# **Cooperation within the group**

A cooperation agreement was made at the start of the project but it received little to no attention during the project. This was mainly due to good cooperation and working moral in the group.

The cooperation agreement specifies that we meet in the group-room, every day from 9.15 to 16.00. Which was an agreement that were held. This was to ensure that everybody was participating, and active in the discussions that were held. During this time, we also talked about the expectations that were had to each other. what kind of work we each thought were necessary for the project. We agreed on the time frame of which we should meet, and everybody has followed this pretty well, as seen in the meeting schedule in the appendix.

Communication when the group was not together was done over Facebook Messenger in a chat where all group members were registered. This worked ok. In the beginning we considered using another system for chatting, or something to help making sure the chat would not just be spammed. However the chat remained somewhat focused, and spamming did not become a problem. So Messenger was used as main communication tool throughout the entire project.

During the process, meetings were planned sporadically when needed. The group could have benefitted from weekly meetings where the direction of the project could be discussed, as later on in the project the end goal became less apparent.

In the group, we have dealt the assignments and work according the enthusiasm and skill of the individual members, so that we can optimise the working experience, and the quality of the project.

There were a lot of discussions during the process regarding the structure of the paper and what it should contain. Furthermore a lot of time was spent in the beginning of the project discussing if interviews should be conducted and if a stakeholder analysis should be made. This time could have been spent better if the discussions were structured in such a way that a final conclusion was made, instead of the discussion spanning several days/meetings. During the discussions everybody participated, no one was left out, and didn’t get a chance to get their say on the subject of the discussion. Participation levels were however different from person to person.

### **Good experiences**

The social aspects of the group were really positive, and therefore made the entire project easier to work on.   
As we had a good social connection, we were able to have good discussions. No one was afraid to say what they meant, and everyone knew that they would be heard if they had something on their mind. This led to good open discussions where people would disagree, but not end up being mad at each other, so discussions would keep constructive, and not turn personal.

### **Bad experiences**

Because of the good social aspects, we were sometimes unserious, and the work wasn’t as serious as we wanted it to be. This also meant that sometimes simple tasks could take longer than necessary to complete.

## **Improvements for P3**

We all liked the social part of the project, but we each individually need to work on our concentration skills, so that we can work hard, as well as keeping the good atmosphere in the room.

**Cooperation with the supervisor**

Supervisor meetings were held every week. The weekly meeting was only canceled three times, on one occasion during the object oriented programming exam. On one occasion where the supervisor had to cancel, and in the end of the project after we had to turn in the paper. During the meetings, one person would present the topics every week, and the other members would then interject if they had something to add to the discussion at hand. It was planned that before each supervisor meeting there should be sent an agenda with things that should be covered doing the supervisor meeting and taken a summary of the meeting which should be sent to the supervisor after the meeting. The agendas and summary was sent at the first meetings but as the semester progressed fewer agendas and summaries were sent to the supervisor. This was due the fact that we didn’t have anything that the supervisor should read before the meeting and therefore we just started the meeting with the agenda and there was still taken summaries for the benefit of the group.

### **Good experiences**

All the meetings were constructive for the group, none of the meetings felt unused.

### **Bad experiences**

Our usage of the supervisor could have been better. Agendas should have been sent all throughout the project so that we could have gotten more out of the supervisor meetings. Furthermore, the project should have been planned in such a way that we had an opportunity to send parts of the paper for each supervisor meeting.

## **Improvements for P3**

Utilizing the supervisor more efficient by sending an agenda before the meetings, and preparing more efficiently for the meetings.

# Planning and management of the project

We had an agreement that one of the members in the group should be the moderator for 1 week and the moderator would change weekly so each group member would be moderator at least one time.

Trello was used to keep an overview over the things that should be done at the given day, week ect. It was also used to remember discussion and problems that should be solved.

Github was used to share documents between the members of the group and so there was an overview of the changes that have been made.

The paper was written in ‘ShareLaTex’ so that we could follow, the updates from eachother, live.

Each group member got a role that they should be responsible for during the semester.

We had a LaTeX moderator who was in charge of making sure LaTeX was cleaned up. This was *Casper Lund Pedersen*  
GitHub Moderator was *Rasmus Mariegaard*  
Trello Moderator was *Mark Nielsen*  
In charge of updating the meeting schedule *Mustafa Noorzai.*

Communication (Sending mails and contacting eventual interest from outside AAU) *Lasse Svenningsen* and *Rasmus Mariegaard*  
Referent of important meetings such a supervisor meetings *Lasse Svenningsen* and *Kasper Andersen.*   
Daily referent *Casper Susgaard Nielsen.*

There was no leader and the planning and management was done by the majority so each group member had a part in the decision.

### **Good experiences**

Some of the group members had never used ‘ShareLaTex’ before, and the experience of using it, was really good, and these members learned a lot.

### **Bad experiences**

We ended up realizing that a daily referent wasn’t always so relevant. We ended up only using it very little.

We could have used our roles and tool better than we did during the semester.

No real plan, for how to create the program, was constructed, and therefore we had to change a lot of the code in the process, and never really felt any parts were done. This also meant that we couldn't/wouldn’t write about the program before it was almost done.

We forgot to plan for the know Programing exam before it was in a week or two. This should have been taken care of and been considered already in the beginning of the project.

## Improvements for P3

More planning of the solution, and thereby start writing sections of the report earlier.

Some sort of time schedule would be a good idea for P3. Something to keep track of what we need to get done and when earlier in the process. We didn't manage to make all the thing we wanted to make, and better time planning would probably have helped that.

# **The learning process**

Regarding the learning process on the project, we decided when making the group that is was mandatory to meat every day from 9:15 - 16 unless it was agreed to work from home, or meet earlier/later.   
So we made the most of the project together in the group room and thereby helped each other learn while making the project, this included but was not limited to code writing, analyse and general knowledge of the algorithms used to make recommender systems.

In the courses that we had to take, we also sat together and made the assignments. This was done, so that we had someone to lean on, and didn’t feel like we were alone about the courses. This helped a lot, and we could help each other to achieve a better understanding, of the given course.

So knowledge was mainly shared in the group room, and shared on a daily basis. However sometime discussions happened on our Facebook Messenger chat where knowledge of som issues would be discussed. These things were often discussed as the first thing the day after to make sure everyone was on the same page and knew about the discussion.

As mentioned earlier our supervisor was mainly used to clarify things and point in a direction. So he was used in the learning process as a guide to what we should read, and give a hint of how such a recommender system could work, and what it might include. This helped us search for further knowledge.

### **Good experiences in the learning process**

At the group assignments we helped each other if anyone had a hard time making the assignments and there were plenty of room for asking questions to each other due to the fact that we worked so well together as a group.

### **Bad experiences in the learning process**

We maybe could have used the time more efficiently and productive in terms of getting things done. This however, could also be dangerous for the dynamic in the group since a bit loose atmosphere helped to ensure the good dynamic in the group.

## **Improvements for P3**

None since it worked well this semester according to ourself. It felt like that we have learned a lot during the semester.

# Final conclusion

All in all the group worked well as a unit and this in turn made the members understand the topics both in the courses and the project. The social cohesion and work ethic help this and improved the experience of the semester.

There was a lot of good intentions in the start of the project in regards to planning and management. However, these were not followed through properly which would have been optimal especially for the planning of the project. The fact that we were together everyday and everyone was there, made it possible to work without a detail planned of the direction and assignments since all was present when the work was being done. This is an area which would be focussed on as improvement to the next semester.

All together we managed to set up a good learning environment in the group.   
We have all learned a lot and used from each others experience, and everyone has at least had the chance to learn the same things.

# Appendix

