

## SATIRE Milestone Progress Evaluation 6

### Team

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### Sponsor

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### Updated Progress of Last Milestone (5) (Progress Matrix)

| Task   | Complete % | To do  |
|--|------------|--|
| Create poster for Showcase                                   | 100%       | Done   |
| Implement and test emergency system with placeholder methods | 90%        | Done for now, will need updating latter when data transmission, and the scuttle hardware is developed. |
| Implement and test sonar obstacle detection.                 | 75%        | Still have to be able to create obstacles live while running the mission                               |
| Hardware Installation and Arduino Connection                 | 100%       | Done   |
| Mission Planner  | 80%        | Not all behaviors are complete yet.  |

### Tasks Discussion Milestone 5

Task 1 - Poster completed and used during showcase.

Task 2 - Emergency system implemented and fully functioning with the various sensors.

Task 3 - Obstacle generation is not ready, but is not essential in this release.

Task 4 - Hardware installation and arduino connection is fully working.

Task 5 - There are still needs more behaviors and configs to be implemented.

### Progress of Current Milestone (6) (Progress Matrix)

| Task                        | Complete % | Taylor | Sean | Robert | Clayton | To do   |
|-----------------------------|------------|--------|------|--------|---------|---|
| Create User Manual          | 100%       | 25%    | 25%  | 25%    | 25%     | Done  |
| Create Demo Video           | 100%       | 40%    | 40%  | 10%    | 10%     | Done  |
| Mission Planner             | 80%        | 15%    | 15%  | 15%    | 35%     | More behaviors and configs, and testing             |
| Finish Hardware connections | 100%       | 10%    | 70%  | 10%    | 10%     | Moos installed on pi, connected to arduino complete |
| System Testing              | 50%        | 12%    | 13%  | 12%    | 13%     | More testing  |

### Tasks Discussion Milestone 6

Task 1 - We have successfully finished the user manual for the AUV we developed, and we will pass along our documentation to the next SATIRE team. That team will use the improvements we've made to MOOS, and continue to add into the system.

Task 2 - We created a video of us demoing our prototype tire AUV. The video consists of a view of our tire, which has the hardware inside of it, and will have a propellor move in the back to show that the system is telling it to move (though it stays put because it's not fully functional). The other portion of the video shows the data that is coming in from the sensors on the tire, and the cartesian grid that is displayed on the computer when a particular mission is selected to be run.

Task 3 - Mission planner is still incomplete, the applications still needs more behaviors and config blocks added to it. The planner also needs testing and bug removal.

Task 4 - MOOS is installed onto the raspberry pi and connected to the arduino with multiple sensors installed and being input correctly. The thrust control is being successfully read from MOOS and output to demo hardware.

Task 5 - Some testing of the system has been done but there is still a lot to do for this task. We mostly tested the features that we were going to use during the showcase, and set aside other functionality tests for the next group to do when they are evaluating the system.

### **Personal Discussion Milestone 6**

Taylor - Helped present at showcase. Added about 4 pages to the user manual.

Sean - Created a working SATIRE prototype for the showcase. The prototype was a tire with the arduino, raspberry pi and all the sensors inside it. Finished up on the software connecting the sensors to the moos database and ensured it was working fine before, during and after showcase. Recorded videos for the final demo, and lastly worked on the user manual.

Robert - Contributed to the creation of the user manual, which will be used by a follow-up team who will take over SATIRE. Also presented at the Senior Design showcase, where our ocean engineering counterparts won their divisional prize. Participated in some final system testing before we presented it at showcase.

Clayton - Worked on the mission planner, I ran into some major bugs which slowed things down. Continued added to the planner, and doing testing on the application. Removed bug from the planner and also worked on the user manual.

## **Lessons Learned - A Lot**

Communication was a major obstacle for this project. We had no real contact with the hardware team which was a major issue when it came to requirements.

I think was also learned somethings about time management. We ran late on several tasks for the project which definitely had a snowball effect.

It was very difficult to balance all of our schedules because we all had very conflicting time commitments. For me, it was extremely difficult to meet with the group due to my commitment to athletics, and I think that really set me back in my development of the project. I should of found another time to set aside and work on the project if i couldn't meet up with the rest of the group during their meeting times.

## **Sponsor Feedback Milestone 6**

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: \_\_\_\_\_