Risk Management

Team 4 - Undercooked

Names in blue are the previous projects team's member

Fin Cochrane
Sehran Ahmed
Sam Davis
Hamza Salman
Owen Thomas
Zhenyi Xu
Adam Brown
Rebecca Stone
Morgan Francis
Laura Mata Le Bot
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Identification Process

To identify the risks that may appear during the development of the project, we will use an iterative risk management process in the order of Identification, Analysis, Planning and then Monitoring.

First, Identification. In this stage of the process we will analyse the systems we intend to create, how the system will be used by the customer and how the people in our team may be able to achieve the outcome we desire from those systems. Through Analysis, we will find risks that may occur from the design of the system, or how we have organised our team to work on the project.
We will assign these risks to a type, and provide a description to them so we understand what they are.
The types of risks are:

- **People**: Risks that involve problems caused by people, such as being unavailable to work on a system.
- **Project**: Risks that involve the workings of the project, such as the libraries we use.
- **Product**: Risks that may impact the final product that has been requested, such as what devices the game needs to run on.

Risk register (or one register per category)

Secondly, we will Analyse these risks we have identified, and match both a likelihood (**L**ow, **M**oderate, **H**igh) and a severity (**I**nsignificant, **T**olerable, **S**erious, **C**atastrophic) based on judgement from our team. This will be used to identify the risks that need more attention than the others, based on how likely they are to occur and the potential risks they bring.

Risk ownership strategy

Thirdly, with the Planning stage we will devise different strategies for each risk on how we can prepare for the risk in advance through avoidance strategies, mitigation strategies or contingency planning.

- **Avoidance strategies**: Preparing strategies to avoid the issue from occurring where possible by carefully selecting the project suppliers, such as the libraries, and avoid depending on methods that involve a low bus factor.
- **Mitigation strategies**: Reducing the impact of risks that can't be avoided, such as a team member being unavailable. To avoid risks like these becoming issues that impact the project, we will prepare strategies to avoid them.
- **Contingency plans**: Fall-back plans in a case where the risk does occur, such as using a simpler solution that may provide less features that we know works correctly with our project.

Risk reviewing plan

Finally, Monitoring. With risk monitoring, we will provide each of the risks with someone who will overlook them, and will return to the risk regularly to re-assess their likelihood and severity to ensure that it is accurate. We will also have a meeting once every so often to ensure that every team member knows of any risks that have been altered or added.

Risks will then continue to be added as they are discovered, and altered as needed iteratively as time passes.

Risk register , a systematic tabular presentation of risks , including likelihood, impact, mitigation and ownership has five main advantages in project designing namely Improved visibility, Better risk management, Better decision making, Increased accountability, Better project planning.we can continue add new risk find with the process of coding

Risk Register

ID	Type	Description	Likelihood	Severity	Mitigation	Owner	Occurred	Result
R1	People	A team member is unavailable for an aspect of the project **(not a library)**	M	S	Involve at least 2 members of the team for each aspect.	Hamza, Adam	Yes - All	Other members of each section filled in. For example, when Rebecca was unavailable, Adam and Shabari were able to continue with testing in her absence. Similar responses occurred for all absences.
R2	Project	Collision library doesn't function correctly with our project.	M	S	Amend the collision system using a different method.	Fin, Morgan	Yes - Morgan	Collision section did not work after refactoring. We had to make the collisions work outside of the body system for testing purposes. This involved re-working the scaling to make it all uniform so all worked correctly.
R3	Product	Project does not run on either/both Windows or Linux.	L	C	Ensure all libraries and code used runs on at least one of the systems.	Fin, Morgan	No	Didn’t occur

R4	Product	Ensure the project runs correctly with different screen sizes.	M	T	Test the project with varying sizes of monitors.	Xu, Morgan, Ollie	Yes	We tested using our different screen sized computers, and the game scales correctly
R5	Product	Game can't be set up, stopped or restarted quickly.	L	S	Ensure that the game can be started in little time	Sehran, Morgan, Laura	Yes	We have attempted to write clean code and reduce the memory size of the game. This has resulted in the game loading quickly
R6	Product	Images used for the game are not easy to tell apart on a **smaller** screen	M	T	Carefully pick out and make images so that the user can more easily tell them apart	Sehran, Laura, Morgan	Yes - Morgan, Laura	Laura adjusted all scaling of all objects, whilst Morgan adjusted assets to make them more visually appropriate
R7	Product	Images used for the game are not easy to tell apart on a **bigger** screen	M	S	Carefully pick out the images so that the user can more easily tell them apart	Sehran, Laura, Morgan	Yes - Morgan, Laura	Laura adjusted all scaling of all objects, whilst Morgan adjusted assets to make them more visually appropriate
R8	Product	Colours used for the graphics are not distinct enough for people far away or colourblind to tell them apart.	L	T	Check images chosen visually and with online colourblind testers	Owen, Laura, Morgan	Yes - Morgan, Laura	Morgan made the objects assets clear enough to tell apart, whilst Laura produced a colour pallet for colour blind people to best aid their experience. This is shown throughout all the assets.
R9	Product	Website going down for any reason.	L	C	This was not continued when the project switched over	Owen, Ollie	No	The website never went down when changed it to solely run on

					and instead we checked the website was up at different points in the project.			GitHub
R10	People	Team members struggling to finish before, or missing deadlines.	M	S	Let other members know if you think you are unable to finish on time so that they could help out.	Sam, All	Yes - Laura, Morgan, Adam, Rebecca, Shabari	As having small sub teams for different sections, we could reevaluate work assignments to understand the weaker areas to support areas people struggle with. For example, in implementation, Shabari struggled to understand testing so Adam stepped up to support him and guide him through writing tests.
R11	Product	Significant bug/s in the code were discovered close to the deadline.	M	S	Make code as readable as possible including comments and documentation so everyone, not just the author can debug.	Sam, Laura	Yes - Laura, Adam, Rebecca	Laura refactored the code to work for new assessment 2 implementation and assessment 2 testing. Adam and Rebecca did further refactoring work to further aid testing for assessment 2.
R12	People	Time crunch. Tasks in our project may take longer than we expect.	M	S	Ensure that everyone knows what they are doing, and that we'll be able to complete it before the final deadline.	Owen, Adam	Yes	Our initial deadline was too ambitious, so we regrouped after missing the deadline and reallocated the work according to people's

								schedules to reduce crunch
R13	People / Project	Code is not easily understood by other members of the team.	M	T	Ensure consistent documentation including Java Docs and comments where appropriate	Owen, Morgan, Laura	Yes	The previous teams documentation in many areas was auto-generated. This meant most of their comments said nothing about what the code actually did, or made no sense. We have attempted to remove and replace these in areas we have refactored
R14	Project	Initial UML needed to change due to what we did during the project.	M	T	When changes need to be made in the UML to accommodate for how the project will change, communicate it through the group so everyone knows that the UML has changed.	Xu, Laura	Yes	UMLs did need to be updated as the UMLs we were given did not match the code provided, as well as needing updating all by laura for the new implementation.
R15	Project	Having the incorrect java version in our development environment, causing errors when we try to run the program.	M	T	Ensure that our selected java version functions with the libraries we are trying to use, and that everyone is using the same version.	Xu, All	No	Didn't occur
R16	People	Group members do not know what has changed within the project as changes are made.	M	S	Setting up meetings with group members regularly to help members	Xu, All	Yes	We had this occur on multiple occasions, but made sure to run regular meetings

					track any changes. Ensure that commits to GitHub are explained enough.			and keep people up-to-date on our groups discord channel. In addition, the team's Trello board was updated regularly to combat this.
R17	Project	Spending too much time on additional features.	M	S	Ensure that the group is focusing on creating the project based on the requirements we defined at the beginning.	Xu, Adam	Yes	Adam suggested changes to prioritise sections of the game which were most important to the original vision of the project.
		TEAM 7 RISKS						
R18	People	A team member breaking a computer or making their computer inoperational by some means.	L	C	Fix or Replace computer	Owner of computer	Yes - Laura, Adam	Laura and Adam experienced computer issues, but was resolved after a short delay, in meantime she focused on other areas outside coding to still make progress in the project.
R19	Project	Incompatible Licences.	L	C	Change resources to make all licences valid.	Adam	Yes	Adam found a licence incompatibility between the sprite licence and the Apache licence. Therefore we have had to change our resources.
R20	Project	Website isn't easily extended.	M	C	Remake the website or amend to fix issues.	Oliver	Yes - Oliver	Oliver found problems with the website where half of the website's code was written all

								on one line, making it near impossible for a human to edit. Furthermore, large sections of it were in Greek which no member of our team could read.
R21	People	One member of the team becomes unable to continue with the project under some circumstance (E.G Leave of Absence, dropout, etc)	L	S	Have multiple people understanding multiple sections, so that if one person left, Nothing would be affected.	All	No	Didn't occur
R22	Project	Unable to test certain elements	H	T	Use manual testing	Rebecca	Yes	Rebecca implemented manual testing for elements requiring the use of gameScreen
R23	Product	Confusing controls	M	C	Make very easy to understand controls, follow conventions created/used by other/similar games.	Morgan	Yes	The controls from the prior game did not feel natural to use, so Morgan adjusted them to be easier for the user to make.
R24	Product	User finds gameplay boring	M	C	Make the game more visually interesting, as well as giving the user/customer a more enjoyable user experience whilst playing.	Morgan, Oliver, Laura	Yes	As a team, we did not feel entertained by the gameplay when we took it over. So when we took over the project, we decided to make it space themed, with Morgan designing the map as a spaceship, Oliver implementing his characters and

								Laura designing the colour-blind friendly colour pallet. We also changed key parts of the gameplay loop to improve the level of enjoyment that could be gained
R25	Product	Too difficult or too easy for the intended user/customer	M	S	Make difficulty settings challenging enough for the user's set preferences.	Laura	No	Didn't occur