Retrospective Survey

- **Was the project fun and interesting?**

    - Meghana: Yes, we had a lot of fun working together and using this as an opportunity to meet and work with new people in the class.

    - Sacheth: The project was fun, and a good learning experience. It also gave us the chance to learn to work together as a group.

    - Siyuan: Yes, the project is quite interesting, and we enjoyed working together as a team and using this as a chance to learn new skills such as implementing a database and building a GUI.

    - Evelio: The project was indeed fun, it was my first project that lasted more than a month and that involved more people other than myself. I got the chance to work with a great team and had a lot of fun creating our final product.

- **Did it provide opportunities to innovate?**

    - Meghana: Yes, it did provide opportunities for us to innovate. Each of us had different levels of experience and knowledge in the different areas of skill including SQL, backend, and frontend. The different levels of experience and backgrounds allowed us to come up with diverse ideas and create a final product that we would not have been able to do by ourselves.

    - Sacheth: It provided me with new ways to think about projects and how the project can be chunked up into different tasks that each of us could work on at the same time, instead of each of us waiting for the other person to be done with their part of the work. It was a very nice refresher on full-stack development, and it was a good way to practice and learn about database management.

- ○ Siyuan: Yes, it provided us with a huge amount of chance to innovate and create new things. For instance, in the second stage GUI's initial design, we discussed different ways of designing a graphical user interface and came up with our own idea on how to design a useful and helpful interface for the football database system. Overall, it allows us to come up with different ideas and design a final product efficiently and creatively with the group effort.
- ○ Evelio: In every phase of the project we were always looking for ways to provide an easy to use the system for the user. This included giving more thought into what information the user needed, what design would be most appealing to the consumer. In the end, I believe we did a good job delivering a product that appeals to the customer and gives the necessary information needed.

- **What went well? What didn't go well?**
  - ○ Meghana: Although none of us knew each other before this project, we worked well together and were able to communicate effectively with each other. This helped as we split the work between each member. In the first couple of phases, we underestimated the time needed to complete the phase and started late, putting a lot of pressure on us before the due date.
  - ○ Sacheth: Our communication was very solid. We did not know each other but we still worked well as a team. One thing that could have gone better was our timing and schedule. We put off a lot of the assignments at the last minute at some point, and it was very stressful.
  - ○ Siyuan: The way we evenly distribute the workload went quite well. Each member of our team created a separate branch for this project and worked on our own part. Before merging the separate branches to the master, we would

showcase our product to the whole team and make an agreement on what to merge. However, we could have done better on the time management of the whole project. We should set the timeline for each stage so that we don't have to wait till the weekends to work on the project.

  - Evelio: The communication between each other was very effective, which allowed us to evenly distribute the workload and know the progress of each team member. In addition, we were not afraid to ask for help and having team members that had more experience allowed us to solve problems much quicker. We often did underestimate the time needed to finish a task which had us working until the deadline to finish.

- **What lessons did you learn that you would share with your team?**

  - Meghana: Working with a team allowed me to learn from them.

  - Siyuan: Start the project early and always be ready for the meetings.

  - Sacheth: Working in a group is a lot better than working solo.

  - Evelio: The fact that we took the time to learn to implement GitHub allowed us to work together remotely much easier.

- **What one topic do you want to make sure we address in the retrospective meeting?**

  - Meghana: Is our UI easy to understand?

  - Siyuan: Is our GUI design exhaustive enough to meet the requirements of college football department students?

  - Sacheth: What could have gone better?

- ○ Evelio: Did we provide enough functionality for the student and is the program straightforward and easy to use?

TEAM NULL RETROSPECTIVE DOCUMENT

Project overview

○ This project consists of four phases, which are respectively Design Document, Database System Implementation, GUI Initial Design, and Large Dataset Processing. The first phase of the project involves planning the whole project and deciding high-level and low-level entities and also their relationship. The second phase of the project consists of building the database by downloading the football data and inserting the data into the relations. The third phase of the project consists of developing a graphical user interface for interfacing with our DBMS. The fourth phase of the project consists of completing the tool with the final functionality dealing with a large dataset processing.

Engagement analysis

(How was the engagement as a whole? Was the team satisfied? What were the challenges? Did we have the opportunity to innovate?)

○ As a whole everyone was equally engaged in the project. It was fun to learn more about JavaFX even though it seemed challenging at first, and was a great learning experience.

○ We were all satisfied with the work that we put in and seeing the end product coming together was very rewarding. We were also satisfied with the knowledge that we gained and how we can use these skills later on in our life.

- Challenges: We faced a lot of time constraints, this was due to the fact that we all had busy schedules and couldn't allocate all of our time on this project. An additional problem was our lack of in-depth knowledge in the JavaFX library and how it worked during runtime, which caused some problems for running the code through the command line.
- Not only did we have the chance to create our own GUI but we had the chance to wire it up to the database. We did both frontend and backend work as well as database management.

Product analysis

(How was our overall final product? What did we learn that we could apply to future work? How could we have done better?)

- The overall final product works as expected, without any major issues or bugs. It has a clear and easy to use GUI as well as a robust backend and organization.
- We could add future work to create more functionality in our Application. Meaning we could create more views and create more flow between our controllers.
- We could have done better if we knew the specifications of the last phase, this would have helped our initial design and steered us on the right path.

Work analysis

(Are we proud of what we accomplished? What went well? What could have gone better?)

- Another thing that went well was the communication. Usually, teams can fall apart from a lack of communication but for us, at the end of every meeting, we were all on the same page.

- The one thing that could have gone better was our research into which Java library we should have used. JavaFX was not that bad to pick up later on in the build, but if we had stuck to something that we knew which was Swing, a lot of time could have been saved. This isn't a huge problem because we ended up learning something entirely new, and couldn't get the satisfaction of saying that if we had been stuck in our comfort zone.

Key points to remember for future projects

(What did we learn? What would we do differently the next time? What lessons would we share back with our individual teams? The class as a whole?)

- Start the project early, this ensures the overall design of the project is finalized even before a line of code has been written.
- Research into the different libraries that are available, some might work well with the given problem and some may not.
- After a certain library or SDK has been chosen, make sure that there are documentation and support for the version of the library you are using, in our case a component in maven to build a jar was only for java 8 and 9, but we were using java 12.

Work effort analysis

(How'd we do our time together and time individually? The timeline? What was our breakdown of task per member and how did that differ from our initial estimates?)

- As a group, all of our discussions and design process was in person at the Zach. This enabled us to debate intensively on the step by step process of which we were to go about coding the project.
- Individually, we each had the task of coding and debugging. We each were responsible for a component of the main GUI and we were also responsible for making sure that each component worked with each other.
- The design of the GUI was straightforward. The more challenging part was learning JavaFX and then making sure that everything worked properly and had good structure.
- In each phase, there was sufficient work to be that it could be split up evenly with each team member. This includes everyone making a contribution to the design document and the initial queries, taking part in the initial program made, and coding the solution to an individual question in the last phase. In every phase, we were given completely different tasks which made it difficult to estimate future timelines but we believe that the effort put by each individual was revealed the same.