SYNEGETIC INNOVATION IN GHERKIN CULTIVATION

R24-010

Status Document - 1
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01. Screenshots of the Teams Meeting

As per the instructions given by the RP team, the screenshots and the meetings of the MS teams were taken with our supervisor Dr. Dharshana Kasthurirathne and co-supervisor ms.Poojani Gunathilake, which is shown in the figures below.

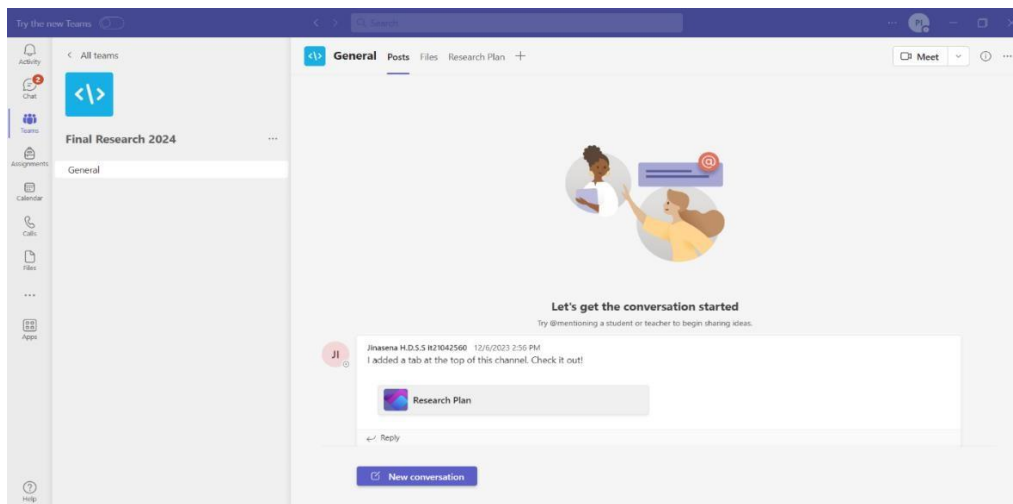Firstly, we created Channel for our research team in MS Teams

Figure 1create teams channel.

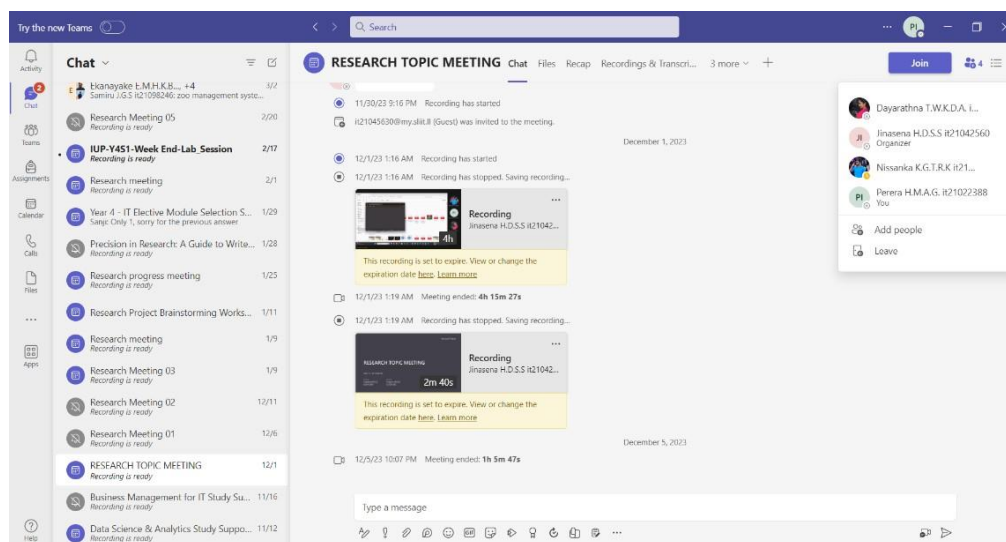Schedule a meeting to choose a research topic.
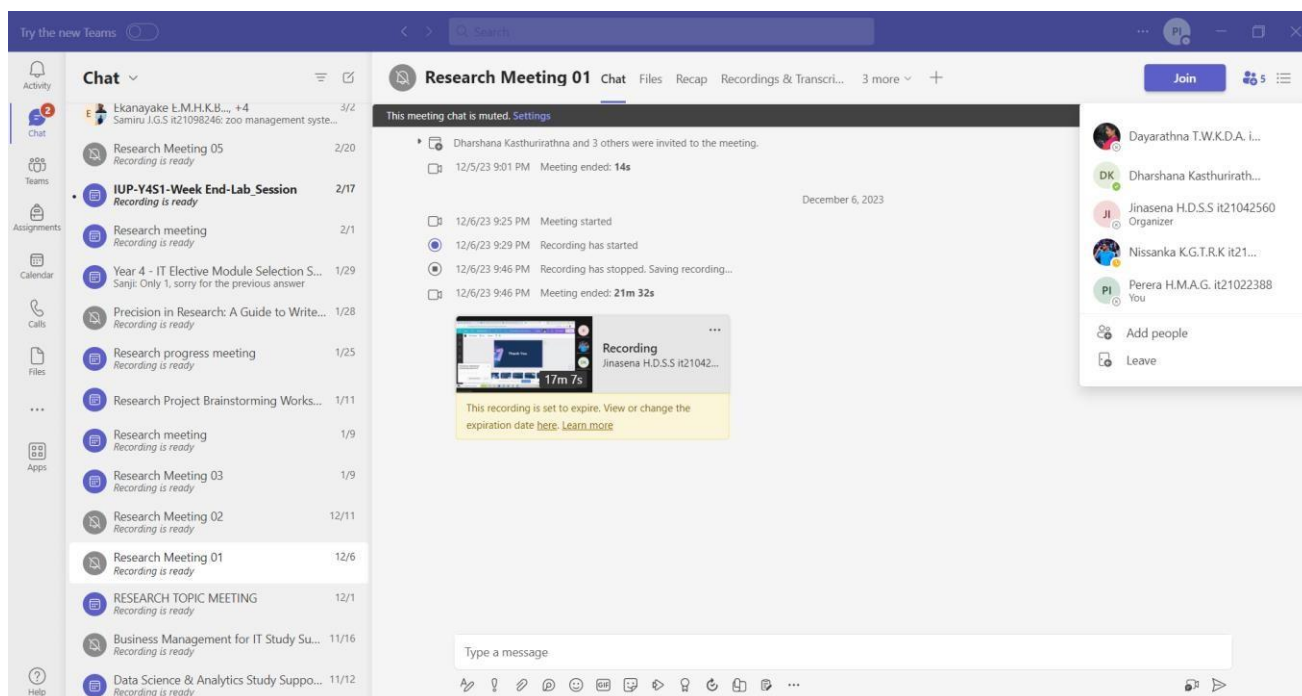

Figure 2 research topic meeting
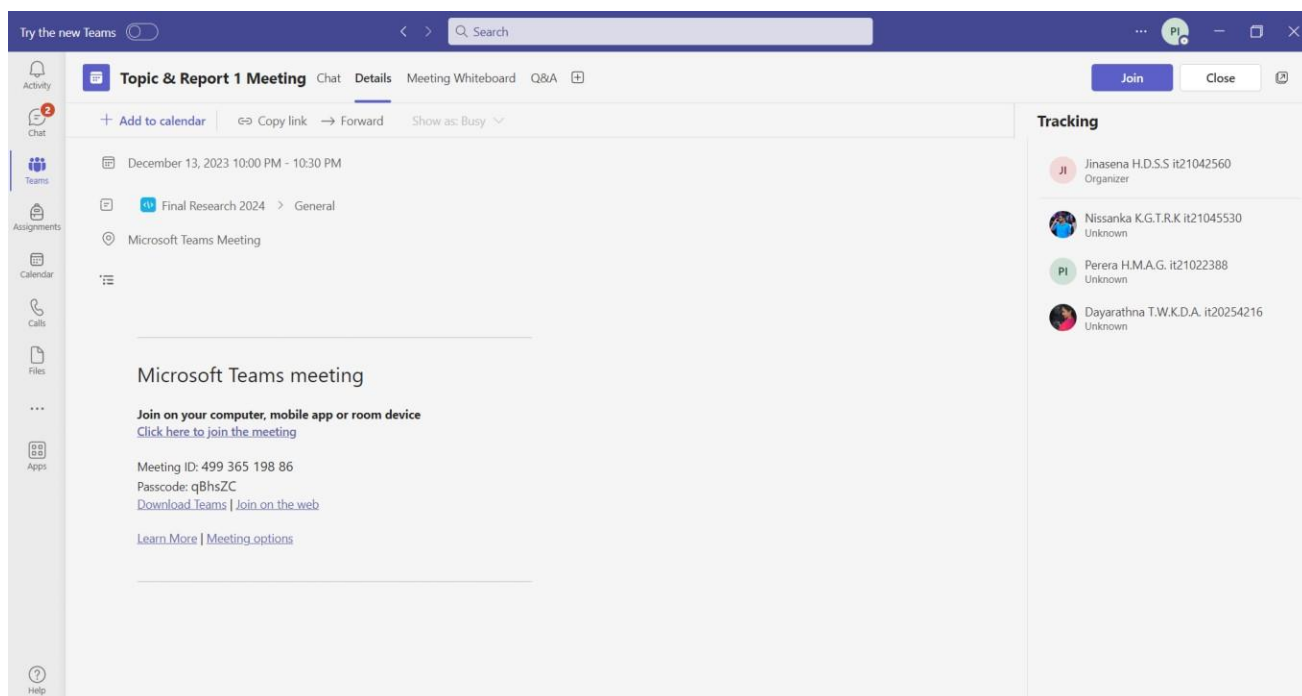
Figure 3research meeting one

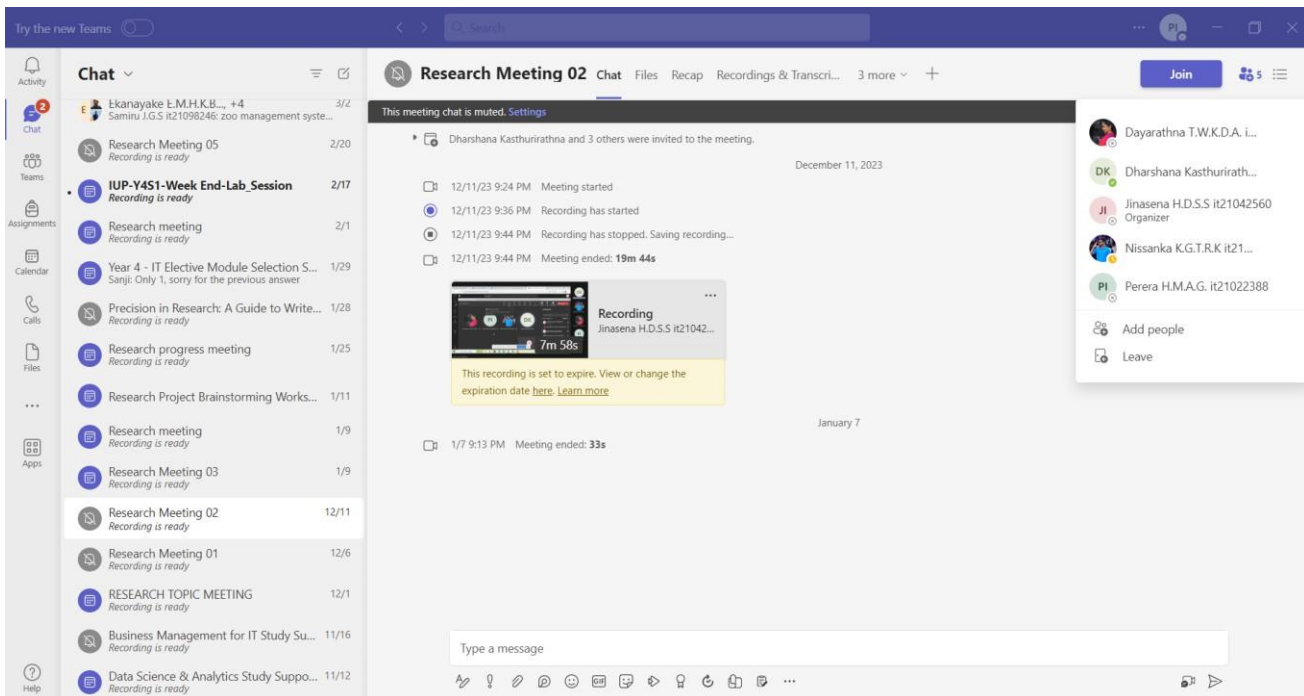*Figure 4 topic and report meeting*

Figure 5 Research meeting 02
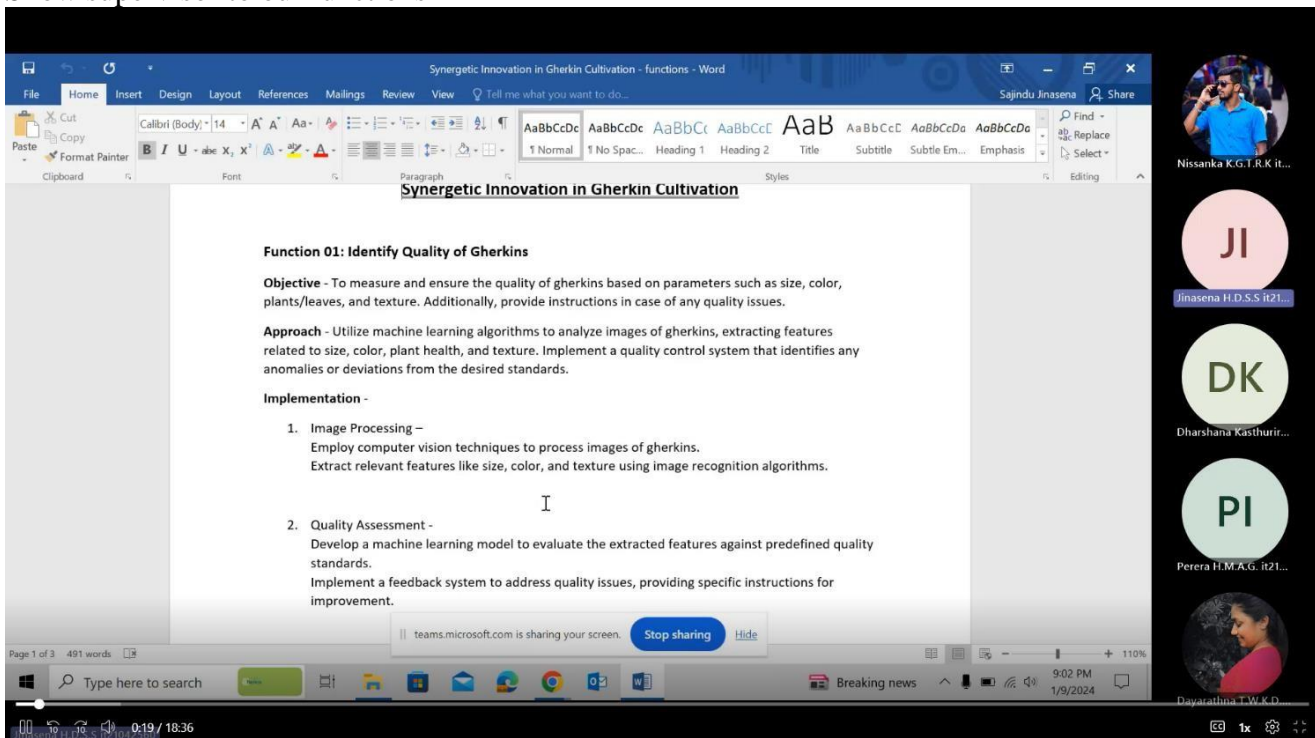
Show supervisor to our functions
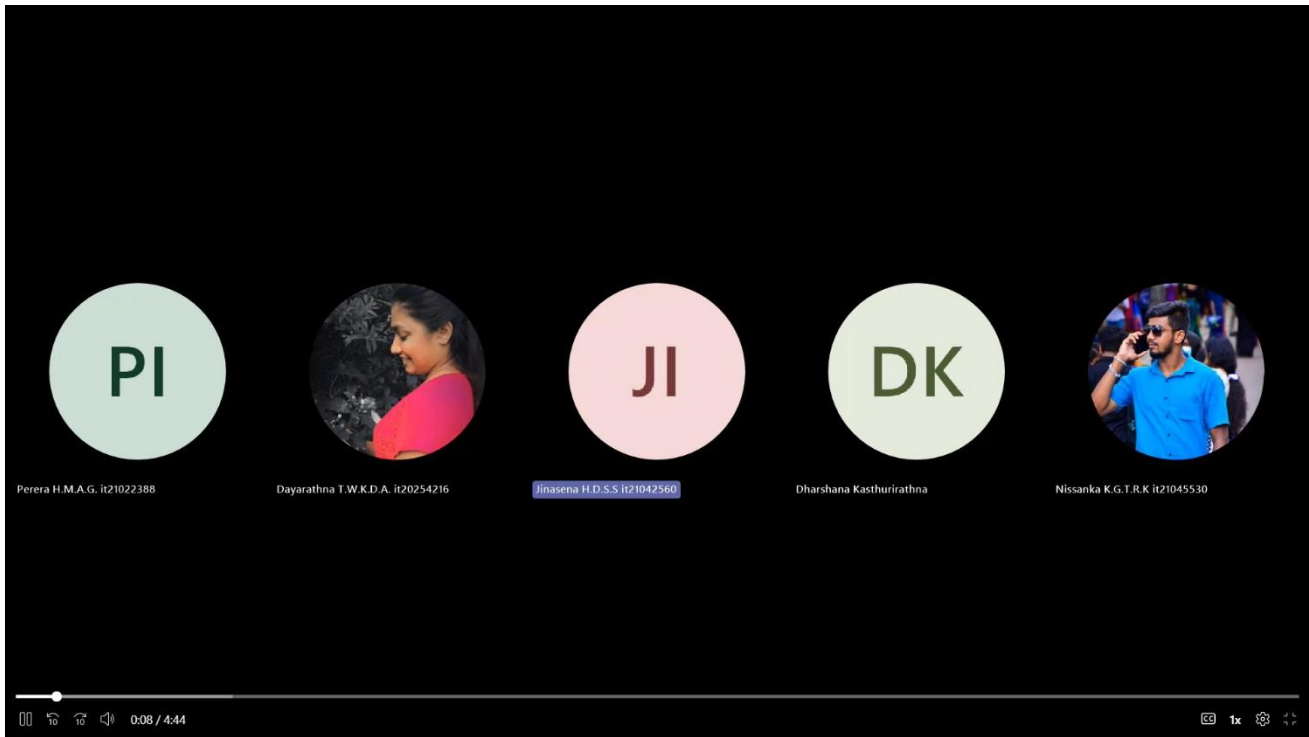

Figure 6 Resrach meeting with supervisor

Figure 7 Reserch meeting 03

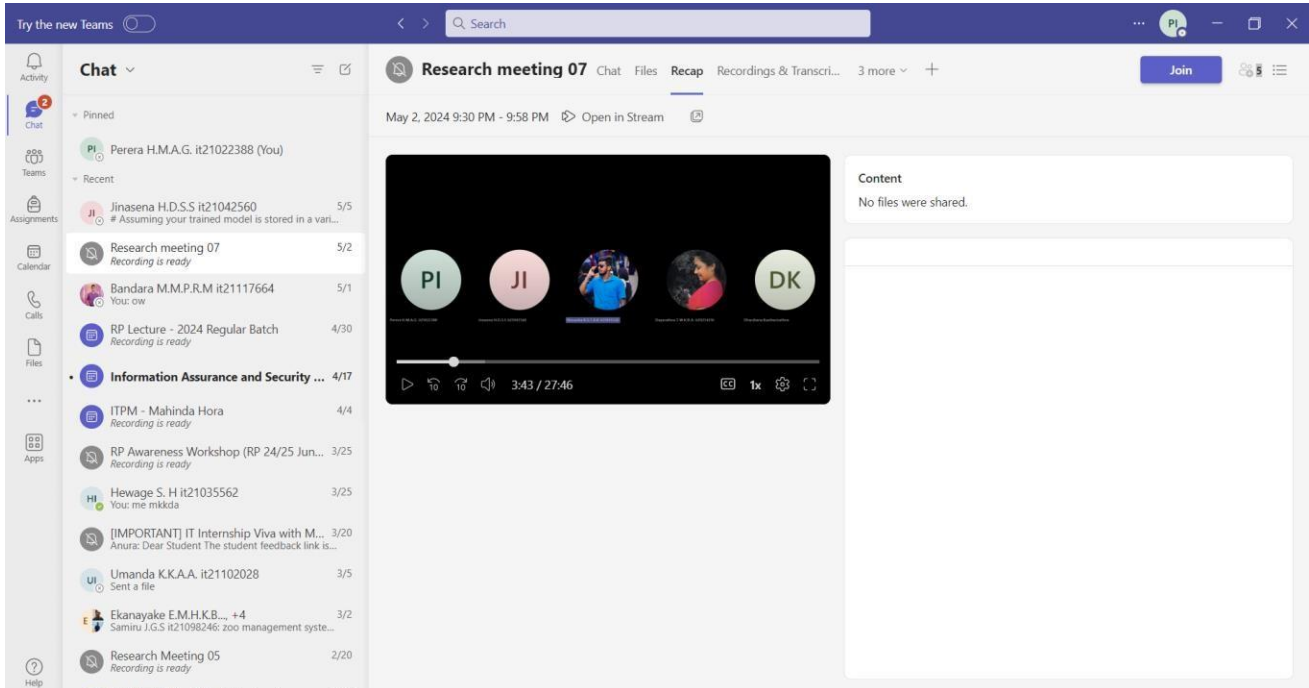Clarify issues regarding components.
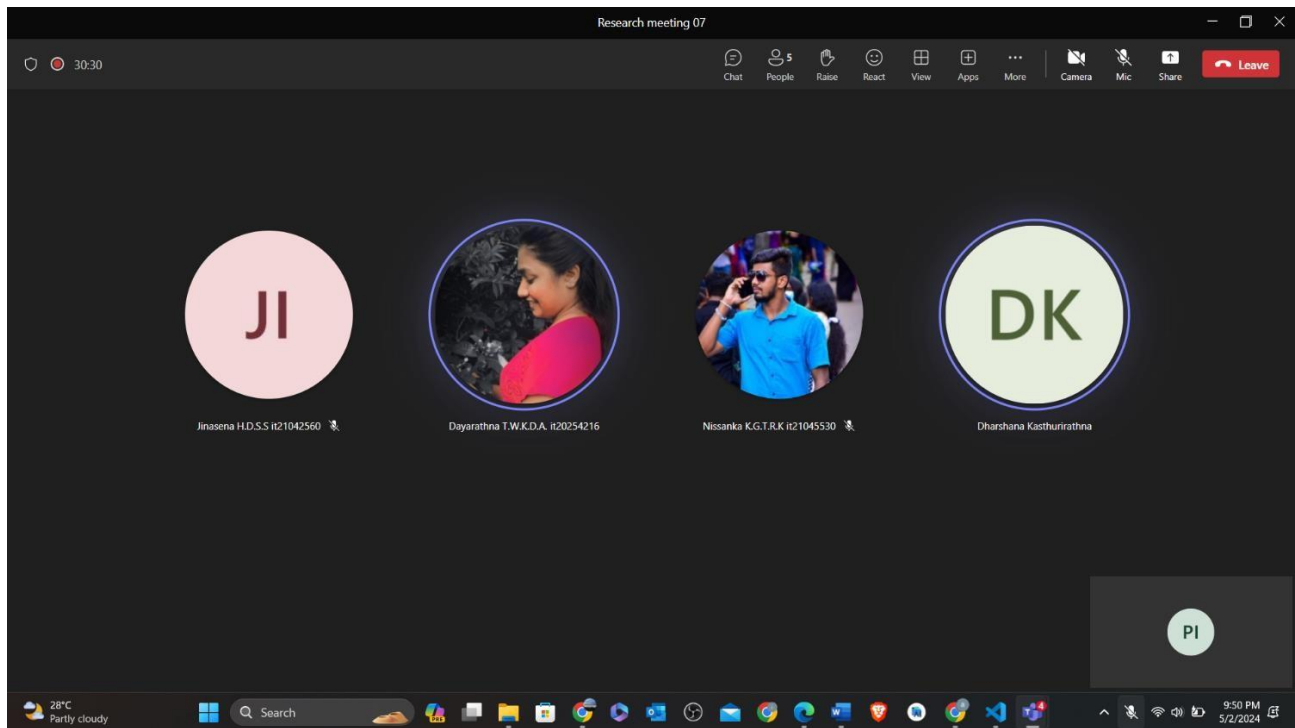

Figure 8 Reserach meeting 07
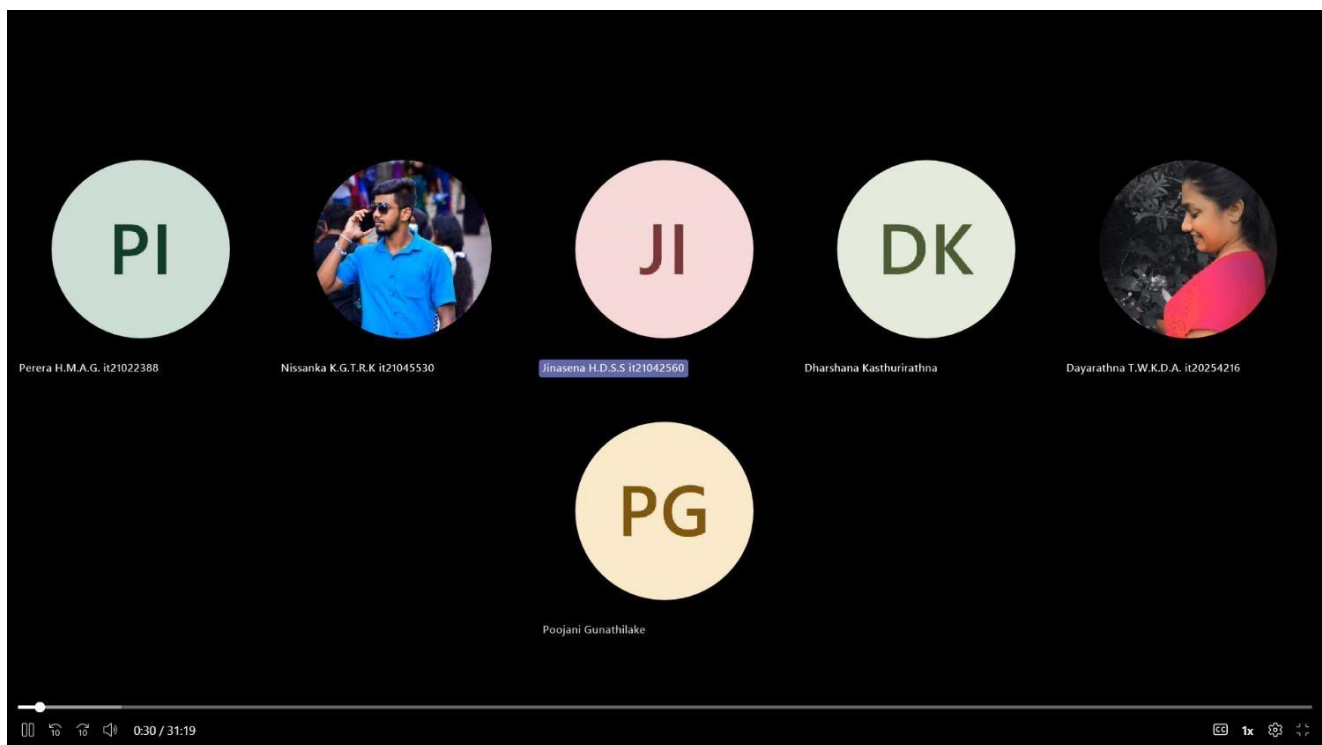
Figure 9 Research meeting with data classification

Figure 10 Reserach meeting with supervisor and co-supervisor

02.   Screenshots of the Whats app group and chats

Figure 11 Research WhatsApp group
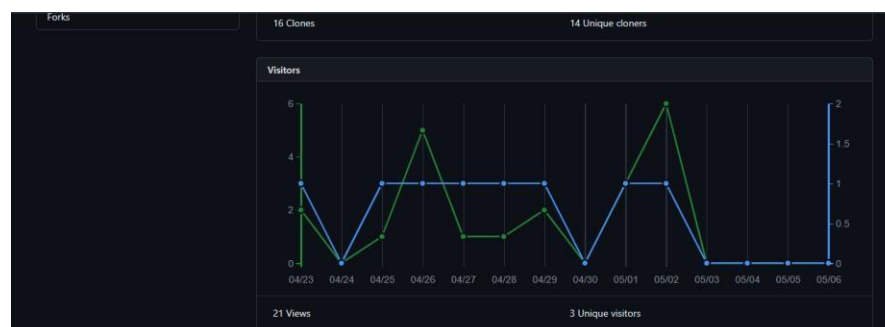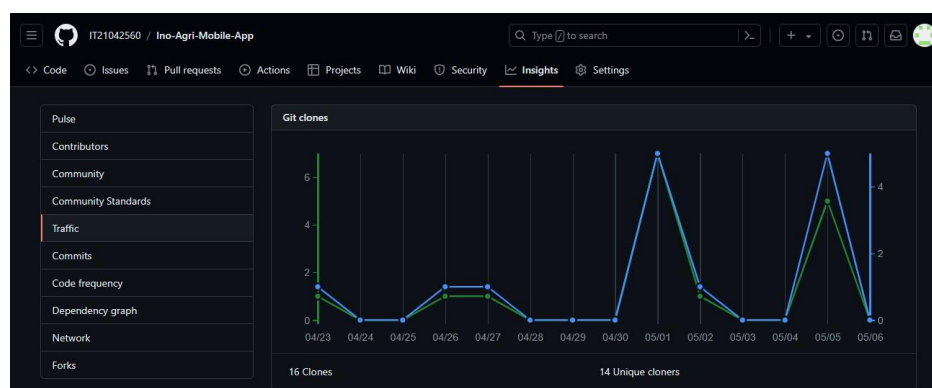
03.   Create git Repository and branch.
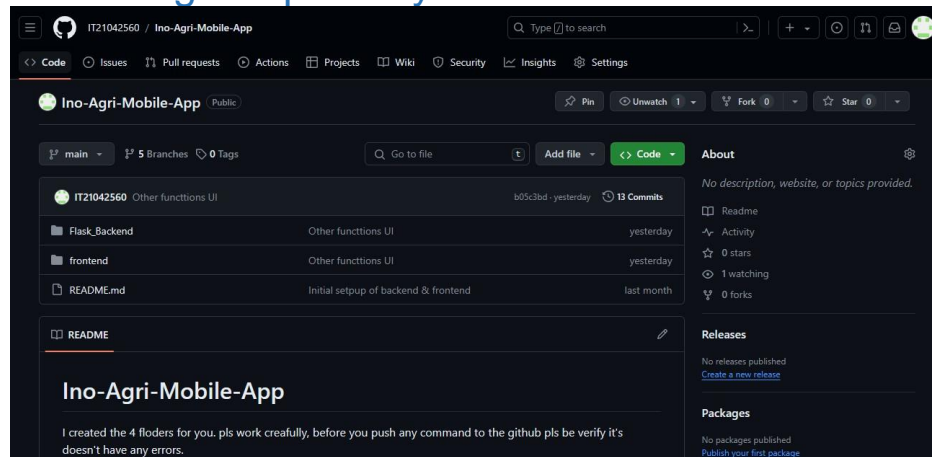
Figure 12 Github

Physical meetings with clients (Hayleys company)

Figure 13 HJS visit

Figure 14 Meeting with hjs company

Figure 15 HJS Company

Figure 16 Gate pass for hjs1

Figure 17 gate pass for hjs 2

Figure 18 Gate pass for hjs 3

04.   Agreement with the client to get the dataset.
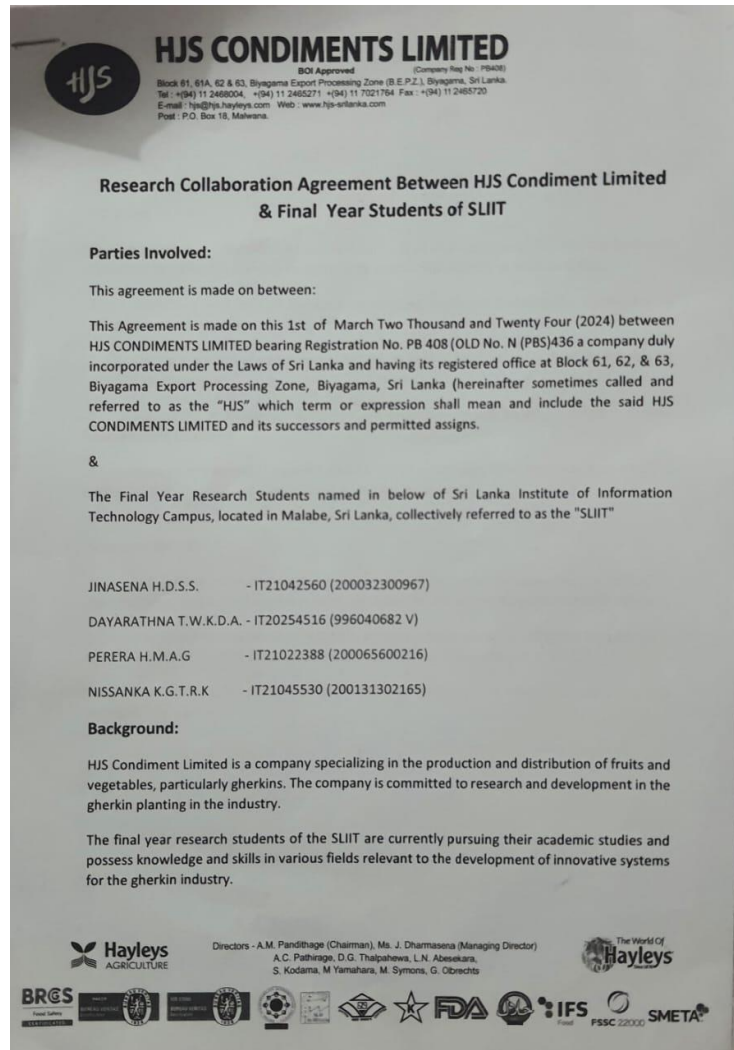
Figure 19 HJS Legal Agreement
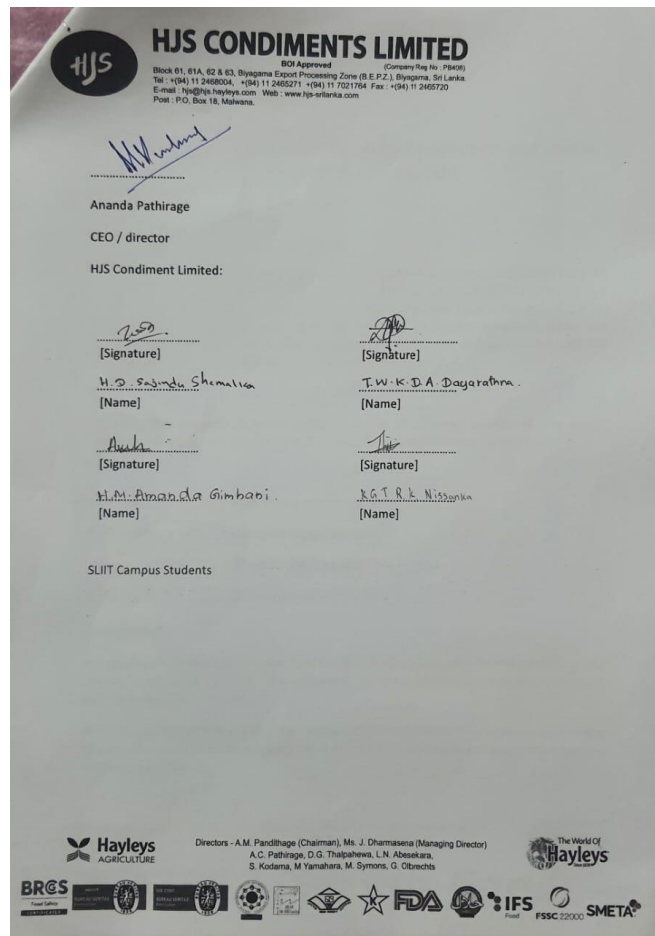
05. MS Teams meetings and chats with the clients (Hayleys company)
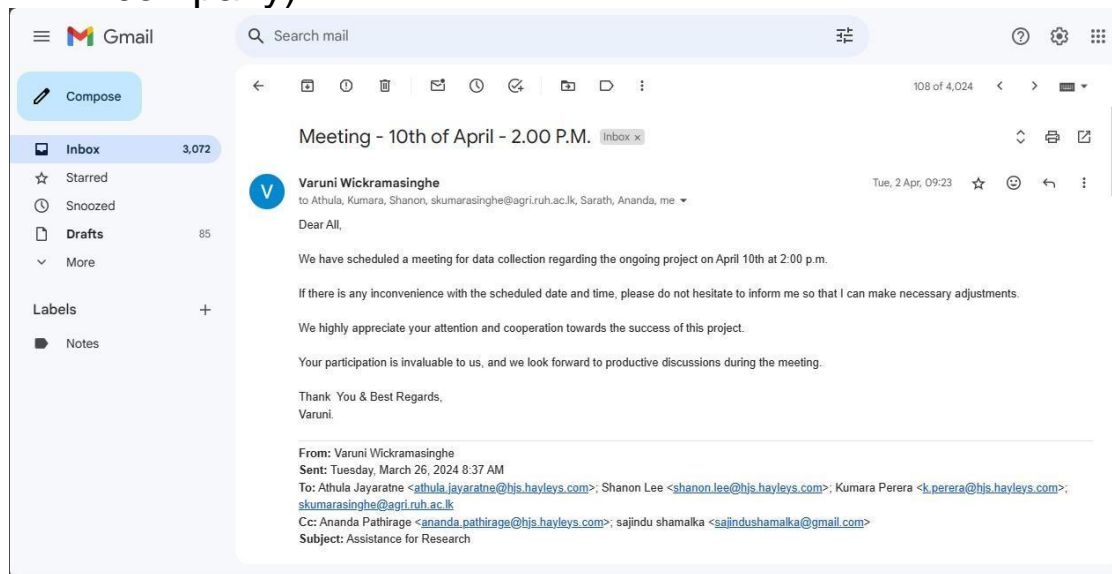
Figure 20 Mail with hjs madam 1
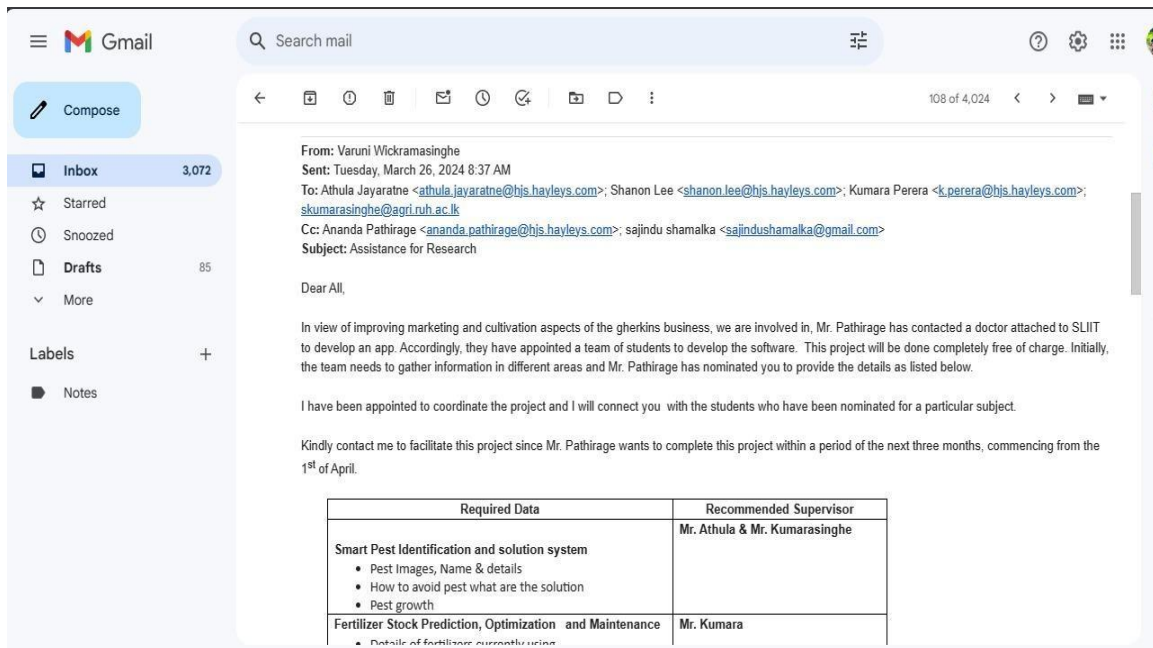
Figure 21 mail with hjs madam
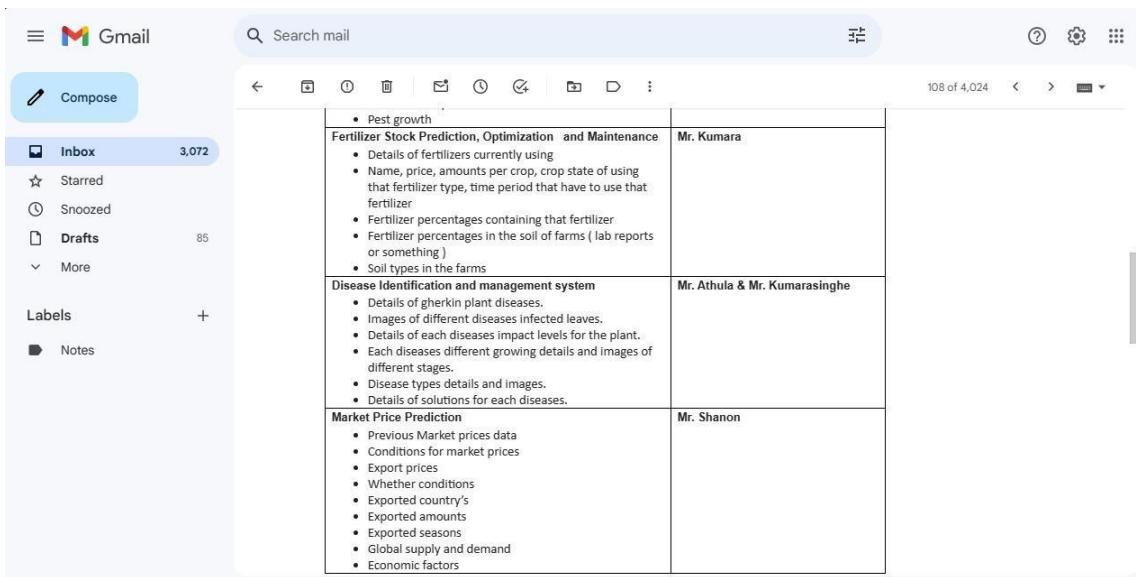
06.   MS team work planner
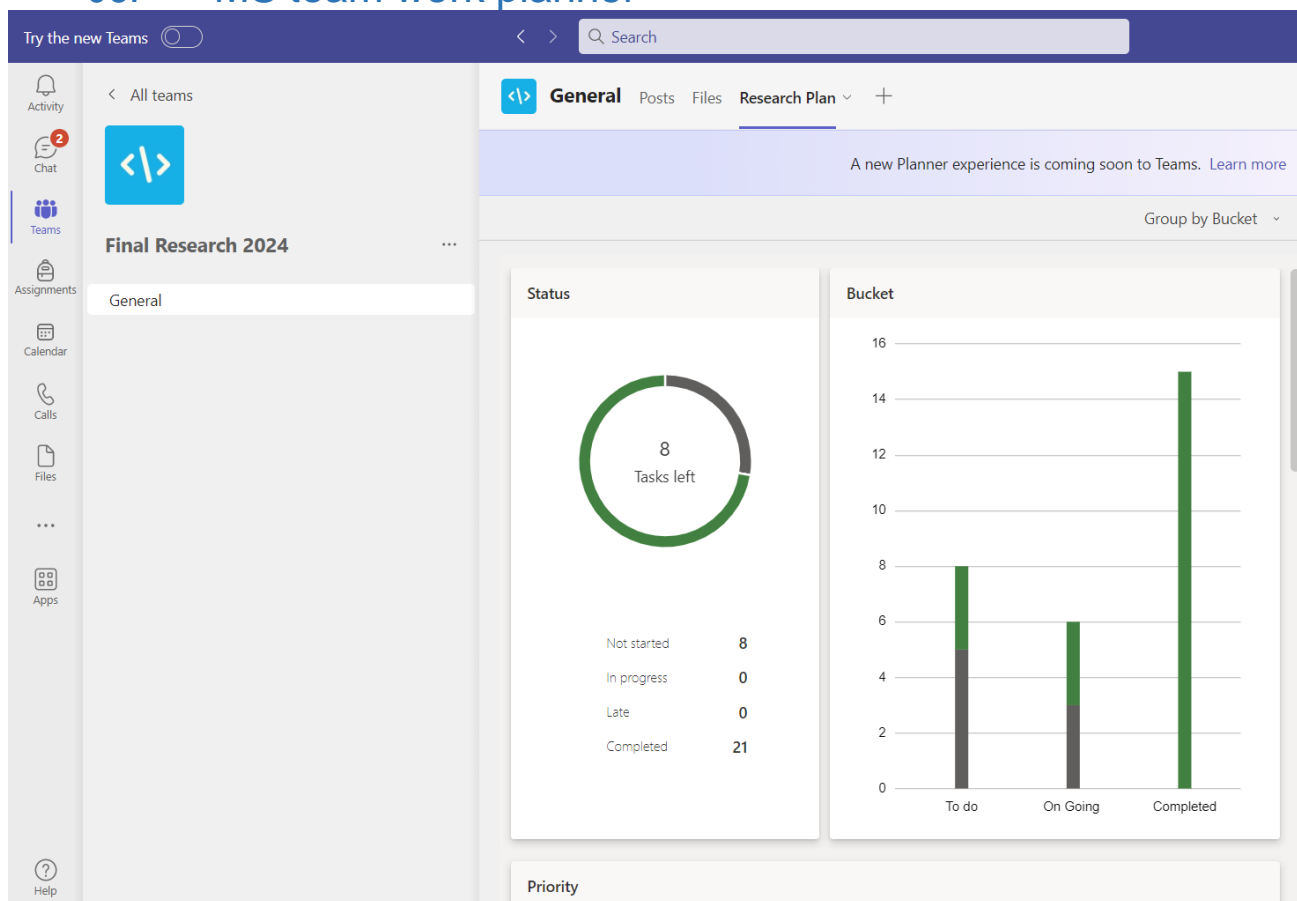
07.   Updated Gantt chart of finalize Design & implementation phases

Data Collection – Field Visits

We went Nikaweratiya to collect data and field visit.

08.   Project Completion

Yolov8 Model
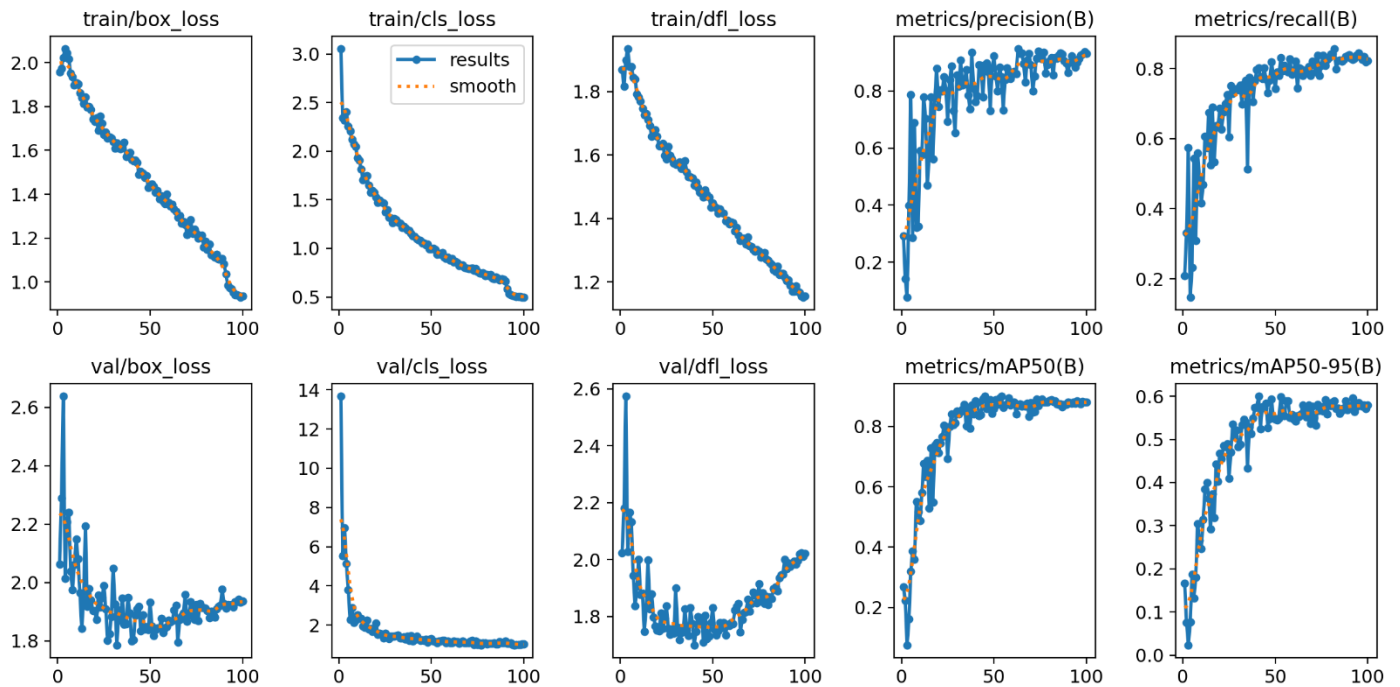
24. Result in yolov8


```python
# ----Yolov8 object detection-----
# Load yolo model
model = YOLO("pest_model.pt")
# Load input image
results = model.predict(upload_path)
# Get the result
result = results[0]
len(result.boxes)
box = result.boxes[0]
cords = box.xyxy[0].tolist()
class_id = result.names[box.cls[0].item()]
conf = round(box.conf[0].item(), 2)

if class_id == "Thirps":
    class_id = "Thrips"

yolo_prediction = {
    'object_type': class_id,
    'probability': conf
}
```

25.Backend model to identify Pest using yolov8

```python
# -------Inception V8 computer vision---------
# Load your custom Keras model
model_path = './pest_classify_model.h5'
model = load_model(model_path)
# Create the label names
class_names = ['Apids', 'Catterpillar', 'Leaf miner', 'Mites', 'Thrips', 'Whiteflies']
# Preprocess the image
preprocessed_image = preprocess_image(upload_path)
# Make prediction
prediction = model.predict(preprocessed_image)
# Get probabilities
predicted_class_index = np.argmax(prediction)
predicted_class = class_names[predicted_class_index]
probability = round(prediction[0][predicted_class_index] * 100, 2)  # Converting to percentage
```
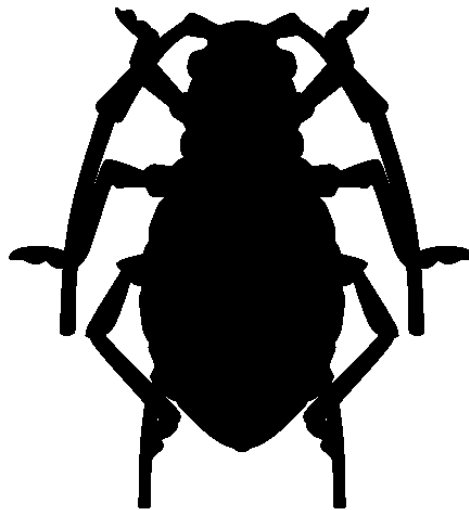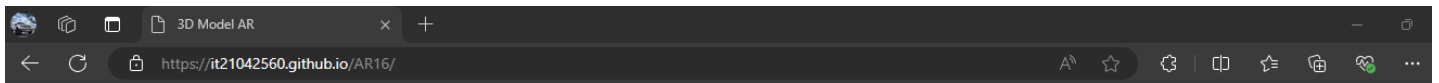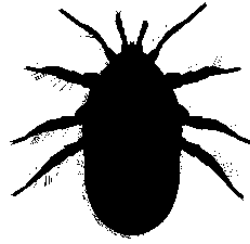
26. Backend model to identify pest using inception v3

27. AR Feature to identify each pest

28. Meeting Demo with HJS

29. Meeting Demo with co-supervisor