Risk Management

For the project, there will be the inherent possibility of risks which may prevent us from delivering on time or at all. To begin addressing these issues, we enumerated the risk and the categories of which they belong. The categories are listed below:

Team risks: Risks that arise due to a team member
Stakeholder risks: Risk that arise due to the client
Data Risks: Risks that arise due to factors out of the team's control
Technical Risks: Risks that arise due to technical decisions taken by the team or technical errors made by the team

Each risk was ranked in likelihood and impact and a risk rating was assigned to it using a risk matrix. The risk ratings were split into 5 categories ranging from low to high. This method was chosen since the rating offers an easy way of prioritizing resources into risk mitigation and/or prevention.

As an example, more time will be given to make all team members understand the project requirements properly since that has a higher risk rating for this project as compared to other risks

Impact/ Likelihood	Negligible	Minor	Moderate	Significant	Severe
Very Likely	Low - Med	Medium	Med - Hi	High	High
Likely	Low	Low - Med	Medium	Med - Hi	High
Possible	Low	Low - Med	Medium	Med - Hi	Med - Hi
Unlikely	Low	Low - Med	Low - Med	Medium	Med - Hi
Very Unlikely	Low	Low	Low - Med	Medium	Medium

After each risk was assigned a risk rating, mitigation techniques and prioritization (towards prevention or mitigation) were discussed within the team based on the risk rating. These can be found below the risk ratings for each category on the following pages.

Other sources regarding risk management were considered [risksource] and then a systematic discussion was carried out within the team about each stage of the SEPR project as an attempt to make sure that the list of risks was comprehensive. As this software project was small in scale and manpower, it was decided that assigning team members for carrying out the mitigation techniques would be assigned using remote communication tools (Discord, etc.).

For risks that affect the project differently based on when they occur, the list of mitigation techniques covers the techniques to be applied at each stage (The prefix A1 indicates the technique that will be applied at assessment stage 1). Risks that had an extreme unlikelihood to occur (such as a. tsunami) were not considered.

Team risks

Risk Description	Likelihood	Impact	Risk Rating
Team member being ill	Very Likely	Minor	Medium
Team members not coming to meetings	Likely	Minor	Low - Med
Team members misunderstand requirements	Likely	Significant	Med - Hi
Team member not responding to feedback	Possible	Moderate	Medium
Team member does not follow the planning and method defined	Possible	Moderate	Medium
Inability to communicate with other team members	Unlikely	Significant	Medium
Team member dropping out	Very Unlikely	Severe	Medium

Risk Description	Mitigation Techniques	Priority
Team member being ill	Task/Subtask reassignment	Mitigation
Team members not coming to meetings	Reschedule meetings at different times/Take meeting online	Prevention
Team members misunderstand requirements	Team meetings on a frequent basis which discuss the previous week's work and outline the next week's work.	Prevention
Team member not responding to feedback		Prevention
Team member does not follow the planning and method defined		Prevention
Inability to communicate with other team members	Talk to SEPR lecturers on methods of resolving it	Mitigation
Team member dropping out	Task reassignment	Mitigation

Stakeholder risks

Risk Description	Likelihood	Impact	Risk Rating
Client not being available to discuss project with	Possible	Minor	Low - Med
Client requirements unfeasible	Unlikely	Significant	Medium
Conflict of requirements between client and UoY communication office	Unlikely	Significant	Medium

Risk Description	Mitigation Techniques	Priority
Client not being available to discuss project with	The team will contact the client via other methods or at different times	Mitigation
Stakeholder requirement are unfeasible	The team will negotiate requirements with the stakeholders	Prevention
Conflict of requirements between client and UoY communication office		Prevention

Data risks

Risk Description	Likelihood	Impact	Risk Rating
Team members altering critical data without consent from rest of team	Possible	Significant	Medium
Temporary loss of access to critical data (Data host being offline etc.)	Unlikely	Minor	Low - Med
Loss/Accidental deletion of critical data	Unlikely	Significant	Medium

Risk Description	Mitigation Techniques	Priority
Team members altering critical data without consent from rest of team	Team members read through documentation before submission	Prevention
Temporary loss of access to critical data (Data host being offline etc.)	Keeping local repository copies on each team member's systems	Mitigation
Loss/Accidental deletion of critical data		Mitigation

Technical risks

Risk Description	Likelihood	Impact	Risk Rating
Error in time estimation for programming	Likely	Moderate	Medium
Bugs in software tools	Likely	Minor	Low - Med
Change in requirements requires a change in the game architecture	Possible	Significant	Med - Hi
Libraries lack required documentation	Possible	Moderate	Medium
Poor choice of libraries	Unlikely	Severe	Medium

Risk Description	Mitigation Techniques	Priority
Error in time estimation for programming	The team will reallocate resources towards the modules/tasks	Mitigation
Bugs in software tools	(A1) The team will consider alternative software (A2) The team will have a meeting and discuss finding a workaround	Mitigation
Change in requirements requires a change in the game architecture	(A1 - A2) The team will design the game architecture so that it can accommodate changes in requirements (A3 onwards)The team will contact the client and negotiate the requirements to implementable requirements	Prevention
Libraries lack required documentation	(A1)The team will research and discuss extensively to ensure the libraries chosen fit the criteria of the project. (A2 onwards)The team will attempt to design the architecture such to minimise the dependency on specific libraries.	Prevention
Poor choice of libraries		Prevention

References

[risksource] B. Eccles and I. Bruce, "How to Complete a Risk Assessment", Knowhownonprofit.org, 2010. [Online]. Available: https://knowhownonprofit.org/organisation/strategy/internalanalysis/how-to-complete-a-risk-assessment-1. [Accessed: 03- Nov- 2016].