Engineering Notebook

John Mueller

9/10/21

1st meeting

- Akbas is our product owner
- Use github + make backlog
- first goal is to set-up airsim on PC (both lab + personal)
- Work on product vision

9/13/21

- Repository made
- Going to start installation tonight on my PC

^ ran into problems, airsim keeps crashing my PC. will have to see if I installed it wrong

9/16/21

- Meeting with professor Chong
- did some research on airsim crashing PCs, might be that my drivers are out dated ill try updating drivers tonight

9/19/21

- Helped with SDS and SRS, specifically worked on, the SDD's Design constraints, future contingencies, and helped Dillon and Elijah with System Architecture

- Also from past meeting with Ahbas

goals for rn + future
- Create One UAV
- create multiple UAV
- Have them play "pong"
- Use them to calculate volume

- Still having problems installing Airsim...

9/27/21

- still having major problems installing airsim, hard crashes my computer, running out of options
- started looking over the repository professor Akbas gave us (last year's team), so far not much to note just looking at SOO and SQS.

9/28/21

- Looked at other teams code and took note of any notable code snippets, handed notes to team
- Most of notes was about how to spawn drones, seems like other team really focused on the GUI for their project and nothing else...
- Helped Naimesh with slides for presentation tomorrow.

9/30/21

Presentation day!

Went well!

10/2/21

- Dillisa as scrum master has pushed us to reorganize our meeting structure.
- Tried to reinstall airsim from scratch, still crashed

10/7/21

- met with team, reorganized meeting times
- watched presentations today, took notes on others to help improve our presentation
- scheduled 1O meeting with Akbar, will have to be there

10/11/21

- Had meeting with team at capstone room
- Talked with Dillon asking what work I can do specifically, gave me tasks to do with Naimah

10/19/21

- Worked with Naimah to update to update the test plan, finished the traceability matrix
- Pushed my version of test plan with updated traceability matrix and some grammatical fixes

10/20/21

- Had meeting with team in capstone room
- Tasked with reviewing SRS sections 4.1 – 4.3 and SRS section 5

10/25/21

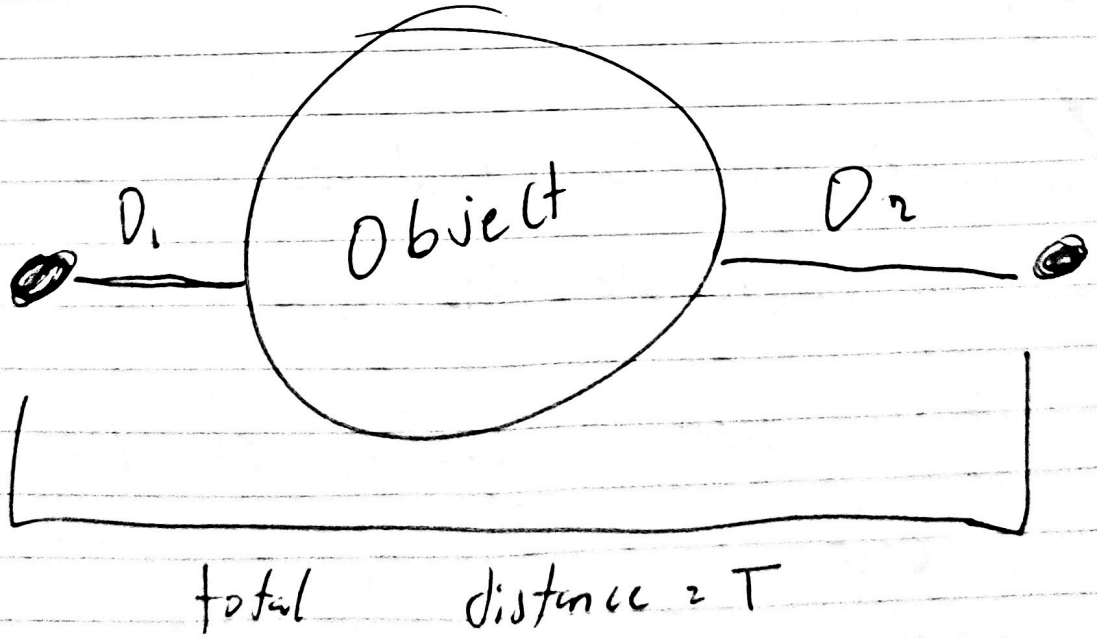
- pushed new version of SRS with updated 4.1 - 4.3 and 5
- Helped Naimah with powerpoint presentation

10/28/21

- Presentation today, went well

11/1/21

- Working on implementing a method to length of slice of object



$T - D_1 - D_2 = \text{Object Length}$

11/3/21

- Researched into coding with python and notable airsim api's
- found implementation of Distance sensor for drone

11/5/21

- After talking with Dillon, realized that I need to find not length but magnitude of slice of object.
- Researched formulas that would be able to calculate this, found that distance formula would be the best

$$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2+(z_2-z_1)^2}$$

11/9/21

- Started coding implementation of get slice
- first problem arose - do not know how to grab individual x, y, z coordinates of drones - need more research

11/17/21

- found way to grab individual drone x, y, z coordinates

  simGetVehiclePose

- Going to finish first code implementation

11/24/21

- problem arose with simGetVehiclePose; only used for cars
- Must use getMultiRotorState

11/29/21

- Implemented new getMultiRotorState as well as implementing distance sensors to settings.json file

- pushing first version of the getSlice() method.

12/1/21

- Added if-else statement to 'getSlice()' to ensure that distance sensors actually work when needed
- Also calibrated sensors correctly to scan objects

12/3/21

- started reviewing test plan, fixing notes from grader
- Also began testing getSlice() method with drone_swarm