Group #1-10 **Quadruped Robot**

Date: 31/03/22	Time: 1100-1120	Place: Online

Attendance

Attended: Jed Muff (JeM), Eric Hannus (EH), Julius Mikala (JuM), Antti Sippola (AS), Rituraj Kaushik (RK)
Apologies: Jere Vepsä (JV),
Missing:

Agenda

1. Session aims
    a. Progress report – Where are we at? Construction, software, testing
        i. Construction, software, testing
        ii. Documentation
        iii. Improvements
    b. Midterm evaluation - RK
    c. Should we test it with code on the GitHub or is there code you would like use to use RK?
2. Progress Track:
    a. Overdue:
        i. 5.1 Assemble the standard Real-Ant
        ii. 5.2 Study available code and Real-Ant operation
    b. This week:
        i. 5.3 Set up Real-Ant in test environment
        ii. 5.4 Test available codes
    c. Next week:
        i. 6.1 Run tests until parts fail
        ii. 6.2 Tests

Outcomes:

In the meeting

1. Progress report:
    a. Construction – All legs are made, just need to put the controllers on one body plate and screw it all together
    b. Software / Testing – Managed to test the hardware with the ROBOTIS IDE although haven't managed to find a way of easily testing the hardware with Arduino. Still need to test the python code.
    c. Documentation – We now have a documentation folder containing all details made about the construction, printing, and possible improvements. **Need to update for this week.**
    d. Improvements – JuM has designed some more soft parts to test (currently have 2 CAD designs).
2. Have established we should aim to finish construction and testing the python codes today so RK can return the robot he has borrowed.
3. RK is still working on midterm evaluation.
4. RK will provide some python code to test the robot.

Throughout the day:

1. Manged to finish constructing the first prototype of the robot and tested the python codes on GitHub which worked.

2. One issue of note is that the OpenCM9.04 board randomly disconnects, and the only way of reconnection is to disconnect and reconnect all power to it. Need to find a fix for this.
3. We need to test what parts of the code correspond to changing each actuator.
4. Also need to reorganise the body so the board wires both go out the back before testing.
5. More improvements were noted in the improvements document.
6. I think (JeM) that we should have some more knowledge about the codes we are using, maybe some kind of documentation explaining the robot's functionality. From software to hardware.

Action Log

Action to be taken	Who is responsible	Deadline
Midterm Evaluation	RK	-
Provide python codes for testing the Robot	RK	07/04/2022
Edit wiring diagram to add orientation	JeM	07/04/2022
Update documentation	JeM	07/04/2022
Tasks to be done over the next two weeks:		
Reorganise the body/board layout for testing, so that wires come out one side.	unassigned	14/04/2022
Test the robot until part fails	unassigned	14/04/2022
Realise/implement changes noted in the improvements document. For example, screw holes in the right place for body plates.	unassigned	14/04/2022
Edit python code for testing individual motors. Look at ant_send_cmd.py. Functions like: • Input – actuator ID/index. • Output - make the actuator go from max to min range. Function set position: • input – actuator ID/index, position. • Output – sets the position of the actuator	unassigned	14/04/2022
A document explaining how the code works. From software to hardware	unassigned	14/04/2022