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Team D: CuBi

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Individual Progress

The main focus for this review was to catch up with what we had completed last semester as a group and plan ahead. Major changes were made as a team for project management. I was assigned the duty to properly version and document the code on Github, which was messy due to haphazard coding practices in the last few days of the last semester, before the final demonstration. Therefore, I suggested some changes in the current practices for writing code, reviews, merging and and documentation, and prepared some guidelines so that people can collaborate more efficiently this semester.

Secondly, I performed the code cleanup for my modules (mainly vision) from the last semester and updated its documentation for running the various features of the module.

This PR was much more focused on team work and discussions rather than individual work.

Challenges

Individual challenges:
No individual challenges as such for this ILR as we are still deciding on the individual task distribution for this semester. But considering the modules I worked on during last semester, obstacle detection and avoidance has to be introduced in the perception or/ and SLAM subsytems and integrated with other modules for real-time operation, which seems challenging.

Team challenges:
Key challenges and lessons from Spring semester:
- Working together more effectively saves tremendous amount of time for integration.
- Better collaboration means better learning by all team members, better results and a better environment for the whole team.
- Utilizing Git branches and discuss before pushing code onto the robot
- No over-commitment.
- Reach a point where you can integrate everything as soon as possible to allow early and constant validation.

The team had to retrospect about the last semester and take some major decisions about project management, SLAM and motion planning.

Teamwork

For this PR, we had a lot of meetings and discussions to take collective decisions about this semester. We discussed about the good things for each subsystem, the upcoming changes,

schedule, risks and most importantly project management. We switched to an open source tool called Notion to do various tasks on a single platform - task planning, scheduling, calenders, meetings, documents, work logs, communication, risk management and work division. Fig. 1 shows an example snapshot of our tasks page.

Rather than interacting with others individually for sub tasks, this time the interaction was mostly with everyone together for team collective decisions.

Fig 1. Snapshot of task planning on Notion

Future Work

Individual plans:
The exact subdivision of tasks has not been finalized yet, but I will be working broadly on the research and implementation of SLAM and obstacle detection.

Team plans:
As a team we will be meeting over the weekend to finalize individual tasks and take some major decisions about SLAM, exploration and obstacle detection strategies, number of objects we can pick at a time, operation time reduction and changes in the current project requirements.