



# **IT4010 – Research Project Year 4**

Status Document 1

Submitted to

Sri Lanka Institute of Information Technology

## **Enhancing Personalized E-Learning: A Novel Approach to Adaptive Learning Pathways for Individualized Knowledge Acquisition**

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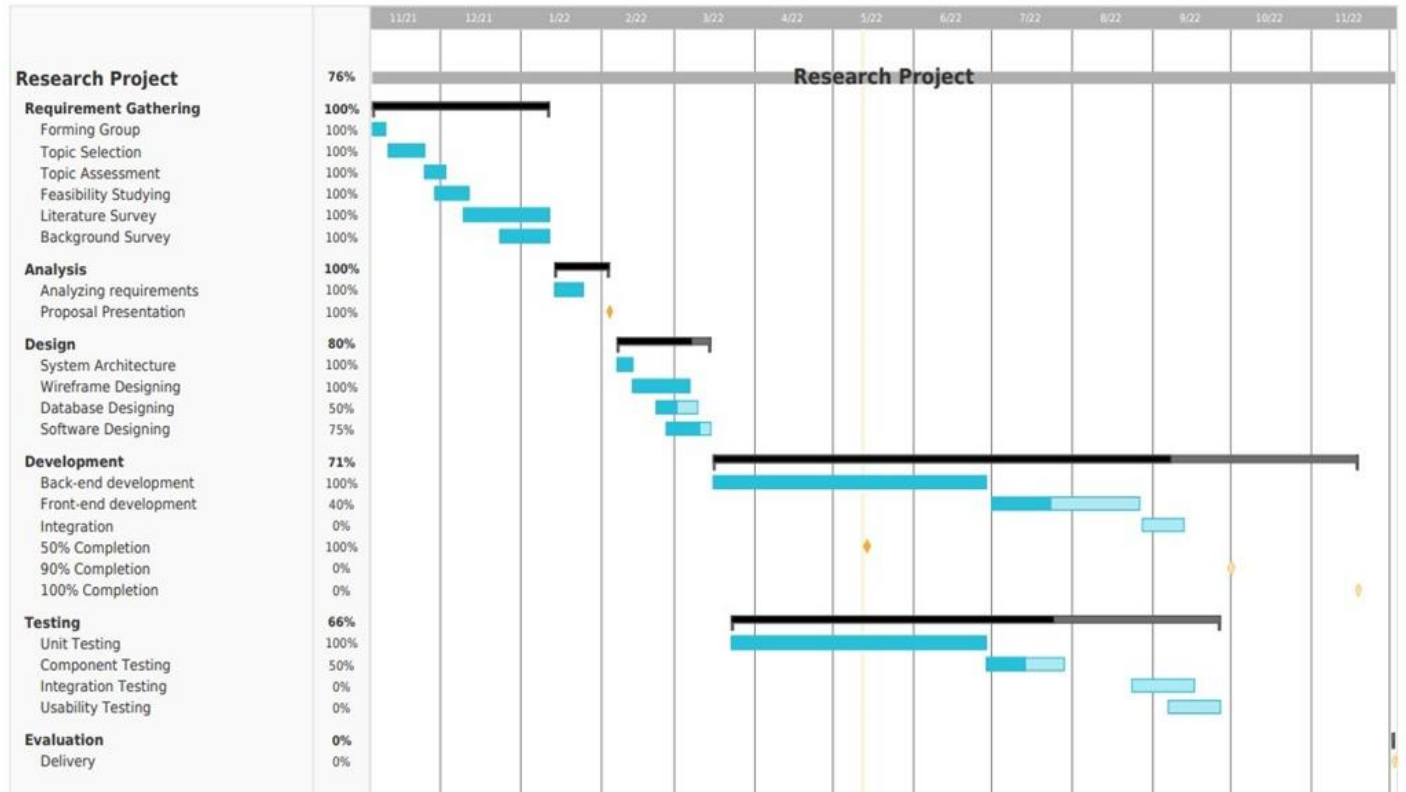
In partial fulfilment of the requirements for the  
Bachelor of Science Special Honors Degree in Information Technology

Date: May 05<sup>th</sup>, 2024

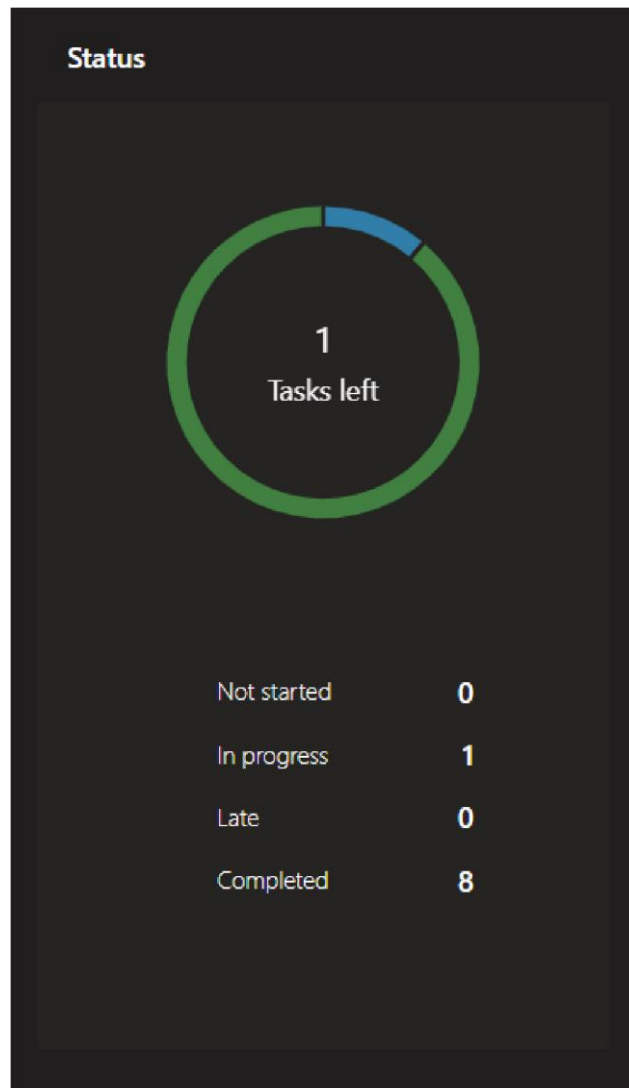
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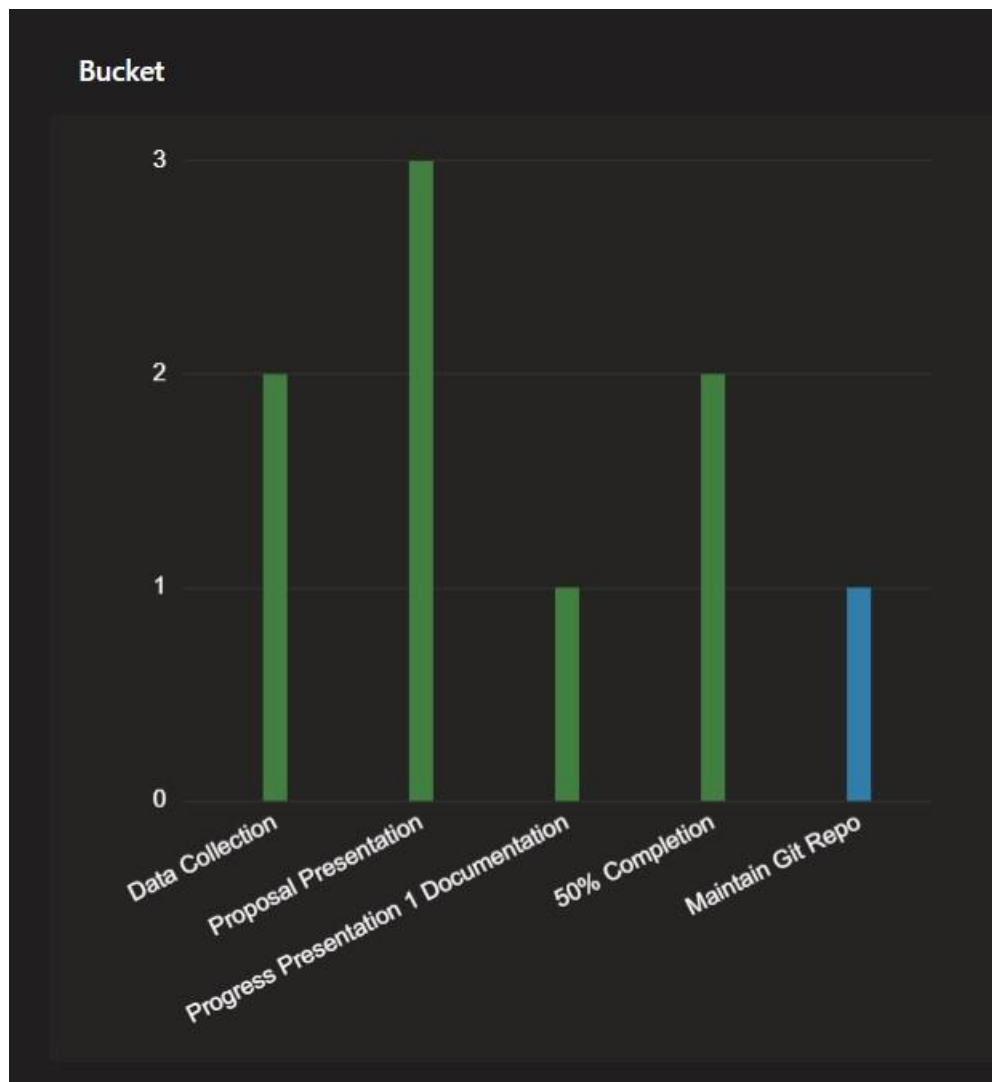
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# Gantt Chart

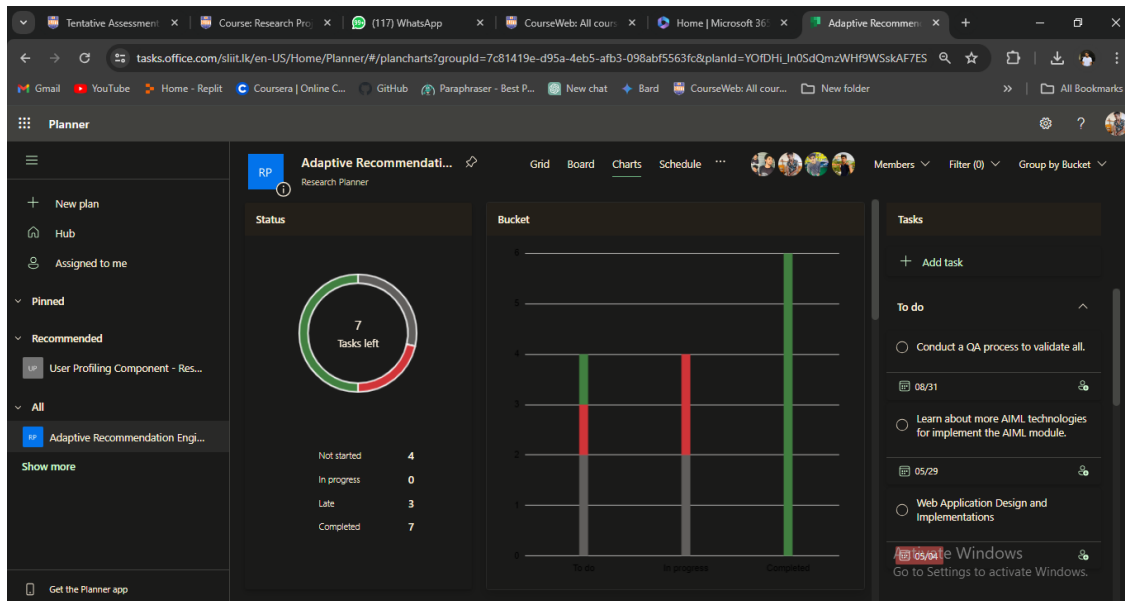


## Project View of MS Planner

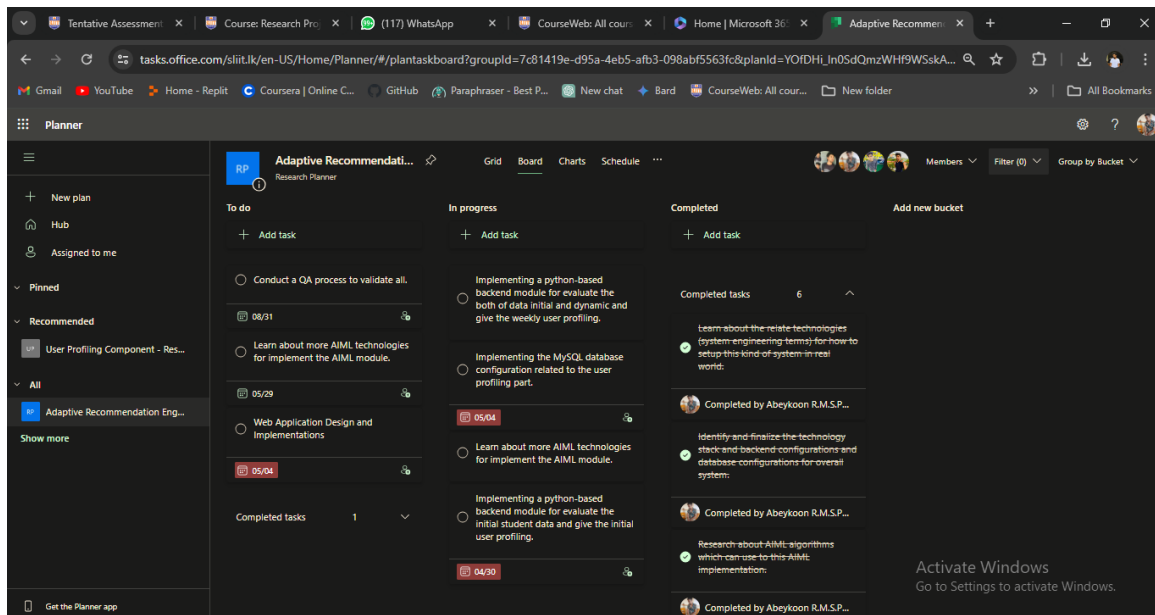




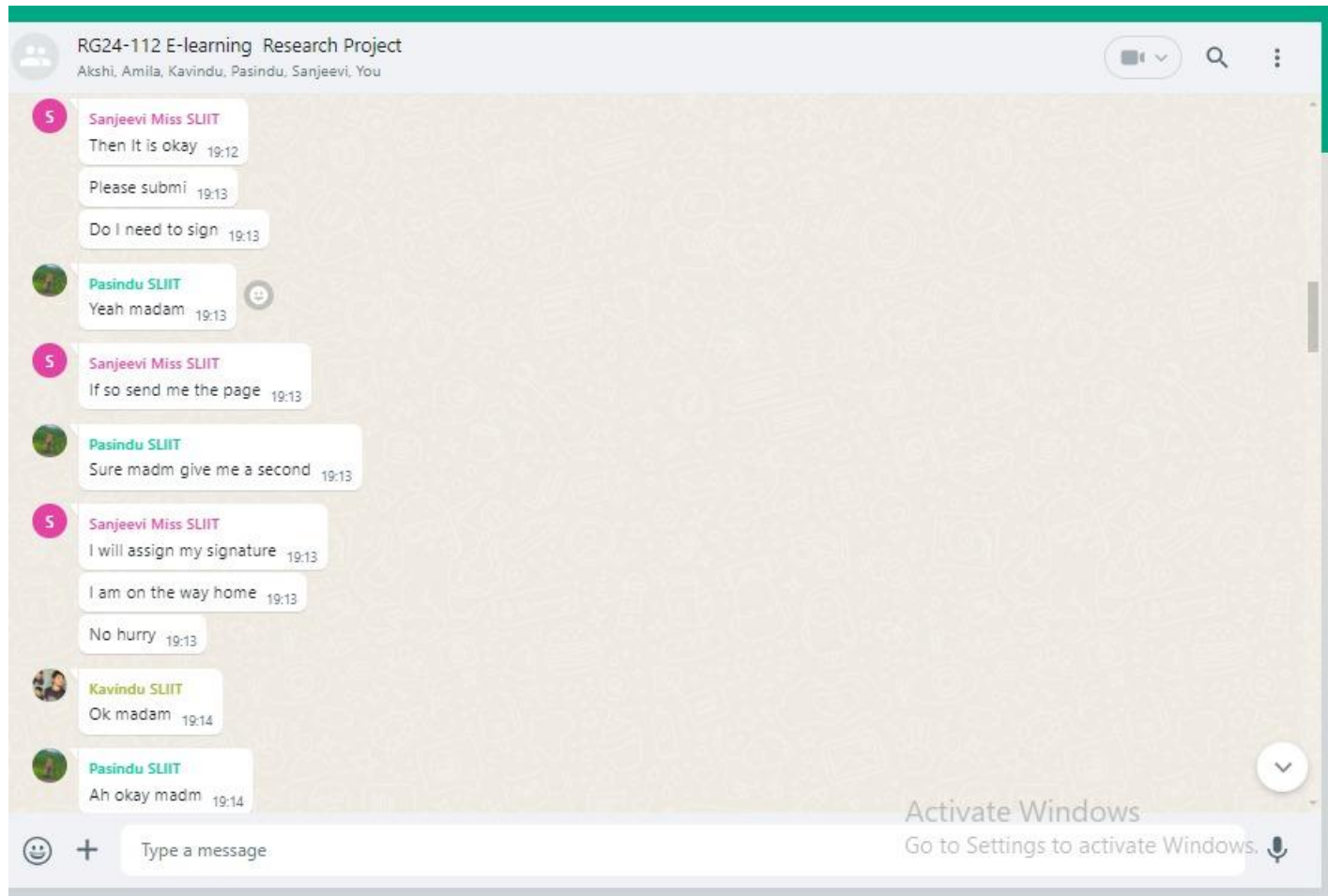
# Task View Of the MS Planner



# Work Breakdown Structure of MS Planner



## Proof of Virtual and Physical Meetings



Research Meeting

08:01

Pop out Chat People Raise React View More Camera Mic Share Leave

# OVERALL SYSTEM DIAGRAM

The diagram illustrates the system architecture. On the left, **Students** and **IT Management Users** interact with the **Frontend Web App**. The frontend includes icons for HTML, CSS, Bootstrap, PHP, and Tailwind CSS. This frontend connects via an **API** (represented by a server icon with green and red arrows) to the **AWS Cloud Hosted Backend**. The backend consists of a central server icon connected to **Python Flask**, **python scripts**, and **AI/ML** components. Below the server are two database icons labeled **Main System DB** and **Learning Resources DB**.

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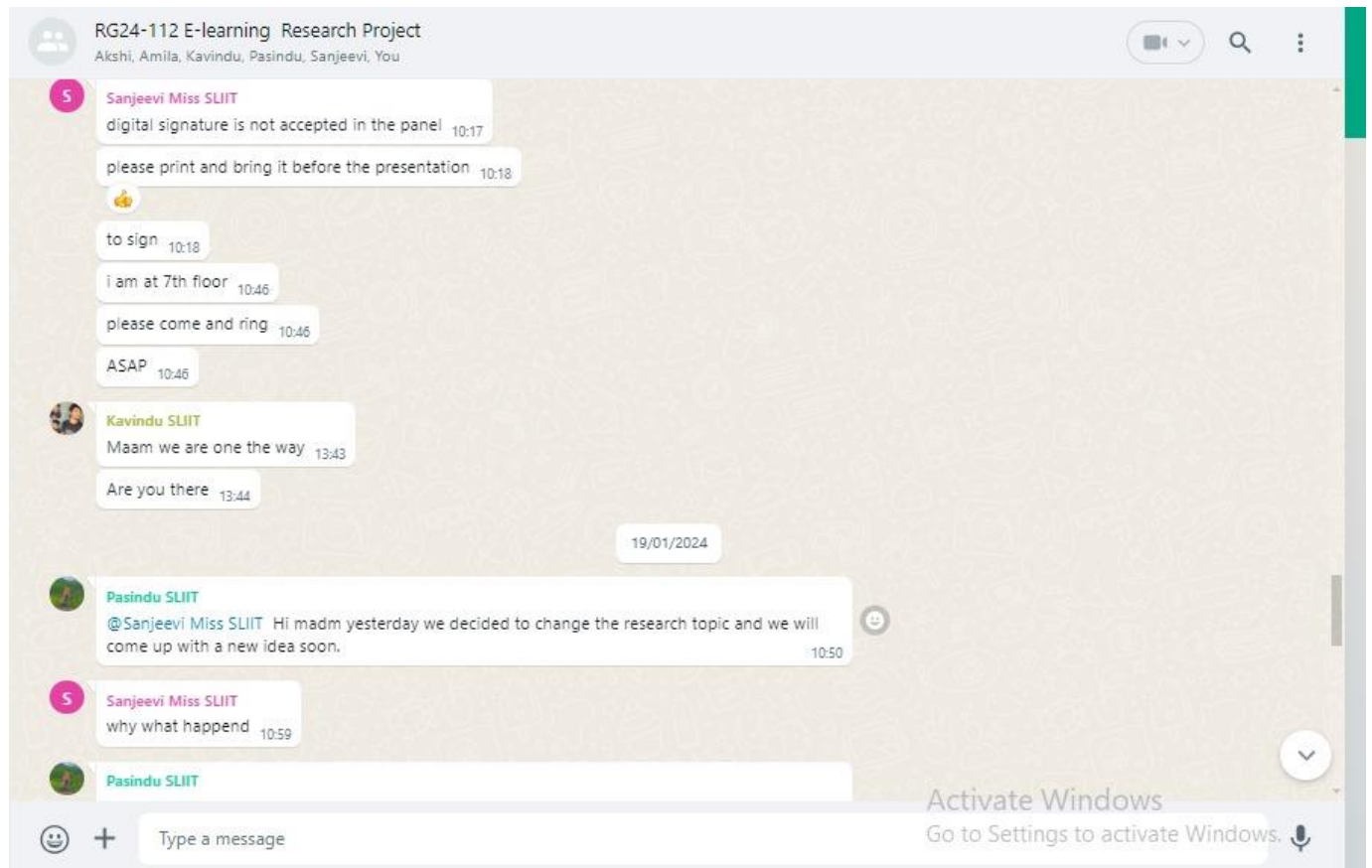
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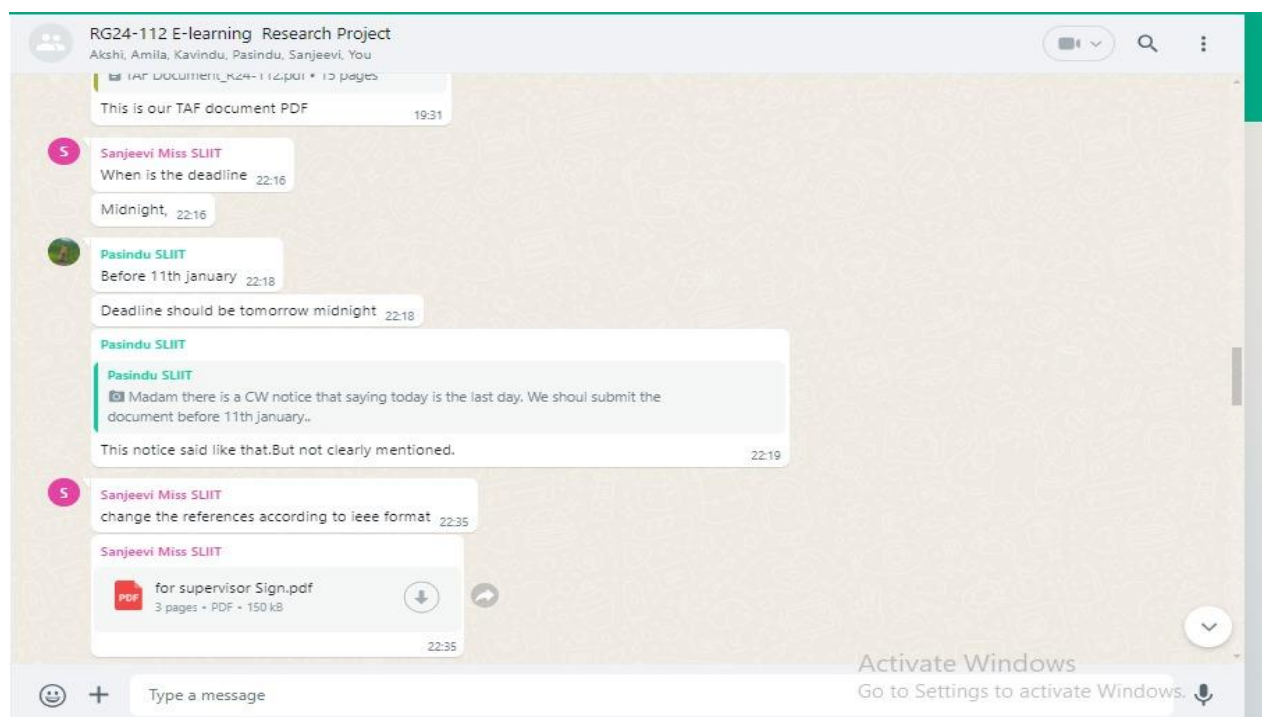
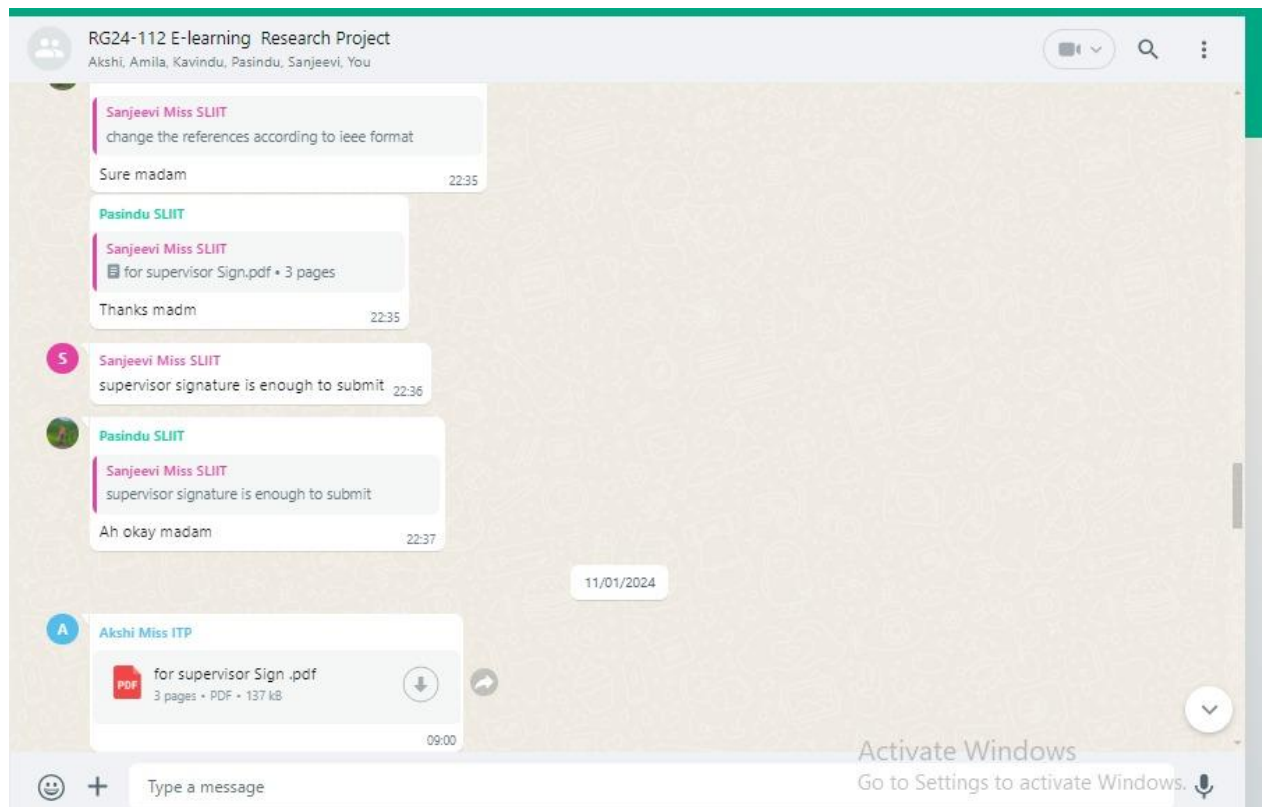
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Nishshanka N. ...  
Jayasinghe KA...  
Nishshanka N. ...







Research Meeting

01:00:28

Pop out

Chat

People

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Nishshanka N. ...

Jayasinghe K.A....

Nishshanka N. ...

Sanji Chan...

SC

Nishshanka N. ...

## OVERALL RESEARCH PROBLEM

- **Lack of Personalization:** E-learning platforms struggle to tailor personalized learning experiences to individual preferences and learning styles.
- **Generic Approaches:** Current systems use content delivery methods that don't maximize user engagement or knowledge retention.
- **Limited Adaptability:** Most platforms can't dynamically adjust to diverse learner needs, creating difficulties in accessing relevant materials.
- **Gap in Literature:** There's a lack of research on developing adaptive machine learning models for customizing learning pathways in online education.

Nishshanka N. A. P. K. R. it21033032

+

Participants

Type a name

In this meeting (5)

Mute all

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Organizer

Nishshanka N. A. G. A. A it21032...

Nishshanka N. A. P. K. R. it21033...

Sanji Chandrasiri (Guest)

Meeting guest

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