Risk Assessment and Mitigation

The risks from Assessment 2 which can viewed online at:
https://github.com/teal-duck/teal-duck/blob/Assessment-2/teal/Risk2.pdf were reviewed by the team and changes have been made to Table 2 to reflect the nature of Assessment 3. This involved discussing any new risks that may occur in taking on another team's project (R12, R13) and if the risks from the previous project still applies (which they still do). These changes can be seen in blue writing. The formatting has worked well in previous assessments so that has been kept the same.

There were a two major factors that had to be taken in consideration with Assessment 3 that could increase risks. These are: the shorter time period compared to the other assessments and building on top of a different game. Some of the risks have been updated with these in mind ((R1, R8, R10, R12, R13). As the project has gone on the team should be better at working together by now and will have established different roles (R2, R11) so likelihood of team related incidents happening should be lessened.

			Consequence				
			1	2	3	4	5
			Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood	5	Certain	M	H	H	E	E
	4	Likely	M	M	H	H	E
	3	Possible	L	M	M	H	E
	2	Unlikely	L	M	M	H	H
	1	Rare	L	L	M	M	H

Table 1: Risk Matrix

Risk Description	Avoidance/Mitigation	Type	L	C	S
R1 People become unavailable e.g. illness, interviews (people still looking for placements).	As the time period for completing Assessment 3 is short if people are ill there may not be enough time to cover their workload if it is more than one person or is prolonged throughout this period. Therefore good communication will be needed to organise work needs to be prompt. Using Slack to communicate when physically meeting not possible. Have minimum two people who work or understand what to do on each part. Make sure work/tools are accessible by everyone e.g. put work into shared google drive area. So that work can be picked up by someone else when needed.	Project	4	4	E

	Distribute workload between team members through a team meeting if team member quits/is severely ill.				

R2 Disagreements on ideas/roles	From the previous assessment with working on the actual software, peoples preference of roles should be established by now so disagreements should be minimised. It is agreed that everyone will work in roughly the same areas as before. SCRUM methodology allows a SCRUM master to lead a discussion so a team member will play this role and the lead discussion making sure everyone gets a say. Use outside mediator(lecturers) if team cannot function at all.	Project	2	4	H
R3 Delays in reaching milestones/deadlines	Create a Gantt chart so everyone can see when work needs to be done by. Make sure everyone has something to do at all times by having SCRUM meetings.	Project	3	5	E
R4 Losing documents	Back up all work through google drive and locally regularly in case either fails. Having documents on google drive go missing is highly unlikely as it is widely used application supported by a large corporation. If all documents were lost it would to lead to failure of the project especially if there is not enough time to redo parts.	Business	1	5	H
R5 Tool unavailability	Google docs could crash or is not accessible as it is a cloud application and the network could fail so work needs to be backed up locally regularly. Make sure everyone has access to all tools used i.e. use freeware, open source	Business	1	4	M
R6 Obsolete technology	Support of technology could stop being supported so may become incompatible with the chosen platform and not work. So use popular/well known technologies instead.	Business	1	4	M

R7 Another team develops a similar game	No other team has chosen the game we have picked for Assessment 3. So this will not affect the uniqueness of the product. However at the same time there could be a reason why other teams have not picked this product.	Business	1	2	L
R8 Not identifying all requirements or change	For the swap game the requirements will be different from the previous game so they have to be analysed carefully to make sure the game meets these. Changes may need to be made to some so that the project can be achievable in the time frame.	Project/ Product	5	5	E
R9 Libraries become unsupported.	The swap game also uses LibGdx which is a very popular library so is less likely to become unsupported. The game only uses the core features of LibGdx rather than things such as Box2D where the physics engine will be written by the team instead.	Product	1	4	M
R10 Implementing game design takes too long/complicated.	The swap architecture could be too complicated or not refined enough to implement the required features in the given time.

Review the design and make sure core mandatory requirement are implemented first. Optional requirements can be built on top if time permits.

Identify the experience team members have on creating the different parts of the game - programming, art, etc. so time can be reduced if the most skilled people implements a particular part. | Project/ Product | 4 | 4 | H |
| **R11** Inexperience of team members | The team should now have more experience in the respective roles so should be more comfortable with completing their tasks. Keeping the team in their previous roles form Assessment 2 will help keep the project going smoothly.

However if a new tool/process needs to be used then time can be allocated for learning it on the gantt chart. | Project | 2 | 3 | M |
| **R12** Working on another team's code | If the code is not well documented and is confusing then it will take a while to understand how the code can be used and | Project/ Product | 3 | 5 | E |

	expanded upon. At worst a complete rewrite may be needed. Make sure the project chosen has code that is understandable and doesn't have too much code if rewriting needed.				
R13 Swap documentation not clear	If the documents for the game are not clear and have too little information it will make it harder to see how the game is made and implemented. Check the documentation before choosing the game to minimise the risk.	Project/ Product	3	5	E

Table 2: Risk Table