Risk Assessment and Mitigation

Group Number: Cohort 2 Team 7

Group Name: pickNmix

Group Member Names:

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The Risk Register above states the list of risks which our team could encounter in this project. It breaks them down into 3 groups:
Person. These risks relate to the members of our group, the process of making the game, the process of scheduling and managing our workflow, and the relationship between not only our team, but the work each member does.
Technology: These risks relate to the issues regarding the technology our team uses in the project during the implementation stage..
Gameplay: These risks relate to the issues we may encounter in the implementation stage of our project, more specifically, the user experience of the game.
Project: These risks relate to the issues which can affect the project schedule or resources.

Each risk has been given a specific code related to whichever section of risks it is in so we can easily identify which risk we may encounter if any of the above events occur, and then when it does occur, we will look towards the mitigation section of the table to see what measures have been put in place to help mitigate this problem.

The likelihood and severity sections have been colour coded for our ease of use so we can see which risks are not only more likely to happen, but also have the highest impact. This has been done so we can preempt any issues arising by prioritising those events with a higher severity and higher likelihood combined, instead of potentially spending time trying to prevent less significant issues which are less likely to happen.

Some of these risks are things we can prepare for in advance, some will be discovered throughout development and testing. For those which we can prepare for in advance, we have already put the measures into place and discussed with our team what will occur if one of the risks has occurred. Take P1 for example. We can prepare for the event of someone not meeting a deadline for whatever reason, and so we have already identified and put the measures into place to make sure that if a deadline isn't met, we as a team can handle it. For a risk such as G4 however, it isn't something that we can prepare for in advance, as much as we would need to react to it if it happens, and as such, if we get to a stage and risk G4 has occurred, we will then consult the Mitigation section for G4 and see how to handle it.

For some of these risks, there may be multiple ways to undertake the mitigation task, or there may be a disagreement on which way is best to do it. In this scenario, we will enact P6 "a disagreement in the team" on what to do. We will consult our team leader on which way is best to perform the task, discuss the potential methods involved in solving the task, and then they will choose a final decision which we must stick to. If this results in a member of the team having a falling out and becoming uncooperative, we will consult P7 and enact on that in order to keep the flow of the project's development moving forward.

If a problem is discovered and is not on the risk register, communication with the team immediately is vital in order to make sure that it is dealt with swiftly and with as little trouble as possible. In the event of this happening, another entry into the Risk Register will be added to make sure that if the event ever happens again, the team knows how to respond to it with as little fuss as possible.

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
P1	Person	Any member of the team is unable to complete their work, due to health or personal reasons	Low	High	Have a knowledge-sharing culture and make tasks and dependencies transparent and assign backup team members for the tasks to do if that assigned one fails to do it.	David
P2	Person	Any member not being able to download or use essential software	Medium	Low	Any software that is required can be downloaded and used on the lab computers	Sameer
P3	Person	Lack or miscommunication of key information, leading to misalignment on client needs	Medium	High	Establish regular communication in meetings, using tools to measure progress (Gantt Chart) and hitting key targets that the client wants	Phyo
P4	Person	Delays in tasks, due to a member not completing their assigned tasks	Low	High	Tracking each members progress, with weekly checkups, to make sure that the work is being completed to a high standard	Phyo
P5	Person	A member is unable to attend a scheduled meeting	Medium	Low	Every member is in a group chat together, and if one member is unable to attend a meeting, we will communicate with them either within or after the meeting in order to decide one what they will do	Phyo
P6	Person	There is a disagreement in the group regarding how to undertake a	Medium	Medium	Decisions will be made based on the majority vote among team members, ensuring that everyone's opinion is considered.	David

		certain task				
P7	Person	A member becomes uncooperative with the group	Low	High	We are having 1-2 meetups per week to discuss and update progress. If one member isn't cooperating, we will be able to split their workload amongst the rest of the group in order to make sure the tasks are complete, and report them to our higher ups	David
P8	Person	Misunderstanding between team members on project work due to lack of formal documentation	Low	Medium	Use clear documentation, maintain a project log of activities, and meeting notes in shared documents for every member to be able to see what is happening in the group.	Phyo
T1	Technology	Game performance issues for low-end systems/all systems	Medium	Medium	Provide a way for the player to adjust the graphic quality, and optimise game assets to reduce strain on a system	Alex, Harry
T2	Technology	Random events causing crashes or stuttering	Medium	Medium	Testing and fail-safe measures should be implemented to stop the game from crashing	Alex, Harry
T3	Technology	Random events causes unexpected behaviour in the game	Medium	High	Thorough testing of random events, as well as this, clear conditions and priorities should be used to start the random event	Alex, Harry
T4	Technology	Game is unplayable on certain devices due to software conflicts	Low	High	We are using LibGDX which natively supports the ability to play on Windows (7+ only), Mac and Linux, and we will make sure to bundle the download with the correct version of Java to eliminate any issues there	Alex, Harry

T5	Technology	Certain inputs may crash the game	Low	High	If the game is trying to read an input which it by default doesn't recognise, it could cause errors. Adding Try-Catch statements and other related error handling to stop catastrophic errors from occuring	Alex, Harry
T6	Technology	Lack of familiarity with the version control system (e.g., Git) could lead to code conflicts	High	High	Learn how to use Git and Github before working on the project in order to prevent code conflict.	Alex, Harry
T7	Technology	Inability to implement some features due to the skill gaps with programming or the technical tools	Medium	High	Learn the required skills for the development and seek help from the lecturers	Alex, Harry
T8	Technology	Team members accidently overwrites each other's work due to the unfamiliarity with the shared environment	Medium	High	Make sure to have backups and develop rules for the code editing between the developers	Alex, Harry
T9	Technology	Loss of data related to the project due to the unexpected system errors	Low	High	Make sure to have an essential backup for the important data related to the project	Alex, Harry

G1	Gameplay	Poor UI	Low	Medium	Implement early testing of UI in the game. Give to someone who has not played to see if it is intuitive	Alex, Harry
G2	Gameplay	Random events being too difficult/frustrating	High	Medium	Balance the difficulty through play testing the game or implement a difficulty slider	Alex, Harry
G3	Gameplay	Lack of depth in gameplay	Medium	High	Thorough playtesting of the game will show if there is any dull areas, furthermore new mechanics or randomised objectives would help	Alex, Harry
G4	Gameplay	Obscure win condition	Medium	High	Provide simple and clear feedback to the player, allowing them to understand how to improve	Alex, Harry
G5	Gameplay	Random events being too similar	Medium	High	Provide a wide range of random events, with varied consequence which would keep the game fresh	Alex, Harry
G6	Gameplay	The game does not respond actively during the high activity moments and it cause the player frustrating	Low	Medium	Test the game and the UI performance	Alex, Harry
G7	Gameplay	The student satisfaction algorithm fails to provide the correct student satisfaction numbers to the player.	Low	Medium	Test this algorithm again and again in order to be sure that algorithm is working properly	Alex, Harry
G8	Gameplay	Leaderboard does not update correctly and show the top scores incorrectly	Medium	Medium	Test the leaderboard to make sure that the leaderboard is working correctly with the game data.	Alex, Harry

G9	Gameplay	Achievements not triggering correctly during gameplay	Medium	Medium	Implement unit tests for achievement criteria and ensure achievements trigger under proper conditions through detailed playtesting	Alex, Harry
G10	Gameplay	Players misunderstood how to achieve the achievements during gameplay	Medium	Medium	Provide the clear UI explanation on how to achieve the achievements as the tips to the players at the start of the game or in the menu.	Alex, Harry
PJ1	Project	Overlooking essential requirements from the product brief and missing the important features	Medium	High	Look thoroughly the product brief and make notes about the essential requirements for the important features	Phyo, Sameer
PJ2	Project	Poor initial project timeline plan cause the major delays	Low	Medium	Make a thorough schedule, then review it regularly and make adjustments depending on team's progress	David
PJ3	Project	Underestimate some potential risk that can arise during the project development and they cause the delays	Medium	High	Carefully think about all the risk can have significant impact on the project progress	Phyo
PJ4	Project	Ambiguity in game requirements causes confusion in feature development	High	High	Document the requirements clearly and always check them with product brief and the team	Phyo, Sameer