Vermot-Desroches Matthias

Rapport de séance n°22

During this session, I struggled with ROS, built a new floor for our frame, and assemble the Arduino box and the new floor.

I try to do ROS tutorials on autonomous navigation, but when doing so, a lot of errors occurred with the simulation package the tutorial used “gazebo”. We still do not know why they occurred, but I think it has to do with the package/files the tutorial ask me to download and their compatibility with ROS melodic (even though it said it was compatible). After moving, deleting some of the packages and getting a screen to have a graphic interface, the simulator was able to launch.

However, in order to continue with the navigation part, I needed to finish making the mapping part of ROS. I already could make a rough map with a 2D LiDAR, but I wanted to try and have a better one. However, the packages I downloaded to upgrade it caused lots of errors to occurred. I took a long time to find out that they were the cause.

During the time I was searching for a solution to the errors, I made a CAD model of a new PMMA/Plexiglas floor for our frame. It was meant to allow us to put the Nvidia card and the Lidar (at least the 2D one) on the frame as we lacked space for them on the other floors. I used the laser cutting machine to make it and screw it on the frame. I also used this opportunity to screw the Arduino box on the frame.

Here are pictures of the frame’s new look:

Une image contenant Appareils électroniques, Ingénierie électronique, fils électriques, câble

Description générée automatiquement

You can see that I only made holes to place the Nvidia card. I wanted to wait and see how the LiDAR situation will go before making last minute holes on the floor according to what we settle on. However, according to my partner, we won’t have time to put the LiDAR on it. Also, the hole in the middle of the floor is here to make us able to have the cable be linked with the Arduino card more easily and to stretch them less.

Une image contenant fils électriques, Appareils électroniques, machine, câble

Description générée automatiquementUne image contenant pneu, personne, roue, Pièce auto

Description générée automatiquement

You can see the placement of the Arduino box and the cables layout I used to link them to the card. I made them go inside the frame even though it stretched them to make the robot look less in disorder.

During the weekend, I will finish the mapping with ROS part and try to advance as much as possible on the navigation part. This will allow us to present a first version of our program with our robot during the oral presentation.