

Risk Assessment and Mitigation

Cohort 1 Group 7

Group Members:

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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, recognize and assess risk.

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.

Risk 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 prioritized action against risks by working out the most critical risks (ones with the highest impact and likelihood combined, e.g. $H \times H = \text{Critical}$).

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

Risk Mitigation

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

Risk Monitoring

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 | Severity | Likelihood | Mitigation | Owner |
|----|------------|--|----------|------------|---|--------------|
| R1 | Project | Misinterpretation of customer's product briefs or requests leads to missing or incorrectly implemented features. | M | H | Constantly keep focus on requirements during development. Request clarification from customers when needed. | Max |
| R2 | Product | Bugs in the game code prevent it from working | H | H | Test code regularly, enforce code review before merges. | Matt |
| 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. | All |
| 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 | William |
| 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. | Enkhtuguldur |
| 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 | All |
| R7 | Project | Group members struggle to understand code | L | M | Document code development and what the code does | All |
| R8 | Group | A group member becomes unable to continue the project | L | L | Make sure key tasks are not dependent on one person | Kyle |
| R9 | Project | Delay in project decisions | M | H | To avoid delays in project decisions, prepare alternative solutions and keep communicating with | All |

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| | | | | | teammates to make decisions quickly. | |
| 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. | Bailey |
| 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 | Max |
| 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. | All |
| 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. | Kyle |
| 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. | William |
| R15 | Product | Ethical issues in user evaluation, such as improper consent or misuse of participant data. | H | L | Follow proper consent form and safeguarding of participant data to avoid ethical issues | Enkhtuguldur |
| R16 | Product | Inconsistent Art Style | M | M | Follow chosen one art style consistently. | Ronnie |
| R17 | Product | Accessibility limitation not counted | M | L | Accessibility menu for adjustments | Ronnie |

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|-----|---------|--|---|---|---|--------|
| R18 | Group | Make the link public, resulting in loss of project data | H | L | Keep repositories private | Matt |
| R19 | Project | The deliverables' format and page number not meeting resulting in 0 mark | M | L | Follow a strict submission check list. | All |
| R20 | Project | Difficulty integrating previous team deliverables, codes, and website | M | M | Carefully planning and integrating if help is needed contact the previous team or lecturer. | All |
| R21 | Product | Unbalanced game difficulty (too easy or too difficult) | M | M | Refine balance through tuning, testing, and feedback. | Bailey |
| R22 | Project | Incomplete or inefficient coverage of aspects during testing | M | M | Proper test planning and coverage tracking needs to be applied to ensure all requirements are fully tested. | All |