

## SATIRE Milestone Progress Evaluation 5

### Team

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### Sponsor

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### Updated Progress of Last Milestone (4) (Progress Matrix)

Task	Complete %	To do
Arduino connection	90	Testing & adding more sensors
Hardware Install	90	Install more sensors
Mission Planner	80	Add more configs/behaviors

### Tasks Discussion Milestone 4

Task 1 - MOOSDB is now able to receive data from the Arduino board through the serial port. Next step is to add more sensors to the Arduino board and find a way to send multiple data at once through the port, potentially as a single string that gets parsed before it reaches the MOOSDB.

Task 2 - MOOS is installed onto the Raspberry Pi and running next steps are to add more sensors and synchronize data transmission. Most likely not going to order any more sensors due to how close we are to showcase.

Task 3 - Continued adding config blocks and behaviors to the mission planner, changed the Gui around some, and changed the process selection of config or behavior blocks. The mission planner is displayed on the poster board, and is currently ready to be demoed.

### Progress of Current Milestone (5) (Progress Matrix)

Task	Complete %	Taylor	Sean	Robert	Clayton	To do
Create poster for Showcase	100	25	25	25	25	Done
Implement and test emergency system with placeholder methods	60%	20	20	10	10	Get multiple sensors inputting into the MOOSDB
Implement and test sonar obstacle detection.	60%	15	15	15	15	Simulate polygon input into MOOS through the Arduino
Hardware Installation and Arduino Connection	90	15	40	20	15	Add and test more sensors
Mission Planner	80	10	10	10	50	Add more configs/Bhvs

### Tasks Discussion Milestone 5

Task 1 - The showcase poster has been completed and submitted.

Task 2 - The emergency system still needs more sensor input this will continue as we add and test more sensors and progress on the hardware installation task. Until then, we will test the system by hardcoding information into the system, which will allow us to see how the system reacts to a certain value.

Task 3 - Given time constraints we will be simulating sonar input, next steps will be sending generated data through the Arduino interface. All of the actions we would of done, but weren't able to due to time, will be documented in our project documentation. The documentation will be used by the group next year to further improve this project.

Task 4 - MOOS is installed and running on the RaspberryPi and receiving sensor data from the Arduino. Next steps will be to synchronize multiple sensors at once. Once all the sensors are synchronized, then we will be able to test the different system within MOOS.

Task 5 - Continued to add config blocks and behaviors to the planner as well as changing around the gui layout a bit and then add config/behavior selection for usability. The reason we changed the layout of the GUI is to make it more straight forward due to it being the most displayed portion of our project during showcase.

### Personal Discussion Milestone 5

Taylor - Helped design the poster. Provided constructive feedback and organized the workload. Reviewed the collision avoidance system to see if there are more efficient ways for the system to avoid an object.

Sean - Finished writing a test application that reads data from an Arduino sensor, sends that data over the serial port to the Raspberry Pi, and then is read by the MOOSDB application. Next step is to add more sensors to the Arduino board and handle the data transfer of those sensors.

Robert - Was involved with the designing of the poster. Still working on adding to the emergency system that is implemented in the MOOSDB. We will not be able to fully test the system without the use of sensors, but can simulate the system by hardcoding values into the system. All hardcoding within this section will be discussed in the project documentation to help with future improvements to this project.

Clayton - I focused on continuing added more to the mission planner. I changed the main window layout some and moved the behavior and config block selection entirely to dialog windows to make the whole thing easier to use/understand.

### Plan for next milestone (6) (Task Matrix)

Task	Taylor	Sean	Robert	Clayton
Create Project Documentation: manual, progress report for next years students.	25	25	25	25
Demo Video	25	25	25	25
System Testing	25	25	25	25
Finish Hardware Connections to send to all current system modules	30	30	20	20

Finalize Mission planner	20	20	30	30
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### **Discussion Milestone 6 Planned Tasks**

Task 1 - This is a two year project so the team will need to collect of our documentation and put together a progress report for the next student to work from. This will need to allow the new groups working on the project to pick up working on the project with explanation on all the of existing work.

Task 2 - Create a demo video of the system. This video will attempt to display all of the modules that we have added or modified within the MOOS system.

Task 3 - Test the current modules for bugs and remove where found. Focus will be on the data transmission between the arduino and the MOOSDB as that is the central point that must work and the area the team has the least experience in working with.

Task 4 - Finish added the rest of the sensors to the Arduino and ensure that user modules are receiving data.

Task 5 - Finish adding config and behavior blocks to the planner.

## **Sponsor Feedback Milestone 5**

Task 1

Task 2

Task 3

Sponsor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Sponsor Evaluation

- Sponsor: detach and return this page to Dr. Chan (HC 322)
- Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

<b>Taylor</b>	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
<b>Sean</b>	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
<b>Robert</b>	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
<b>Clayton</b>	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

- Sponsor Signature: \_\_\_\_\_ Date: \_\_\_\_\_