

DAT255: D3

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September 28, 2017

Process

Implementing scrum at first was rather difficult, considering no one was familiar with that type of work style. Going into the first sprint, the user stories were too big. While we had good results in terms of delivery, our communication was lacklustre and suboptimal. This led to two groups trying to solve the same problem, and it affected the team negatively to a large extent.

The first sprint did, however, lead to greater understanding of how to utilize the scrum methodology effectively. The first sprint had a very slow start, due to lack of knowledge of scrum and not knowing where to start. But after actually starting, everyone had been assigned tasks and progress were made faster and more effective.

The second sprint was our big obstacle. Our sprint backlog had to be completely redone, due to our decision to change server system. All server related user stories were removed and we created new user stories to match our new direction, which was to develop our own server. Had we not redone the user stories the whole team would have had nothing to work on during the rest of the second sprint. How to go about redoing the sprint was discussed with Burden before we did it since as mentioned earlier, we were not familiar with scrum and the accepted way to redo the backlog mid-sprint.

We faced another obstacle in the same sprint. The MOPED that we used during the sprint had a broken component, and trying to complete the related user story which consisted of analyzing the sensors, was not possible during the whole sprint. We decided to instead try and analyze everything else that could be analyze, such as a speed script that output values when the wheels were turning, until a new MOPED was provided which lead to some effectiveness, even though it was not directly connected to any of the user stories.

While reviewing the second sprint we quickly realized that the user stories we created limited our work, since they did not leave any room for creativity; we learned that this was an important factor since the project was heavily filled with problems. Having room for creativity meant that we could progress forward by working around the problems, even though the work we did might not have been strictly related to a specific user story. The current user stories gave no room to expand or build upon due to their specific and often too technical description. We had a discussion about it, and we agreed upon changing how to write our user stories to give us more room to breathe if something goes wrong.

Products

Despite all our problems while starting out, we managed to set up the intended server system during the first sprint. However, due to problems with connect-

ing the MOPED to the server and using the server to install plugins on the MOPED, we agreed to give up on the intended system in the middle of the second sprint. Instead we decided to develop our own server.

The new server is written in Java and has the functionality to connect to both server and moped. This has not been tested and verified yet, however. The server also has methods for validating the MOPEDS ip, and ports used in the connection. Our next goal is to receive data from the app and interpret it on the server, as well as develop a foundation for the adaptive cruise control which includes an algorithm that calculates what speed the MOPED should have to maintain a certain distance to the preceding vehicle.

The mobile app which is being developed is written in Java and thus is made for Android devices. As of now, the application features a connection screen for manually providing an IP and a port. It also has a view for controlling the MOPED, which is done with buttons that indicate forward and reverse throttle, as well as turning the wheels 5 degrees in either direction. There is also a debug screen under development, but at this time it lacks functionality. At this time, the application can connect to the MOPED and drive it.

At this time we are working on establishing a connection with the server instead of the MOPED directly. This requires some rebuilding. Also, the underlying functionality for the debug screen, which will receive data from the server about the state of the MOPED, is under development and is soon ready for use.