Sri Lanka Institute of Information Technology

R24-059

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Software Engineering

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Project Component and Current Status

Component: Coconut Oil Export Amount Predictive Model

Progress

The system primarily focuses on generating forecasts for coconut oil exports based on factors such as exporting country, demand, compound annual growth rate (CAGR) and inflation rate.

CAGR (Independent Variable)

The Compound Annual Growth Rate (CAGR) is calculated using the following equation:

$$CAGR = \left(\frac{\text{Final Value}}{\text{Initial Value}}\right)^{\left(\frac{1}{\text{Number of Years}}\right)} - 1$$

Figure 1: CAGR Equation

Where:

- Final Value: Final Value is the value at the end of the period.
- Initial Value: Initial Value is the value at the beginning of the period.
- Number of Years: Number of Years is the number of years over which the growth occurred.

Exported (Dependent Variable)

Export amounts are predicting as the below way.

- Values above or equal to 1000 are labeled as 'A'.
- Values between 950 and 1000 are labeled as 'B'.
- Values between 900 and 950 are labeled as 'C'.
- Values between 850 and 900 are labeled as 'D'.
- Values between 800 and 850 are labeled as 'E'.
- Values between 750 and 800 are labeled as 'F'.
- Values between 700 and 750 are labeled as 'G'.
- Values between 650 and 700 are labeled as 'H'.

- Values between 600 and 650 are labeled as 'I'.
- Values between 550 and 600 are labeled as 'J'.
- Values between 500 and 550 are labeled as 'K'.
- Values between 450 and 500 are labeled as 'L'.
- Values between 400 and 450 are labeled as 'M'.
- Values between 350 and 400 are labeled as 'N'.
- Values between 300 and 350 are labeled as 'O'.
- Values between 250 and 300 are labeled as 'P'.
- Values between 200 and 250 are labeled as 'Q'.
- Values between 150 and 200 are labeled as 'R'.
- Values between 100 and 150 are labeled as 'S'.
- Values below 100 are labeled as 'T'.

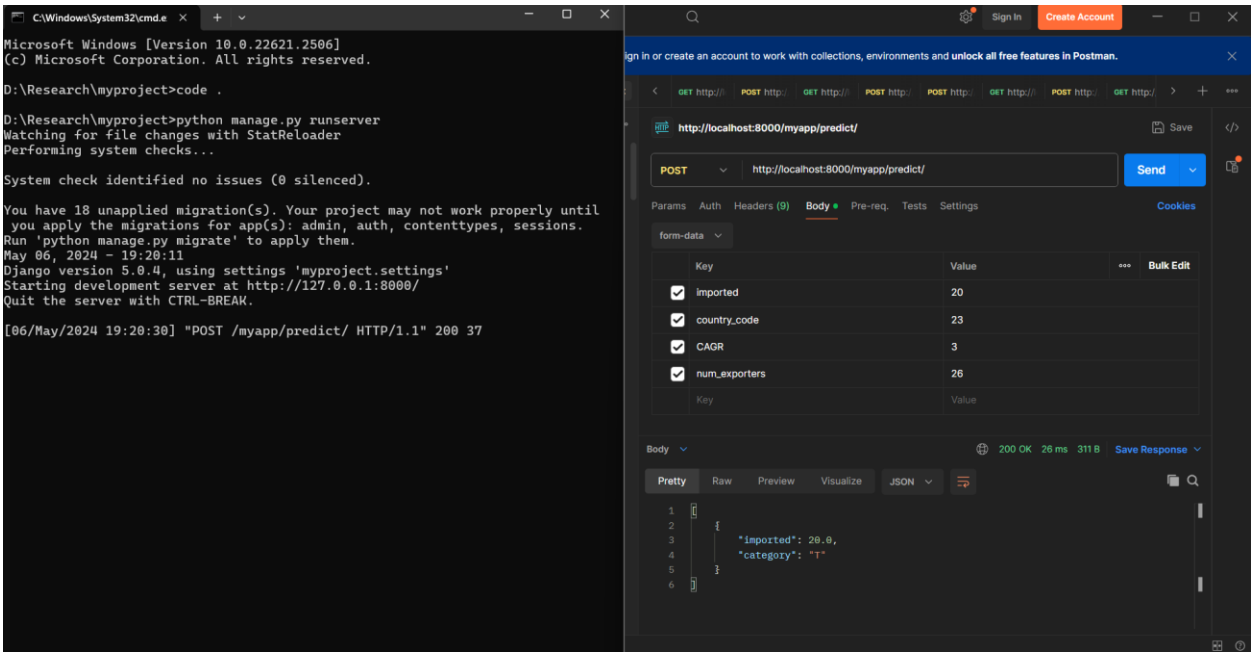


Figure 2: Predicting Exports To A Specific Country

Team Communication

The team chose Microsoft Teams as their primary communication channel, forming a dedicated Team with all four group members. We also used Zoom to communicate with supervisors, provide updates, and receive comments on the project's progress. Regular team conversations were arranged to discuss, share knowledge, and plan.

The crew also used WhatsApp as an additional tool to stay in constant communication with their supervisors. This enabled timely updates and cooperation between the supervisor and co-supervisor, ensuring that everyone was informed and on the same page throughout the project.

Teams Channel

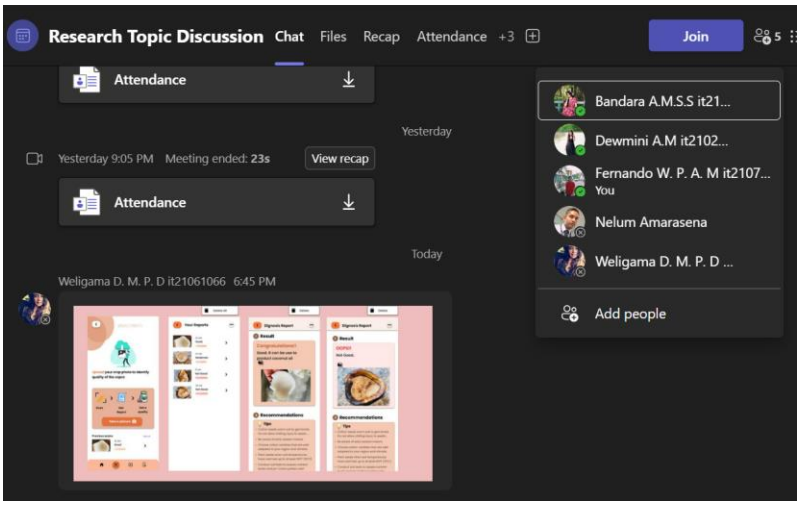


Figure 3: Teams Channel

Teams Calls with the Research Team

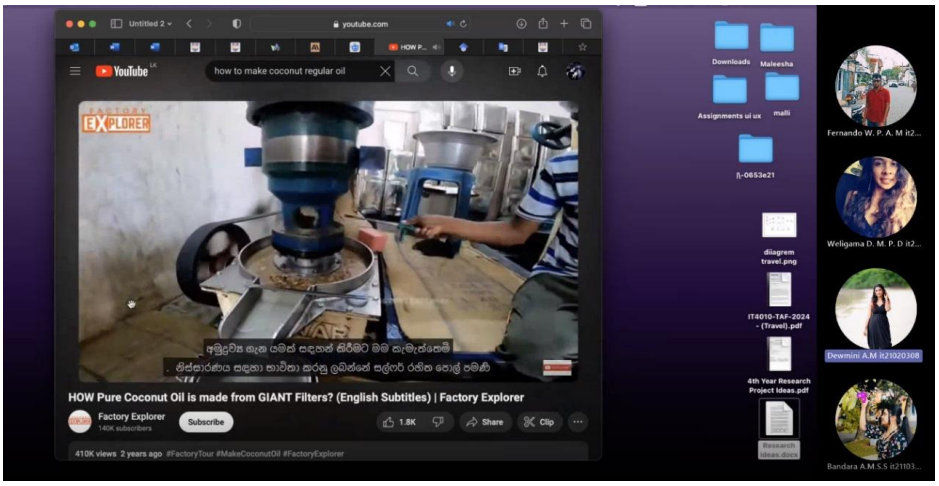


Figure 4: Teams Calls with the Team 1

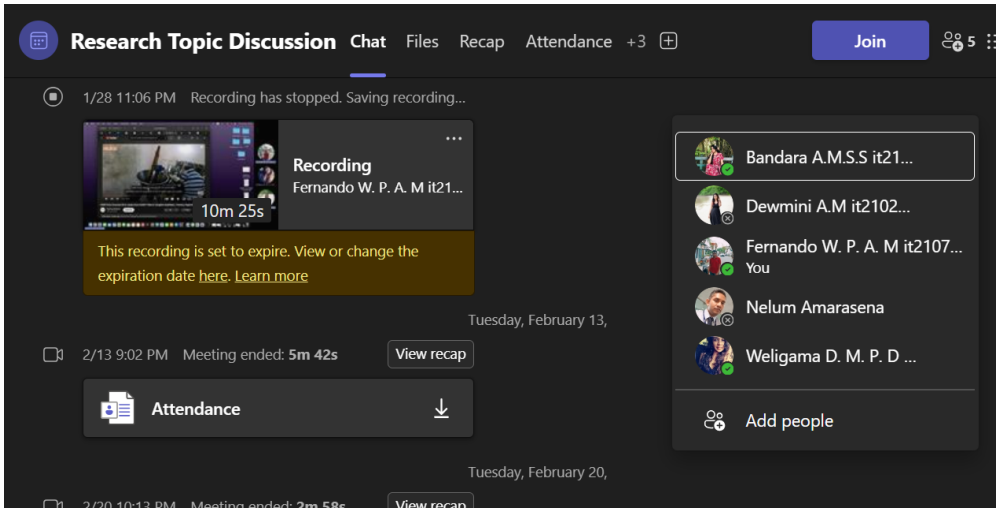


Figure 5: Teams Calls with the Team 2

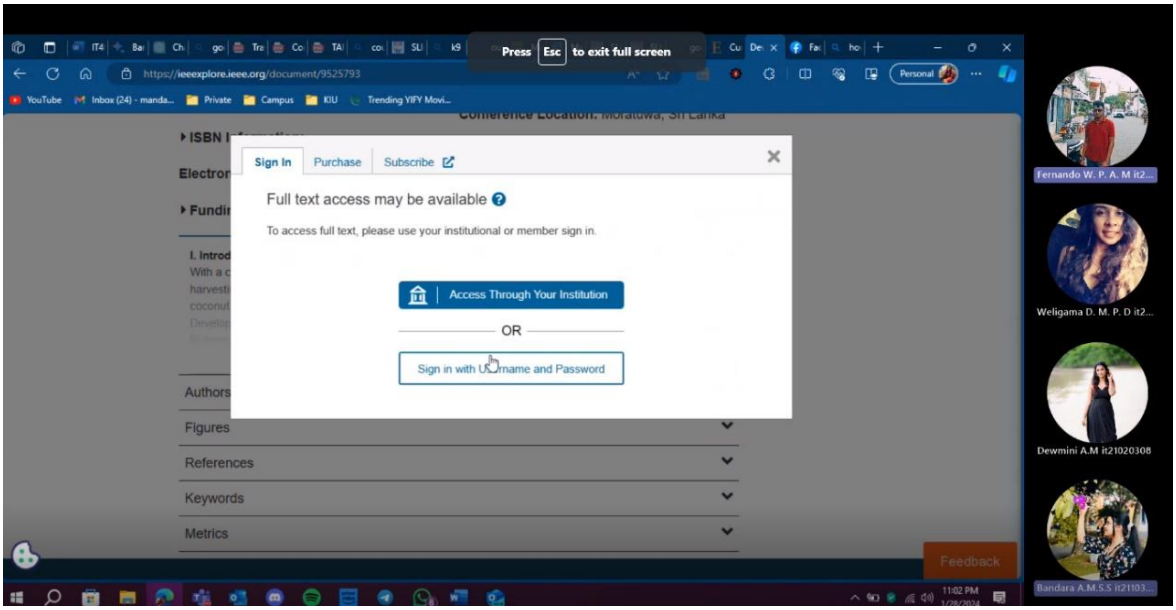


Figure 6: Teams Calls with the Team 3

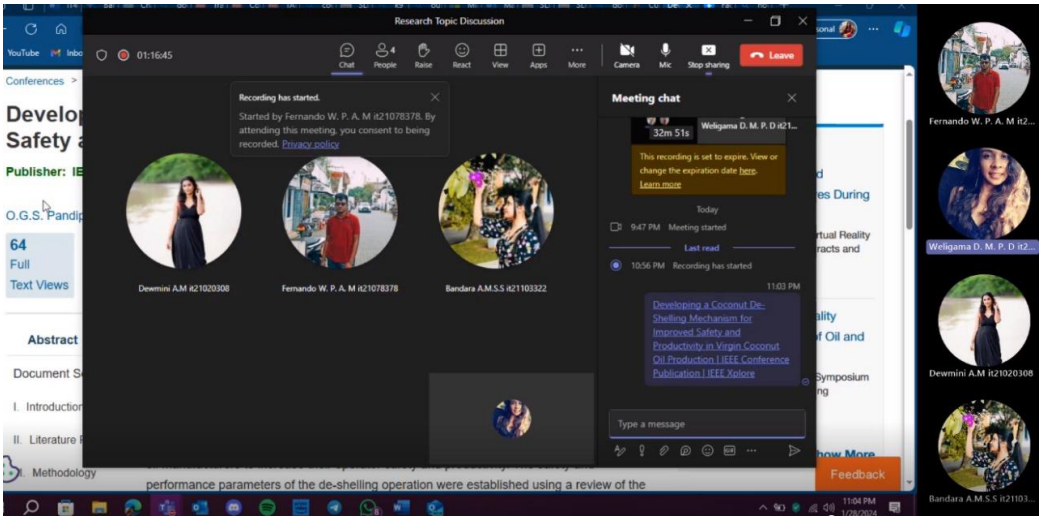


Figure 7: Teams Calls with the Team 4

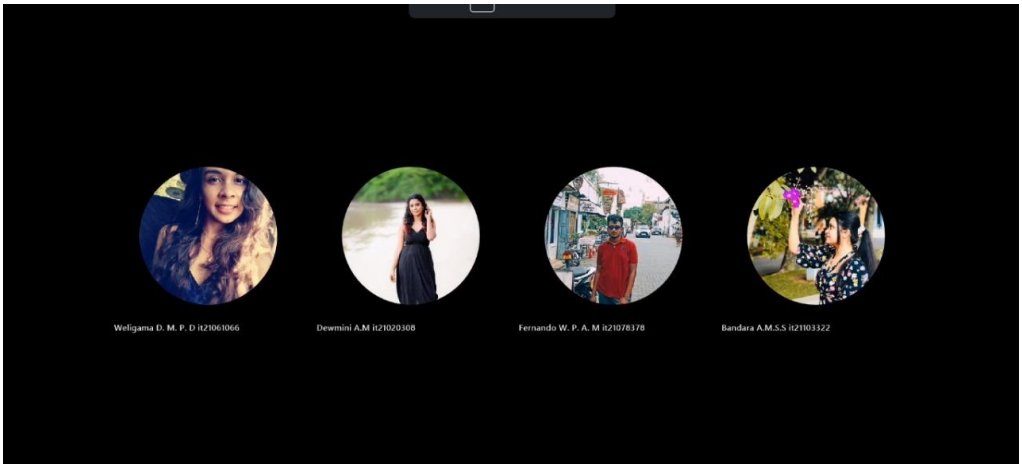


Figure 8: Teams Calls with the Team 5

Online Calls with Supervisors (Teams)

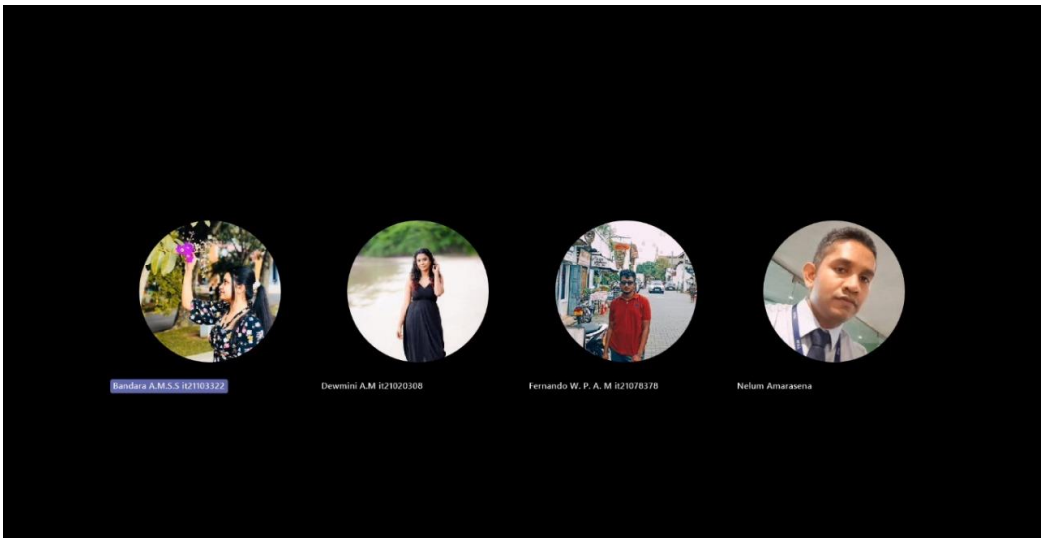


Figure 9: Teams Calls with Supervisors Example 1

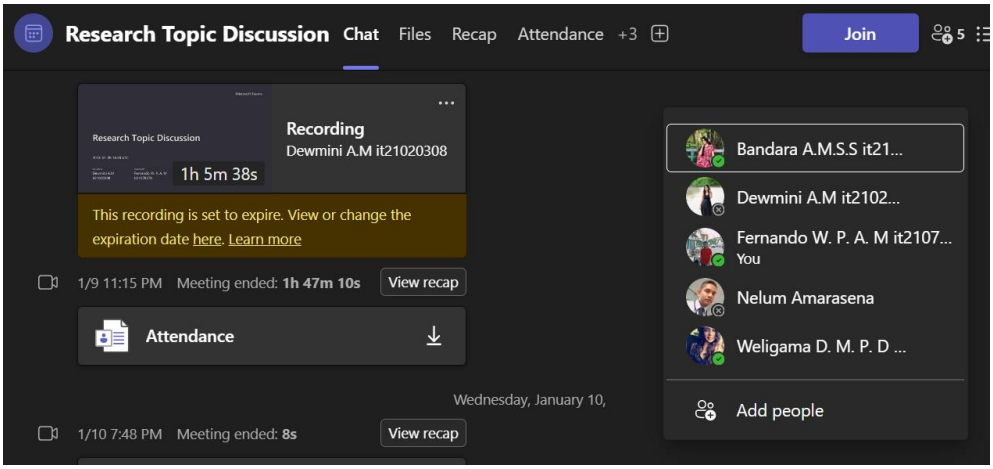


Figure 10: Teams Calls with Supervisors Example 2

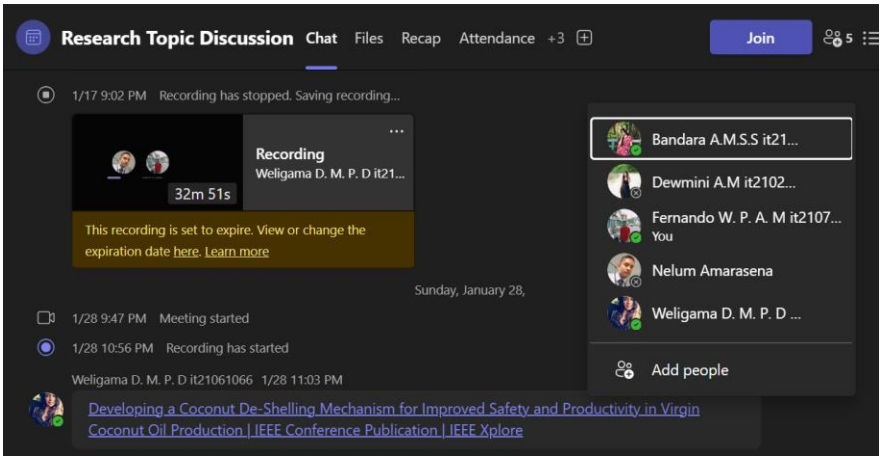


Figure 11: Teams Calls with Supervisors Example 3

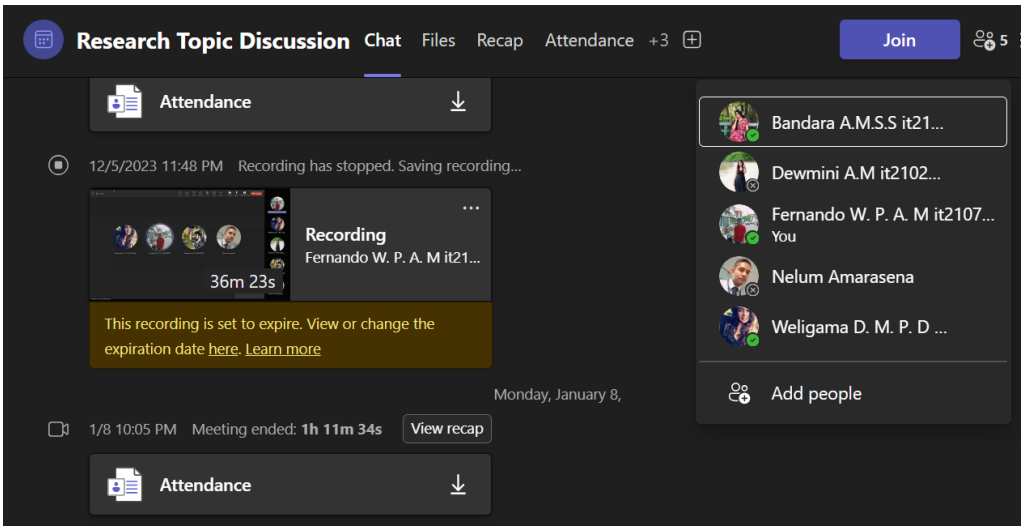


Figure 12: Teams Calls with Supervisors Example 4

Phone Calls with External Supervisor

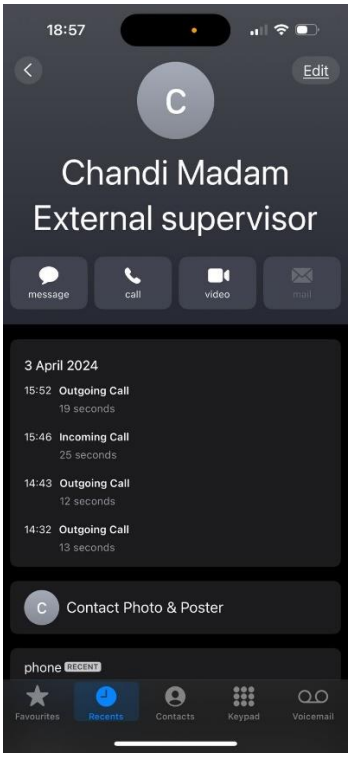


Figure 13: Phone Calls with External Supervisor

Phone Calls with CDA Officers

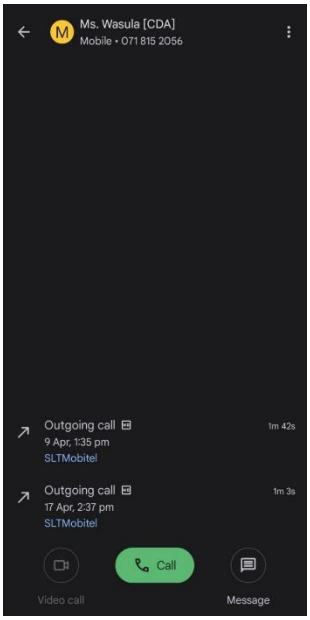
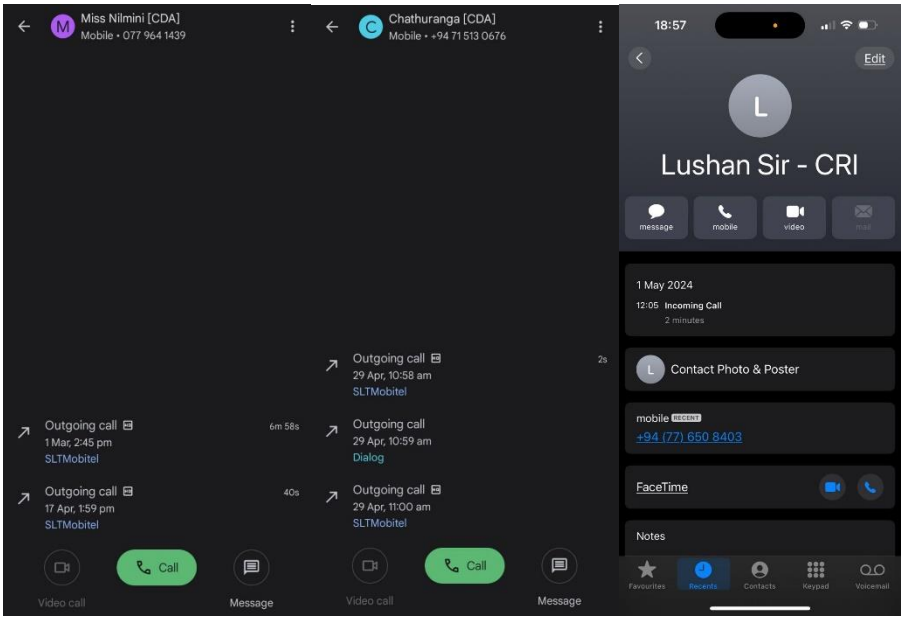


Figure 14: Phone Calls with CDA Officers



Physical Meetings with Group Members

Figure 15: Physical Meetings with Team Members 1

Figure 16 Physical Meetings with Team Members 2

WhatsApp Group Creation

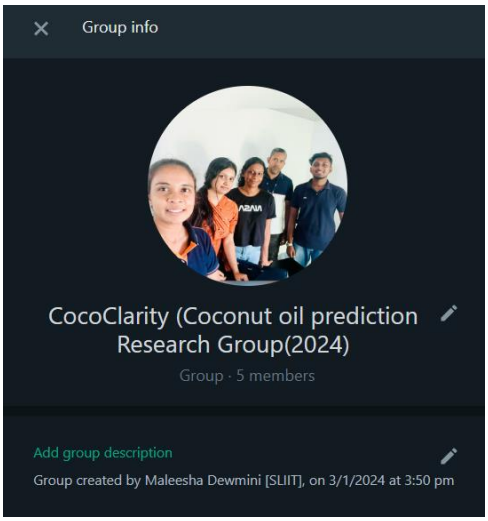


Figure 17: WhatsApp Group

Figure 18: Whatsapp Group Creation

Project Timeline

A Gantt chart is a visual tool used in project management to show the timeline of a project. It displays the start and finish dates of the various elements of a project, such as tasks, milestones, and phases, as well as their dependencies.

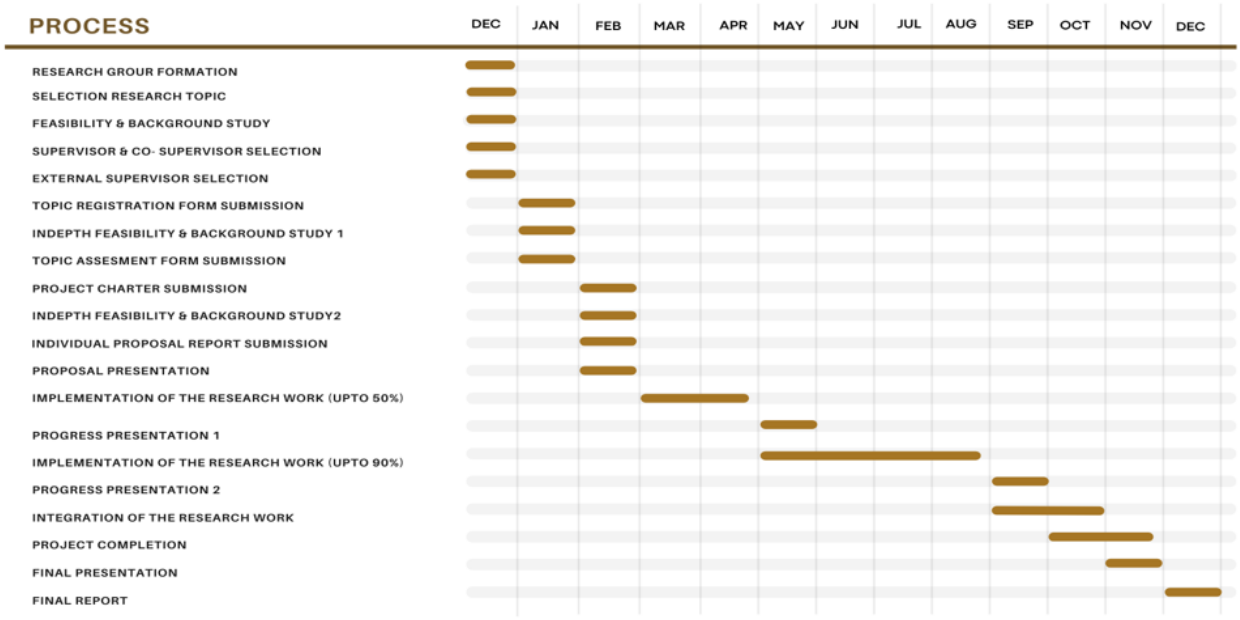


Figure 19: Gantt Chart

Work Break-Down

A work breakdown structure (WBS) is a structured breakdown of a project into smaller, more manageable parts. It is divided into distinct deliverables and tasks that help streamline project planning, execution and project management.

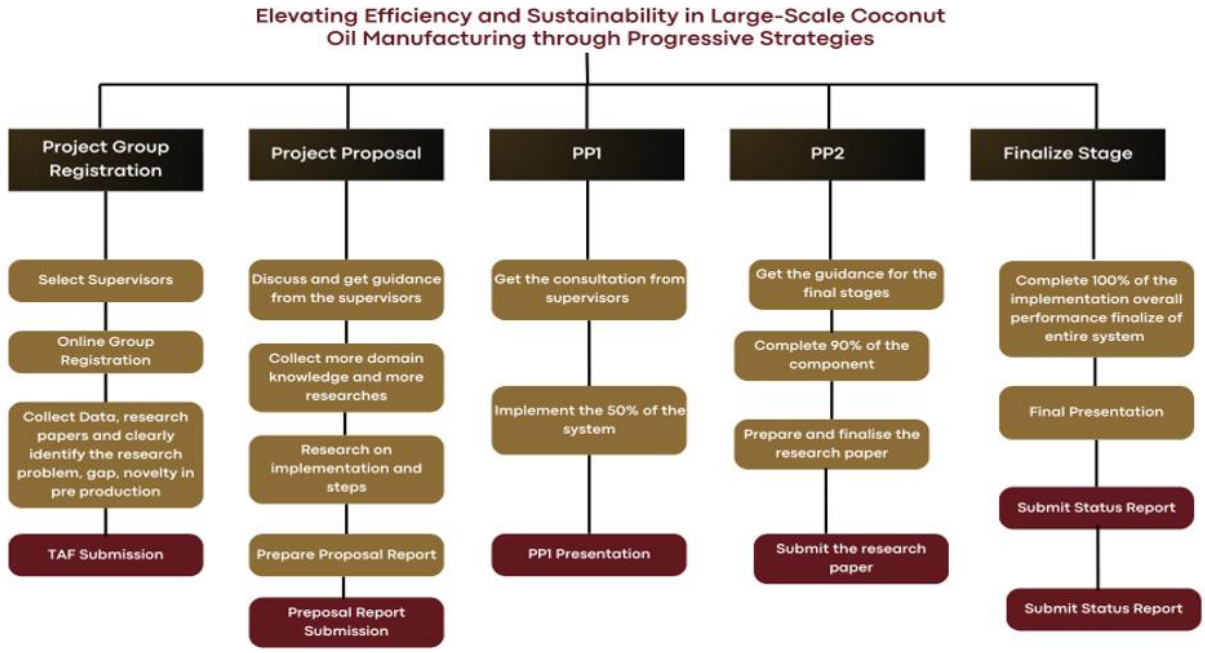


Figure 20: Work Break-Down Structure