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Intelligent Mobile Systems

Logbook:

V.13:

Monday: Met up with the group after the lecture, introduced ourselves and decided to have the first real meeting after the lecture on Wednesday.

Wednesday: First real meeting. We decided which people will be focusing on what parts of the project. I ended up on the App together with Victor and Hugo. We also decided on a team leader, a communication platform, a code sharing platform, a preliminary meeting schedule and some group rules. Each member gets a maximum of 3 warnings issued by the rest of the group before teachers are contacted. Before the next meeting on Tuesday, each group should have done a basic work breakdown structure with some sort of time estimation. Lastly me, Victor and Hugo decided to meet on Friday to start talking about the app and breaking down the requirements.

Friday: Met with the app team. First discussed what type of app we want to do. Pretty quickly agreed that react native seems like a good choice, but we can keep it open until we have taken some more decisions with the rest of the group. Then started to break down the high-level requirements into smaller pieces. Realized there were a lot of things that depended on how the group as a whole want to do things and that we need more information to be able to further break down our work and put time estimates. We, therefore, came up with some questions that we will bring up to the group on Tuesday.

V.14:

Monday: -

Tuesday: Lecture about wireless communication on Zoom.

Meeting with the entire group at school. We went through some questions that had come up while doing our work breakdowns. Informed the other teams what we had decided on for our different parts and had some discussions on what we think will best solve the problems etc. The hardware team had assembled the robot which looked nice! Hugo sent some design and colouring work he had done.

Wednesday: Checked out the work Hugo had done, looked good. Did some research on the development environment that we are going to use. Watched the recorded lecture.

Thursday: Started installing everything for the development environment. Created a GitHub “Project” that we in the app team can use to keep track of our issues/user stories. Cloned the GitHub repository and got the project working on all of our computers which took quite some time, annoying!

Friday: Had a meeting with the whole group. Went through everybody´s progress. Had a bit of a retrospective which mainly turned out good points but also some points for improvement.

Met with the app team on discord where we went through and slightly modified the mockups we had started on individually. Hugo then gave us a bit of an intro to React-Native which was very good. We ended the meeting by deciding that Victor and I should spend some time getting comfortable with React native, and then meet in school on Monday to start working on the app for real. I spent some time after the meeting and during the weekend to learn about React native. Feels okay but is for sure going to take a little while to get fully comfortable.

Estimated time spent: 19h

V.15:

Monday: Started the day by researching react-native a bit more. Then met up with the mobile team in school to start implementing the UI. It went well and it felt like we got quite a lot done.

Tuesday: Meeting with the entire group at school. Some confusion regarding the time so some people were missing, but no problem, we will get better at scheduling. Went through how last week had been and then made plans for this upcoming week. Considering that the goals for the upcoming week will be a bit smaller since 2 workdays are kind of removed by easter.

Wednesday: Worked on the app together with Victor. Went really well and we are soon finished with the UI. Feels good.

Thursday: Met up with most of the group in school to work together. Got some questions cleared up and did more progress on the UI. Victor couldn´t attend since he was sick, but he started on the map functionality from home. Then watched Linus´ lecture on Zoom.

Friday: (Easter)

Estimated time spent: 18h

V.16:

Monday (Easter): Implemented the last part of the UI. The settings page.

Tuesday: Long meeting with the whole group. Discussing communication, functionality and some changes in our meeting schedule. Decided to all work together on Thursdays from 1 PM -5 PM. Have a "meeting" in the middle at 3 PM and then skip our Friday meeting.

Wednesday: -

Thursday: Met with the entire team to work in school. Went well, except that we got news from Husqvarna that we must communicate with the robot directly from the app, which contradicted previously said things from Husqvarna. Spent a lot of time researching how we should communicate to the robot since we agreed Bluetooth was not a good option for us. Looked into running an API server on the robot or running a socket server to see what would work best for our purpose.

Friday: Continued implementing more functionality for the UI. Wrote skeleton code to prepare for sending requests upon button-presses etc.

Estimated time spent: 19h

V.17

Tuesday: Long meeting with the group again. Discussions on how to sort of tie the last undecided things together. We did manage to clear a lot of things up which was nice. Hardware seems to have a nice idea for an advanced coordinate system, but seems maybe a bit too difficult for the time we have left.

Wednesday: Looked into creating an API in python which could be run on the robot in order to help the understaffed hardware team out. Seems like a good way of solving the communication between app and robot and should not be too hard to solve.

Thursday: Worked together with the entire group. I created an API in python which I tested on my own computer, after sorting out a few weird bugs it seemed to work well. Sent that to the hardware

team and went through how it works with them so they hopefully can implement it on the robot. I then created a Software Design Description for the mobile app components as well as prepared some more skeleton code for sending the requests to the robot API I just created.

Friday: Helped hardware out with bug-chasing in the coordinate system. Later decided that its probably time to wait with it and finish other parts of the robot first. And then see whether we have time for the advanced coordinate system or if we will run with a more basic one.

Time: 18h

W. 18:

Monday: Worked a little on the map together with Victor. It works pretty good now I must say, just a matter of translating the data from the backend into a format which we can draw out.

Tuesday: Home sick so could not attend the meeting in school ☹. Implemented some requests on the loading page to check the status of the robot and check whether we can connect to it. Then continued on the Software Design Description to describe each component in more detail and link all our low-level requirements to the high-level requirements. Hopefully, backend and hardware are soon finished with the connections setups so we can start testing for real.

Wednesday: Continued on the Software Design Description and some more documentation.

Thursday: Started implementing the connection to the mower together with the hardware team. Had some small errors but we managed to solve them quite quickly, and the connection seems to work very good.

Friday: Continued implementing connection with mower, fine tuning and adding more functionality for communication.

Estimated time spent: 22h

W. 19:

Monday: -

Tuesday: Had a meeting with the group, a lot of people home sick, especially in backend which made it hard to discuss some things and get answers. Then implemented more communication to the mower to make sure the state of the mower is synced with the app, however some issues occurred that we did not have time to solve.

Wednesday: Tried to fix the issues, but hardware team was working on other stuff so it was hard to get time to test with the mower.

Thursday: Found the problem with syncing states, fixed it and seems to work really good now. Added so that the app will stay on the loading screen until it connects to the mower.

Friday: Communication between app and mower seems to work nicely now. But mower is having some other problems, so spent my time trying to help them figure it out and test it with the app. Also created a new APK that the mower team can download on their phones to test it without anyone in the app team present.

Estimated time spent: 20h

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W. 20:

Monday: Helped the mower team to start connecting to backend, to send their coordinates and collision events. There were some issues, and it turned out to be that the API routes were not 100% done which made the issues quite logical.

Tuesday: Meeting with the whole group. We talked about what's left to do and what we need to do in for the hand in and presentation. Afterwards, I continued helping the mower team to send position data which we got working. There were some issues with the collision events but they have worked before, so hopefully, it is not so hard to fix. We also managed to fix some of the small issues both in the autonomous and manual drive.

Also fixed so that the map gets the correct data from the backend now that real data is available. Only collision points left to test since the mower didn´t manage to send them.

Wednesday: -

Thursday: Worked with the group in school to finish the last communications parts and then prepare for hand in and presentation.

Friday: Met with the entire group to finish the last parts for hand in and presentation. Helped hardware with implementing a new simpler coordinate system since the issues with the other one were too unclear.

Estimated time spent: 23h