**SATIRE Milestone Progress Evaluation 2**

**Team**
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**Sponsor**
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**Updated Progress of Last Milestone (1) (Progress Matrix)**

| Task | Complete % | Taylor | Sean | Robert | Clayton | To do |
|---|---|---|---|---|---|---|
| 1. Investigate/Select Tools | 90 % | 22.5 % | 22.5 % | 22.5 % | 22.5 % | Sonar vision for collision avoidance.. |
| 2. “Hello World” Demo/Example | 100 % | 10 % | 10 % | 10 % | 70 % | Done |
| 3. Requirement Document | 90 % | 40% | 20% | 20% | 20% | Update |
| 4. Design Document | 90 % | 0% | 25% | 25% | 30% | Update |
| 5. Test Plan | 90 % | 20% | 20% | 20% | 30% | Update |

**Progress of Current Milestone (2) (Progress Matrix)**

| Task | Complete % | Taylor | Sean | Robert | Clayton | To do |
|---|---|---|---|---|---|---|
| 1. Implement, test, and demo GPS navigation controller | 65 % | 5 % | 5 % | 5 % | 50% | Automate mission generation. |
| 2. Implement, test, and demo AUV dead reckoning | 40 % | 5 % | 5 % | 5 % | 25% | Determine if external landmarks are needed and implement. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3. Implement, test, and demo motor control | 25 % | 5 % | 5 % | 5 % | 10% | Implement the MOOSDB to hardware interface. |

**Tasks Discussion Milestone 2**

Task 1 - MOOS GPS navigation is functioning but not yet automated. The generation of behavioral and mission files is still manual, this will need to be automated. The next step will be to implement an automated generator for moos mission and behavioral files.

Task 2 - The cartesian coordinate system of moos provides dead reckoning functionality and is functional with our mission. We need to determine if this will be sufficient in itself or if we will need to add functionality to use environmental landmarks as well.

Task 3 - The MOOS app for motor control is implemented but as of yet only has the functionality to connect to the MOOSDB for communication. We need to implement the interface from MOOS communications to the hardware still.

**Personal Discussion Milestone 2**

Taylor - Implemented MOOS on my own machine. Ran a few demos from my computer and made sure the programs compiled and ran. Helped make sure MOOS built and run without errors on every team member's machines.

Sean - The team and I have conducted a couple of meetings where we have been discussing the project and our progress. We have also been able to compile and run the MOOS platform on each team member's personal computer. There have been no time to test the motor or any hardware yet. What we need for the future of the project is to organize more meetings with the hardware team, possibly once per week.

Robert - The main thing we focused on for this milestone was getting the MOOS platform to compile and run on our virtual machines. Once we compiled the MOOS platform, we were able to use a lot of its provided functionality to give our UAV its internal and external sensors, along with the emergency system and basic motor controls. We have not had much contact with the members of the other departments involved in this project, so it may be safe to assume that we are on our own to fully complete this project. Our group needs to be more organized and work more as a team,

so it would be wise to hold meetings every week to make sure we can complete each task.

Clayton - Implemented a customized mission for the project as initial test of GPS navigation and a template for the future implementation of an automated mission generator. Implemented the MOOS apps for internal sensor, external sensor, emergency, and motor controllers. These currently have no functionality besides interfacing with the MOOSDB communication system. The system builds with these additions and the local MOOS mission is available for demo.

**Plan for next milestone (3) (Task Matrix)**

| Task | Taylor | Sean | Robert | Clayton |
|---|---|---|---|---|
| 1. Implement, test, and demo sensory input | Implement at least 1 test case/demo | Implement at least 1 test case/demo | Implement at least 1 test case/demo | Implement at least 1 test case/demo |
| 2. Implement, test, and demo collision avoidance system | Implement Sonar Vision and interface with Nav | Implement Sonar Vision and interface with Nav | Implement Sonar Vision and interface with Nav | Implement Sonar Vision and interface with Nav |
| 3. Implement, test, and demo Emergency System | Implement Emergency Protocols based on internal sensors | Implement Emergency Protocols based on internal sensors | Implement Emergency Protocols based on internal sensors | Implement Emergency Protocols based on internal sensors |

**Discussion Milestone 3 Planned Tasks**

ask 1 - We plan on meeting with the hardware team to establish exactly which sensors and what hardware that will be used for the AUV. We then plan on creating test data based on the hardware output and use that data to carry out a demo.

Task 2 - We plan on meeting with the hardware team to figure out which cameras/sonars they will be using for the AUV and with this knowledge do we plan on conducting collision avoidance tests. We will need to implement a vision system based on what hardware will be responsible for this and interface this with the MOOS navigation system.

Task 3 - We need to implement emergency protocols based on input from the internal sensors.  This will need to prescribe specific actions to take given the type and level of input from a number of internal sensors.

**Sponsor Feedback Milestone 2**

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: _____