## **Group #1-10**

#### **Quadruped Robot**



Date: 10/02/2022 Time: 1500 – 1550 Place: Maarintie 8, 2nd floor

#### **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. Meet in person for the first time
  - b. Sign off and submit the Project plan
  - c. Possibly tour of facilities we can use
  - d. Possibly look at Real-Ant Robot to see how it is put together
  - e. Establish what needs to be done next on the project. Next on the project plan is work package 2 (WP2) Manufacturing of standard parts (WP Leader Antti Sippola):
    - i. Learn to use 3D printers
    - ii. Print legs
    - iii. Print body plates
    - iv. Start research for improvements (CAD design skills)
- 2. Any other business

### **Outcomes:**

- 1. All the action log last week was fulfilled
- 2. The project plan was signed off before the meeting. JeM just needs to submit it.
- 3. We met in RK's office and had a look at the robot. We have identified a second board that might be missing from the order sheet (power board). Unfortunately, due to lack of information, we cannot identify whether this comes with the actuators, if needed, or needs to be ordered. As of this moment, we can only wait for the parts to come.
- 4. We talked about some ideas about soft materials for the robot
  - a. 3D printed plastic sheath
  - b. Some soft chair fabric
- 5. After a discussion about the labs and 3D printers we can use decided RK is going to investigate further how we can use them
  - a. Do we need to request access?
  - b. Does a workshop master need to be there?
  - c. Opening times?
  - d. Do we need to bring our tools? Do we need to provide 3D print material?
  - e. When can we use the 3D printers?
- 6. AS pointed out, we could use other publicly available 3D printers on campus but need to book at least a week in advance.
- 7. The question came up whether one person should 3D print the parts (which would be quicker) or wait for the whole group to learn. The latter option was chosen since we are currently limited by information and parts delivery, so we have time to train people.
- 8. After the meeting, the group quickly took a look at the lab and the available 3D printers we could use. JuM managed to talked to a TA and told him more information about the lab:
  - a. The 3D printers are apparently not very good because they break all the time in the lab.

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- b. They can use their 3D print filament as long as its not 'loads'c. A good soft filament is Ultimaker TPU 95A
- 9. This week, the group's tasks involve research to prepare to use the 3D printers.

# **Action Log**

Action to be taken	Who is responsible	Deadline
Submit Project Plan	JeM	10/02/21
Find out about how to get access/use the labs in the department:  Do we need to request access? Does a workshop master need to be there? Opening times? Do we need to bring our own tools? Do we need to provide our own 3D print material? When can we use the 3D printers?	RK	17/02/21
<ul> <li>What software to use?</li> <li>What filament to use?</li> <li>What are available 3D printers we can use, and how we would use them?</li> <li>How to use 3D printers?</li> <li>Download software and look at GitHub files</li> </ul>	All bar RK	17/02/21