Engineering 1

Group Assessment 1

Risk Assessment and Mitigation Document

Cohort 2 Team 12

Introduction to Risk Format and Level of Detail

The Low-Moderate-High scale is a simple and clear format for presenting risks applying to a small-scale project such as ours. For both the severity and likelihood of a risk, we have used this system since it is easy to understand, and colour coded it for even greater clarity.

We have classified each of the risks as one of three categories: product (regarding quality/completeness of the game), project (regarding the project resources and schedule) and business (regarding the organisation procuring/developing the software). These types were inspired by research into risk types in software engineering.

In terms of the level of detail, we have provided a coherent description of each risk which sets out what it entails and how it would affect the project and team, as well as how to mitigate it in the event of its occurrence.

We have given each risk an owner as recommended and a backup owner as this was a simple way of reducing the chance of a risk resulting in a problem.

In order to identify the risks associated with the new requirements for Assessment 2, we first reviewed Assessment 1 requirements, specifically those that had not been implemented. Then, we went through our project plan to determine all possible factors that can affect the quality of the final product.

Potential risks have been identified by the whole project team, as all members of the team were involved. Any potential risk suggested by any member was recorded and analysed. More specific/technical issues have also been assigned to specific team members that are working on related parts of the project. When a new potential risk was found by a member of the team, it was posted in a dedicated channel in our Discord server, then discussed and added to the table.

Risks Table

Risks						
ID	**Type**	**Description**	**Likelihood**	**Severity**	**Mitigation**	**Owner**
R1	Project	Team member unavailable for remainder of project	L	H	Ensure knowledge and skills are shared between team members, and form subteams/assign individual team members to work on tasks	All
R2	Project	Github server goes down so we cannot access the repository.	L	H	Back up files in local repositories	All
R3	Project/ Product	Errors or changes in user requirements	L	H	Use agile methods and frequently review requirements and how we are meeting them, meet with client often	All
R4	Project/ Product	Overall productivity affected by external factors e.g. COVID-19 situation	M	M	Make sure work is spread evenly and work is done in subteams/by someone with support on tasks offered from all team members and set achievable, sustainable timeframes	All
R5	Business	Software being used becomes obsolete or unusable	L	L	Have backup pieces of software which can be used on all work and ensure that they are ready to be used in this event.	Coders
R6	Project	Incorrect estimate of project completion date resulting in overrun.	L	H	Review schedule and plan as a team, keep constant track of what team members are working on currently and how much work is left to do. Make specific duration estimates for each task.	All
R7	Product	Poor quality code or clashes in code produced by different team members	L	M	Make sure code meets software and user requirements, and review often. Test code frequently and appoint reviewers for different sections. Use continuous integration of code and lots of documentation to ensure this does not occur.	Coders
R8	Project	Avoidance of or inadequate risk management.	L	M	Include risk in estimations and complete documentation on risks involved with the project.	Karina
R9	Product	Code does not cater to changing requirements and is not reusable by other team members.	M	M	Write simple and efficient code with clear documentation, frequently test and review code.	Coders

R10	Project	Miscommunications and lack of clarity, e.g. several members doing the same task, misunderstanding design decisions	M	M	Every team member must inform others about the parts of the project they are working on, ask for clarification when uncertain about something	All
R11	Project	Team is running out of time	H	H	Meet up more frequently and make sure every team member is involved	All
R12	Project	Conflicts within the team	L	M	Try to resolve a conflict or minimize its effect on the projects	All
R13	Project	Misunderstanding some of the assessment questions	L	H	Contact the lecturer and make sure all question are understood and answered	All
R14	Business	The customer is not satisfied with the game design/implementation	L	H	Set up a team meeting and discuss possible	All
R15	Product	Product doesn't meet some user, functional or nonfunctional requirements	M	H	Review the requirements at each stage of the project and make sure all of them are met	All
R16	Product/ Business	Product doesn't meet the customer expectations, e.g game is too complex, too simple or not enjoyable	L	H	Organize a team meeting and discuss possible changes or improvements	All
R17	Project	Lack of skills/ knowledge of team members	M	H	Team members must learn/improve their skills through taking online courses, reading relevant literature or using any other resources	All
R18	Product	Game is not playable on a low spec computer (i.e. dual-core laptop with 4GB of RAM)	L	M	Set up a team meeting and discuss what adjustments can be made to the game to run on a low spec machine	Coders
R19	Product	Game logic does not work as expected, e.g. durability doesn't reduce when colliding with obstacles, difficulty does not increase/decrease when changing the level of difficulty etc.	L	H	Members responsible for the implementation must go through the code and find any logic errors	Coders
R20	Product/ Project	Misunderstanding the new requirements or some of the questions of Assessment 2	L	H	Contact the lecturer and make sure all question are understood and answered, new requirements are clear	All
R21	Product	New requirements are not implemented for some reason	L	H	Review the requirements at each stage of the project and make sure all of them are met, make sure someone is working on each new feature of the game	All

Bibliography

[1] I. Sommerville, Software Engineering, Pearson Education, 2008, pp. 74-98.
[2] K. Schwaber and J. Sutherland, The Scrum Guide™, 2017 pp. 1-19