5. Risk assessment and mitigation

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

- An 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.

Risk Register

ID	Type	Description	Consequences	Monitoring	Likelihood	Severity	Mitigation	Owner
R1	Technology	AI interaction proves infeasible to implement	Opposing ships will behave differently	not currently happening	H	H	Fake AI via scripted interaction	Alexander
R2	Product	NPC targeting of player ship not enough or too challenging	Game may not be enjoyable	unknown - ship combat not implemented until assignment 2	M	M	Player test gameplay and adjust parameters	Alexander
R3	Technology	AI decision making too slow to be convincing	Game may not be enjoyable	not currently happening	L	M	Fake AI via scripted interaction	Alexander
R4	Technology	Physics engine being unstable	Player and projectiles may not interact with the other elements in the program correctly.	not currently happening	M	M	Make it difficult to get into an unstable situation	Alexander
R6	Technology	Cost of high res textures cause high loading time	Game may have a large loading time, which may cause the user to think the program is broken	not currently happening	L	L	Minimal resources are loaded (possibly on another thread) or compression used	Alexander
R7	Technology	Large maps and complex algorithms cause low fps	Game is harder to run on low specification computers	not currently happening	M	H	Optimisation Frustrum culling more simple AIs	Alexander
R8	Technology	Rendering during movement may stutter/lag/flicker	Graphics look slightly worse than they would if you pay close attention	not currently happening	L	L	Cry in a pillow, curse the gods, switch code to Unity	Alexander
R11	Technology	Tile map rounding error causing visual artifacts	The game runs without any errors, but a lot of visual artifacts	not currently happening	H	M	pad texture atlas that is used for the tile map	Alexander
R12	Product	AI not being as advanced as it could be	The AI is either too good or bad. Making the gameplay worse for the user.	not currently happening	M	L	Fake AI via scripted interaction	Alexander
R14	Estimation	The team misjudges how long different tasks will take	The deadline is missed or the work is of a lower quality	not currently happening	M	H	The team will work together closely to make sure everyone is working at a good speed and encourage others to keep working.	All
R15	People	Bad team communication	Elements of the project may not be done and others duplicated	not currently happening	M	H	The team will ensure that they update the Trello and communicate their progress regularly	All