Project 2 Group Retrospective

JIRAS

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Executive Summary

The objective of this project is to provide a company with software that allows them to have analysts determine trends based on users' watch histories. Additionally, the software provides the interface for users to watch movies on their account, which are based on analysts' recommendations. The user is shown a list of movies based on a category the analyst selected (ie: Director's Choice).

We analyzed our finished project in retrospect and discussed what features in our product worked well, what features could use improvement, and what different steps we would take to create a better product in version 2. Overall, everyone got to taste a good amount of database design, SQL, GUI mockups, and GUI programming with Java. With this experience, we also improved our communication skills, development toolbox, and our ability to work in teams. These qualities will definitely shine in future projects, be it on the same team or not.

Additionally, we also went over balancing workloads, what our largest challenges were as well, and our greatest successes in retrospect. The general consensus was that our teamwork, efficiency, and communication were really what drove this project towards success. Our largest obstacles were utilizing SQL (since none of us had prior experience) and organizing meeting times between everyone's schedules.

Looking ahead, we fully acknowledge that this project experience is invaluable as it developed skills essential to our futures, be it in academia or industry.

Finally, we discussed the project in general, creating a meeting agenda to stay on track. Throughout this, we especially went over survey questions we had previously made and transcribed them to give our honest opinions.

Product Analysis

For the final project 2 we have, the script actually runs as a streaming recommendation application. All of the basic functions (login authorization, viewer's page including watch history and movie recommendation, analyst's page including statistical charts and information involved with current trendings) work well. To be more specific, we do actually show exactly the same pie charts and histograms with the GUI design we sketched before starting implementing the program. On the other hand, we also did a great job working on the login authorization, specially for user login. Everytime when the user inputs their username (User ID in this case), the system will double check if it is able to find any record for this user, otherwise we assume that's an invalid user name and ask the user to re-input their username. The thing we would like to improve, if we have time, is the layout of our program for both the analyst's page and the viewer's page. Although both of these two pages show the key information of what we want, the layout, after adding some other features, was not the same as we expected.

The next steps for version 2.0 includes revising the layout of our program (frontend) to make the User Interface look more organized, optimizing the connection and running speed of calculation, (back-end), and make the using instruction more clear. These steps will improve current features and provide a better user experience.

We did actually learn a lot from this group project. For most of us, this is the first time we worked with other CS students to write a script. Before this, we were used to writing the code in our own styles even without any comments. Having this experience leads us to understand how group collaboration is, how to read others' code and understand their logic, and how to write the comments to make others understand your code and based on that to revise or improve. Breaking down to specific "coding assignments", assigning to different team members, combining the code after implementation by using GitHub, these experiences made us more professional on team working and efficient project implementation. In the future, the skills we learned like holding team meetings, code review, and files combination will make us work efficiently and cooperate with others with strong communication skills.

Work Analysis

The largest challenges our team faced was finding times where we were all free to meet and discuss our progress on our assigned tasks. We just attempted to find times where most could meet and would catch others up and have impromptu meetings to ensure everybody was on the same page. If we could do the project all over again, we would change the way we organized meetings. We could try to do two to three meetings per week at set times, so they didn't have to be rescheduled every

week, or pushed back as much as it would have been a predetermined/pre-decided time avoiding any existing potential conflicts.

Our successes in communication definitely centers on the frequency of our texts. Whenever we wanted to meet to review our work as a whole, debug or figure out where something is going wrong, collaborate on a task between two or more people and divy up tasks etc. we made sure to communicate that in the channel so even when people weren't present for every meeting the information would be there and if someone forgot some detail they could refer back. The only drawback to that was the channel did not have organization to find specific messages. Some challenges with communication, as previously mentioned, were getting everyone together for one call. Obviously in that case, it is difficult to communicate with and receive the input of all teammates in real time. The main solution we could implement given the chance to do this project again is using a meeting scheduler like doodle. Another useful option to consolidate time spent scrolling through chat would be to implement a google doc where we took notes so all the information would be more quickly accessible and easier to find.

The successes of balancing the workload throughout the team would be that everyone elected to take on certain tasks and then completed them either independently or by asking others on the team for help when stuck. The distribution of tasks across the four phases was fairly even as well. The challenges were when people were not present for meetings or decision making they were left with the last pick, so we might not have always chosen the most suited team member per task. However, since everybody was willing to help each other out and pitch in, it was not an issue overall. What we could have done to ensure the most skilled individual was assigned to an associated sub task is survey the groups skills beforehand and intermittently as new skill requirements arise to distribute the work according to the needed skills per sub task and the team members strengths.

Going Forward

The first lesson to mention is that we all gained experience using databases and specifically SQL. We learned this throughout the project because it was the primary objective of the project. Having gained this information will be helpful to carry forward into future projects if we ever need to handle large amounts of information, or if we need to have the general know-how of interacting with databases in order to plan a project accordingly. At the start of the project while we were trying to plan the database we did not know how to structure it or reasonable ways of populating the database. However, having now gained experience doing so, we have a better understanding of what to look for and what to plan for. This is an important lesson because databases are a very common thing to encounter in industry. This is because most companies now have a large amount of information that they need to store. Having a foundational understanding of databases will help us to more quickly adapt to such an environment.

The next lesson that we learned was in relation to working as a group on a project. This is primarily the soft skills of communication and planning. We gained experience in both learning how much and how often to communicate with a team in order to make sure that we're all on the same page and to ensure that all of the goals and expectations of a project are properly completed prior to the deadline. We will carry this forward into future projects because communication is a vitally important part of functioning in any group and at any company. If we go into industry then we will work with others in the company to build the product, and we will have to communicate in a similar way to how we communicated on this project. If we go into research, we will have to communicate with those in our lab, as well as be able to communicate our findings to others. The lessons we learned to help us better communicate will be helpful as we go forward. In a similar way, planning is important in meeting deadlines and ensuring that expectations are met. We had to plan for this project. We split each phase into smaller chunks and set objectives due throughout the week. This skill will be helpful going forward because it is very important to make sure that you complete projects, and portions of projects, by their deadline.

One final lesson for going forward is GitHub. We have all gained experience working together on a GitHub repository. This will be helpful going forward in school as we have more group projects and personal projects that require the use of GitHub. This skill is helpful because GitHub is a common way of sharing projects as well as working on group projects. In addition, if a company uses a type of version control, then being familiar and comfortable with git might help to transition to the other version control system.

Appendix 1: Retrospective Meeting Agenda and Minutes

Agenda:
- We met at 11:47 am on Sunday October 17th, 2021 on Zoom.
- All of the team was in attendance.
- Topics:
    - Last checkpoint for phase 4
    - Division of assignments for completing retrospective document.
    - Reflections of learning and team work (what went well and what went poorly)
    - Discussing the oral "survey"
        - One thing we did well, one thing we could do better (Isaac)
        - Congratulate everyone on a job well done and thank everyone for their accountability/reliability (Santoshni)
        - What each of us found as the main difficulty in the project, was what we thought would be difficult actually difficult (Josh)
        - Reflect on challenges and celebrate our hard work (Akash)
        - How did cultural/language barriers affect communication? (Abby)

Minutes:
- Greetings
- Review the product with all of our additions.
- What needs to be done to finalize phase 4?
    - Splitting up Executive Summary
        - Isaac and Akash take Executive Summary
        - Abby takes Product Analysis
        - Santoshni takes Work Analysis
        - Josh takes Going Forward
- Oral Survey
    - What went well?
        - Team work. We did a good job of leaning on each other whenever we were struggling or needed help with technical problems.
        - Efficiency. We did a good job of being efficient in our meetings and being productive such that the goal of the meeting was always accomplished during the meeting.
        - Communication. We did a good job of communicating via our group chat. We made sure everyone knew when we were meeting, how much progress we were making, whether we needed help etc.
    - What went poorly?
        - SQL. We did not know SQL at the start of this project and so that led to some difficulties in the project.
        - Organizing meeting times. We all have busy schedules and sometimes conflicting calendar events.
    - Congratulations!

- Main difficulty in the project?
    - As stated earlier, SQL was difficult.
    - We expect SQL to be difficult, some expected teamwork/communication to be difficult and some were scared of the workload.
    - At least two of the three turned out to be difficult. Namely, SQL (languages more generally) and the workload turned out to be difficult.
    - We were pleasantly surprised by how teamwork and communication did not turn out to be difficult.
    - One unforeseen difficulty was matching all of our schedules in order to have meetings together.
        - This led to lots of spontaneous meetings where people would join in as available.
- Same as above points.
- Cultural barriers leading to difficulty.
    - Overall, the barriers were not a major impact. We were able to effectively get across our message amongst ourselves. If needed we provided clarification, by asking specific questions, we could avoid potential issues.
    - This was a good experience to help us learn how to ask good clarifying questions as well as ensuring that we are thinking the same things.

Appendix 2: Retrospective Survey

Survey Questions

1. On a scale from 1 to 5, where 5 is the most fun, was the project fun? Why?
2. Did the project provide opportunities to innovate?
3. What went well? What didn't go well?
4. What lessons did you learn that you would share with your team?
5. What one topic do you want to make sure we address in the retrospective meeting?
6. What kinds of soft skills did you use during the project?

Survey Responses

Isaac Yeang reponses

1. On a scale from 1 to 5, where 5 is the most fun, was the project fun? Why?
    a. I rate this project a 5 in terms of fun. Although the database and GUI stuff was cool, it was really interesting seeing how working in a team affected factors such as development time, end product, and workload. Having done a side project similar to this during the summer also with classes, I can tell that my workload and development time decreased by a lot, while also delivering a neat end product. This project made me realize the value of working in teams as developers.
2. Did the project provide opportunities to innovate?
    a. The project did provide opportunities to innovate, such as playing around with different controls Swing has to offer. Ideas coming from different team members that clash against each other to determine the best/optimal idea also allowed for innovation of our project.
3. What went well? What didn't go well?
    a. Teamwork and environment, in my opinion, went well. Everyone contributed and had turns to talk. If anyone had a question, then someone in the group chat would generally find an answer or hop on a zoom call to help out. Things that didn't go well were finding a time to meet that worked with our schedules as well as working with Swing (which has earned itself an unfavorable position in my desktop development rankings).
4. What lessons did you learn that you would share with your team?
    a. Although everyone knows this, it never hurts to ask questions as there are always people willing to help. Even if the group environment isn't quite as comfortable (ie: large company), always ask if you're stuck, since there's always plenty of bright minds. Without others' help during this project, there's no way I would have been able to finish some deadlines and figure out some aspects.
5. What one topic do you want to make sure we address in the retrospective meeting?
    a. What was one thing we did well and one thing we could have done better?

6. What kinds of soft skills did you use during the project?
    a. Group communication, some aspects of leadership, learning to contribute to ideas and conceding to better ideas were all soft skills every member of our group used. Just the ability to effectively work in a team is a valuable experience as it either teaches or improves these mentioned soft skills to group members including myself.

Santoshni Birlangi responses:
1. On a scale from 1 to 5, where 5 is the most fun, was the project fun? Why
    a. I'd say this project is a 4. The project was interesting having not worked with Swing ever, and it being a while since Java too and having a team to collaborate with to get through debugging and any issues in general for understanding too.
2. Did the project provide opportunities to innovate?
    a. The project allowed us to innovate as we went through the phases and made changes to our database design to fit the given data better according to the ideas of team members. As we started implementing the GUI, we innovate in the sketch design as certain aspects of the GUI like the play button functionality and summaries were not useful or feasible.
3. What went well? What didn't go well?
    a. Frequent communication was something that went well over the course of the project, as well as helping each other figure out code/tools for our parts. Coordinating times to meet up didn't go as well, as we were all on varying schedules throughout the project.
4. What lessons did you learn that you would share with your team?
    a. I learned that setting early deadlines before the due date is really helpful to minimizing stress and ensuring a higher quality product and we attempted to follow that throughout the project phases.
5. What one topic do you want to make sure we address in the retrospective meeting?
    a. I want to address the reliability and accountability we all upheld and just congratulate everybody on a job well done. I think a lot of the time groups forget to celebrate their achievements especially with the surrounding difficulties of other classes and general circumstances.
6. What kinds of soft skills did you use during the project?
    a. The soft skills I used were primarily good and frequent communication, maintaining determination and motivation to complete my assigned tasks, and having the ability to adapt to take on unfinished work or pivot to different ideas to optimize/improve the project deliverable.

Joshua Johnson's responses:
1. On a scale from 1 to 5, where 5 is the most fun, was the project fun? Why
    a. I would give the project a 4. The reason for this is because the product was interesting to think about, and I enjoyed going through the thought process of what needs to be done in order to reach the desired conclusion, however the project was

very stressful. It was the stressfulness of the project that made it not a 5/5. If we had a little more time I believe this project would have been much more enjoyable.

2. Did the project provide opportunities to innovate?
   a. This project did provide opportunities to innovate. Particularly in the last two phases. As I was coming up with the different queries to get and process information from the database I had to try and think through different possible ways to achieve the desired outcome. This opened up the door to innovation. One good example of this is how I developed two separate ways of doing the fresh tomatoes problem because of limitations in the first way that I implemented it.

3. What went well? What didn't go well?
   a. One thing that went well throughout the project was communication. I always felt like I had a good idea of where each person was or was supposed to be doing throughout the project. In addition, whenever I had questions they were quickly answered. Another thing that went well was the general spirit of the group. I think that we all got along nicely and that helped us to be able to work together in a productive manner. One thing that did not go well is github. We never set github to ignore .class files and that caused problems with trying to upload files. Another thing about github that didn't go too well was Akash was having problems connecting to the git repo.

4. What lessons did you learn that you would share with your team?
   a. The main lessons that I learned were in relation to SQL and setting up/maintaining databases. However, seeing as how everyone else on the project also had to do that, I do not think it is necessary to share that information with the group. One lesson I think the group can agree on, but that I would still like to share is the importance of spreading work out over the entire work period. Not just saving the project until the end, but taking full advantage of time.

5. What one topic do you want to make sure we address in the retrospective meeting?
   a. One topic that I would like to address in the retrospective meeting is what each of us thought was the main difficulty of the project. I am also interested in seeing if people's thoughts on what would be hard lined up with what was hard.

6. What kinds of soft skills did you use during the project?
   a. The primary soft skill that was used was communication with the team. We had to communicate constantly in class, lab and on groupMe to make sure that everyone was on the same page and to help ensure that every aspect of the project gets done.

Akash Gajendra's responses:
1. On a scale from 1 to 5, where 5 is the most fun, was the project fun? Why
   a. I'd rate this project a 4.5/5 in terms of an experience. It was a lot of fun collaborating on a well structured beginner project into database design and GUI creation. Simulating industry level code collaboration with incorporating Waterfall in the

project development process have definitely been highlights of this experience. Having said that, the weekly deliverables often clashed with some of my other deadlines made the process a tad bit stressful.

2. Did the project provide opportunities to innovate?
   a. Yes it did as we were faced with alot of early design choices that had to be taken as a team. We considered these options together in a systematic way and implemented them. Moreover, the phase 3-4 of the project was more open-ended compared to the others which meant we had a lot more options to explore and thus innovate.

3. What went well? What didn't go well?
   a. I loved working on this project primarily because I had a responsive and approachable team. I was able to gain some fundamental understanding of databases and SQL which has resulted in data engineering becoming an option that I hope to explore as a potential career path. One thing I had a nightmarish experience with was version control, our team was unable to add me on as a collaborator as I never got any email requests from tamu-github.After multiple failed attempts, I was left to ask other members of the team to push code on to the master branch.

4. What lessons did you learn that you would share with your team?
   a. I'd suggest time management has been one of the key lessons that I have had to take away from this experience and would love to share these learnings with the rest of the team.

5. What one topic do you want to make sure we address in the retrospective meeting?
   a. I hope we reflect on the work that we have done together and just celebrate each other's contribution in the journey towards completion of this project. Also i would love to get people's thoughts on the challenges that they experienced for this project.

6. What kinds of soft skills did you use during the project?
   a. Communication has been key at every phase of the project that we have completed. Moreover, holding yourself and others accountable in a group setting is something of a learning that I will take away from this and to my potential future career.

Rong Xu's responses:
1. On a scale from 1 to 5, where 5 is the most fun, was the project fun? Why?
   a. Yes and absolutely! Through this project, I literally have the experience working with others on some academic project. From my point of view, I think it is fun to have talks, solving issues with others. At that time, I was not alone. I don't have to do the debugging myself or learn different programming languages for both frontend and backend perspectives.

2. Did the project provide opportunities to innovate?
   a. Yes! This is my first time designing an app and implementing it. In the past, I couldn't imagine I could design something and implement a similar product. When my teams and I were working on designing the User Interface GUI, that was my first time

standing as a designer or engineer instead of a user. That felt so strange but innovative.

3. What went well? What didn't go well?
   a. I'm glad to have such great team members I got, which I really appreciate. Everyone in the team was responsible for their own assignments instead of being a free rider. On the other hand, we also did a great job on collaboration. The things I think we didn't do well was having a fixed time slot to meet. Due to a conflict in our course schedule, we were unable to meet in person with everyone. Instead of that, we only have the chance to have zoom meetings on the weekend.

4. What lessons did you learn that you would share with your team?
   a. I would say during project 2, I learned a lot of SQL and Java. To be honest,I was not familiar with both Java and SQL, which even led me to worry if I would be able to work well with my teammate. I also have a great improvement on communicating with others like asking clarification questions.

5. What one topic do you want to make sure we address in the retrospective meeting?
   a. As an international student, I would like to investigate the feeling of closely working with international students on academic projects?

6. What kinds of soft skills did you use during the project?
   a. Team working, communication, having a brief "presentation" of the working process, asking questions.