

Risk Assessment

C3 Group 6
Team WHNI

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As developing a game based on a product brief and receiving client feedback can be a very versatile process, prone to changes and adversities, being able to predict and mitigate risks is very important. If an issue arises that could have a big enough impact, it could completely halt development of the project and result in a product that does not meet client needs.

Other issues can also arise.

Risk management was done by regular discussions during a part of each of our meetings as our project developed, where team members would introduce potential risks they think they might come across in their respective roles, as well as the project as a whole. These risks were then categorised, and assigned a likelihood plus Impact value, generally as a group, and then assigned ownership for the monitoring process. This information was added on google docs immediately to minimise lost information.

To do this, we need a way to effectively organise and plan for risks. As such, we have decided to do our risk register in the form of a table, with columns = {ID, Type of Risk, Description, likelihood, Impacts, Consequences, Mitigation, Contingency plan. Owner }, with likelihood and Impact being assigned Low/Medium/High upon deliberation. With this, we can organise what might happen and what we are doing about it, in a very clear, concise and easy to understand manner. Using a table helps us to group which actions are associated with which risks, making mitigating these risks much easier, as each row of the table provides sufficient information for each identified risk. Overall, this format of tracking risks should mean they are much easier to track, and by extension easier to deal with. As a result, any issue that arises will be less likely to negatively impact the team and the development of the project.

Risk planning was a vital process in our risk management system. Risks were generally thought of as massive achilles heels in the progress of our project, as such, we spent sufficient effort and time to put together strategies that would allow us to avoid encroaching on the consequences of these risks in the first place. For instance, we made sure to use mainstream methods of development for the type of project we would be undertaking, such as using libgdx for the java development, or using github to host a website. As such these would provide enough resources that could support developers that had not worked on this kind of project before.

Certain mitigation strategies were also implemented, for instance, each deliverable was worked on by at least 2 individuals, this was to reduce the bus factor, in the scenario where the individual who undertook a significant portion of the responsibility for a deliverable was not able to continue working on it, another team member would be able to adopt responsibility.

Ownership of risks was an important factor of the risk monitoring process. Owners were expected to regularly review and update these risks, and then present the current status of these risks to the group when possible, usually during a small time slot in our group meetings. Ownership was generally assigned based on the amount of responsibility individuals had for specific deliverables.

Key: The likelihood and impact has a scoring system of Low/Medium/High, highlighted by Green/Yellow/Red respectively

ID	Type of Risk	Description	Likelihood	Impact	Consequences	Mitigation	Contingency Plan	Owner
R000	Project	Team member stops contributing	Medium	High	Certain aspects of the project simply won't get done, as everyone has already been assigned certain tasks to do.	Conduct weekly check-ins to ensure everyone is coping. Also assign a shadow member to ensure the work is being done, and to help out where possible. Have at least 1 more person on each deliverable to lower bus factor	Redistribute the required tasks fairly across the rest of the team.	Hanna Pieniazek, Arkoday Roychowdhury
R001	Product	Does not run on specific operating systems	Medium	High	The product becomes unusable to certain clients with different operating systems	Test and run on other operating systems to ensure that the product work on all operating systems	If the product is not working on the specific operating system then notify the client on which operating system is not available to use.	Matthew Baghomian
R002	Product	Lack of testing	medium	Medium	Low quality product, undiscovered bugs and issues may pop up when product is used by client	Consistent unit testing and manual testing of classes and events in the product	Ensure other team members carry out the testing so bugs and issues that may have been missed by one team member is found by another	Hanna Pieniazek

R003	Project	Documentation management is insufficient	high	medium	Consequences may result from risks, as well as overall rate of development and quality of the project will be decreased. Scalability of project will also be affected for teams/individuals that join in the future	Have weekly meetings that address the process of documentation . A shadow member that can oversee the general progress of documentation through the course of the project	Manage documentation in a way that at the very least - the documentation that needs to be done as early as possible is done, while the rest can be added when possible	Arkoday Roychowdhury
R004	Project	Issues with 3rd party dependencies	Medium	Medium	If a dependency is no longer supported, future builds of the game may no longer function	Use well supported, open source libraries that will be well supported into the future, monitor support of dependencies going forwards	Find an appropriate replacement for any unsupported dependencies	El Foster
R005	Business	Improper use and acknowledgment of licensing	Medium	High	If licenses are not followed, creators of content used may take legal action against the team	Use of creative commons assets or similar and appropriate credit given according to licenses	Replacement of any incorrectly licensed assets	El Foster
R006	Project	Availability of necessary resources	low	medium	Not all resources may be available to use	Identify all the resources needed at the start, ensuring product can be made with the available resource	Use alternatives, such as open source tools	Matthew Baghomian
R007	Project	Time required to learn new technologies may delay development	low	medium	Deadlines may not be met resulting in project being delayed and may not meet client's satisfaction	Use technologies that have been previously used by individuals in the group	Have technologies/software that can be relied upon to meet the bare minimum requirement of the project so	Subham Magar

							that the team back can fall back on these as a last resort	
R008	Product	Remote repository goes down	low	high	No one will be able to access files related to the project i.e. code or planning documents.	Keep backups of the repository across a few locations.	Find the most up to date local copy on someone's machine, work on that in the meantime, then consolidate changes when the repository is back up.	Matthew Baghomian
R009	Product	Development software in use stops working	low	high	Development on the implementation would completely halt, and those coding would not be able to effectively work.	Ensure research has been done into many different options just in case we need to swap. Use mainstream, commonly used software for the task at hand - decreases likelihood of an issue occurring	Try to use a different piece of software that is known to support the current code base.	El Foster
R010	Product	Hardware in use stops working	low	low	All forms of contribution towards the project would stop completely, meaning we may miss the deadline for the product.	We should each have access to backup pieces of hardware that we can fall back on if any machines fail.	Make use of publicly available hardware in the meantime (i.e. library computers, university machines etc)	Matthew Baghomian
R011	Business	Customer feedback on progress, as well as miscommunication intent	high	medium	We would have to stop development on anything that doesn't meet the new requirements, and lose any progress and	Keep regularly meeting with the customer to ensure any changes to their requirements are caught quickly, so no	Immediately stop production on those parts that do not fit the new criteria, and start planning on how to work to new	Hanna Pieniazek

					time spent on these now unnecessary components.	more time is wasted.	constraints. Once a solid plan is formed, immediately start working towards these new goals.	
R012	Product	Development library in use for the development loses support and stops working	low	high	Just like if the software itself stops working (R002), development of the code would stop, and we'd lose some progress made on the coding.	Maintain a decent knowledge on different libraries, so we can swap over if need be.	As most libraries follow a similar paradigm, refactoring code would not be too much of a challenge. We'd have to spend time changing what has already been made to work with this new library. This may take a bit of time away from	Matthew Ford, El Foster
R013	Business	Another company takes legal action against us for the project	low	high	This could have severe financial impacts on the project and its workers if a company sues for compensation	Meticulously find the licenses for any asset or software used to ensure we are able to use it as we wish. If any do not fit our use case, do not use it.	Cease production immediately and conform with any requests (if justifiable) from the other company.	Arkoday Roychowdhury
R014	Product	The quality of code produced is poor due to certain constraints	low	medium	This could lead to a poor running product for the customer, which they may complain about and ask us to fix.	Host regular code review meetings, so we can all have input on what might be best.	Allocate more people onto the implementation team, and refactor all the code to meet a certain much better standard.	Matthew Baghomian
R015	Product and Project	An unexpected problem arises	low	low	As this problem is not within the planned risks, the effect could be larger as we will need to establish	Proactively add possible risks to the register as we think of them	Develop a plan to mitigate this new risk, and execute it in a timely manner, with input from	Arkoday Roychowdhury, Subham Magar

					a plan, slowing down the project		the whole team to ensure it is the correct approach.	
R016	Product	Deployment goes poorly	medium	medium	The software won't be published properly, which could lead to issues with the client if they need to hit certain deadlines.	Ensure the deployment is effectively planned.	Analyse what went wrong, and try again. Possibly using a different method.	Matthew Ford