SATIRE Milestone Progress Evaluation 4

Team
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Sponsor
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Updated Progress of Last Milestone (3) (Progress Matrix)

Task	Complete %	To do
Obstacle avoidance	75%	Implement Sonar to create obstacles for AUV
Emergency Systems	40%	Get sensor data, decide action system takes
Navigation	100%	

Tasks Discussion Milestone 3

Task 1 - Obstacle pathing is functional, work is now focused on generating bounding polygons from sonar to be sent to the obstacle avoidance module. Also needs to use sonar to determine if object is stationary, or moving and its direction if so. Once the desired hardware is retrieved for this

Task 2 - Basic emergency module is built, currently work is on importing sensor data from the arduino controller into the MOOSDB. Once this is functional the sensor data will be compared against operational limits. Response will be separated by mission type, scuttle or message for rescue.

Task 3 - Basic navigation is functional. Once the coordinates are put in the system, the AUX will navigate towards the desired location using the shortest path. No more features are being added as this time so it is set as complete unless additional changes come up.

Progress of Current Milestone (4) (Progress Matrix)

Task	Complete %	Taylor	Sean	Robert	Clayton	To do
Arduino connection	25	5	10	5	5	Finish code that connects arduino with MOOSDB
Hardware Install	20	5	5	5	5	Waiting on meeting with Dr. Wood
Mission Planner	50	10	10	10	20	Interfacing with gui and adding more behaviors/config blocks.

Tasks Discussion Milestone 4

Task 1 - Arduino code and MOOSDB messaging methods are available and currently we are in the process of interfacing them together.

Task 2 - Working on getting a meeting with Dr. Wood to access the hardware for this stage. Additionally, an Arduino mega and a Raspberry pi have been ordered on the side to test sensors as well as test installing the MOOSDB.

Task 3 - Currently interfacing GUI forms with the mission planner code. Mission planner still needs some of the config blocks and behaviors implemented and a GUI. File builders for both the .moos and .bhv files are in progress with focus on implementing the config block for the .moos and the MOOS behaviors that are a part of IvP Helm, The mission planner needs to allow users to select the behaviors they want to be a part of the mission and input information needed such as gps coordinates. GUI is not yet implemented and will need to be addressed after all of the behaviors and configs are in.

Personal Discussion Milestone 4

Taylor - The only thing I was able to do for this milestone is hard code some mission in MOOS.

Sean - Been mostly working with the MOOSDB - All communication goes through the moos database, so I have been doing research on how the database communicates with other

applications. Next step is to write a test application that simulates hardware output and sends that to the database, simultaneously having another application reading that data.

Robert - Mostly working on the emergency system that is already somewhat implemented into the MOOSDB. There is already a basic emergency module, but we are hoping to add certain responses depending on the mission type. The emergency system won't be fully operational until sensor data is able to be sent from the arduino into the database. Once all the sensors are up and running, then we will add the flags (response type) to each of the pre-existing emergency systems.

Clayton - Mostly been working on the mission planner. I got a preliminary gui up and am waiting on our meeting with Dr. Wood to get some feed back on it. Once that has happened i will put in more behavior and config blocks.

Plan for next milestone (5) (Task Matrix)

Task	Taylor	Sean	Robert	Clayton
Create poster for Showcase	25%	25%	25%	25%
Implement and test emergency system with placeholder methods	20%	20%	30%	30%
Implement and test sonar obstacle detection.	30%	30%	20%	20%

Discussion Milestone 5 Planned Tasks

Task 1 - The team will need to get together to design our poster not much has been decided on this as of yet. We will figure out which aspects of our project that we wish to highlight, and how we wish to address them. We will also get together with the ocean engineering side of this project to find out what part of the poster they will provide.

Task 2 - This will focus on getting the sensor data from the MOOSDB and comparing the reading to the operational limits. There will be placeholder methods to scuttle and messages to simulate these will be implemented in the future when the hardware for these actions is available. This system is already pre-build into MOOSDB, so our main task will be to add the responses and get the sensor data running into the system.

Task 3 - This is the hardware interface for the collision avoidance system. The collision avoidance works well when being simulated through MOOS, but won't be able to be tested to the fullest of its ability until the hardware is provided for this system. We will be using a laser scanner as a open are replacement for sonar for building and testing this module until then.

Sponsor Feedback Milestone 4

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)

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

- Sponsor Signature: _____ Date: _____