Group 21
Team 21

Change report

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Report Structuring

2.1 Summary of processes

Our team began by proofreading all the deliverables from every team to help decide the group we had to take over, taking into account how they looked as well as looking at the contents. We also made notes of each group's presentations and took into consideration the structure of their code and implementation of the requirements and how we can easily implement new ideas to their game. We mostly made our decision based on the visual appeal and implementation quality of the game. Finally, each member took a vote and we unanimously decided to choose Team 25.

Once we decided on using Team 25s work, our first step was to update their requirements, risk assessment and method selection documents. We began with comparing their documents with ours, and added things we had in our previous deliverables and to see anything we could change about their documents to fit our vision of the game more. For our updated documents we decided to put all of the original text into italics and colour our new text in blue to highlight the differences between the original and our current documents. This was to emphasise a clear visual difference between the deliverables we inherited from the other group and the continuation of our work for this assessment.

We arranged to have a meeting with team 25 to discuss each other's feedback on the first assessment's deliverables, as we had chosen each other's project to continue forward with. This helped give us a better understanding of what we needed to do to improve on their deliverables, as well use our own feedback to help us work on the new deliverables moving forward.

When it came to actually changing the deliverables, one person would propose a change, which would then be reviewed and checked by someone else. When checking, we looked for consistency in changes as well as ensuring that they were relevant enough to be a change. Once checked, we would change our main document and then move on to the next one. To support these processes we used Google Docs to edit documents collaboratively and for tracking changes in code and documentation we used GitHub. We communicated mainly through Whatsapp and Discord to give updates and schedule meetings and had a meeting minutes document to monitor progress as well as Gantt charts.

By using the appropriate tools and following the plan we had our team effectively managed the transition with taking over the other team's deliverables and project. This systematic approach ensured that we could modify and improve on their project while fulfilling the second assessment's requirements also.

2.2 Changes to deliverables

Requirements

To start with, we overviewed their Requirements Elicitation and Presentation, where we decided that they had used similar enough processes to us, therefore not making it worth the time to make the slight adjustments so they looked identical to what we were used to in assessment 1. We decided that we weren't going to update the Single Statement of Need, as we thought they were both outlining the same points just with different words. The approach Group 25 took when handling requirements also included adding some for assessment 2 which were marked with a "*". This was removed, and any requirements not updated for assessment 2 were done so.

We started with the User Requirements, adding and removing a few requirements which we thought were redundant or irrelevant based on feedback, taking into account both their team's feedback from assessment 1, as well as some of our feedback which we thought was applicable. A good percentage of the requirements added were ones we came up with in assessment 1, that we thought would be beneficial to this project. On top of this, with the new brief, the deliverables were updated, meaning we needed to include some requirements such as UR_STREAKS and UR_SCORE_LEADERBOARD.

We then moved onto their Functional Requirements, where we realised that Group 25 hadn't linked all of them to specific requirements, which we changed so that all of them linked to at least one User Requirement. Then we added some more Functional Requirements we thought were needed to achieve some of our new requirements we had added previously, one of these being adding our sound effects, which we implemented in the first assessment, and really felt like they added to the game.

Lastly we moved onto the Non-Functional Software Requirements, where we decided to add another column to the table, linking each of them to a User Requirement. We also decided that there wasn't any other we would add, leaving the new column as our only change to this section. We did this to make the table easier to read, making it easier to reference back to the User Requirements without having to constantly switch between pages in the document.

We found that after our meeting with Group 25 we had a deeper insight into their initial design choices and looking at their feedback from the assessment allowed us to know which changes in the requirement document to focus on such as the additional column and linking the requirements. We also explained why they took that approach as well as our own approach with eliciting user requirements.

Architecture

Firstly, we reformatted the document into sections which clearly showed the development from Group 25 through to our group. Beginning our changes, we made the decision to leave the section **1.1 Initial Architecture** as it was. This was because it showed Group 25's initial progression into their developed architecture. It allowed for traceability from the beginning of assessment 1 to our final architecture.

As mentioned in the Method Selection and Planning, we used the same tools as Group 25, meaning the only relevant change for **1.2 Justification of Tools** was adding more to the justification of plantUML.

The next section we edited was **1.5 Assessment 2 Architecture** which housed our new behaviour diagrams. First we made a use-case diagram showing the capabilities of the game. Then, several sequence diagrams explaining the flow and player interaction of specific portions of our game. These sequence diagrams focussed on the new mini-games we implemented. After this, the structural diagrams are displayed, which show the updated structure and design of the original classes along with the addition of newer ones. The structure was also broken down into multiple diagrams, with a main structure at the end. In assessment 1 we followed this method, which we found to be more presentable. They were: Screens, Minigames and Final Structure.

When creating these diagrams we ensured that they were consistent with Group 25's previous design and followed a clear evolution.

Then, under **1.6 Relating the Architecture to the Requirements** the new architecture of the requirements given in assessment 2 discussed. These included streaks, leaderboards and achievements.

Method Selection and Planning

Aside from updating basic things such as team meeting dates and group names, which will obviously change when groups hand over work, we found that we had similar planning ideas and our approach to team organisation was also similar. This meant there was not a lot of change throughout the work handover, leaving this document mostly unchanged. We used the same tools such as Tiled, IntelliJ, PlantUML, Libgdx for our deliverables.

We talked about the Agile principle that was used, Scrum, and how it applied to us in this assessment as well as other frameworks we considered. We explained other alternative collaboration tools which we had a look at during assessment 1 and more tools we used such as PlantUML and draw.io. These were mostly the same, and is part of the reason why we chose this group, as similar development and collaboration tools allowed us to take over this project relatively quickly and seamlessly. Also, we decided to continue using the Gantt chart format which they have chosen as it seemed to work well and provided a simple and easy way to integrate ourselves with their project in terms of the planning and infrastructure.

The most substantial change we made was to the Systematic Plan for the Project, as obviously we were working towards different deliverables and therefore our plans were very different, with different dates and material covered. We started by creating a Work Breakdown Diagram, roughly breaking down the deliverables into smaller, more manageable tasks, to help with managing progress and visualise how much more there was to do. During the project, we were updating the Systematic Plan week by week, with what we had done and how we were progressing through the project, and what key tasks were being finished. In the last weeks of the project we finished our last few proof reads, created and explained the documents we had yet to finish, correcting any misworded sentences and misinterpreted phrases we found, before submitting the document.

Risk Assessment and Mitigation

One of the first things we decided to change was the risk assessment document as it directly related to the rest of our project. After, if we found any more risks that related to our current focus, we would then add them under a new section. A small section was added discussing the project take-over under **1.3 - Building Upon and Taking Over the Project**

To start with ,we followed a similar process to our approach with the other documents. Firstly, we checked through their document, checking their risks and their relevance to assessment 2. We found that they apply to assessment 2, meaning the only change needed was to update the person responsible for enforcing each one. A lot of the risks were very similar to ours from assessment 1, so therefore we could keep the same people being responsible for the same risks.

We also checked the Likelihood and Severity of each risk, to make sure that we agreed with Group 25. A notable risk we increased severity for was *"R16 - Poor team dynamics"* as we believed good dynamics to be key in our experience doing assessment 1.

After this, receiving a new brief, as well as new required deliverables meant that we needed to brainstorm relevant risks to our new tasks. We marked a new section of the table with the date **22/04/2024**. We then had a meeting with team 25 where we discussed their feedback. Upon reflecting on both our groups feedback we added some more risks which are under **29/04/2024**.

As the project progressed, we started nearing the end of our development and moved on to the user evaluation to improve our build. This allowed us to focus on potential risks to do with this, which we added under **14/05/2024**.