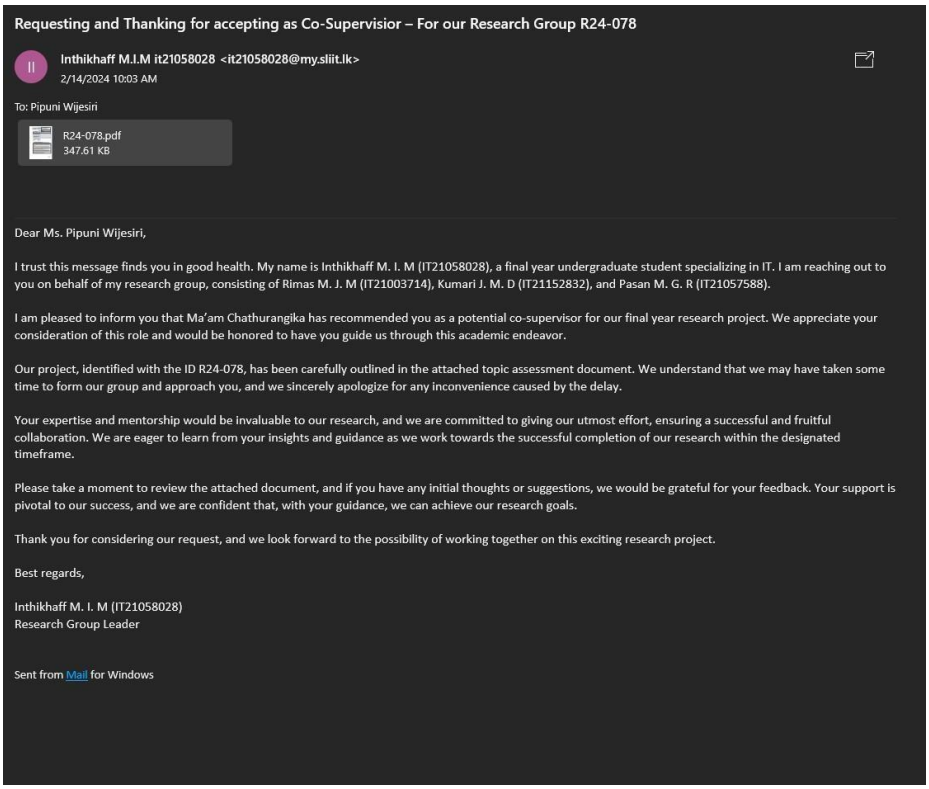
We would be grateful for the opportunity to discuss this further at your earliest convenience. Please let us know if you are available for a meeting to go over our ideas and seek your valuable input.

Thank you for considering our request, and we look forward to the possibility of working under your supervision.

Best regards,

Inthikhaff M. I. M (IT21058028)

Fig. 1. supervision



Requesting and Thanking for accepting as Co-Supervisior – For our Research Group R24-078

Inthikhaff M.I.M it21058028 <it21058028@my.sliit.lk>
2/14/2024 10:03 AM

To: Pipuni Wijesiri

R24-078.pdf
347.61 KB

Dear Ms. Pipuni Wijesiri,

I trust this message finds you in good health. My name is Inthikhaff M. I. M (IT21058028), a final year undergraduate student specializing in IT. I am reaching out to you on behalf of my research group, consisting of Rimas M. J. M (IT21003714), Kumari J. M. D (IT21152832), and Pasan M. G. R (IT21057588).

I am pleased to inform you that Ma'am Chathurangika has recommended you as a potential co-supervisor for our final year research project. We appreciate your consideration of this role and would be honored to have you guide us through this academic endeavor.

Our project, identified with the ID R24-078, has been carefully outlined in the attached topic assessment document. We understand that we may have taken some time to form our group and approach you, and we sincerely apologize for any inconvenience caused by the delay.

Your expertise and mentorship would be invaluable to our research, and we are committed to giving our utmost effort, ensuring a successful and fruitful collaboration. We are eager to learn from your insights and guidance as we work towards the successful completion of our research within the designated timeframe.

Please take a moment to review the attached document, and if you have any initial thoughts or suggestions, we would be grateful for your feedback. Your support is pivotal to our success, and we are confident that, with your guidance, we can achieve our research goals.

Thank you for considering our request, and we look forward to the possibility of working together on this exciting research project.

Best regards,

Inthikhaff M. I. M (IT21058028)
Research Group Leader

Sent from Mail for Windows

Fig. 2. supervision

2. Screenshots of the Calls in MS Teams

2.1. MS Teams Calls with Research Team

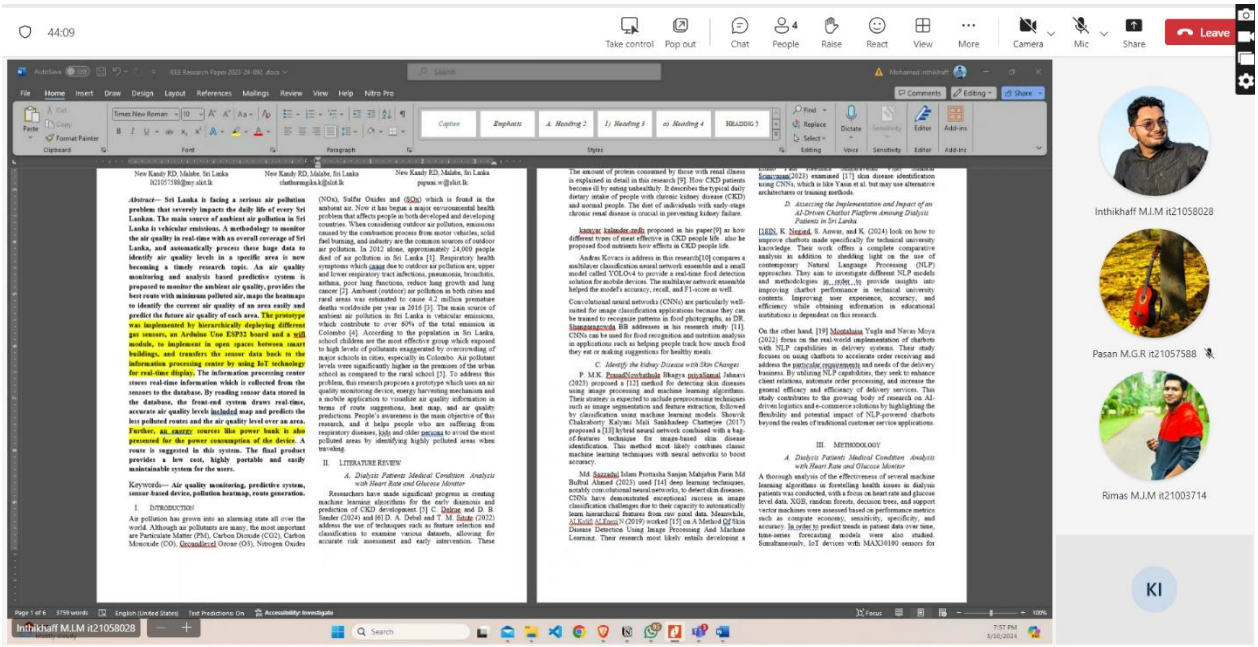


Fig. 3. Teams Call 1 with Research Team

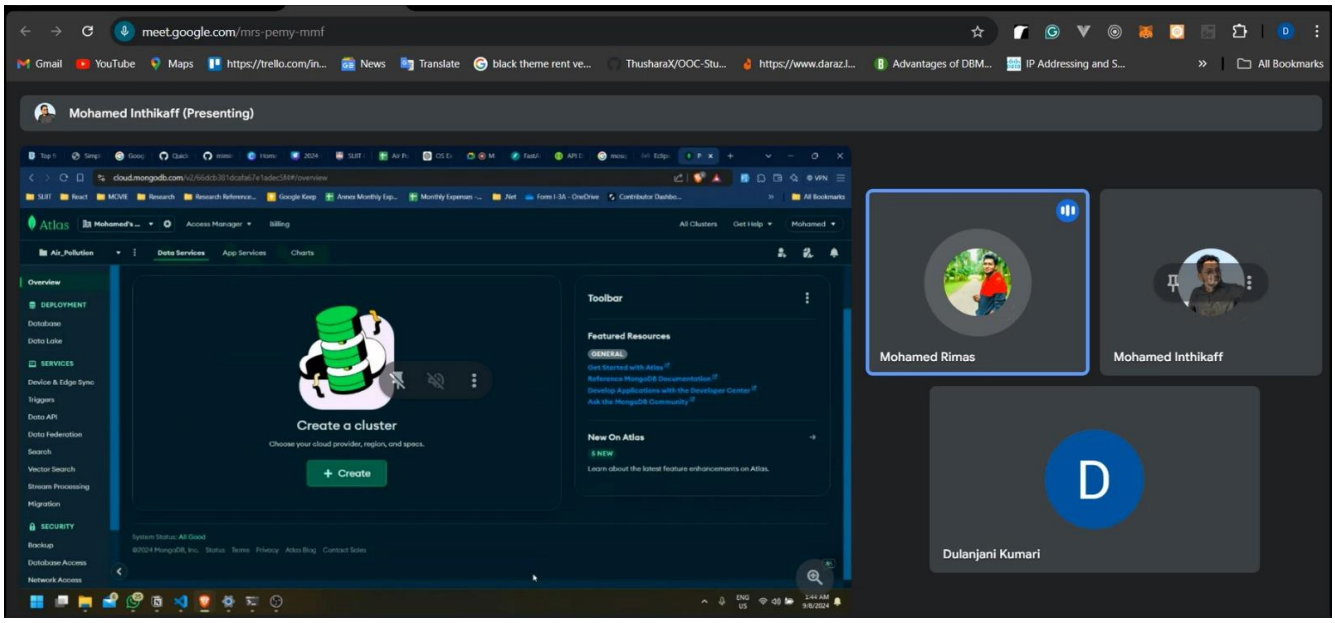


Fig. 4. Teams Call 2 with Research Team

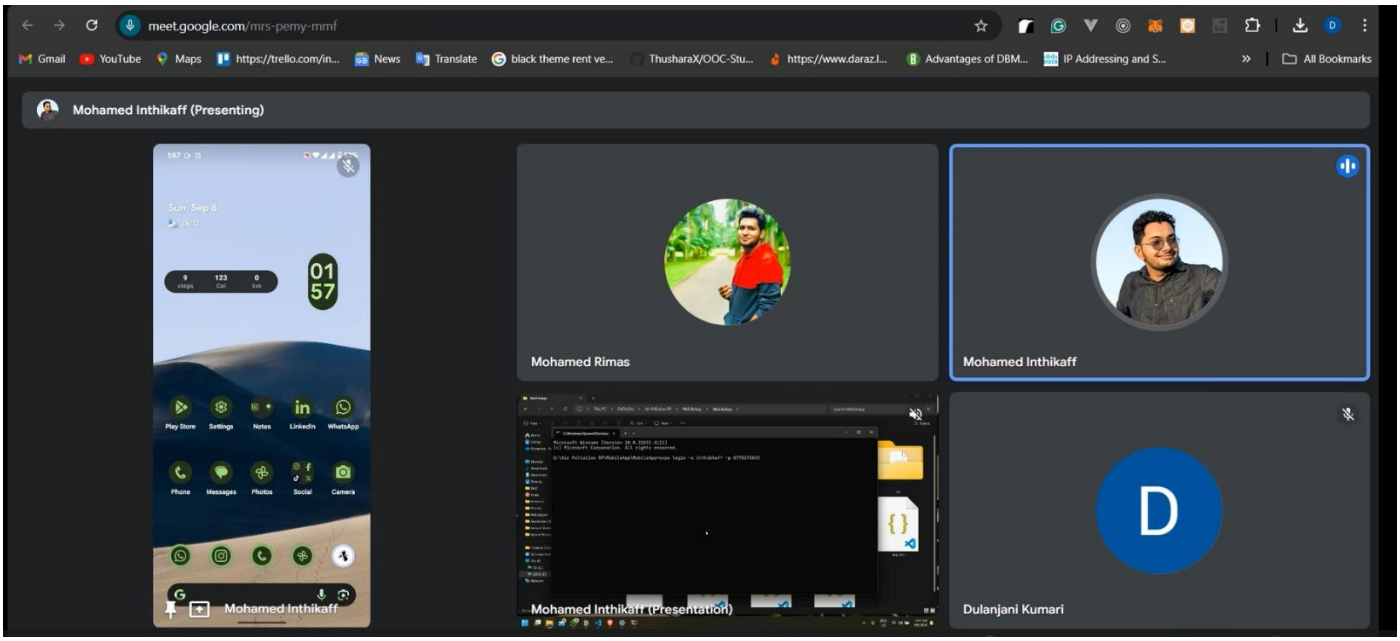


Fig. 5. Teams Call 2 with Research Team

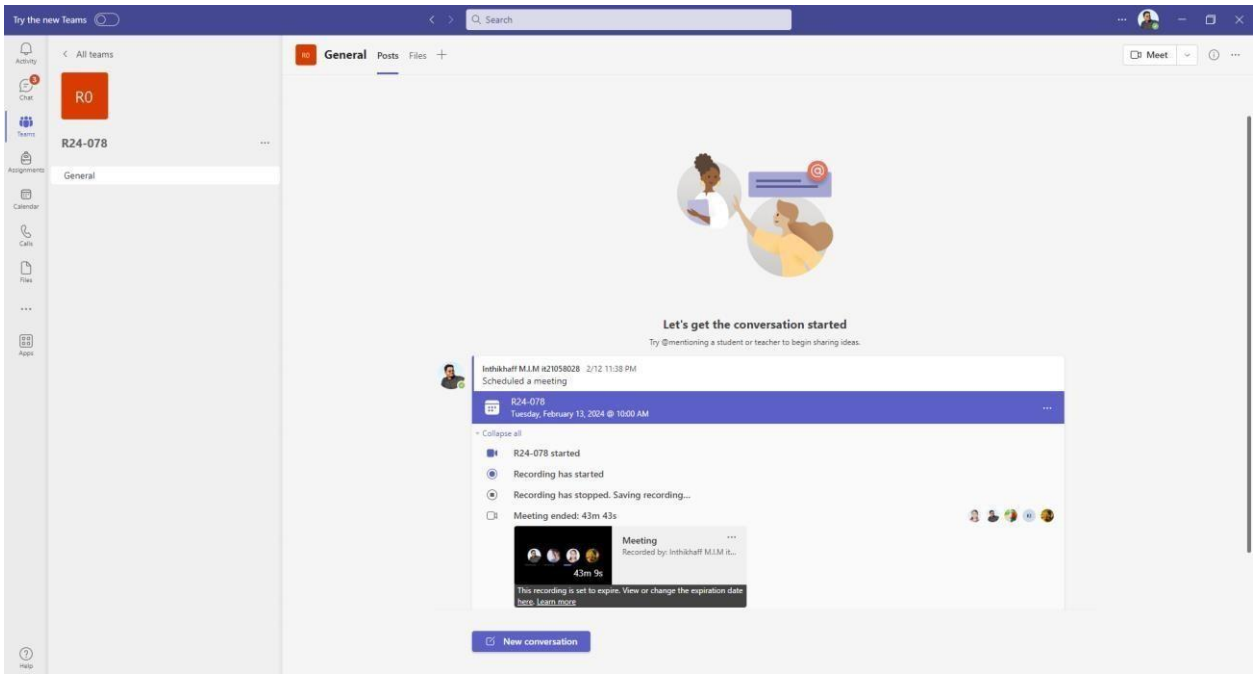


Fig. 6. Teams Call 3 with Research Team

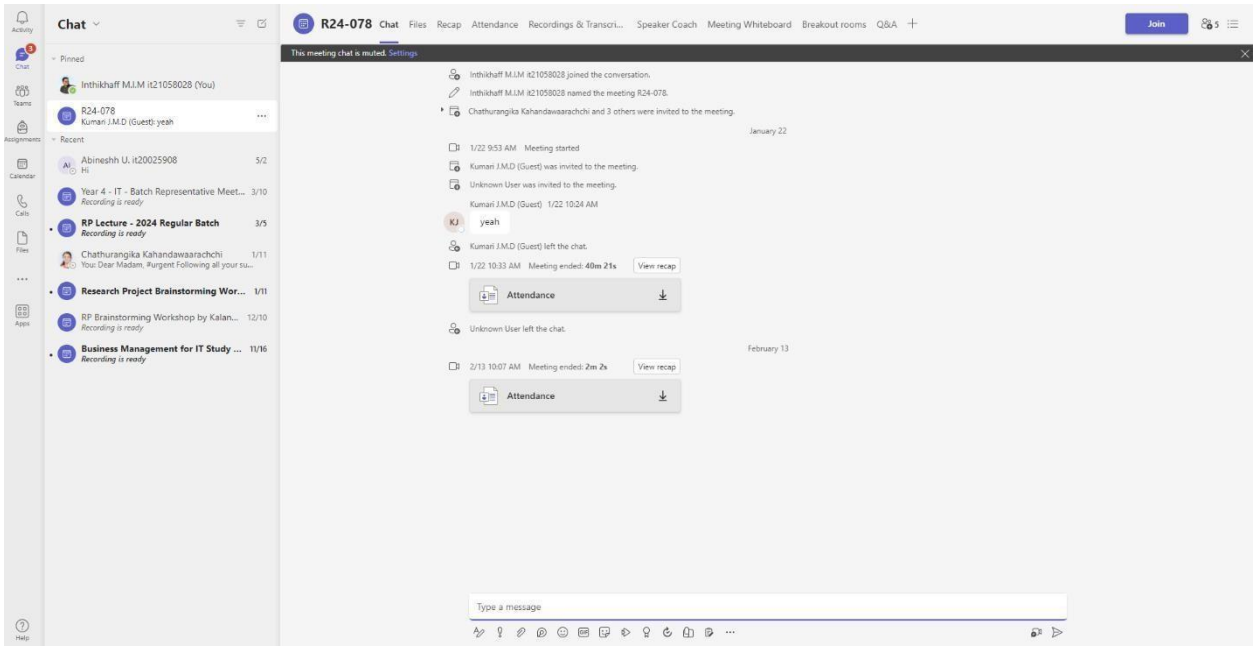


Fig. 7. Teams Call 4 with Research Team

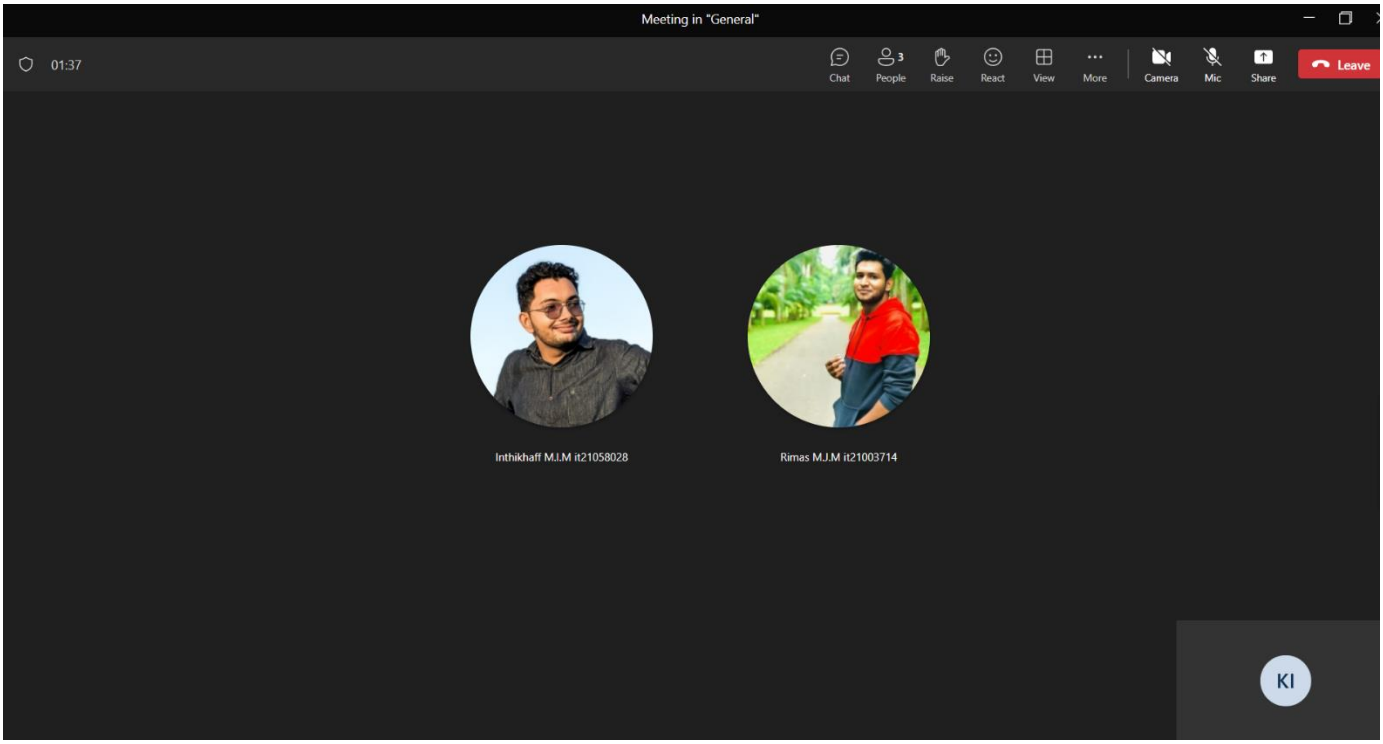


Fig. 8. Teams Call 5 with Research Team

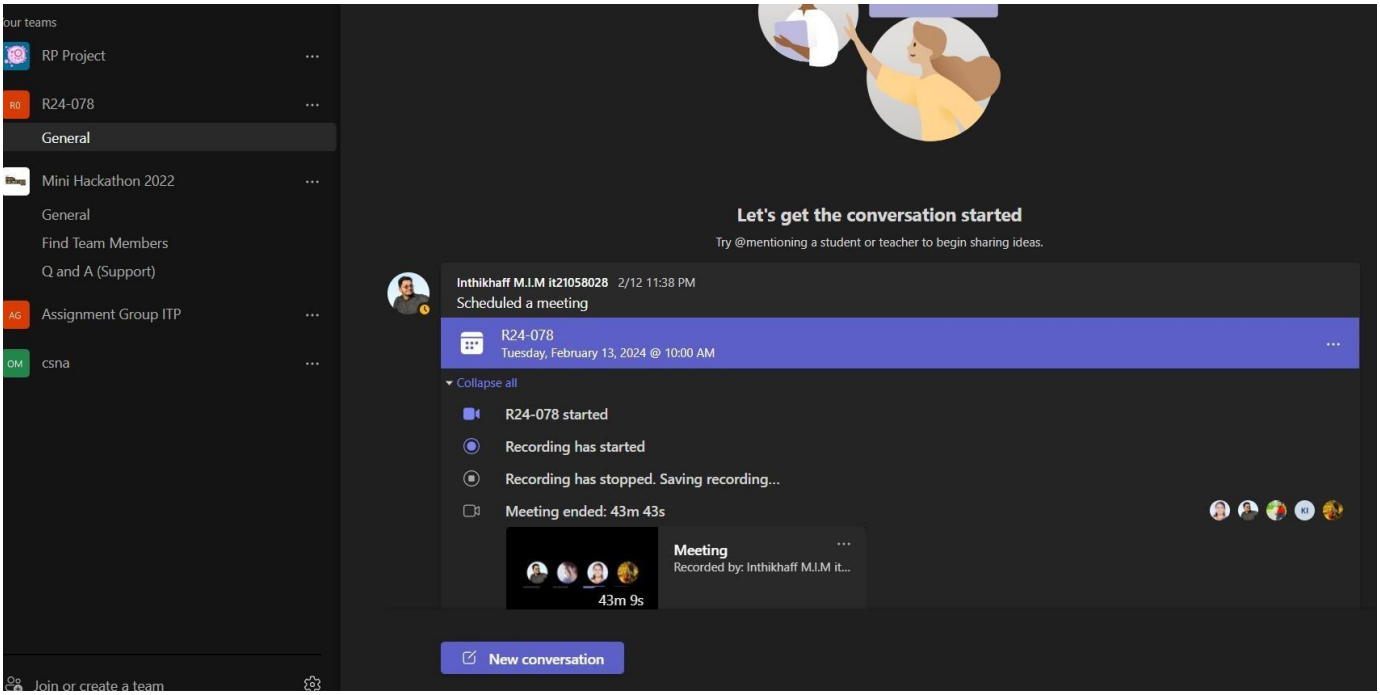


Fig. 9. Teams Call 6 with Research Team

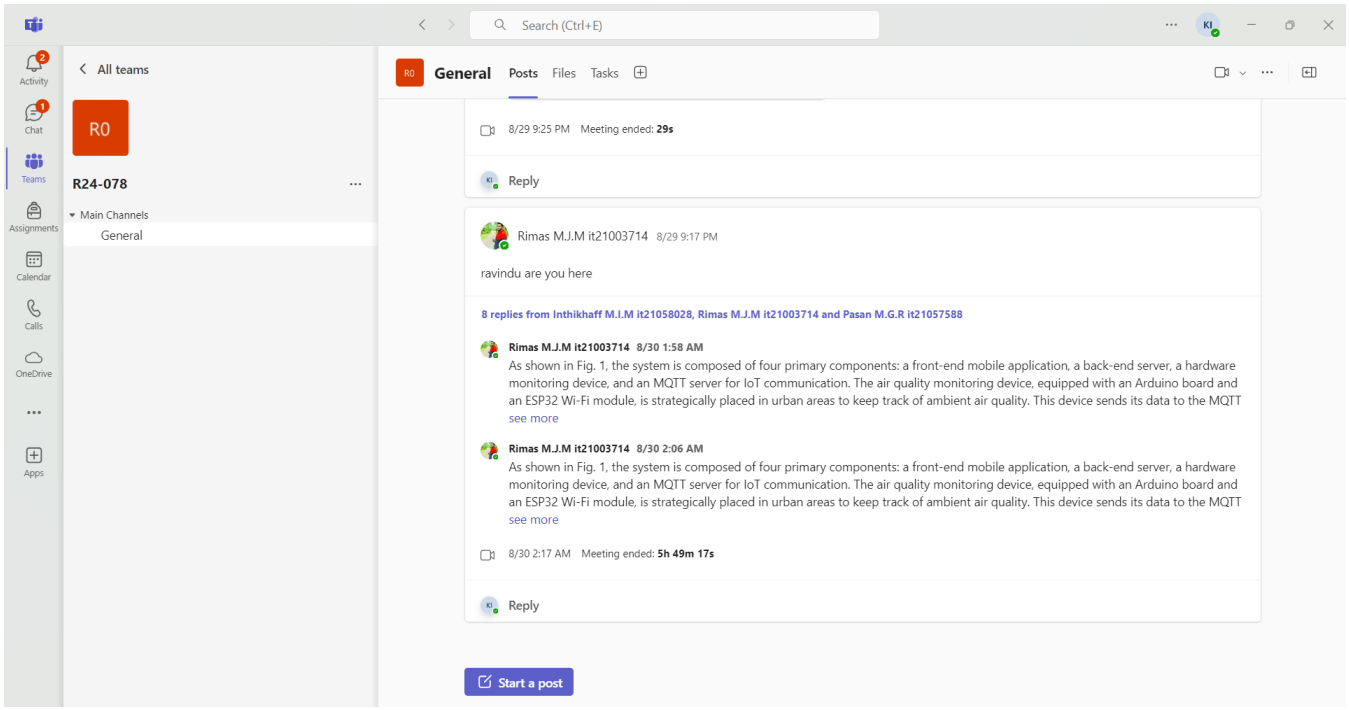


Fig. 10. Teams Call 7 with Research Team

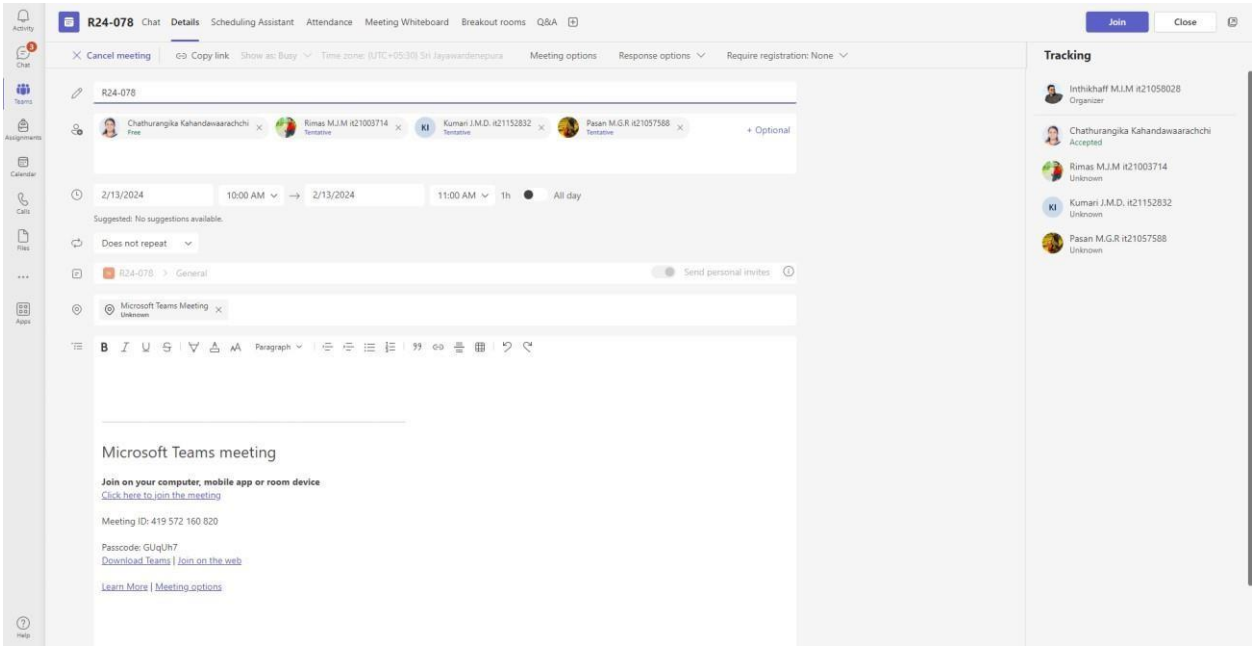


Fig. 11. Teams Call 8 with Research Team

2.2. MS Teams Call with Co-Supervisor

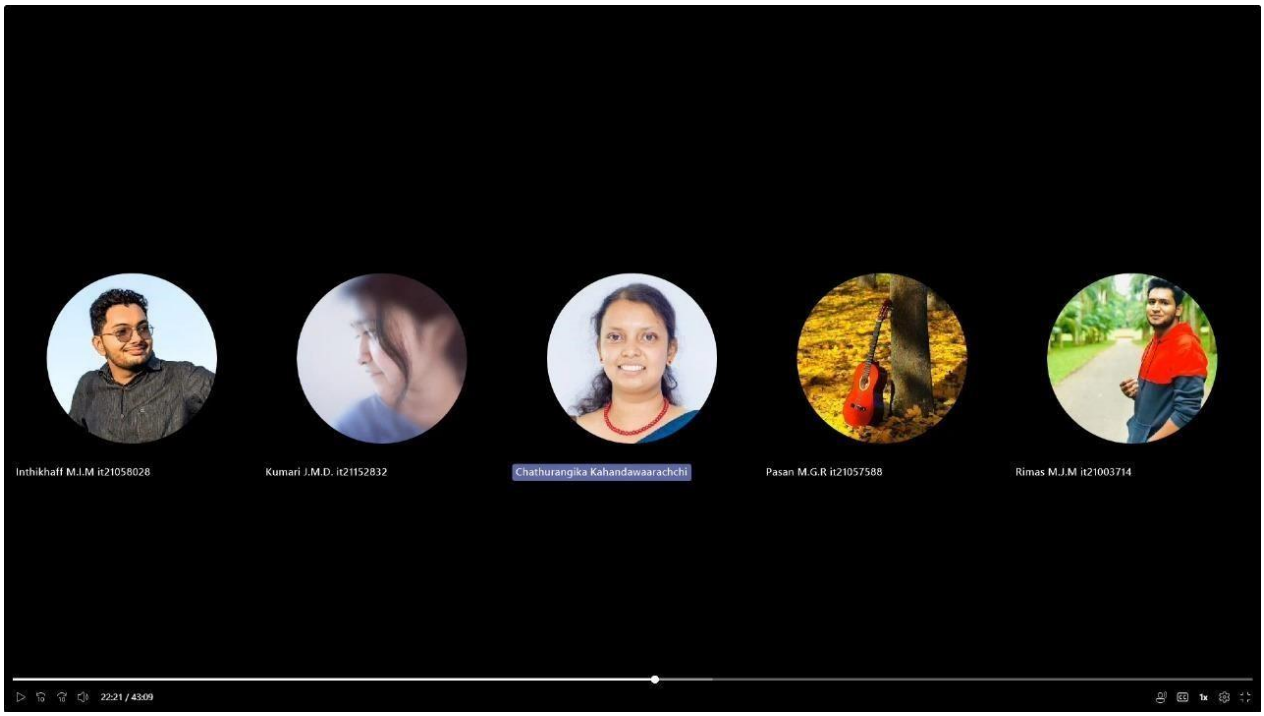


Fig. 12. Teams Call with Research Team Supervisor

Fig. 13. Physically Meeting schedule with supervision

3. Teams Planner Charts

3.1. MS Teams Planner Board

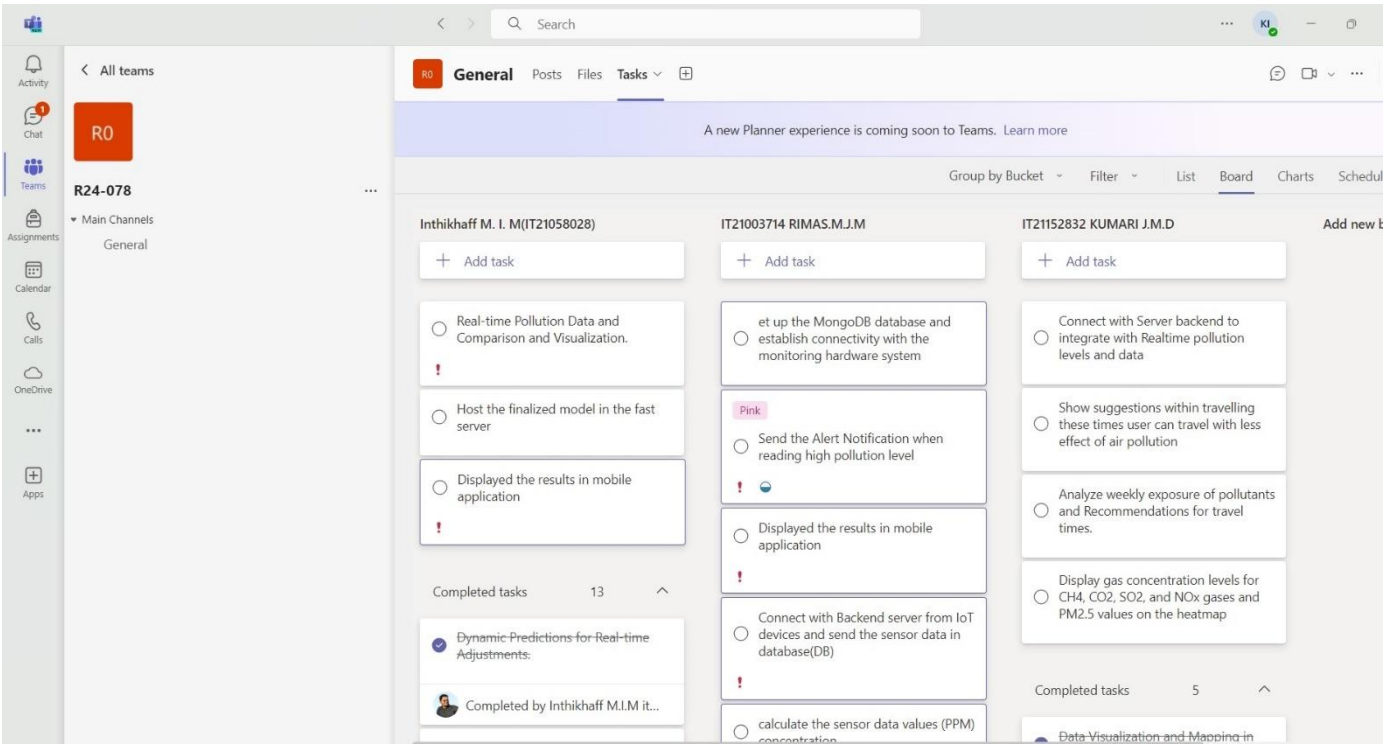


Fig. 14. Planner Board Part 1

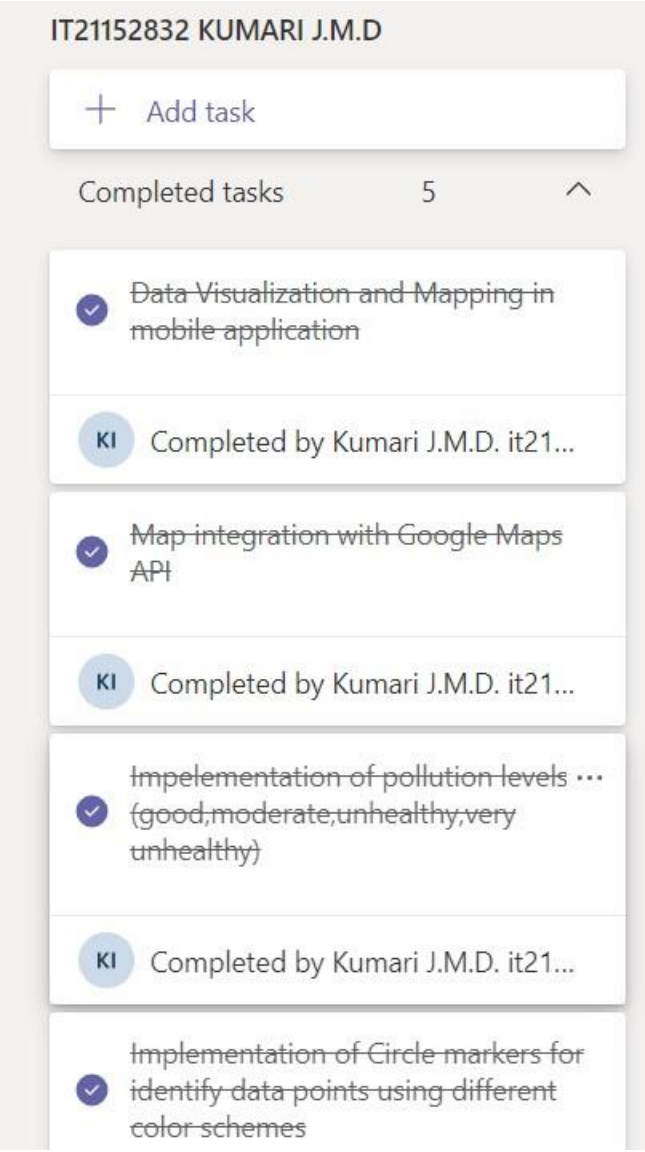


Fig. 15. Planner Board Part 2

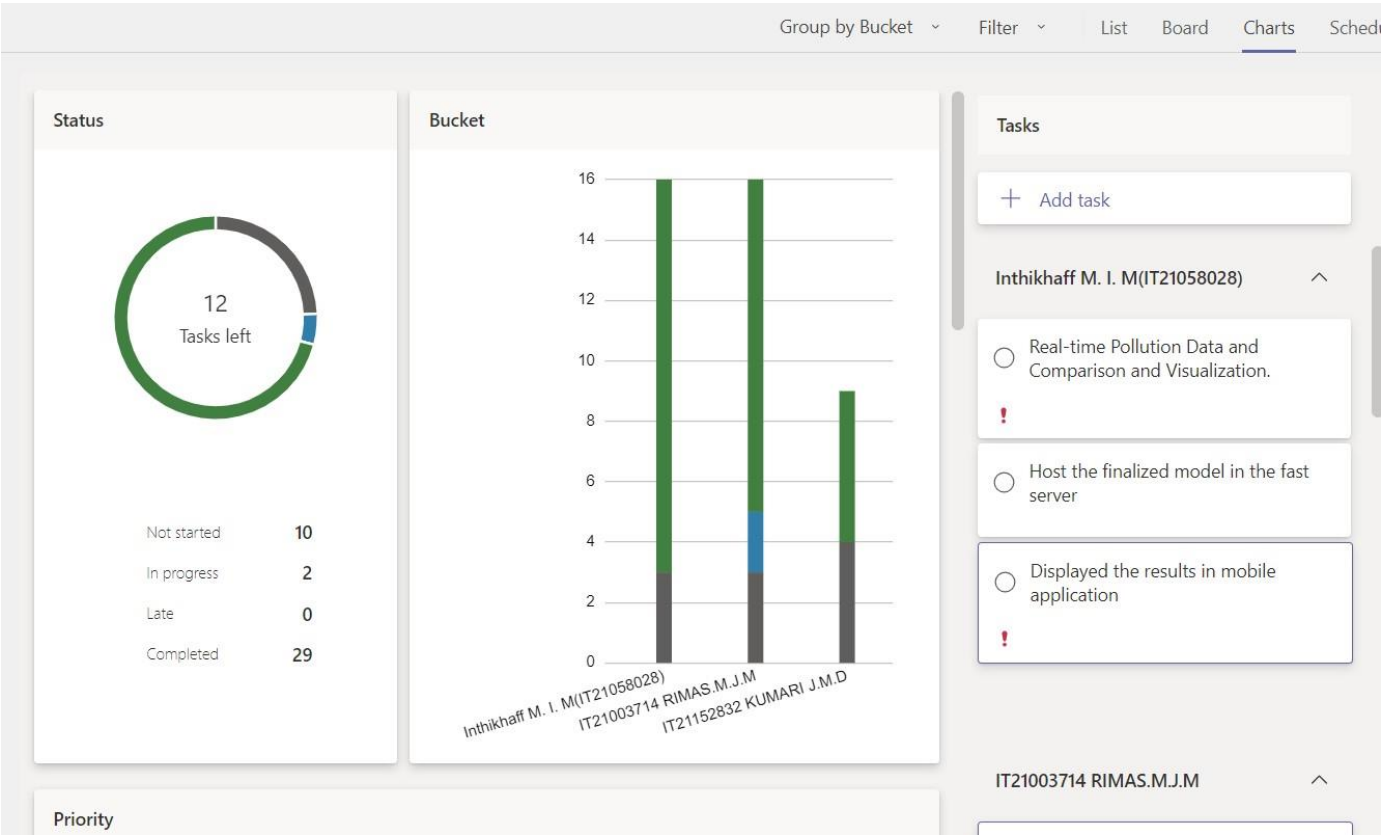


Fig. 16. Teams Planner Charts

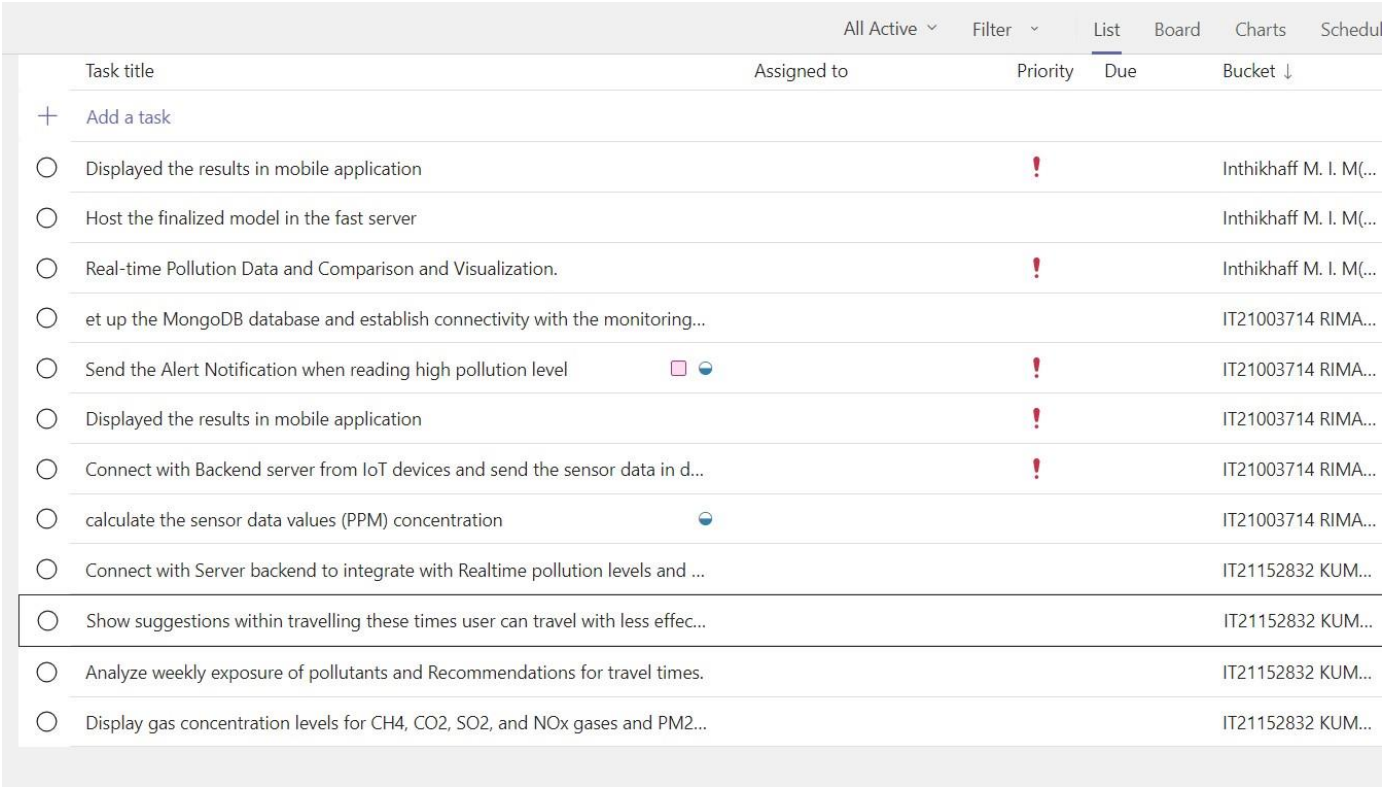


Fig. 17. Teams Planner Chart Bucket

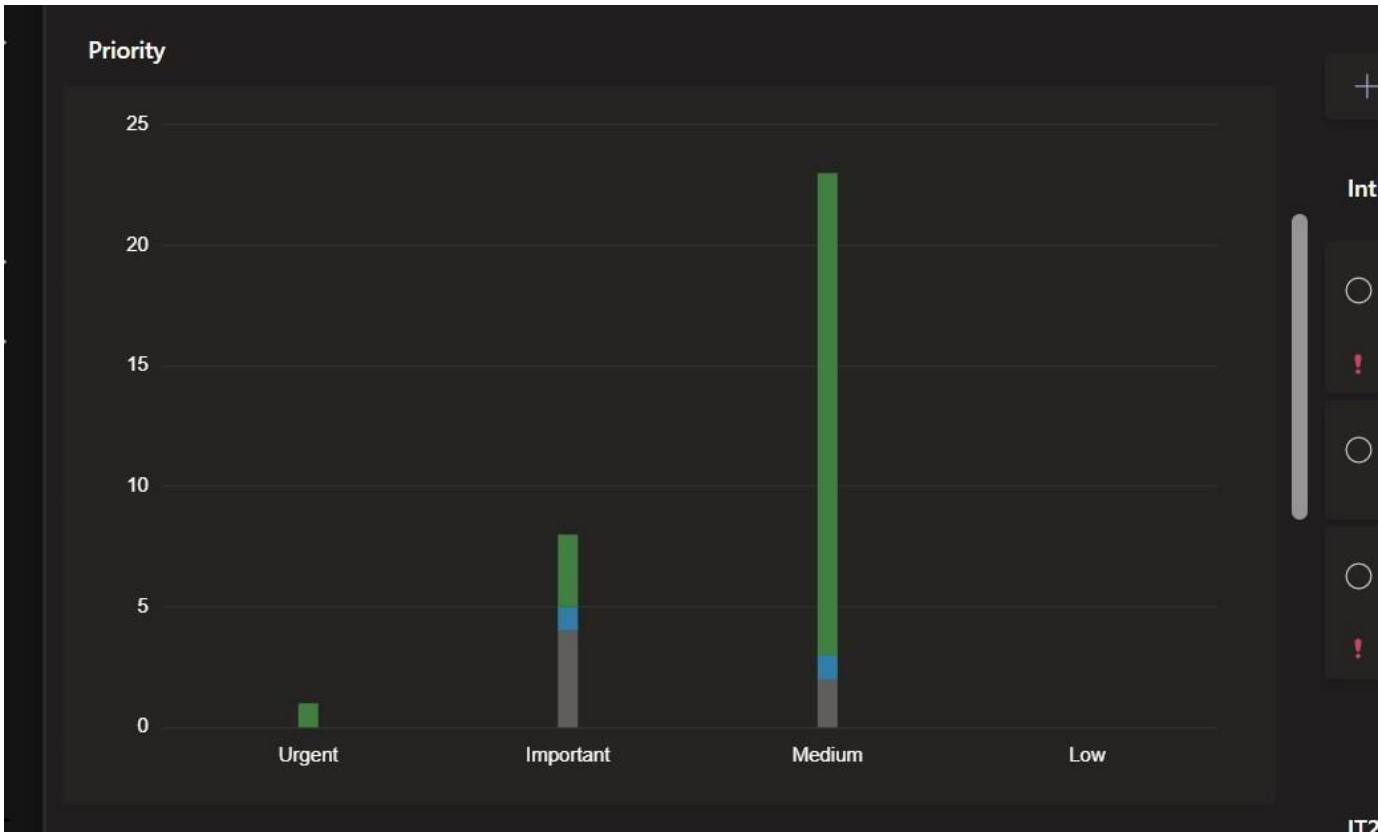


Fig. 18. Members Assigned Tasks

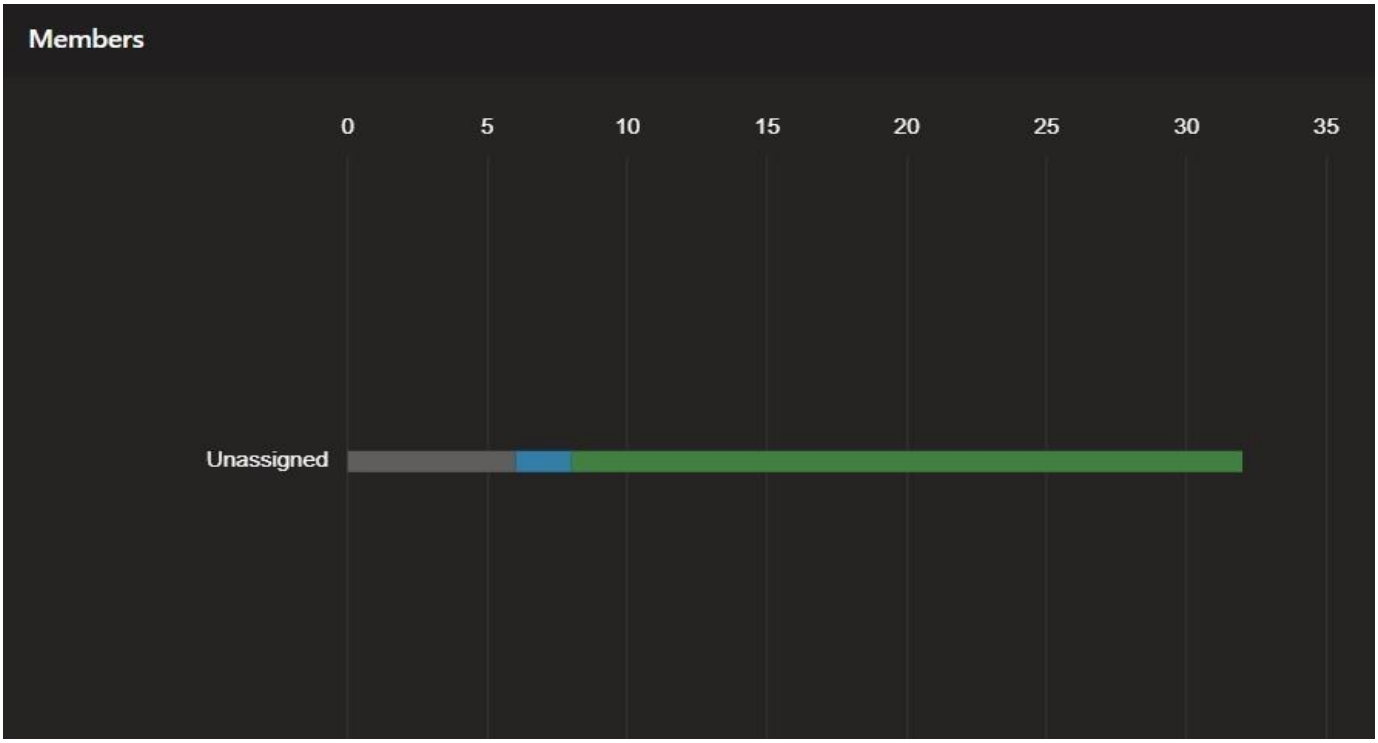


Fig. 19. Completed Task L

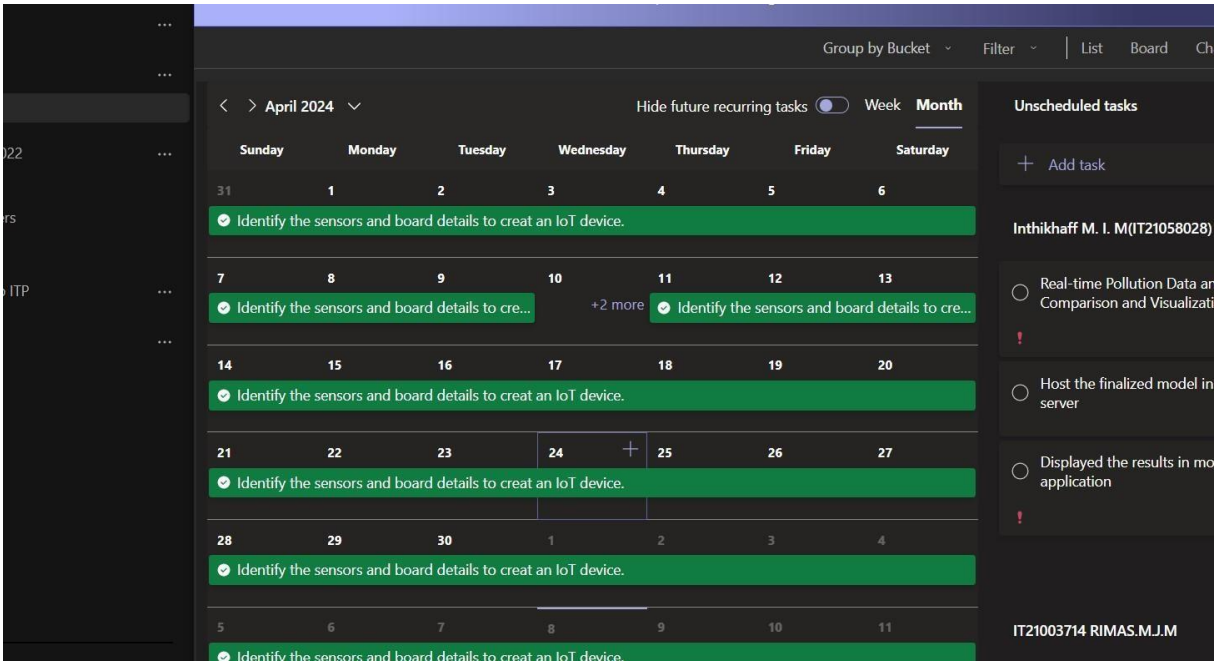


Fig. 20. Completed Task L

4. Data Collections and field visits

Air Quality Data

NE NBRO ESSD <nbro.essd@gmail.com>
4/1/2024 4:53 PM

To: mhdinthikaff@gmail.com

Save all attachments

AAQ daily Data Colombo_MET... 71.84 KB
AAQ daily data_Mobile... 108.07 KB
AAQ hourly data_Mob... 254.81 KB
Air Quality hourly data_... 216.08 KB

Dear Student,

Please find related docs.

Thanks & Best Regards

Environmental Studies and Services Division
National Building Research Organisation
No. 99/1, Jawatte Road,
Colombo 05
Tel: 0112588946, 0112503826 Fax: 0112588365
Ext : 617 - Head of Division
589 - Air Quality, Noise & Vibration Studies Unit
621 - Land & Water Quality Studies Unit

Fig. 21. Datasets

5. WhatsApp Group & Calls

5.1. Research Team WhatsApp Group Call

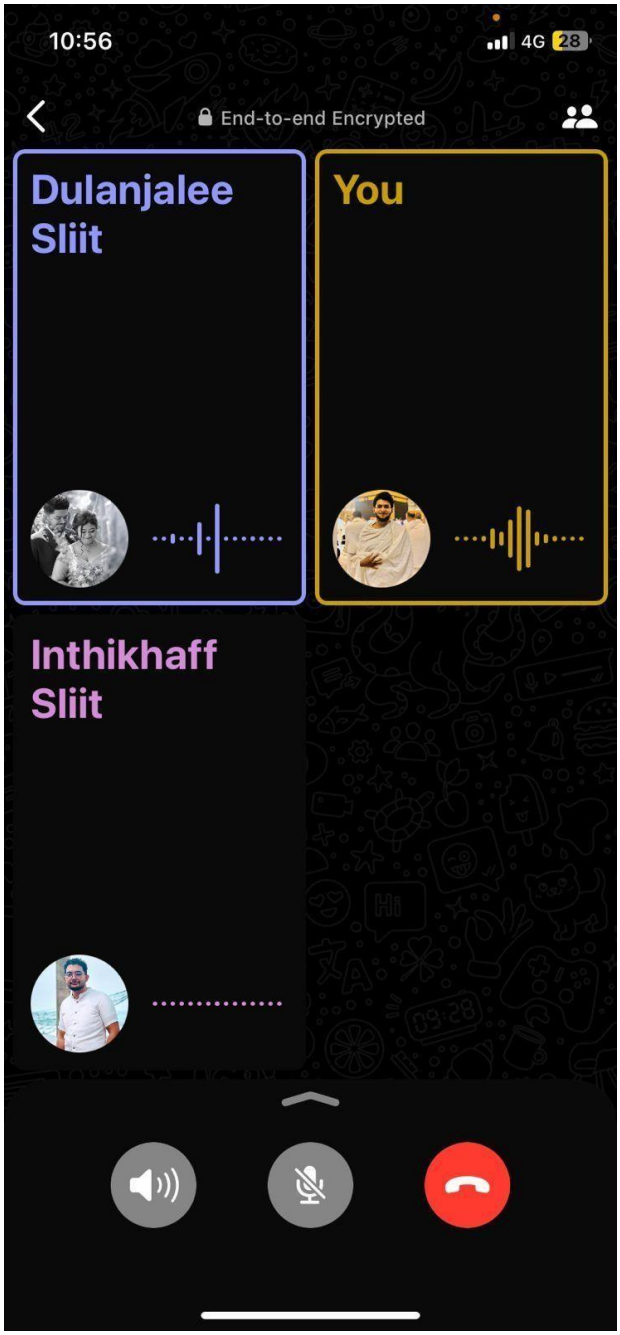


Fig. 22. Research Team WhatsApp Group Call

5.2. Research Team Group

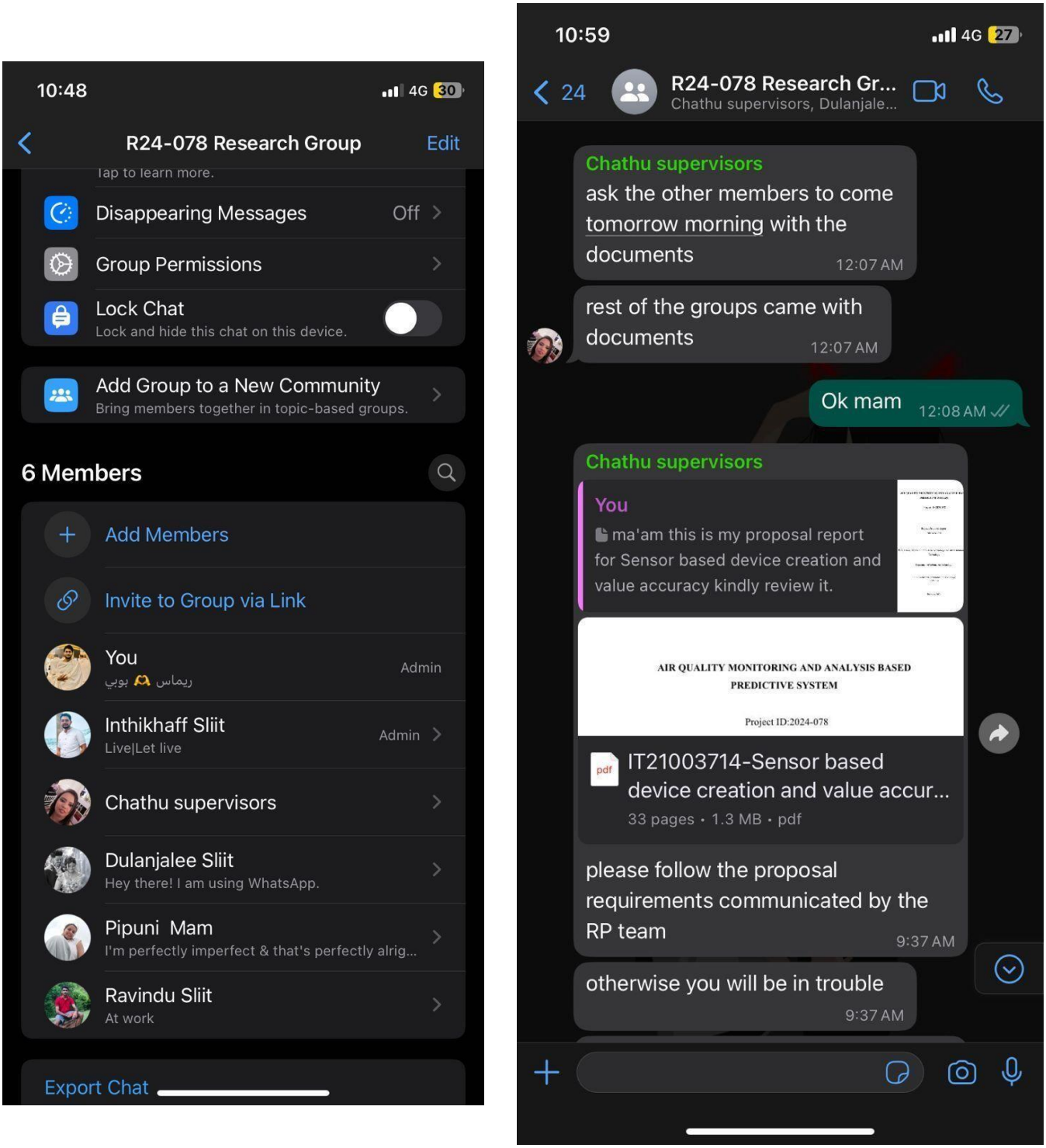
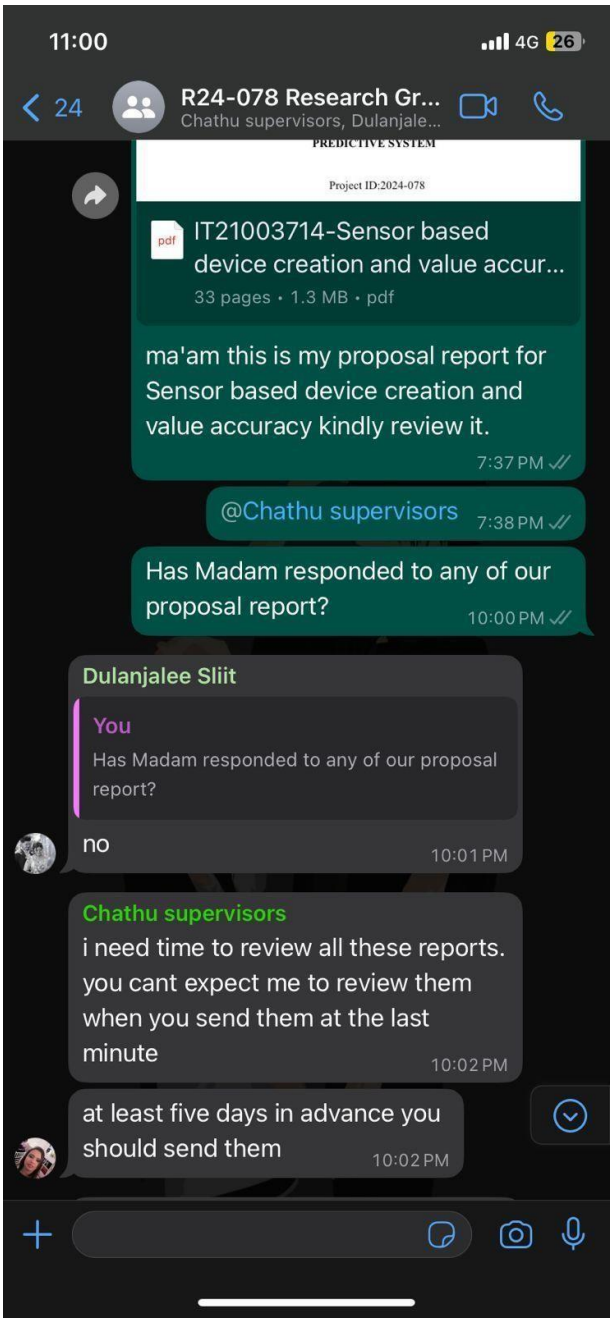


Fig. 23. Research Team WhatsApp Group Call



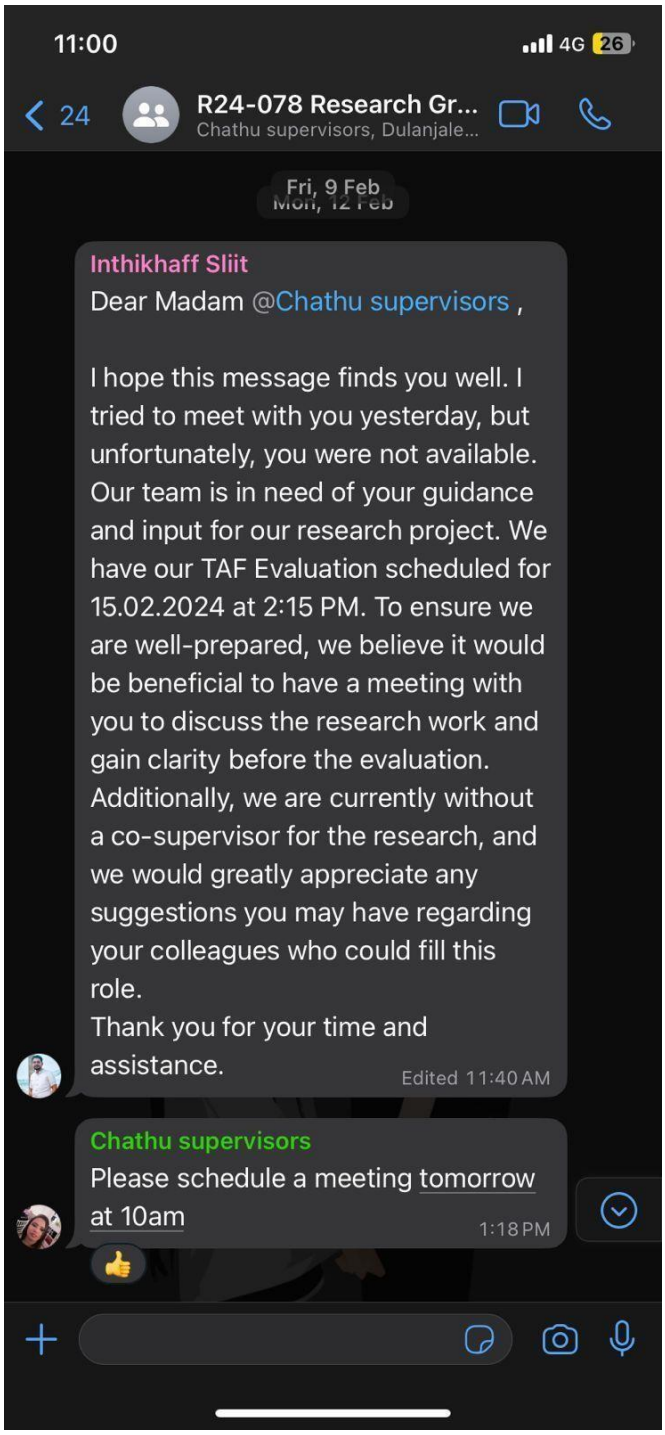


Fig. 24. Research Team Group

6. Work Breakdown Structure & Allocate Resources for Each Area.

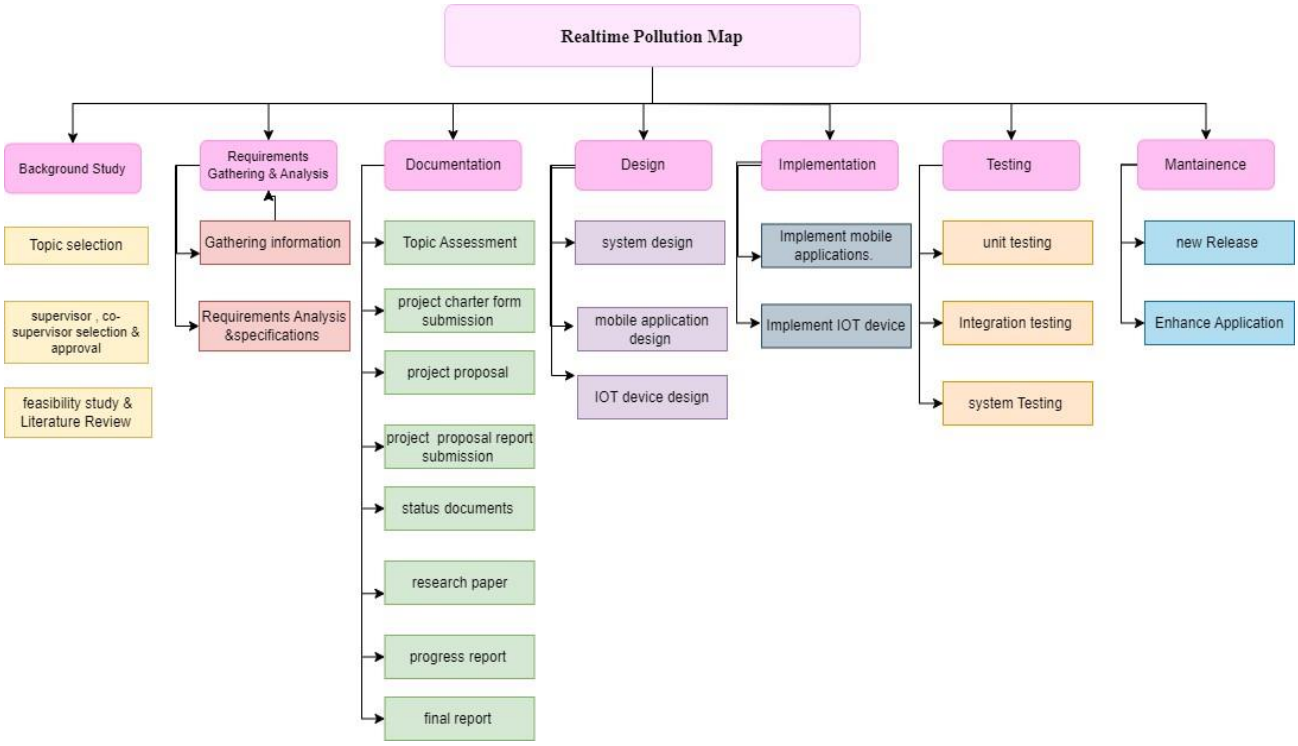


Fig. 25. Work Breakdown Chart

7. Gantt Chart of Finalize Design & Implementation Phase

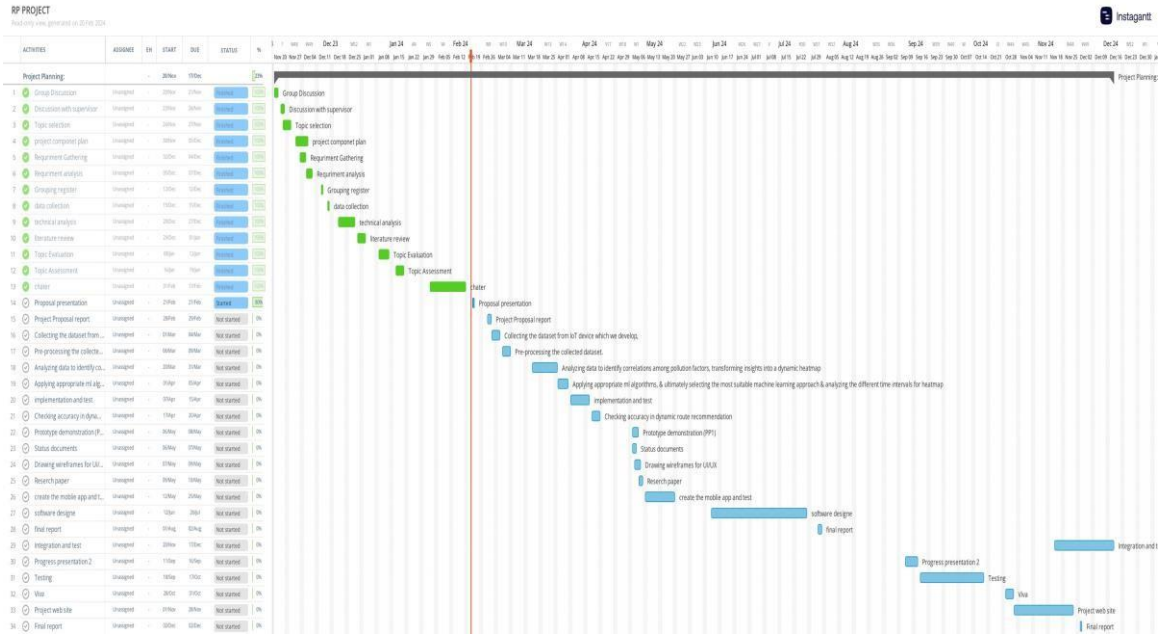


Fig. 26. Gantt Chart