Risk Assessment and Mitigation

The risks to the project are presented in the table below, with the following information about each one:

- **ID** - to identify individual risks
- **Category Type** - helps to read the table quickly and find the specific risks
- **Description** - details what the risk is
- **Potential Consequence** - explains what could go wrong and why this risk needs solving
- **Monitoring** - shows whether the risk is happening, indicating if it is of immediate concern
- **Likelihood and Severity** - allows the team to make a judgement about how much of a priority this risk is in solving or preventing
- **Mitigation** - details the steps that need to be, or are being taken to prevent the risk from happening
- **Owner** - shows who is responsible for either solving the problem or arranging for it to be solved

There is significant detail about the risks to the programming and game itself because each item can affect the overall game, and are distinct issues. The likelihood and severity of the risks are also included because this tells us which risk to prioritise in mitigating, and each item has an 'owner'- without one, the responsibility can be unclear, causing the issue to not be solved.

ID	Type	Description	Consequences	Likelihood	Severity	Mitigation	Owner
R1	Technology	AI interaction proves infeasible to implement	Opposing ships will behave differently	L	H	Fake AI via scripted interaction	Tabitha
R2	Product	NPC targeting of player ship is not enough or too challenging	Game may not be enjoyable	L	M	Player tests gameplay and we adjust the parameters accordingly	Tabitha
R3	Technology	AI decision making is too slow to be convincing	Game may not be enjoyable	L	M	Fake AI via scripted interaction	Tabitha
R4	Technology	Physics engine being unstable	Player and projectiles may not interact with other elements in the program correctly	L	M	Make it difficult for the player to put themselves into a difficult situation	All

R6	Technology	Cost of high resolution textures due to high loading times	Game may have a long loading time which may cause the user to think the program is broken	L	L	Minimal resources are loaded (possibly on another thread) or compression is used	Will
R7	Technology	Large maps and complex algorithms cause low fps	Game is harder to run on low specification computers	L	H	Optimisation frustum culling more simple AI	Will
R8	Technology	Rendering during movement may stutter/lag/flicker	Graphics look slightly worse than they would if you pay close attention	L	L	Consider using different textures if it ever got that bad, but graphics are not a priority	Camran
R11	Technology	Tile map rounding error causes visual artefacts	The game runs without any errors, but there are still annoying visual artefacts	H	M	Pad texture atlas that is used for the tile map	Camran
R14	Estimation	The team misjudges how long different tasks will take	Deadlines are missed or the work is of a lower quality	H	H	The team needs to continue working closely together and make sure everyone is at a good pace	All
R15	People	Bad team communication	Elements of the project may not be done	M	H	The team will ensure that they update the Issues page to inform others on progress outside of meetings	All
R16	Technology	GitHub Pages crashes or is down for maintenance	Unable to make changes to the website	H	L	Just remember to add any changes once Pages is back up and working to avoid being unable to ever edit it	Will

R17	Technology/People	Unable to understand the original team's code (or find it difficult to do so	Makes it a lot harder to implement new features without understanding the underlying framework	M	H	Request information from the original team if something needs to be clarified	All