Group #1-10

Quadruped Robot



| Date: 07/04/22 | Time: Throughout the day | Place: Maarintie 8 |
|----------------|--------------------------|--------------------|
|----------------|--------------------------|--------------------|

Attendance

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

Apologies: Missing:

Agenda

- 1. Session aims
 - a. Update on midterm evaluation
 - b. Discuss code for testing the robot
 - c. Progress report
 - i. Construction
 - ii. New designs / improvements
 - iii. Testing
 - d. Discuss no meeting next week due to exams
- 2. Project Plan Track
 - a. Overdue
 - i. 5.3 Set up Real-Ant in test environment
 - b. This week:
 - i. 6.1 Run tests until parts fail
 - ii. 6.2 Manufacture default parts as replacements for tests
 - c. Next week:
 - i. 6.3 Analyse causes of part failure and improvement needs

Outcomes:

- 1. Last week we had an issue with the board randomly disconnecting. After extensive debugging, we found that the reset command in the ant_send_cmd.py script seems to be causing the disconnect randomly.
- 2. After that issue there seems to be another issue with getting the actuators to behave exactly as expected. All but one leg wouldn't go to the position expected. We believe this is a software issue.
- After some discussion we concluded that we should get the actuators to work as
 expected by purely using some Arduino code, this way we don't have to worry about
 some other communication issues. Also, we can eliminate more possibilities and
 know exactly how the code works.
- 4. More parts may need to be ordered. A female to male DC power cable may be needed to that the boards can be organised neatly in the robot. More actuator cables in fear that they may break.
- 5. Other work was completed throughout the day:
 - a. JuM worked more on printing the new soft part but came across some issues with the print. This can be fixed.
 - b. AS worked on implementing a new design for the body plates with the improvements mentioned in the improvements document.
- 6. When the time is right, we will organise time to spend with RK to test his code.
- 7. No meeting next week and with exams, little work is going to be done this next week. After that, we are thinking of spending two days a week on campus working on the robot. This is still to be decided.

Quadruped Robot



Action Log

| Action to be taken | Who is responsible | Deadline |
|---|--------------------------|----------|
| Midterm Evaluation | RK | - |
| Documentation about debugging | EH | 21/04/22 |
| Arduino code for testing OpenCM9.04 board | All | 21/04/22 |
| with Actuators | | |
| Implement changes noted in the | AS has taken the lead in | 28/04/22 |
| improvements document | this | |
| Test robot until parts fail | All | 21/04/22 |