

# Risk Assessment and Mitigation

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## Risk Management Process

For our risk management process we used a structured iterative decision process. Identification, analysis, planning and monitoring. Using this process we were able to actively monitor, recognise and assess risk.

### Identification

We identified risk in a variety of ways; We conducted meetings with all our group members to brainstorm risks. We also incorporated identifying risks as part of our planning process for assigning tasks. We then classified each risk initially into one of four buckets: technical, people, process and external. Classifying them in this way helped us to identify a wider range of risks that would perhaps go unnoticed.

### Analysis

We evaluated each risk based on two qualitative measures, likelihood and impact. Likelihood is the probability of the risk occurring and impact is the severity of when the risk occurs.

Keeping the categories broad we used high (H), medium (M) and low (L) for both categories. Then we prioritised action against risks by working out the most critical risks (ones with the highest impact and likelihood combined, eg  $H \times H = \text{Critical}$ ).

This lightweight approach was chosen as it balances structure with flexibility, making it suitable for smaller projects.

### Planning

For every risk we conducted mitigation actions to reduce likelihood (eg git for version control to avoid lost code) and contingency actions to reduce impact (eg local backups if repo is corrupted). Ownership was assigned to individual team members to ensure accountability and follow-up.

### Monitoring and Review

We reviewed our risks regularly in a timeslot at the end of each of our meetings, that way we could reassess risk with new tasks or changed tasks. This iterative monitoring helped maintain visibility of emerging threats such as time slippage near deadlines

## Risk Register

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
R1	Project	Misinterpretation of customer's product brief or requests leads to missing or incorrectly implemented features.	M	H	Constantly keep focus on requirements during development. Request clarification from customers when needed.	Joe
R2	Product	Bugs in the game code prevent it from working	H	H	Test code regularly, enforce code review before merges.	James
R3	Product	The game might not run or could be slow on low performance laptops.	M	M	Minimize the resources needed to run it. Test the game in advance on low performance laptops.	Jasper
R4	Project	Loss of project data due to accidentally overwriting code, failing to save files correctly, etc.	L	H	Proper version control through GitHub for the codebase and Google Drive for project-related files	Ivan
R5	Project	The task may take longer than expected, and could result in the project schedule.	L	M	Continuously communicate with group members to set realistic goals and evaluate progress periodically for feedback.	Freddie
R6	Technology	Any 3rd party libraries may not be compatible with the rest of our code	M	M	Test 3rd party libraries before we use them and be aware of potential alternatives	James
R7	Project	Group members struggle to understand code	L	M	Document code development and what the code does	Mutaz

R8	Group	A group member becomes unable to continue the project	L	L	Make sure key tasks are not dependant on one person	JungWan Park
R9	Project	Delay in project decisions	M	H	To avoid delays in project decisions, prepare alternative solutions and keep communicating with teammates to make decisions quickly.	Jasper
R10	Project	Trying to add too many features than planned, which can affect the schedule, resources, and quality	M	H	Keep the focus on the most important features, don't overload too many low-priority ones and check the project plan often.	Ivan
R11	Product	Issues with the screen or a UI element can cause discomfort for the user.	M	M	Test UI elements on as many devices as possible, and improve them based on feedback	Joe
R12	Group	Lack of experience and skills could lead to low quality function or frequent errors.	M	H	All group members gather information about code or other research, share it together, and fill each other's knowledge gaps to improve in a better way.	Freddie
R13	Group	Unclear assigned tasks could lead to confusion or conflicts among group members.	M	M	Try to make an appointment for a group meeting to enhance communication among the group, clarify task assignments, and share the progress of assigned tasks to ensure accountability and contribution.	JungWan Park

R14	Business	Licensing issues of project resources may cause legal problems and limit features.	M	H	Make sure all team members are aware of licensing rules and have backup resources in case of possible licensing issues.	Mutaz
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