Risk Assessment and Mitigation

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1.1 Risk Assessment Process

The risk management process followed by our team is a structured approach to risk identification, assessment, mitigation and monitoring throughout the lifecycle of the project.

We began the project with an initial meeting to identify general risks that we may encounter when planning and modelling the project. These include risks associated with forming the team, deciding on the team structure and holding the first stakeholder meeting.

As the project progressed, we met weekly to discuss progress and identify emerging risks that became apparent. We then updated our risk register, including a date of identification and assigning a team member as the 'Owner' to monitor this risk as the project continued.

By assessing the project in an iterative manner, we were able to identify new risks as they emerged from unforeseen circumstances and activities. For example, it was not until week 3 that we first encountered an issue with merging errors on GitHub - at this point, it was added to the risk register so that we could monitor the likelihood of the same issue happening again.

Similarly, in the final two weeks of the project we discussed and monitored risks related to completing the deliverables on time, and the submission of these files going smoothly. We delegated the task of submission to a single team member (Hannah) with a secondary team member (Ben) able to submit the project if errors are encountered.

1.2 Format of the Risk Register

Our risk register is presented in a tabular format below, with a Risk ID, Type (project, product or technology), Description, Mitigation steps and a named Owner. Collaboratively, we then assessed each risk and assigned likelihood and severity ratings, according to the threat that the risk posed to the progress of our project. We kept this rating system simple, using categories low (L), medium (M) and high (H) to quantify each property. Additionally, we colour-coded the table accordingly to give an overview of the risk weighting.

This format is ideal for our project as it allows us to track the progression of risks by the date on which they were identified. This helps us to select the correct mitigation strategy for each type of risk, as well as delegate the monitoring of each risk to the relevant team member.

The risk register is available to all team members and stakeholders, ensuring transparency and accountability. Should an identified risk develop further, any member of the team should contact the named owner to implement mitigation and recovery steps.

1.3 Building Upon and Taking Over the Project

Following on from Group 25's risk assessment, we met in the first week and firstly focussed on identifying any new risks that related to the project hand-over. These included, but were not limited to issues relating to cloning, new deliverables and building upon Group 25's work. Risks we added also followed the format they used.

2.1 Risk Register

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
			Date: 23/02/2024			
R1	*Project*	*Members of the group missing from meetings*	*L*	*M*	*Inforce someone to chase them up and make sure another member is able to cover their work.*	*Hannah* Doaa
R2	*Product*	*Someone's code gets corrupted and they lose their files*	*M*	*H*	*Use GitHub to back up and store code so individual crashes don't affect the project.*	*Kyla* Peter
R3	*Project*	*Dependency management, code becomes too dependant on external libraries and apis*	*L*	*M*	*Version control, try not to make the code fully dependant on the libraries*	*Matthew* Sean
R4	*Technology*	*Incompatible software on different members individual systems*	*L*	*M*	*Utilise software that every member is able to consistently access*	*Chak* Isaac
R5	*Project*	*Scope creep, too many ideas are introduced to the project making it unreasonable*	*L*	*L*	*Stick to the specific requirements the project needs and only add extras once the previous requirements have been met*	*Hannah* James
R6	*Project*	*A member dropping out and leaving the group*	*H*	*H*	*Inquire about introducing a new member and allocate their work*	*Callum* Doaa
			Date: 28/02/2024			
R7	*Project*	*Merging using GitHub causes errors or corruption in the main branch.*	*M*	*M*	*Ensure everyone pushes and pulls regularly (at least daily). Understand the rollback process to recover from errors.*	*Ben* Surbhi
			Date: 08/03/2024			
R8	*Project*	*Limited feedback from stakeholders can result in a product that does not meet user expectations*	*M*	*M*	*Make sure in client meeting to ask specific and important questions that provide useful answers*	*Hannah* Lloyd

R9	*Project*	*Not adhering to regulatory requirements can lead to legal issues and project setbacks.*	*L*	*H*	*Ensure not to use any tools such as AI in order to complete work*	*Callum James*
R10	*Technology*	*Failure to address security concerns can lead to data breaches or compromise the integrity of the software.*	*L*	*H*	*Using resources such as github to collaborate on the project and ensure only group members have access.*	*Chak Lloyd*
R11	*Project*	*Ineffective communication can lead to misunderstandings, resulting in errors or rework.*	*H*	*H*	*Make sure group communication remains active through discord, email and whatsapp so that collaboration is effective and consistent.*	*Hannah Doaa*
R12	*Project*	*Ensure that all deadlines for producing the product are meant and make sure that completion of documentation is completed on time.*	*M*	*H*	*Scheduling management between the group using a gantt chart and effective group communication for work delegation*	*Chak Peter*
R13	*Technology*	*The project may involve technologies or concepts that the team is unfamiliar with, leading to delays and errors.*	*M*	*M*	*Make sure that any new software that is used by the group is shared and explained so that all members are able to utilise it.*	*Kyla Isaac*
R14	*Project*	*Key person dependency, if specific team members possess critical knowledge and skills, their absence can be a significant risk.*	*L*	*L*	*Make sure that all work is evenly spread and each area has a secondary person who is able to complete that work.*	*Ben Sean*
R15	*Product*	*Insufficient testing can result in undetected bugs, affecting the software's reliability and quality.*	*M*	*M*	*Implementation of unit tests ensures the code is fully functional and debugged*	*Matt Surbhi*
R16	*Project*	*Poor team dynamics: Conflicts, lack of collaboration, or a weak team culture can negatively impact productivity and morale.*	*H*	*M*	*All conflicts should be decided in a mature manner and if a solution cannot be found then, the seminar leader will be used to help sort out problems.*	*Hannah Lloyd*

Date: 15/03/2024						
R17	*Project*	*Not finishing the code in time for the deadline.*	*M*	*H*	*Chase up any unfinished work in the week leading up to the deadline.*	*Kyla* Peter
R18	*Project*	*Not finishing the documentation in time for the deadline.*	*M*	*H*	*Chase up any unfinished work in the week leading up to the deadline.*	*Hannah* Lloyd
R19	*Product*	*Code doesn't build properly when preparing for submission.*	*M*	*H*	*Test the build process at intervals before the final deadline to ensure that we understand and can complete the process without errors.*	*Ben* Sean
R20	*Project*	*Unable to submit files due to Internet/server issues.*	*L*	*H*	*Prepare and submit the files as early as possible, so that errors can be handled before the deadline.*	*Hannah* Isaac
Date: 22/04/2024						
R21	Project	Failure to carry out user evaluation correctly.	L	H	Prepare documents and follow the correct procedures carefully.	Doaa
R22	Project	Some group members are unable to access the new project.	M	H	Clone other groups' code and ensure everyone has access.	Surbhi
R23	Project	Cloning the project and website causes errors or fails.	M	H	Make sure that the website and game files are working properly and nothing is referencing their old files.	Peter
Date: 29/04/2024						
R24	Technology	Compatibility issues with running the game on different operating systems	M	M	Make sure to test the game on different operating softwares and fixing any bugs that may come up	James
R25	Project	Using GitHub actions to manage dependencies between multiple workflows may become complex	M	M	Modularise workflows and clearly define them in the order of execution	Isaac

R26	Project	Inherited code and deliverables may be confusing and misunderstood.	M	H	Before working on code and changes, all group members should familiarise themselves with theirs.	James
R27	Project	Misunderstand the feedback given about assessment 1/ requirements for assessment 2	M	H	Make sure to clarify anything with the lecturers and ask questions beforehand	Lloyd
R28	Project	Forgetting to submit a deliverable	M	H	We forgot to submit the website in assessment 1 therefore at least 2 group members should check the submission file before	Sean
Date: 14/05/2024						
R29	Project	Small sample size may not represent target audience	L	M	Have a diverse range of users representative of the target audience play the game	Surbhi
R20	Project	Misinterpretation of feedback	L	M	Provide clear guidelines and questions prepared when collecting the data	James