Risk Assessment and Mitigation

Group 4
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We began the risk assessment process early, identifying risks alongside gathering requirements and making initial plans. The possible risks we identified informed our early decisions in regards to team structure, though this process was not formalised until Weeks 3 and 4 of the development process. This took the form of one of our biweekly meetings, in which the team brainstormed possible risks in a communal document.

EI, as the team member assigned to risk management, then collated the team's list of risks into relevant categories. As identified in our lecture material, we used the categorisation of project, product and combined (project and product) risks. The business risk category, though useful in commerce, was deemed irrelevant in an educational setting. Several risks from our initial brainstorming session were also removed, combined or replaced during this process – primarily due to EI finding them to be redundant or negligible.

The next step in our process was the creation of the risk register. Risks were reformatted, added to the tabular format, and assessed for their likelihood and severity. We chose to focus on clarity and simplicity in our system, comparing risks in a way that improved team communication, as we were working with a comparatively small project size.

A primary method to achieve this clarity was our risk ID system. As well as providing a general shorthand for referencing risks, our system groups similar issues together under the same numbered sub-category. For example, risks R2A and R2B both concern a lack of participation from team members, though from different causes. This makes the correlation and causation between risks clearer, and informed the process of risk ownership assignment. Risks with similar causes or outcomes were assigned to the same owner, or to owners who have worked together otherwise throughout the project.

We used the same three level scale to assess both likelihood and severity, considering risk in terms of the Low, Medium and High categories. Our small project size and academic setting obviously decreased risk levels overall, but the differentiation between risk levels was determined to be more necessary than this clarification – thus, risk severity is determined relative to other risks within this specific development process. High severity risks are those that could forbid the project from being submitted or massively affect its final functionality, while high likelihood risks are those more likely to occur than not. These classifications were determined by EI, and verified by the team during our discussion in Week 4.

In our group meeting, team members were assigned risk ownership (to be shared with EI, in cases where they were not the assigned owner) and we discussed possible mitigation strategies. These were added, in combination with those proposed by EI, to the risk register for official documentation. Where possible, we focused on risk mitigation as our primary strategy, using tools like shared documentation and frequent group meetings. Contingency plans were discussed, but kept to a minimum due to the risk of major group setbacks.

Group members reassessed their assigned risks periodically – every one to two weeks, depending on the specific risk – and were expected to communicate with EI regarding any changes that needed to be made to the risk register. When risks occurred, we took the planned mitigation steps. Specifically, several group members became ill over the course of the project. We communicated this in the group WhatsApp, shared the meeting notes with them, and continued work with the other member assigned to that particular task.

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
R1	Project	Submission point going down on day of submission deadline	Low	Low	University accommodations will likely be provided. Submit an early version in advance if possible.	Wri
R2A	Project	Team member unable to participate fully due to illness or emergency	High	Variable	Assign multiple team members to most tasks. Share meeting notes with all members. Share project work with all members.Team members will be assigned to additional tasks if required.	Sophia
R2B	Project	Team member refusal to contribute	Low	High	Assign multiple team members to most tasks. Share project work with all members. Team members will be assigned to additional tasks if required.Bi-weekly meetings allow issues to be caught early. Can involve university if necessary.	Sophia
R3A	Project	Communication issues due to distance/technology issues	Medium	Low	Hold in-person meetings where possible. Schedule work primarily during term time.	El
R3B	Project	Communication issues due to team structural issues	Low	Medium	Make clear order of leadership for each deliverable; avoid assigning more team members to a task than necessary. Bi-weekly meetings allow issues to be caught early.	El

R3C	Project	Team disputes	Medium	Variable	Bi-weekly meetings where disputes can be caught early. Make clear order of leadership for each deliverable. Risk owner moderates discussion if necessary.	El
R4	Project	Submission deadlines missed or forgotten	Low	High	Submit an early version in advance of the deadline if possible. Hold additional meetings in weeks before deadlines.	Wri
R5	Project	Workload imbalance within the team	Medium	Medium	Assign work evenly using points system (15 per person). Task sharing between members allows for workload variations. Flexible structure allows members to be assigned to additional tasks if required.	Sally
R6	Project	Parts of project take longer than anticipated	High	Medium	Flexible structure allows members to be assigned to additional tasks if required. Additional time allotted for major tasks in case of this eventuality.	Sally
R7A	Product	Bugs or errors with libraries used in implementation	Low	Low	More time allotted for code implementation development than strictly required. Leaves time for bug-testing, edits and optimisation.	Chek
R7B	Product	Third-party library discontinued during project development	Low	Medium	More time allotted for code implementation than required.	Chek

					Leaves time for edits and optimisation. Avoid complete dependency on any single library.	
R8	Product	Bugs in software or tools used for code development	Low	Medium	More time allotted for code implementation than required. Leaves time for edits and optimisation. Keep frequent backups of code to minimise corruption damage.	Chek
R9	Project + product	Device, software or connection issues lead to loss of progress	Medium	High	Keep multiple copies of documents and code, on individual devices as well as Google Docs & GitHub. Use reliable third-party sharing sites. Multiple team members assigned per project decreases risk of complete loss. Keep frequent backups to minimise corruption.	Xavi
R10	Project + product	Requirement changes mid-development	Medium	High	Carefully discuss necessary requirements with client. Discuss possible future requirements and their implementations in advance. Provide additional time for the implementation section of the project.	Xavi