Risk Assessment and Mitigation

Cohort 1 Team 9 - Team 'ARRRGH'

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5. (a)

We decided to use the popular risk matrix representation for risks, including giving each risk a likelihood and severity rating from 1 being the lowest to 5 being the highest.

This results in the following matrix with overall risk being calculated on a scale from 1-25

			Likelihood				
			Very Likely	Likely	Possible	Unlikely	Very Unlikely
			5	4	3	2	1
Severity	Severe	5	25	20	15	10	5
	Significant	4	20	16	12	8	4
	Moderate	3	15	12	9	6	3
	Minor	2	10	8	6	4	2
	Negligible	1	5	4	3	2	1

- The risk is first calculated without any mitigation in place to show how critical it is to the project. There is then a further residual likelihood once mitigations have been put in place.
- A final residual risk is then calculated from the new likelihood and the original severity which does not change.
- This allows us to clearly see the risks that need specific focus on mitigation where the risk with no intervention is high. We can also use the residual risk to see what is the highest priority to work on afterwards.
- Each risk is assigned an owner who is responsible for ensuring the risks are reviewed regularly and that mitigation is put in place.
- Finally there has been one review of all risks so far with comments made on the success of the mitigation and anything further that could be done.
- The risks are also split into types, project, product and technology risks are all present.
- The chosen colours for the risk assessment were done to highlight the severity of each risk; the connotations of the colour red imply severe, while green implies safety/less severe.

5. (b)

ID	Type	Description	Likelihood	Severity	Risk with no intervention	Mitigation	Residual Likelihood	Residual Risk	Owner	Review 1 January 2022
R1	Project	Inability to do specific pieces of work due to relevant team members being ill/unavailable.	3	5	15	All parts of the project have been assigned a lead and a backup so that no section is reliant on one single person.	1	5	All Team	All areas still have at least two people assigned so no further mitigation is needed.
R2	Technology	Loss of data - documents or code.	3	4	12	Offsite storage such as Google Drive and GitHub are being used which are resilient to data loss. Local backups are also being kept for additional redundancy.	1	4	All Team	Files are all backed up, copies of all code on GitHub and at least two members' devices. Documentation on Google Drive and backed up. No further mitigation needed.
R3	Project	Team members get distracted with other work or exams and do not put in enough work for the project.	4	3	12	No meetings will be held in exam week, all members will have targets and set pieces of work. Regular meetings will be held to ensure everyone is on track.	2	6	All Team	Exam week was avoided and weekly meetings are continuing into the new term. No further mitigation needed.
R4	Project	Due to our international team, some members may be stuck in other countries after the start of term due to COVID-19.	2	3	6	All work can be completed online if required and online meetings can be held.	1	3	Amelia, Ben	All team members safely back in York, no further mitigation needed.
R5	Project	Some team members will be overseas during the breaks, different time zones can be awkward to	5	2	10	Ensure all team members let us know where they will be and what times work, meetings can then be	1	2	Dom	Meetings over the break were scheduled OK with everyone's time zones included. All team members are

		plan meetings across.				planned to fit everyone's schedule.				now back in the same time zone.
R6	Project	University meeting rooms can be difficult to book and they get booked up very far in advance.	4	2	8	Book meeting rooms as far in advance as possible, use the open computer science facilities if none or available or hold online meetings where required.	1	2	Dom	All meeting rooms for Term 2 booked, no further mitigation needed.
R7	Project	A team member struggles with a particular area of the work.	3	2	6	All tasks are discussed and assigned based on the strengths of the team and requirements of the project. Team members can always ask someone else for help or do their own research.	2	4	All Team	Some tasks have been reassigned to more confident members. All team members to work on improving their skills for assessment 2 so this is needed less.
R8	Technology	No team member has experience of game development or LibGDX so completing the project will be challenging	5	4	20	Team members will be given time to research and consider the options available. A significant amount of time has been dedicated to designing the architecture to make the implementation easier.	2	8	Harry & Amelia	Some team members focusing primarily on the development have learned the tools and are progressing well. No further mitigation necessary.
R9	Technology	Some team members have no experience with version control or collaborative coding.	4	4	16	All members to watch the provided lectures and a demo of our GitHub setup will be provided by members with experience in this area and guidance can be given.	2	8	Dom	Some issues occurred with code pushed directly to the main branch, further GitHub instruction given and no further mitigation needed at this time.

R10	Product	There may be bugs in the program and faults with the game.	4	4	16	Fully test the game before submission, ensure all team members test each other's work to find more potential issues.	2	8	Harry & Amelia	Game testing planned for later, no further mitigation needed at this stage. Continuing review of this risk towards the end of the project needed.
R11	Project	Code may be overwritten or untested but used in the final game.	4	5	20	Use GitHub branches for all changes, these require a second team member to review and merge to main to ensure all code has been checked by at least two people.	2	10	Dom & Harry	This has been done properly most of the time and team members are reviewing and merging code well. No further mitigation needed.
R12	Project	Copyrighted assets may accidentally be used if licenses are unclear or team members do not check.	2	4	8	All graphical assets to be made from scratch by the team and all team members to check licenses of anything used.	1	4	Ben & Team	This has been checked and all assets made by the team. No further mitigation needed.
R13	Project	Quality and consistency of documentation is difficult to maintain with different members working on different sections.	4	3	12	All deliverables will be closely checked by at least two members and everyone will read over every document before submission.	3	9	Firas	Deliverables have someone assigned to write them and a separate reviewer. There is also a review meeting planned to go over the whole project with all members.