Risk assessment and mitigation

The Risk assessment is an essential part both before and during the project, it allows the team to be prepared for threats that may affect the progress of the project. After careful discussion, our group decided on using the following format and level system to evaluate the risks we might have during the project.

Format[1]:
Description of the risk - Summarises the risk to the project.

Recognition Date - The date the risk was identified. (For now, all our risks are all potential therefore the date had not been recorded yet.)

Likelihood - The likelihood that the risk will materialise and could also imply the priority.

Impact - The impact it will have on the project if fully materialised.

Action (Mitigation Strategies) - The response we will take to mitigate/eliminate the risk.

Status - The current status of the risk, whether that be Potential/Materialising/Integrity/Eliminated, which will be updated as time passes with the history of the risk being logged.

Potential - An early thought of a risk that could potentially happen

Materialising - A risk that is actually starting to take place and could eventually become a risk to the integrity of the program

Integrity - A risk has developed into a major flaw in the project and could damage the project as a whole

Eliminated - The risk has been identified and appropriate measures have been put in place so that it cannot occur

This format will clearly identify each risk with its relevant information in a simple way with each subheading having clear relevance with the goal of eliminating each identified risk as quickly as possible after it is identified.

For the Likelihood and impact of the risks, we used the Low-Medium-High scale, which can be described as follow:

Likelihood: **High** - Very likely to happen during the project.

Medium – Have some possibility occurring in the project.

Low – Unlikely to happen during the project.

Impact: **High** – Might have a significant influence on the project's quality or progress.

Medium – Might have a controllable influence on the project's quality or progress.

Low – Might slightly influence on the project's quality or progress.

Project Risks: Risks that affect project schedule or resources.

ID	Risk Ownership	Description	Likelihood	Impact	Status	Mitigation Strategies
PJ1	Team Leader	Permanent loss of team member(s) during the project	Low	High	31/10/18 Potential	Regular and well communication between team members to make sure all members are satisfied with the tasks and works they assigned to. Divide tasks equally to reduce the risk that the project crash by lost one key member.
PJ2	Team Leader	Temporary absence of team member(s)	Medium	Medium	31/10/18 Potential	Be pessimistic about the assumption, plan more time for tasks to allow team members' temporary absence.
PJ3	Team Leader	Delay of key deliverable	Medium	High	31/10/18 Potential	Keep track of each team member's schedule make sure everyone follows the plan. Schedule extra time before the deadline to allow the delay(s) of deliverables.
PJ4	Team Leader	Lose access of key hardware (computer) or offline key documents	Low	Medium	31/10/18 Potential	Keep upload all the versions on the GitHub to make sure even changing devices or lose local documents team member could continue working.
PJ5	Risk Manager	Shifting of deadlines	Low	High	31/10/18 Potential	Do not plan to deliver date of the essential part of the project at the end of the development timeline, make sure team member finish the main requirement first.
PJ6	Design Manager / Interface Manager	Changing of requirements	Low	High	31/10/18 Potential	Keep regular meeting between customer(s) and team, therefore even the requirements have been changed, team members could know at first time.
PJ7	Team Leader	Team member(s) having technical struggles during the project	Medium	Medium	31/10/18 Potential	Do researches on the problems, discuss with other team member(s), and ask lecturers if need.

PJ8	Design Manager	False assumption on time required by task(s) or unfinishable planning	Medium	Medium	31/10/18 Potential	Do not over assume and plan extra time to allow the task(s) to be extended.
PJ9	Head Developer	Be distracted by tasks not in the requirements	High	Medium	31/10/18 Potential	Make sure every team member follow the plan and deliver the task on time. The importance of following the requirement document should be emphasized.
PJ-10	Interface Manager	Lack of communication between customer(s) and the team	Medium	High	31/10/18 Potential	Plan and booking regular meeting with the customer(s) to make sure the requirements do not have any changes.
PJ - 11	Risk Manager	Over periods when group members are likely not to be in the same location or possibly different countries (i.e Christmas), not communicating enough through reason like time difference or communication methods	High	Medium	22/12/18 Occurring 2/1/19 Potential	Ensure weekly update sessions planned around time zones and days which people might not be able to communicate.
PJ 12	Team Leader	IntelliJ project not being set up correctly so that it couldn't be configured by all group members causing the need for time-consuming troubleshooting	Medium	Low	2/12/18 Occuring 8/12/18 Potential	Make sure every group member has good knowledge of how to configure and use the IntelliJ on their respective systems to prevent time needed when troubleshooting (possibly when setting up on one operating system then transferring to a different operating system).

Product Risks: Risks that affect the quality or the performance of the product.

ID	Risk Ownership	Description	Likelihood	Impact	Status	Mitigation Strategies
PD1	Head Developer	Using inefficient libraries and tools	High	Medium	31/10/18 Potential	Chose the libraries and tools that are widely used in the computer science community.

PD2	Lead Tester	Unsolved bugs in the final product	Medium	Medium	31/10/18 Potential	Plan enough time on testing progress to make sure eliminate most and any major bugs before it is delivered.
PD3	Head Developer	Unable to satisfy all the requirements being asked	Low	High	31/10/18Potential	Focus on the main requirements made in the documents and keep up with the schedule to make sure the team could deliver the product on time.
PD4	Head Developer/Lead Tester	Final product having complex operating or setup system	Medium	Medium	31/10/18Potential	Think by the side of potential users, to make sure the product is easy to operate and set up.
PD5	Design Manager	Poor user experience due to the design of the product	Low	High	31/10/18Potential	Make sure the game is balanced and detailed during design. Send out questionnaires to research what users want in the product.
PD6	Graphics Designer	Lack of background music, sound effect or quality images	High	Medium	31/10/18Potential	The team will do the best to find suitable images and music for the game, to make users have good experiences. However, due to the professionalism of the task, the outcome cannot be guaranteed.
PD7	Design Manager	Gaming time of final product being unsuitable (too long or too short)	Medium	Low	31/10/18Potential	Keep the main storyline between 30-60 minutes and cut unnecessary branches.
PD8	Head Developer	Product being hard to update and maintain	High	Medium	31/10/18Potential	Make a clear version control make sure the team could contribute on the project easily in the future.

Business Risks: Risks that affect the organization developing or producing the software.

ID	Risk Ownership	Description	Likelihood	Impact	Status	Mitigation Strategies
BU1	Team Leader	Get into trouble due to the unauthorized use of others' code or other resources	Low	High	31/10/18 Potential	The team will avoid using any unauthorized resources and carefully reference all the sources used in the document.
BU2	Design Manager	The final product not being suitable for the university and target	Low	High	31/10/18 Potential	The team will send out questionnaires to understand users opinions then design and improve the product and

		users				have regular meetings with the client.

Reference:

[1]*Software Development Risk Management Plan With Examples*. [Online]. Available: https://www.castsoftware.com/research-labs/software-development-risk-management-plan-with-examples. [Accessed: Oct. 28, 2018].