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	Sat Ops MQ
Date & Time of Meeting	Supervisor Meeting: 3:00 - 4:00 pm, 2/1/24 CSA Meeting: 2:30 - 3:30 pm, 2/2/24 Stand-up Meeting: 9:00 - 9:30 pm, 2/4/24

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

Supervisor Meeting:

Questions to ask tomorrow for the CSA:

1. How do other scheduling programs work compared to our system (i.e. competitors systems)?
2. Order that goes against the constraints:
3. How long does it take for the system to respond to the order?
4. How much of the range do you consider in the timeline to consider rescheduling orders? (Scheduling Window)
5. How much does it take to train an operator on the current system compared to other systems currently used? - Use test orders for day-in-a-life activity as a metric.

- Build monte carlo or specific orders: image, maintenance, and outage orders.

Generate a metric that can demonstrate: accepted orders %, failed orders %
- Stanley built the metrics using the scoring function for genetic algorithms.

Professor Regina wants to see the full web-app where the front-end and back-end is connected.

CSA Meeting:

- If a schedule is a satellite and it can accommodate an additional order, should we?
    - Yes you should be able to do but we should be able to reject with notes for why the order was rejected to track back why.
- Replacement for higher priority orders? Should this be pursued?
    - We have to remove this order and put this in its place (Higher priority order). You don't need to reschedule everything if one order comes in. If the schedule is already created, then you don't need to reshuffle the orders in existing schedules unless it's a very high priority.

1. How do other scheduling programs work compared to our system (i.e. competitors systems)?

Better or worse, there will always be manual use cases of the orders. Automated options are limited. Limitations are the schedules are created but it can't be perturbed where adding an order can't be put in or the time would take too long to re-work the schedule.

Manual planning: we don't have choices, it's going on one satellite. It's manual for the GS satellite comms. Because its

2. Order that goes against the constraints:
3. How long does it take for the system to respond to the order?

Time length: automated, if changes happen in the system (0.5 hr for automated but could take longer (many hours 9am to 3 pm in the afternoon example without perturbations)).

For smaller missions, it takes longer to develop the manual and automated schedules throughout the day especially if the person is not ready.

4. How much of the range do you consider in the timeline to consider rescheduling orders? (Scheduling Window)

Time range for scheduling window: within 4 hours, we should be able to send a rescheduled schedule. Shorter or longer time ranges can work. We should analyze it and see how the system handles it. We should be able to make changes 5 to 10 minutes to make changes if we have contact with the GS to the SAT.

The quick responsiveness of the system should be taken into consideration to make sure that the system is successful as a metric.

5. How much does it take to train an operator on the current system compared to other systems currently used? - Use test orders for day-in-a-life activity as a metric.

In terms of time, for complex systems, it takes weeks if not months, for simpler ones, it takes a couple weeks. You may be able to handle the routine of things but may need to handle exceptions and issues. This goes for both manual and automated. Automated is less hands-on but not any faster to learn.

- Build monte carlo or specific orders: image, maintenance, and outage orders.

CSA have their own algorithm that they use to build their orders. Orders are bound to a certain degree of randomness and not made manually.

Generate a metric that can demonstrate: accepted orders %, failed orders %
- Stanley built the metrics using the scoring function for genetic algorithms.

- The CSA told us to consider the local time as some orders may be in the past and we need to consider this using a local clock on some mechanism for that. They should also be able to change the local time as well. If the order is in the past then it should be rejected based on the local time.

Stand-up Meeting: Sprint 1.7

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Team Responsibilities for the Coming Week		
#	Name	Responsibility
1	Youssef Hany	PSO algorithm development, power constraint development, and refinement of requirements to be more agile.
2	Rafael Dolores	
3	James Le	

4	Walid Al Dari	Taking a week long break in order to prep for midterms. But for when I get back: polish the excel sheet, and perform deeper research on the explored methods, and find more hosting platforms to consider.
5	Ruth Bezabeh	
6	Stanley Ihesiulo	Completely integrate Rafael's scheduler and continue work on scheduler orchestration + genetic algo mutations
7	Hashir Jamil	Finishing satellite health data & eclipse/contact worker

Progress Report on Last Week's Activities			
#	Name	% Completed	Comment (provide the reasoning only if 100% is not completed)
1	Youssef Hany	25	Began progress on PSO, building power constraint on raf's scheduler, and PRD started
2	Stanley Ihesiulo	5%	I had bed bug problems + passport problems + other stuff 😭 no time to work much, but I did start on the work
3	Hashir Jamil	25%	having a hard time getting the worker task correct
4	Rafael Dolores		
5	Walid AlDari	40%	Established criteria to select the most suitable hosting platform. Explored the following platforms: heroku, AWS EC2, netlify, firebase, and digital ocean.
6	James		
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