Risk Assessment

ENG1 Team 7
Broken Designers

Adam Brown
Morgan Francis
Oliver Johnstone
Shabari Jagadeeswaran
Laura Mata Le Bot
Rebecca Stone

Risk management process

As a team, we decided to implement a risk management system in which we would come together and discuss risks whilst planning parts of the project. This way, We would be able to identify risks before we worked on the parts of the project those risks would be most prevalent in. The time limit for this project was very slim, so risk management was vital for our success. As Ian Sommerville puts it, *"Effective risk management makes it easier to cope with problems and to ensure that these do not lead to unacceptable budget or schedule slippage."* [1].In the process of deciding how we would record our risks, we considered many tabular formats that we could use. One such format we considered was a risk matrix, outlined in chapter 20 of *"Fundamentals of software architecture : an engineering approach"* [2]. However, we decided against this format because it would not allow us to plan our mitigation strategies for the individual risks. Ultimately, we decided on using a risk register. The format of the risk register allowed us to visually convey the priority of the management of our risks as well as verbally convey the details of the risk and our plan to combat it. In addition, many sources suggested that a risk register was very useful in long projects such as this. Ian Sommerville suggests that *"For large projects, you should record the results of the risk analysis in a risk register along with a consequence analysis."* [1].

The format of our risk register first has an "ID" column. This column assigns a unique ID to each risk so we can quickly refer to and identify individual risks. Next is the "Type" column, which assigns a specific type to the risk based on which category it affects. The categories we have decided on are "Technology", "Project", and "Product". The risks assigned to the "Technology" section are risks which refer to risks with the devices we are working on to complete the project. Risks allocated the "Project" type are risks we determined could negatively affect our ability to complete the project. Finally, risks assigned the "Product" attribute are risks deemed to be detriments to the quality of the product we produce in the end. The next column is the "Description" column. In this, we provide a short description of the risk to allow members of the team to see potential issues we may run into. This is followed by the "Likelihood" column, in which we rank how likely we believe this risk is to occur. The measure of likelihood is denoted by "H" and a red background for risks we deem to be highly likely to occur, "M" and an orange background for risks we believe may occur, and "L" with a green background for risks we believe will have a low chance of appearing. A similar metric is used to rank our next column, being "Severity", which represents the impact each risk will have on their given aspect if they were to occur. In this column, "L" with a green background represents a risk with low severity, "M" with an orange background represents a risk with medium severity and "H" with a red background represents a high severity risk."Mitigation" is the next column which denotes our plan to prevent or reduce the impact of the given risks. Lastly, the "Owner" column shows which team member will be responsible for making sure our chosen mitigation or avoidance strategy is followed. This column can be filled by multiple team members or just one in some cases. We believe that using this style of risk register helped prevent a multitude of risks and put many risks into perspective which helped guide the course of our progress towards the goal.

Bibliography

https://ajbrown-york.github.io/html/bibliography.html

Risk Assessment

ID	Type	Description	Likelihood	Severity	Mitigation	Owner
R1	Technology	Adam's Laptop needs to be plugged in while running or it will not work	H	L	Work in areas where the Laptop can be plugged in and use university devices	Adam
R2	Project	Someone becomes unavailable	M	M	Having a shadow for all parts of the project	Everyone
R3	Product	We currently lack the expertise to fix potentially major bugs	M	H	Use forums to try and help fix errors that appear and try not to aim too high	Everyone
R4	Technology	Some members of the group are working on different operating systems, causing compatibility issues	H	L	Find tutorials to fix issues that arise and avoid assigning things to people on different operating systems	Everyone
R5	Project	Ollie is our lead programmer on the game, so if something happens or he becomes	H	H	Assign people to learn how the code works and have multiple people working on the code	Ollie

		unavailable, we will be in trouble				
R6	Product	The leaderboard allows free unmonitored input, which may lead to inappropriate inputs for names etc	H	L	Input code to prevent inappropriate names on the leaderboard	Ollie/Morgan
R7	Project	The mixing of multiple different peoples code may lead to errors	M	M	Use branches and merging on GitHub to detect and prevent conflicting code	All
R8	Project	At lot of the deliverables need the game to be fully finished or nearly finished to start, which hinders our ability to complete the project on time	H	H	Assign all available members of the team on different parts of the implementation, in order to complete the game as quickly as possible	All
R9	Product	More implementation of memory access may cause memory leaks	M	H	Make sure to properly reuse objects instead of making new objects every time the game runs	Ollie, Morgan

R10	Project	People may struggle to swap to our project if we don't try to help it be as developer friendly as possible	L	H	In the code, try and make as many classes that encompass common methods needed for multiple objects as possible. Comment code where this not possible to tell others what each section is for	Adam, Ollie, Morgan
R11	Technology	Adams Laptop has completely broken for the time being, reducing his ability to assist in certain aspects of the project	H	H	Reassign parts of the project that Adam was doing but can no longer do to other members of the Team. Assign jobs Adam could do to him to free up other members	Adam
R12	Project	A lot of people in the group are inexperienced in LibGDX which will hinder our ability to create a functional game on time.	H	H	Attempt to break up the remainder of the project into pieces,then find videos and guides on how to implement those features	Ollie,Morgan, Shab,Laura, Rebecca