

Product:

- Design choices:
 - For each GUI design choice we always took 3 main ideas in mind:
 - Intuitive design
 - Coherent design
 - Function importance
 - We tried to anticipate the different type of users (sectioned as 'casual' users and 'die-hard' users) by making both types of app usage possible and intuitive
 - The design team liked to add a great amount of transitions and animations to make the app more lively instead of static 'unfelt' clicks.
 - Our key component to show the user their progress is displayed in a ring
- Technical choices:
 - We chose for the Spring framework
 - We minimized client-side calculations and focused more on server-side queries

Process:

- Responsibility and task division
 - During each meeting we discussed issues that we wanted to work on. We were always able to debate using arguments or find a middle way.
 - After discussing the issues we quickly assigned the issues to the person or people whose tasks would be affected by the issue. Each person has their own assigned task cluster which is carefully chosen to be closely related to each other, with as little as possible overlap to prevent merge conflicts and to optimise 'parallel' working.
- Meetings
 - On paper our group had a clear separation between client-side programmers, and server-side programmers (and one in the middle connecting the two sides). Though in reality we all collectively came up with ideas and improvements for each side.

Individual feedback

- **Julius:**

I have learnt a lot during the project. Mostly to not judge a book by its cover and that leading a project group is harder than it looks. It was a learning experience for me to work on a programming related project with this many enthusiastic people. I have learnt a lot about client/server communication, since I wrote a lot of smaller applications, but never one with such a clear target as this one, it has also taught me about the importance of communicating clearly with my groupmates, since I had to redo both sides multiple times until both sides got what they wanted. I have also learnt quite a lot about databases, particularly postgresql, since I did the initial setup for it and had to edit some queries for some requests to work. This project has also taught me to work together with people with different code styles, since checkstyle enforces some but not all things that I do, so I had to change some things about how I coded to make sure the others understood how I worked. The project has also taught me that I need to add comments to my methods, and maybe explain what some lines do since it confused me also some times.
- **Paul :**

This project has been one of the subjects that helped me the most since I started my study because I gained a lot of experience. First of all, it helped me realize I enjoy working with database and this may contribute to some future decisions I will have to make (for example when I will have to choose electives in the future years, or maybe even master and career). Furthermore, it increased my programming level, making me a better programmer, because I had to search a lot of new things in order to complete the tasks I was assigned to). The fact that we had deadlines to meet and a “customer” to satisfy made all the experience look as real as possible for this level of knowledge that we currently have. Last but not least, I learned a lot about how a real project should take place and how you have to communicate with the other member, how to plan meetings, how to write reports, make decisions and helped me familiarize with widely used softwares like gitlab, gitkraken, etc. and with the “techniques” they use, as pushing and pulling or writing issues for yourself or your colleagues. I was also lucky that I could work with people who gave their interest in putting work of good quality and with whom I could communicate easily. In conclusion, I personally feel like this project has been a really big step forward towards my personal development.

- **Vlad :**

I feel like this project has been not only a fun learning experience, but also one that helped me get a much better grasp on how I should work as part of a team and coordinate with fellow programmers. Working on the graphical user interface helped me get to familiarise myself with working in Java and learn some of the intricacies of the language, and I feel more comfortable working with Git as well. Checkstyle and working with a team also helped me get rid of some bad programming practices (for the most part), such as leaving uncommented code, inconsistent variable naming and copying code from one section of the program to another. Along with Git and Java, I have also learned to use JavaFX Scene Builder effectively and combine HTML with CSS code in order to create a cohesive look for the program. I am lucky to have been matched with a friendly and communicative team, most of whom are above my skill level and who put their interest into delivering quality work, which helped me stay motivated to work on the project and made for an enjoyable and streamlined learning experience. Finally, I feel that this project has been a good stepping stone towards learning how to write code as part of a team, and has helped me overcome some of the hurdles on the road to becoming a better programmer.

- **Pablo:**

This project is much more than a simple block of code put together which hopefully works and is graded upon the final result. This project for me has been a really enjoyable process in which I have gone through many emotions, confusion at the beginning, stress when deadlines were approaching and the most important, it has been a learning process that has taken my best in every moment I have dedicate to it.

In my case, it has also helped me to have a better understanding of what engineering since I have had the opportunity to see the application of the knowledge absorbed in the first semester of our degree in a real-world scenario like this one. I would also like to remark the nice atmosphere of my group which made this process even more enjoyable.

They all give their best and it has been an honour to be accompanied by this group along this path. To sum up, within this project we have learned some basic management skills also related to engineering such as code organization, the use of git, and a key concept such as *pair programming*.

Respecting the TA, I think he has done a great job, since he balanced successfully his duties as a customer demanding some functionalities or spotting bugs and its support as a TA in which he was always available to clarify any doubt we have had.

To conclude, I believed that this course is one of the courses I have learnt the most since I admire the methodology learning-by-doing since for me, the best way to learn something is to be obliged to use it and researching until you understand it and you are able to implement it.

- **Jahson :**

To be honest when I first started this project I wondered how I would be able to finish it. I thought my knowledge in Java would not be enough and that I may hold back my team. To my relief it seems like my worries were for nothing. Not only was I able to stand on equal footing with the rest of my team, but also discovered that I may know and am capable of more than I thought.

Of course with the knowledge and skills I had at the start of the quarter was not enough to be able to produce what was expected of me. But I have learnt a useful skill, which is to learn to fill gaps in my knowledge rather than learn how to do something because I would be asked it in an exam. To think in a way where I wanted something to be done and learn what steps are needed to make it a reality.

Not only in my Java skills but as well as working in a team, I have never worked with such a large group of people before and practicing using environments like Git as well as meeting communicating with a group of people in a structured format feels like something I can take with me for the foreseeable future.

- **Kamron:**

I am very glad about how this project has turned out. Not only happy with the final product, but mostly with the attitude and coherence of our group. We each had our pro's and con's which filled each other in. When the one struggles with database, the other gladly takes the task. From the start we realized that communication between members was going to be key in this project, which turned out a great success. During our meetings we shared our recent

progress and discussed future improvements, with and without the use of the sprint planning.

The first two weeks of the project really got me worried, as I for the first real time I felt like I was in unknown territory, using JavaFX instead of Swing, using GitLab instead of standard messaging of classes. The list goes on. I had stumbled upon a huge speedbump at the beginning of the project, more than half of the time not knowing what to do. Though I wasn't alone, since my teammates also had little experience with those subjects, I could learn together with them. Our team leader (Julius) had plenty of experience with most of those subjects and he happily explained the process or issues in detail.

As the time progressed, and we all started to get a hang of the project and each other. The sphere in the meetings was always good, everyone was always present (Except for one time when I was sick). I enjoyed discussing new features and their organisation, and I genuinely enjoyed my role in client-side.