

ENG 4000
Weekly Meeting Minutes



Every week, this document should be presented to the supervisor, as this will be the basis for grading.

Project Name	Satellite Operations Services Optimizer
Date & Time of Meeting	2023/09/29 (~1:30 PM)

Attendees			
#	Name	Student ID	Username (email)
1	Youssef Hany	216885766	youssef8@my.yorku.ca
2	Rafael Dolores	216142069	rafd47@my.yorku.ca
3	James Le	217270943	jamesmql@my.yorku.ca
4	Walid Al Dari	218375162	walidald@my.yorku.ca
5	Ruth Bezabeh	216171795	ruttkas@my.yorku.ca
6	Stanley Ihesiulo	216985236	ihesiulo@my.yorku.ca
7	Hashir Jamil	217452954	hashirj@my.yorku.ca

Decision Made / Agenda / Objectives / Plan for the Coming Week
<p>Question 1: optimization based on resources, which resources to use as little as possible of</p> <ul style="list-style-type: none">• Number of assets that have their own resources• First Ground Station □ don't use more than one station per orbit; no hand offs, one station should be able to see enough• Second □ spacecraft □ there are 5 of them. Use them equally and distribute the load; each image should only be taken once not multiple times by more than one satellite. <p>Question 2: Image format question: let's say a user makes a request for a certain area of interest; will image file format</p> <ul style="list-style-type: none">• The image order will have a tag attached and fed up to the satellite and the satellite has to take the appropriate image corresponding to the order• Satellite responds to image order, and we have data requirements• Later, they may add power requirements that vary but for now assume power requirements are the same <p>Question 3: Architecture feedback AWS or not</p> <ul style="list-style-type: none">• We can deploy on cloud, but we cannot lock into a specific cloud framework• Lambda is too locked in• Having vendor locking is a deal breaker

- We need to make sure its open source, a cloud lock-in will defy the open-source principle
- We need to have docker containers that get deployed into cloud in a general sense

Question 4: Image order/storage

- We never store or transfer images
- We keep track of them and the status of the image order to confirm its completion or retry

Question 5: Paper question about ephemeris

- Mysterious third party gives us the image, don't worry about where it comes from
- Just be able to take it in
- TLE is one of the spacecraft parameters
- A changed TLE needs to be responded but ephemeris is not important
- The ground station is not directly interfaced
 - We have mock states/activities of it and then respond to these
- We have logs about ground station activities, and we need to respond to this

Question 6: Login/Registration

- Very good feature to have
- Not a required feature but they won't deny

Question 7: Microsoft teams group chat

- Good to go

Question 8: priority of users; how to determine this?

- This will be associated with image orders themselves
- Image orders will have a priority parameter (e.g., high, medium, low)

Question 9: Downlinking question

- Tell satellite when to download
- The system will update the activities
- The system will downlink the activities when the ground station is available
- Send messages to ground station to let it know
- The system will model the ground station, satellite, and timings; no real objects/times

- It's a mock
- Need to calculate when a ground station has visibility with each satellite
- Respond accordingly to create a downlink request

Team Responsibilities for the Coming Week

#	Name	Responsibility
1	Youssef Hany	Investigate what needs to be calculated for the schedule building, satellite, and ground station.
2	Rafael Dolores	Finalize Architecture, Create Github Repository.
3	James Le	UI/UX Design of the front-end of the web-app.
4	Walid Al Dari	Investigate different DBMS products.
5	Ruth Bezabeh	Python Fundamentals
6	Stanley Ihesiulo	Test Rabbit MQ Product.
7	Hashir Jamil	Investigate Event Broker Product.

Progress Report on Last Week's Activities

#	Name	% Completed	Comment (provide the reasoning only if 100% is not completed)
1	Youssef Hany	100	
2	Rafael Dolores	100	
3	James Le	100	
4	Walid Al Dari	100	
5	Ruth Bezabeh	100	
6	Stanley Ihesiulo	100	
7	Hashir Jamil	100	