Logbook:
Alexander Prosch

Team 5

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Week 13

The project group begins the discussion regarding meeting schedules and how to divide the work. Three teams were made, one for each part of the project: Hardware, backend, and frontend.
The group agreed to meet every Tuesday after the lecture for weekly and general discussions regarding work. Additional meetings would be organized from there, with Thursday serving as a day to meet and work together on the project to allow for better coordination between the different teams.

I, Alexander Prosch, was assigned to the backend team with Hawkar Jamal Ali, Essa Alshehada, and Khalid Elkilany.
The backend team decided to spend the week researching the different options for hosting the API and Database. The services first considered were Amazon Web Service, Google cloud service, and Microsoft Azure. Additionally, each member would begin to think about the requirements of the project and the different components that would have to be created.

Total Time spent: 13 hours

Week 14

The project group met on the 5th of April for a weekly meeting and began discussing the general project structure. Discussions regarding infrastructure and communication requirements were held.
The backend team met on the 6th of April for additional discussions on the project. After discussing the options and benefits of each service, the team decided to use Firebase Cloud Firestore Database for hosting the database on the web. Additionally, the team set up all the necessary tools for organizing the work within the team, such as a Trello page, a Github branch, and a Swagger documentation.
The team agreed to use Node.js as a programming language for the code due to it being preferred among the different team members. Google Firebase was chosen to host the API on the web.
The project group met on the 8th of April to continue discussing the overall infrastructure of the project. Backend discussed how to set up firebase and if docker containers would be needed. It was decided to research the topics more individually so that each team member would have a better understanding of the technology used.
Alexander spent the 9th and 10th of April researching the Firebase technology.

Total Time spent: 15 hours

Week 15

The project group met on the 12th of April for a weekly to update each other on the most recent decisions of each team. Backend continued the meeting afterward to set up a firebase project and create a group within the service. The usage of docker continued to be discussed, with no resolution to the topic.

On the 14th of April, the project group met to continue working on each of the components. The group continued to discuss the communication and agreed to have all communications go through the backend to allow for a less complicated communication structure and better monitoring, a decision that would be changed in Week 16.

The backend team spent time setting up the firebase database and discussing an initial design for the data tables.

Alexander would spend the 16th of April designing the first draft for the database to enable easier discussions during the next week.

Total Time spent: 16 hours

Week 16

The project group met on the 19th of April to continue discussing the infrastructure and how communication will work within the project. Backend continued the meeting afterward, discussing the database design further following these new insights from each team, leading to the first draft of the database.

On the 20th of April, the backend team met to set up Firebase on each machine to ensure that the entire team could deploy new versions or create local instances of the API for testing and developing purposes. The team would begin to discuss the routes necessary to interact with the first database version and agreed on a rough first draft.

On the 21st of April, the project group met for a joined work effort to communicate the backend API design to the group and get additional insight into the thoughts and requirements of the other teams. An online meeting with Husqvarna revealed that communication for remote control must go directly between frontend and mower, invalidating the current communication structure planned by our group. The group discussed the changes necessary and created a rough draft for a new communication structure. The group would think individually over the weekend about what requirements and changes would have to be made to allow for the draft's creations. Backend would continue the meeting afterward, discussing the overall design for the routes and database to incorporate the new draft into the current design.

Total Time spent: 15 hours

Week 17

Following a weekly meeting on the 26th of April, the project group reaffirmed itself in the current draft and made appropriate changes to the structure to incorporate the needs of the other teams.
On the 28th of April, the project group would meet to continue working on the project. Alexander would create a swagger document and work on the first version of the API documentation before handing it to the different teams for easier API incorporation. Alexander went on to assist the hardware team in debugging code and testing the mower's sensors.
Alexander would spend the 30th of April working on the API documentation to ensure that it was understandable and easy to maintain for the team.

Total Time spent: 16 hours

Week 18

Alexander woke up with various symptoms of Covid-19 on the 3rd of Mai and decided to spend the week at home to recover from the illness. A self-test was made confirming the case and warranting a self-quarantine until the symptoms fade, and a self-test produces a negative result.

Total Time spent: 3 hours

Week 19

Alexander had recovered from the symptoms on the 10th of Mai but continues to test positively. He spent his time working from home to optimize the swagger API documentation and answering varying questions from the different teams regarding the API status and structure. The API documentation was changed to remove IDs from the routes due to the team deciding to switch to a single entry design that would replace the map and mower data rather than initializing a new entry upon launching the mower. The overall structure for the request was kept in case the decision would be reverted in the future, with routes changing from "/map/{mapID}/collisionEvent" to "/map/currentMap/collisionEvent". The backend would continue to initialize new entries using IDs for clarity.

Total Time spent: 13 hours

Week 20

The backend team has finished the requirements to reach the desired grade of the project group and has begun to document the various functions and update the comments within the code.
On the 19th of Mai, the project group met to discuss the final steps and meetings necessary to finish the project. The API document was updated by Alexander to reflect the API used by the group.
On the 20th of Mai, the project group met again for another joined working session, writing the function documentation and agreeing on lessons learned, and creating the presentation for the project.
Alexander spent additional time writing out his logbooks based on his notes, preparing for the presentation during the next week and assisting hardware and frontend in testing their components.

Total Time spent: 20 hours