Risk assessment and mitigation

Introduction and Justification

Risks have been identified by looking through our plan for each section then figuring out and discussing what could potentially go wrong. If a new risk is identified it will be posted in the Discord “risk-management channel” by a member, discussed in a meeting and then added to the risk table.

For our risk table we have decided to use multiple potential categories for each risk:

- Project - Any issues that will affect the schedule of the project.
- Product - Any issues that affect the game (our product) in terms of quality.
- People - Any issues that are caused directly by a lack of members.
- Technology - Any software or hardware issue.

We have decided to represent severity and likelihood using a scale of low, medium and high alongside colour coding the cells with green, orange and red respectively. This was used rather than a large number scale for minimal confusion and an easy to read table. It also makes the more serious risks easy to identify and to indicate priority if multiple issues should occur. The colour coding helps to quickly identify levels of risk at a glance.

For risks that are low or easy to manage/prevent they have been assigned to all members as they don’t require a dedicated owner. For more specific/technical issues, they’ve been assigned to specific members or small groups that are working on parts related to the issue as it’s more efficient to have them check and so it doesn’t disrupt the workflow of other members.

If a risk occurs in the future, the plan is for a member(s) of the group to report it in the “risk-management” channel of the group’s Discord and bring it up during a meeting. The member(s) responsible for the risk will then work to mitigate the issue. In a situation where this is for some reason impossible alternatives will be discussed.

Risks

ID	Type	Description	Likeli-hood	Severity	Mitigation	Owner
R1	Project	Google docs goes down during our group meeting.	Low	High	Keep copies of files on local machines and use screen sharing or work on different files.	All
R2	Project	Accidently deleting a file from google docs	low	High	Keep a local backup on everyone's machine	All
R3	Project	Accidentally wiping the contents of a file while editing it	low	low	Google docs keeps a history of all edits and allows easy backups	All
R4	People	A team member is sick during a meeting and can't show up	High	low	Make sure multiple people know how to complete a activity and insure that all work is completed with enough time to allow for sickness	All
R5	People	The team leader is sick and can't show up for a week	low	medium	Make sure people know what they need to be doing so that they can work on the project.	Michael
R6	Product	The game engine that we decide to use doesn't work the way we thought it would.	medium	high	Make sure we can program important features without needing to rely on the game engine.	All

ID	Type	Description	Likeli-hood	Severity	Mitigation	Owner
R7	Product	We could not complete all parts of the user requirements in time for the hand in.	medium	medium	Make sure that the other important deliverables are completed with plenty of time to spare and insure that the key features of the game are working correctly	All
R8	Project/ Product	Programmers are not used to using a different IDE then they're used.	medium	Low	Make sure everyone has time to get used to using a new IDE and research the features that it has.	All
R9	Project/ Product	During requirements phase we misunderstood a key part of the user requirements	Low	High	Check with the customer with all our requirements and ensure that we understand exactly what they want us to produce.	Ryan and Michael
R10	Project	Software being used to generate graphics (class diagrams, Gantt charts, state diagrams) becomes unavailable	low	medium	Keep copies of all the graphics as pngs or other file formats so they can be manually reproduced using different software if required	All
R11	Technology	The program runs above 30 fps on some users machines but below 30 fps on the university machines.	medium	medium	Remote log into the university machines or travel into the university to run a copy of the game on the actual hardware.	Michael

ID	Type	Description	Likeli-hood	Severity	Mitigation	Owner
R12	Product/ People	Poor communication causes people to code the same tool twice.	medium	low	Coders should keep a record of what they are currently working on as well as keeping the Github updated	Coders
R13	Product	The coding is not completed in time for the handin so the final part of the architecture deliverable cannot be completed	medium	high	The architecture deliverable should be updated when it's clear that the task won't be finished to include a concrete architecture based only on what has been completed in time.	all
R14	Project	Discord goes down before/during our out-of-session meetings	low	medium	Have backup options such as zoom, google meets and contact everyone about which we'll use via email. Also don't upload anything important to chat rooms without having a copy on someone's pc.	All
R15	Product	Diagrams take up too much space of our total page count for a deliverable.	high	medium	Make diagrams smaller or make the font smaller.	All
R16	Project/ Product	Users having different incompatible versions of the same software.	low	high	Ensure all users are using the same versions of critical software from the start.	All