# Positives

Our team demonstrated teamwork practices very well. We split out our team into three subteams: one for the software part, one for the hardware part, and one for the communication layer between software and hardware. We used peer-programming while working in sub-teams then we would meet as a team to integrate what we have been working on. Peer-programming helped us learn from one another and share our knowledge so we could finish tasks faster and also learned new skills. We used this process every time we were to add any feature, and this was one of the processes that helped us do different tasks at the same time without having any conflicts.

Agile practices also helped us manage our project and keep our requirements up-to-date with the sponsor's requirements. Having a 1-week sprint kept the team and the sponsor on the same page for the whole time. We had a weekly sponsor meeting where we discussed what we accomplished in the previous sprint and what we planned for the next sprint. Having these weekly meetings made our zenhub task board reflect what the sponsor needed. This made our user stories on Zenhab very specific and include all details not only from a developer’s point of view but also form an end-user’s point of view. So we had acceptance criteria and definition of done for every single story we had on Zenhub and that left us with no inconsistencies between what we did and what the sponsor needed.

# Obstacles

The biggest obstacle we faced in this project was that we were given a very general idea of what needed to be done and we had to test different options and see which one worked the best. So we would spend some time working in certain direction but we end up switching to a different direction because the first approach did not work out well at some point. This exact situation happened to us in the beginning of the project when we started testing web cams to see if they can replace DSLR cameras. We spent almost a full release testing and writing code for web cams but we ended up switching back to DSLR cameras because images quality from web cams was not that great. Even though the conclusions we made from this test was valuable, it seemed that we did not have actual progress in terms of contributing to the final product.

# What We Learned

There were various learning outcomes to gain from this project. Not only did we learn new technical skills, but we also learned a lot of non-technical skills (e.g. management skills) that will definitely help us in our career. We were able to work with new programming languages while also getting to learn about and use new services such as Azure’s many services.

# Suggestions and Improvements

Here is the list of suggestions and improvements that we think will make senior design a better experience:

1. Different grading criteria for different projects (especially for behaviors assignments).
2. Including in-class activities while explaining Agile concepts in the first semester.
3. Sharing successful experiences of previous senior design teams. Sharing these experiences will help teams know about the best practices they should follow to be successful in their projects.