

Risk assessment and mitigations

Team 2 - Billy's Amazing Team

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Introduction:

A major part of any software engineering project is risk assessment and management. We consider a risk to be any event that could threaten our project in any way. There will always be the inevitability of unknown risks, however, to protect our project to the best we can: the risks that can be known should be identified, tracked, and planned for.

Risk Identification Process:

To identify the potential risks in our project, we brainstormed ideas as a team. At the commencement of our project, we began to note down any potential risks we came up with at the time we discovered them. So even before our in-person brainstorming session, we already had a small bank of potential risks to our project. The original brainstorm was carried out using Google Jamboard, as this enabled us to colour code the risks by their likelihood, as well as to enable us to all be contributing risks at the same time while making sure we don't end up with duplicate risks.

Link [5.1: the original Jamboard](#)

Terminology, Classifications and Conventions

The risks were sorted into a register where each was given a unique ID and a description of the risk. They were then rated on how severe the risk would be if it came up and how likely it was to occur. They were then given risk types; people refers to risks involving members of staff, requirements involves risks involving the way requirements are gathered and changed and technology risks are related to the software and hardware we license and use during the project.

A plan for mitigating the damage the risk could cause the project was then written up. Each risk would also be assigned to a pair of owners. Owners are the members (of the team) who will ensure the mitigation plan is being followed throughout the project. They will also inform the group if the likelihood of the risk has increased.

Risk Reviewing Plan

We will review the risks register every week at our Monday meetings. This will ensure new risks are identified and the owners of the risks can update the team on any changes.

Risk Register:

Risks:

Risk ID	Risk Type	Description	Likelihood	Severity
R1	Requirements	The customer changes their requirements for the software	Medium	Medium
R2	People	A team member does not contribute to the group as much as they should	Low	Medium
R3	Technology	A library we use stops being supported during development	Low	High
R4	People	A team member falls ill and cannot work efficiently for a short time	Medium	Medium
R5	Technology	Someone's laptop breaks down during the project	Medium	Medium
R6	People	A team member is unable to complete their work on time	Medium	High
R7	People	A group member unavoidably has to leave the project	Low	High
R8	People	A team member cannot make it to a group meeting	High	Low
R9	Requirements	Misunderstand the requirements set out by the customer	Medium	Medium
R10	People	Two Implementation team members are both sick as they live in the same house	Low	High

Mitigation and owners:

Risk ID	Mitigation	Owner
R1	Ensure that we have regular customer meetings to catch changes as soon as possible. Also, ensure we have a dynamic product schedule to handle changes elegantly.	Mitchel, Rajul
R2	Ensure we track each member's work at every team meeting to catch the issue early. If detected, talk the the members as a team to try to get them to do more, if talking fails then raise the issue with management (konstantinos.barmpis@york.ac.uk)	Chris, Ash
R3	Ensure we select libraries which have a wide user base and have been established for quite some time. Also, ensure we research several different libraries for the same task, in case we need to switch earlier in the project whilst it is still feasible	Ash, Alyx
R4	Ensure that every deliverable has at least two people assigned to work on it so that if one person is unavailable, there is someone else working on it. Each deliverable will also have a reviewer, who can fill in for the ill person if they will be absent for a long period.	Mitchel, Rajul
R5	Ensure all project work is stored in multiple places such as on the cloud. Ensure all team members can access and use the software lab PCs so that they can still work on the project even if their device fails.	Kacey, Mitchel
R6	Ensure that all team members report to the group if they feel like they will not finish on time as soon as possible, either via email or in our WhatsApp chat. Also, check the progress of every group member at every group meeting, these will be at least twice weekly.	Rajul, Alyx
R7	Ensure that every deliverable has at least two people assigned to work on it so that if one person is unavailable, there is someone else working on it. Each deliverable will also have a reviewer, who can fill in for the missing person permanently.	Yawshi, Chris
R8	Ensure meeting minutes are recorded for every meeting so that the missing person knows what was discussed. Also, keep an attendance record to track whether the missing member is missing meetings often so that this issue can be raised at a meeting.	Yawshi, Kacey
R9	Also ensure we have a dynamic product schedule, so that it can handle changes elegantly. Keep a transcript of the customer meetings so that we can discuss their responses as a group. Also, ensure we prevent any ambiguity when attending customer meetings.	Yawshi, Chris
R10	All work being done by these team members is thoroughly documented and multiple code reviewers can switch priorities to implementation in the case that a household comes down with an illness.	Chris, Alyx

Bibliography

[1] Google, "Google Jamboard," Google, 2024. [Online]. Available: <https://jamboard.google.com/>.

[2] P. Landau, "What Is a Risk Register & How to Create One," ProjectManager, 2024. [Online]. Available: <https://www.projectmanager.com/blog/guide-using-risk-register>.