

# Risk assessment and Mitigation

Group 12 - T12

Assessment 2 updated version

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# Risk Assessment and Mitigation

## Risk Management Process

A risk is anything that could threaten the project and so it is important to identify and manage them. By identifying and managing risks, we are able to monitor and mitigate any known risks. However, an unknown risk is unable to be managed and therefore a proper risk assessment is vital to ensure the project does not fail or is not severely affected.

During our first meeting we discussed the potential risks to the project and decided we would create an initial document and then continuously update it to ensure all risks were identified and mitigated. To do this we followed the risk management process:

**Risk Identification:** In order to identify as many initial risks as possible we discussed all the different sections of the project and what could potentially affect them. We also categorised the risks into where the risk could arise.

**Risk Analysis:** We would then analyse the risks we determined and decided on their likelihood, consequences and severity.

**Risk Planning:** To minimise the impact on the project we needed to find ways of mitigating the risks. For example if a team member is unavailable we will have made sure at least two people are assigned to a task and therefore it will still be worked on.

**Risk Monitoring:** All risks will be monitored, we will be reviewing their likelihood, severity and mitigation. This way we can determine risks of high/low severity and likelihood.

We stored all of our risks in a risk register consisting of a table which displays all the information of the risk: ID, Type, Description, Likelihood, Severity, Mitigation and Owner. Risks were split into the categories and types in order to make it easier to comprehend from where the risk might come and what it may affect, it also helped to assign the appropriate person to be wary of and manage the risk. Below is additional information as to how we have structured our risk register:

### Category

- Technology - Risks related to software / hardware
- People - Risks related to people within the team
- Requirements - Risks related to the requirements of the product
- Estimation - Risks related to time and resource estimation for the project

### Type

- Project - Risks affecting project schedule or resources
- Product - Risks affecting the product quality/completeness
- Business - Risks affecting the organisation procuring/developing the software

### Likelihood

- Low - The risk is unlikely to occur
- Moderate - The risk is moderately likely to occur
- High - The risk is likely to occur

### Severity

- Low - The risk will have low impact to the project and can easily be mitigated
- Moderate - The risk will have moderate impact to the project
- High - The risk will have a severe impact to the project

## Risk Register

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
Technology						
R1	Project	Google Drive could fail / crash	L	H	Create copies of documents on local devices	Whole Team
R2	Project	Project files are lost or are not the most recent version	L	H	Use a version control system and cloud based storage for files. (Github and Google Drive)	Whole Team
R3	Business	The game is incomplete or low quality	L	H	Have good plans and learn from mistakes from previous sprints	Whole Team
R4	Product	The game runs slowly on the client's hardware	M	M	Make sure code is efficient and runs correctly, regardless of the framerate.	Ben and Usman
R5	Product	Final version of the game has issues due to poor testing	L	H	Have consistent testing every sprint to ensure issues are picked up and looked at during the next sprint	Adi and Billy
R6 -	Product	Testing environment not being implemented well causing tests to fail	M	M	Read documentation on how to create an appropriate testing environment and run multiple tests to ensure it works properly	Adi and Billy
R7-	Project	Test not being appropriate for the requirements	M	L	Stay focused on what needs to be tested and ensure that main requirements are tested thoroughly to ensure that they function properly	Adi and Billy
R8 -	Project	Code may not be commented out properly or might be difficult to read	L	M	Study the code, debug if need to and add comments/clean up where necessary	Ben
R9-	Project	Implementation of new features	H	M	Implement new requirements/features	Ben

		conflicting with previous code, making it necessary to rework it			that complement the old code, look up documentation if issues are caused and keep a backup of previous versions	
R10	Product	The game is unable to be compiled	M	H	Try compiling on different machines or request another team member for help	Ben, Harry, Ollie and Usman
People						
R11	Project	People fail to complete their assigned task either due to poor time management or poor team planning	M	H	Have two people working on each task to improve the bus factor	Adi and Billy, Ben and Usman, Harry and Ollie
R12	Project	Lack of communication could lead to inconsistencies in different tasks	M	M	Having regular meetings to review that sprints work and discuss what needs to be completed next	Whole Team
R13	Project	A team member becomes unavailable temporarily or permanently	M	M	Have tasks assigned to at least two group members and have code and documentation easy to understand so another team member could continue the work	Whole Team
R14	Project	Team members cannot attend all meetings due to personal activities	H	M	Make sure we make use of the timetabled practicals and make notes of what was discussed and what needs to be done.	Whole Team
R15	Project, Business	A risk is not identified by the team	M	H	Continue to think about risks and continuously update the risk register	Adi and Billy
R16	Business	The final product is not what the client requested and is not approved by the target audience	L	H	Regular meetings to review requirements and have good communication with our client	Whole Team
R17	Product	We may not have	M	M	Avoid too many new	Ben

		the programming ability to add some features			libraries and assign tasks to group members with most ability and experience	
Requirements						
R18	Project	The main requirements are missed due to focus on other areas of the game	L	H	Have main features scheduled to complete first before focussing on additional features	Ben and Usman
R19	Project	The project requirements change	H	M	Having up to date and easy to amend documents and commented code to allow for change	Harry and Ollie
R20	Product	Misunderstood the requirements	M	H	Have clear requirements and good communication with the client	Ben and Usman
R21	Product	Failure to make the game enjoyable	L	H	Continuously testing the game with both team members and non team members in the target audience	Whole Team
R22	Product	Significant features are asked to be removed	L	H	Code the game with as few dependencies as possible so if one feature has to go it will not cause the whole game to fail.	Ben
Estimation						
R23	Project	The estimated deadlines for tasks are miscalculated	M	M	Make sure there is extra time between our deadlines and the client's deadline	Whole Team
R24	Product	Some areas of the game are more developed than others	M	M	Have good planning and time estimation for each task	Whole Team
R25	Product	Some additional features cannot be added due to time constraints	M	L	Main features will be implemented first and any additional will be completed after	Whole Team