CSC2045 – Software Engineering

Semester 1 Week 11 Report

Team 56

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1. Use Case Requirements Specification and Planning

a)

b)

Flow of Events for the *Select Territory* use case	
Objective	**To select a territory on the map**
Precondition	The user must be out of any menus and be on the main map screen
Main Flow	1. The user taps the area they want to select. 2. The territory they selected will react by being highlighted.
Alternative Flows	-
Post-condition	The system stores the selected territory as a variable for use in other parts of the system.

Flow of Events for the Start New Game use-case	
Objective	To begin a new game
Precondition	The file has been triggered to run and the game menu screen has appeared
Main Flow	1. The player navigates to the main menu of the game 2. The player clicks on the 'Play' button, which takes them to the play menu. 3. The player then clicks on the 'New Game' button 4. The new game is loaded on the system
Alternate Flows	-
Post Condition	The new game is visible on the screen and the player can now start to play the game.

Flow of Events for the Select Starting Territory use-case	
Objective	To select the territory that the player and their army/units will begin in
Precondition	A new game must have just been started and the player must be on the main game screen
Main Flow	1. A selection of 5 starting territories are displayed on the map to the player. 2. The player clicks on the territory they want to start with. 3. The starting territory and units are loaded in for the player.
Alternate Flows	If the user attempts to tap on/select a territory that isn't available for selection as a starting territory, then no result will occur.
Post Condition	The players territory and units are visible on the screen and the user is able to begin playing the game.

Flow of Events for the *Attack Territory* use case	
Objective	**To engage in attacking a territory on the map**
Precondition	The user must be out of any menus and be on the main map screen
Main Flow	1. The user taps the "Attack" icon on the main UI. 2. The territories available to attack will glow red in reaction to step 2. 3. The user engages in the *Select Territory* use case to select an enemy territory to attack. 4. The user engages in the *Select Territory* use case to select a neighbouring allied territory to attack with. 5. The user confirms their selection by tapping a "Confirm" button.
Alternative Flows	If the user attempts to tap a territory that isn't available to attack, no result will occur. If the user attempts to tap a non-neighbouring territory after having completed steps 1-4, nothing will occur.
Post-condition	The attack gets logged in the Queue to take place at the end of the turn.

Objective	**To change the volume of the game**
Precondition	There is an active option to change the volume using an element
Main Flow	1. The user moves the cursor over the button 2. The user presses the mouse button 3. The button becomes selected and the volume is increased/ decreased by how many times they selected 4. The user releases the mouse button
Alternative Flow	At a certain point in the game the option may not be available. In this case no button is selected At a certain point the button may be already selected. In this case the button remains selected
Post-Condition	The volume is increased or decreased

Objective	**To enable or disable animation in the game**
Precondition	There is an active option to enable or disable the animation in a game

Main Flow	1. The user moves the cursor over the button 2. The user presses the mouse button 3. The button becomes selected and the animation is enabled or disabled depending on what option the user selects. 4. The user releases the mouse button
Alternative Flow	At a certain point in the game the option may not be available. In this case no button is selected At a certain point the button may be already selected. In this case the button remains selected
Post-Condition	The animation is enabled or disabled

Flow of Events for the Select Opponent use-case	
Objective	**To be able to see the details of the opponent**
Precondition	The user must be on the main screen
Main Flow	1. The user long-presses on the name of the opponent they would like to view. 2. The details of the opponent are shown on screen.
Alternate Flows	**-**
Post Condition	The details of the opponent are shown on screen.

Flow of Events for the Move Unit use-case	
Objective	**To be able to move a unit from one territory to another**
Precondition	The user must have a unit within a territory
Main Flow	5. The user taps the “move” button. 6. The user then taps on the territory they would like to move from. 7. A screen to select the number of units appears. 8. The user selects the number of units using this screen. 9. The user taps the territory they would like to move their units to.
Alternate Flows	At any of the above elements the user can tap on the “move” button again to cancel the movement action.
Post Condition	The user’s units are now on a different territory.

Flow of events for the *open pause menu* use case	
Objective	**To use the pause menu feature**
Precondition	The game should first be running before the user can pause it.
Main Flow	1. The user should select the pause icon 2. The user moves the mouse over the pause button 3. The user selects the pause button 4. The game should pause momentarily until told otherwise 5. The user releases the mouse button
Alternative Flows	At *3* the pause button may already be selected, in this case a reselection of the button should cause the game to resume.
Post Condition	The pause button is selected and the game is stopped until the user tells it otherwise.

Flow of events for the *open settings* use case	
Objective	**To use the open settings feature**
Precondition	The game should first be running before the user can open the settings.
Main Flow	1. The user should move the mouse over the settings icon. 2. The user should then use the mouse to select the icon. 3. Next the user must release the mouse button. 4. The settings screen should then display for the user.
Alternative Flows	At *2* if the settings icon has already been selected then the settings screen should be on display.
Post Condition	The settings icon is selected and the settings menu should display for the user.

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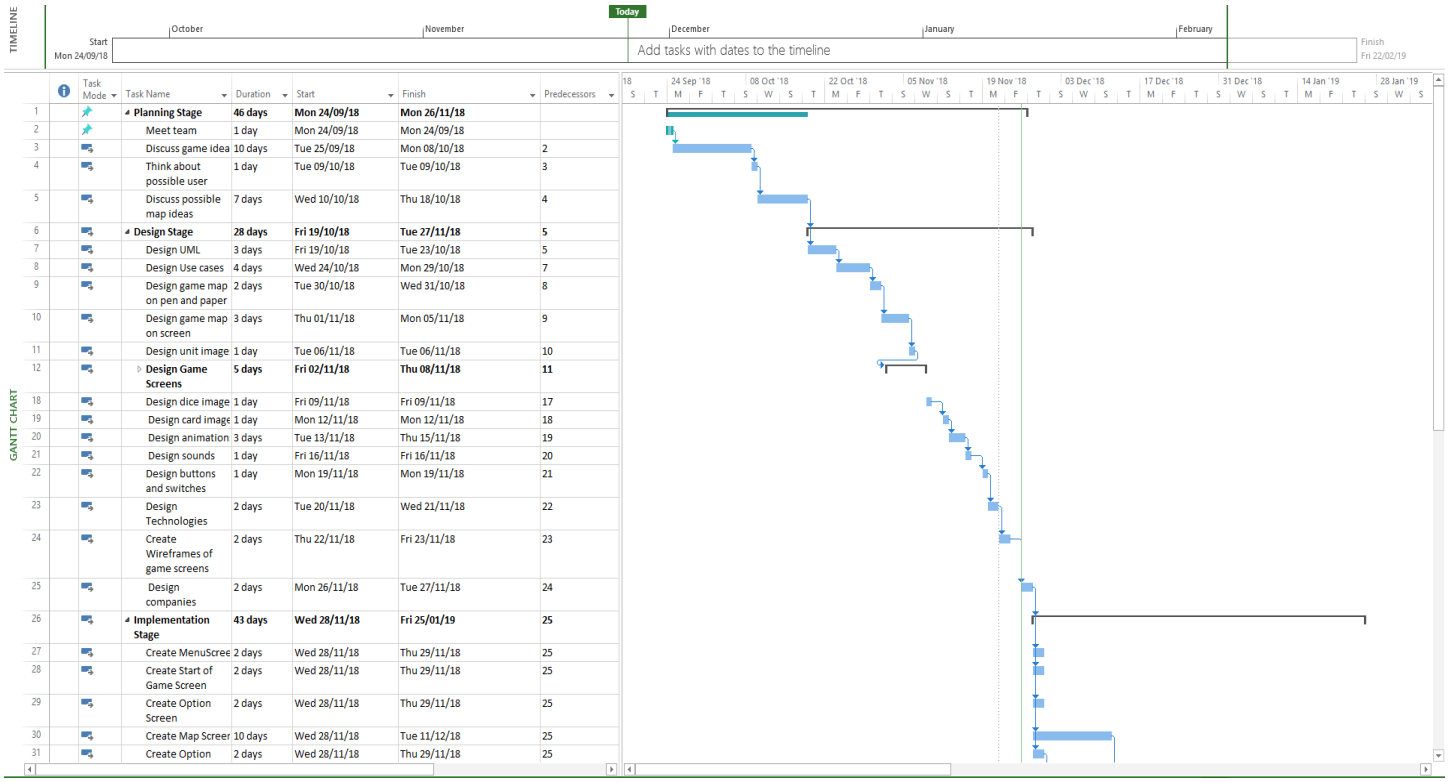
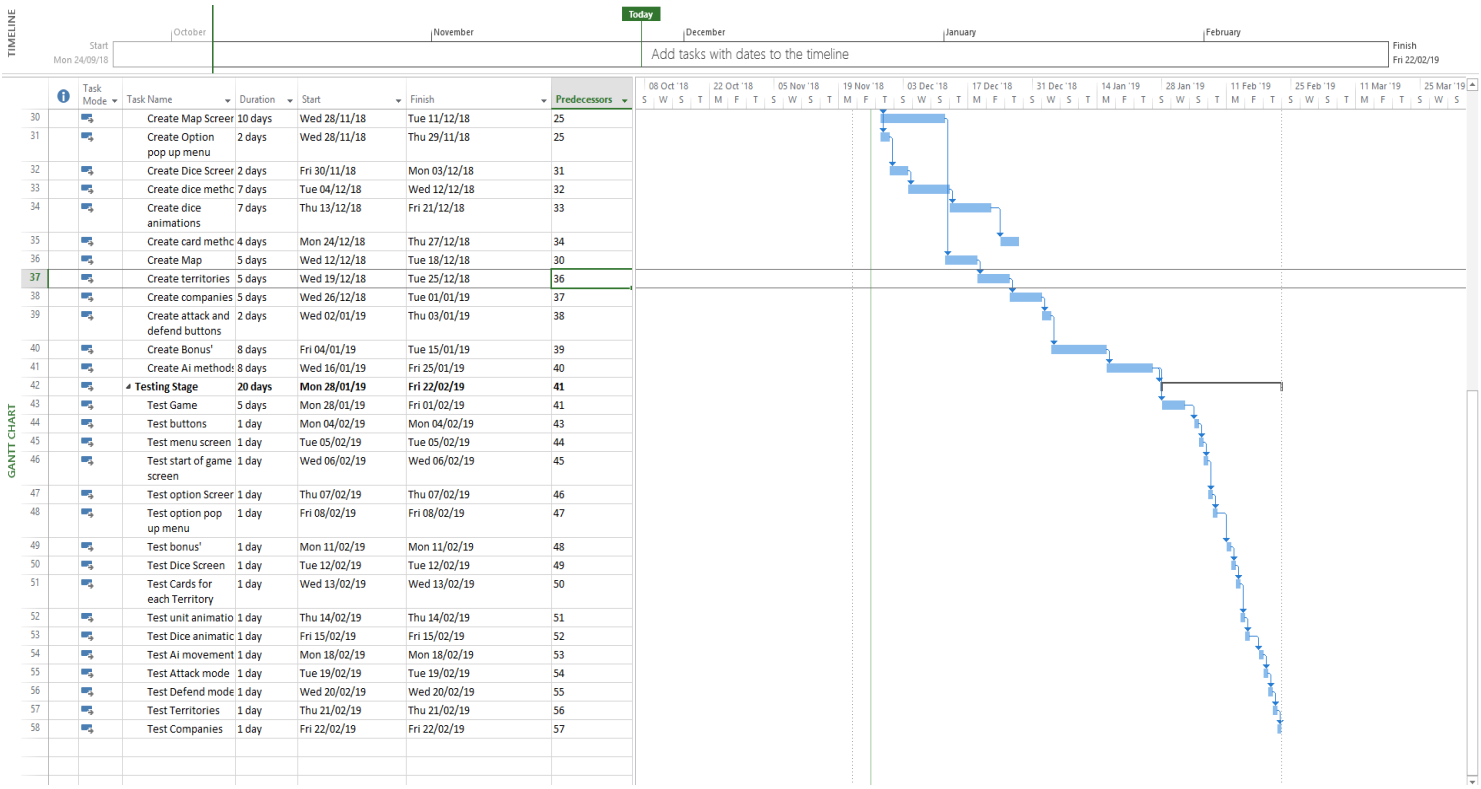
c)



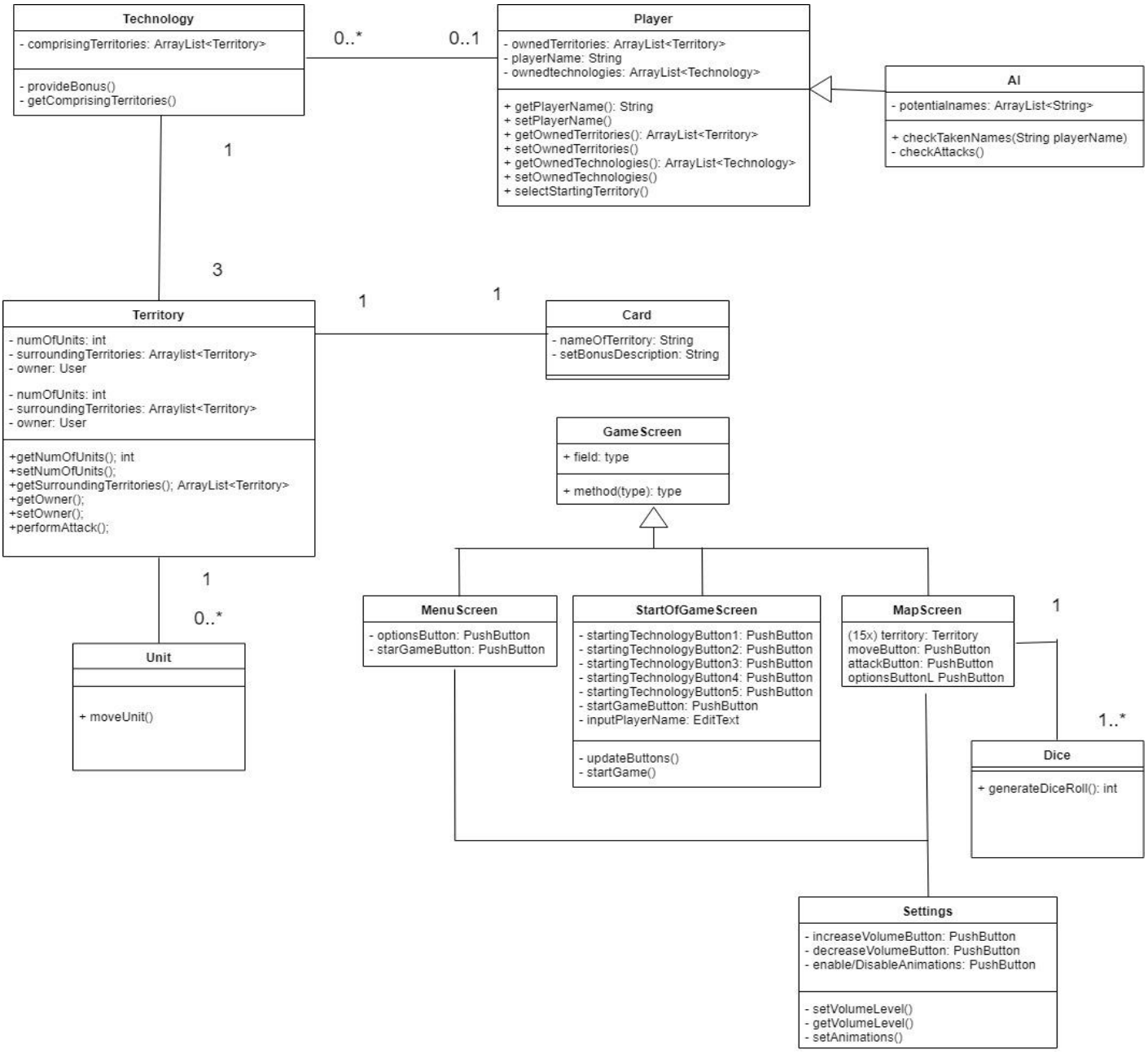
	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**Planning Stage**	**46 days**	**Mon 24/09/18**	**Mon 26/11/18**	
2		Meet team	1 day	Mon 24/09/18	Mon 24/09/18	
3		Discuss game idea	10 days	Tue 25/09/18	Mon 08/10/18	2
4		Think about possible user	1 day	Tue 09/10/18	Tue 09/10/18	3
5		Discuss possible map ideas	7 days	Wed 10/10/18	Thu 18/10/18	4
6		**Design Stage**	**28 days**	**Fri 19/10/18**	**Tue 27/11/18**	**5**
7		Design UML	3 days	Fri 19/10/18	Tue 23/10/18	5
8		Design Use cases	4 days	Wed 24/10/18	Mon 29/10/18	7
9		Design game map on pen and paper	2 days	Tue 30/10/18	Wed 31/10/18	8
10		Design game map on screen	3 days	Thu 01/11/18	Mon 05/11/18	9
11		Design unit image	1 day	Tue 06/11/18	Tue 06/11/18	10
12		**Design Game Screens**	**5 days**	**Fri 02/11/18**	**Thu 08/11/18**	**11**
18		Design dice image	1 day	Fri 09/11/18	Fri 09/11/18	17
19		Design card image	1 day	Mon 12/11/18	Mon 12/11/18	18
20		Design animation	3 days	Tue 13/11/18	Thu 15/11/18	19
21		Design sounds	1 day	Fri 16/11/18	Fri 16/11/18	20
22		Design buttons and switches	1 day	Mon 19/11/18	Mon 19/11/18	21
23		Design Technologies	2 days	Tue 20/11/18	Wed 21/11/18	22
24		Create Wireframes of game screens	2 days	Thu 22/11/18	Fri 23/11/18	23
25		Design companies	2 days	Mon 26/11/18	Tue 27/11/18	24
26		**Implementation Stage**	**43 days**	**Wed 28/11/18**	**Fri 25/01/19**	**25**
27		Create MenuScree	2 days	Wed 28/11/18	Thu 29/11/18	25
28		Create Start of Game Screen	2 days	Wed 28/11/18	Thu 29/11/18	25
29		Create Option Screen	2 days	Wed 28/11/18	Thu 29/11/18	25
30		Create Map Screer	10 days	Wed 28/11/18	Tue 11/12/18	25
31		Create Option	2 days	Wed 28/11/18	Thu 29/11/18	25



	Task Mode	Task Name	Duration	Start	Finish	Predecessors
30		Create Map Screer	10 days	Wed 28/11/18	Tue 11/12/18	25
31		Create Option pop up menu	2 days	Wed 28/11/18	Thu 29/11/18	25
32		Create Dice Screer	2 days	Fri 30/11/18	Mon 03/12/18	31
33		Create dice methc	7 days	Tue 04/12/18	Wed 12/12/18	32
34		Create dice animations	7 days	Thu 13/12/18	Fri 21/12/18	33
35		Create card methc	4 days	Mon 24/12/18	Thu 27/12/18	34
36		Create Map	5 days	Wed 12/12/18	Tue 18/12/18	30
37		Create territories	5 days	Wed 19/12/18	Tue 25/12/18	36
38		Create companies	5 days	Wed 26/12/18	Tue 01/01/19	37
39		Create attack and defend buttons	2 days	Wed 02/01/19	Thu 03/01/19	38
40		Create Bonus'	8 days	Fri 04/01/19	Tue 15/01/19	39
41		Create Ai methods	8 days	Wed 16/01/19	Fri 25/01/19	40
42		**Testing Stage**	**20 days**	**Mon 28/01/19**	**Fri 22/02/19**	**41**
43		Test Game	5 days	Mon 28/01/19	Fri 01/02/19	41
44		Test buttons	1 day	Mon 04/02/19	Mon 04/02/19	43
45		Test menu screen	1 day	Tue 05/02/19	Tue 05/02/19	44
46		Test start of game screen	1 day	Wed 06/02/19	Wed 06/02/19	45
47		Test option Screer	1 day	Thu 07/02/19	Thu 07/02/19	46
48		Test option pop up menu	1 day	Fri 08/02/19	Fri 08/02/19	47
49		Test bonus'	1 day	Mon 11/02/19	Mon 11/02/19	48
50		Test Dice Screen	1 day	Tue 12/02/19	Tue 12/02/19	49
51		Test Cards for each Territory	1 day	Wed 13/02/19	Wed 13/02/19	50
52		Test unit animatio	1 day	Thu 14/02/19	Thu 14/02/19	51
53		Test Dice animatic	1 day	Fri 15/02/19	Fri 15/02/19	52
54		Test Ai movement	1 day	Mon 18/02/19	Mon 18/02/19	53
55		Test Attack mode	1 day	Tue 19/02/19	Tue 19/02/19	54
56		Test Defend mode	1 day	Wed 20/02/19	Wed 20/02/19	55
57		Test Territories	1 day	Thu 21/02/19	Thu 21/02/19	56
58		Test Companies	1 day	Fri 22/02/19	Fri 22/02/19	57

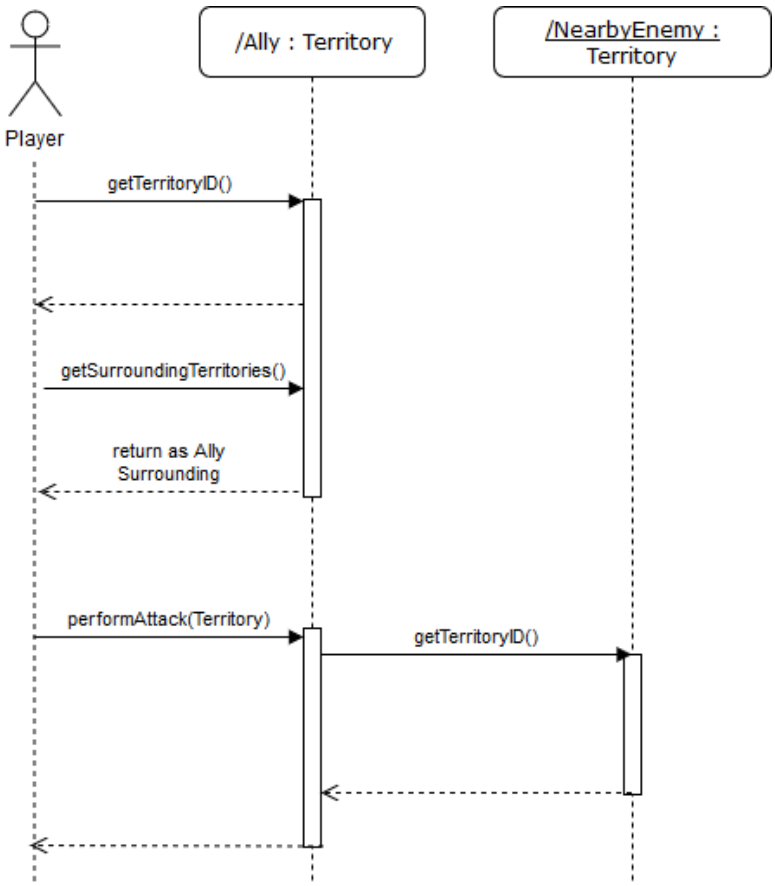
2. System Analysis

a)

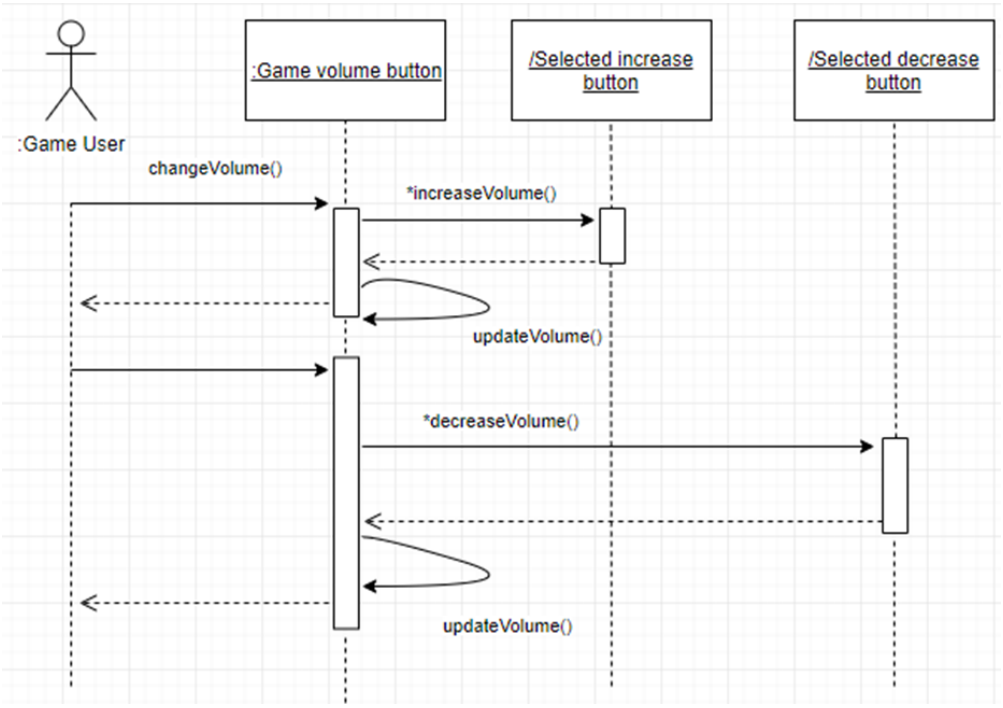


b) Use Case Realisations

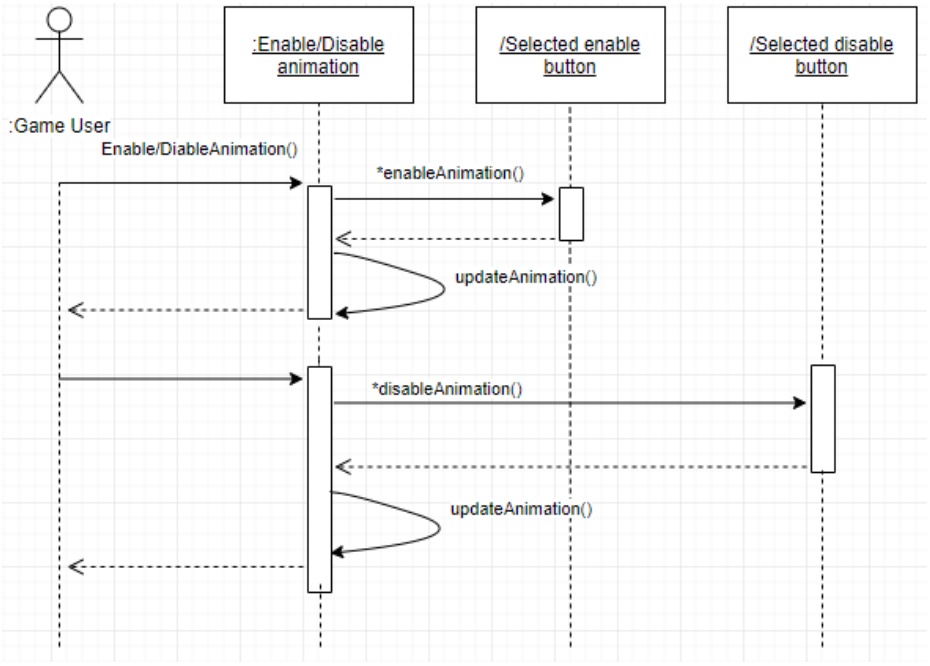
Attack Territory



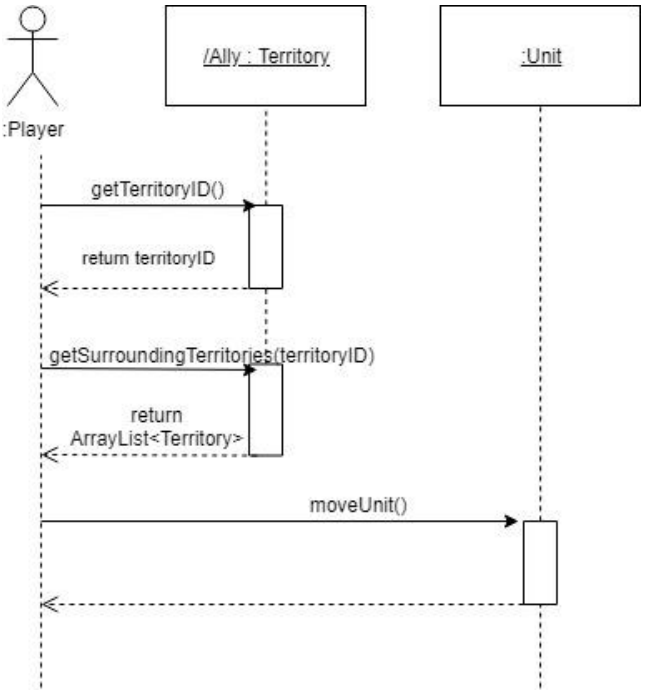
Change Volume



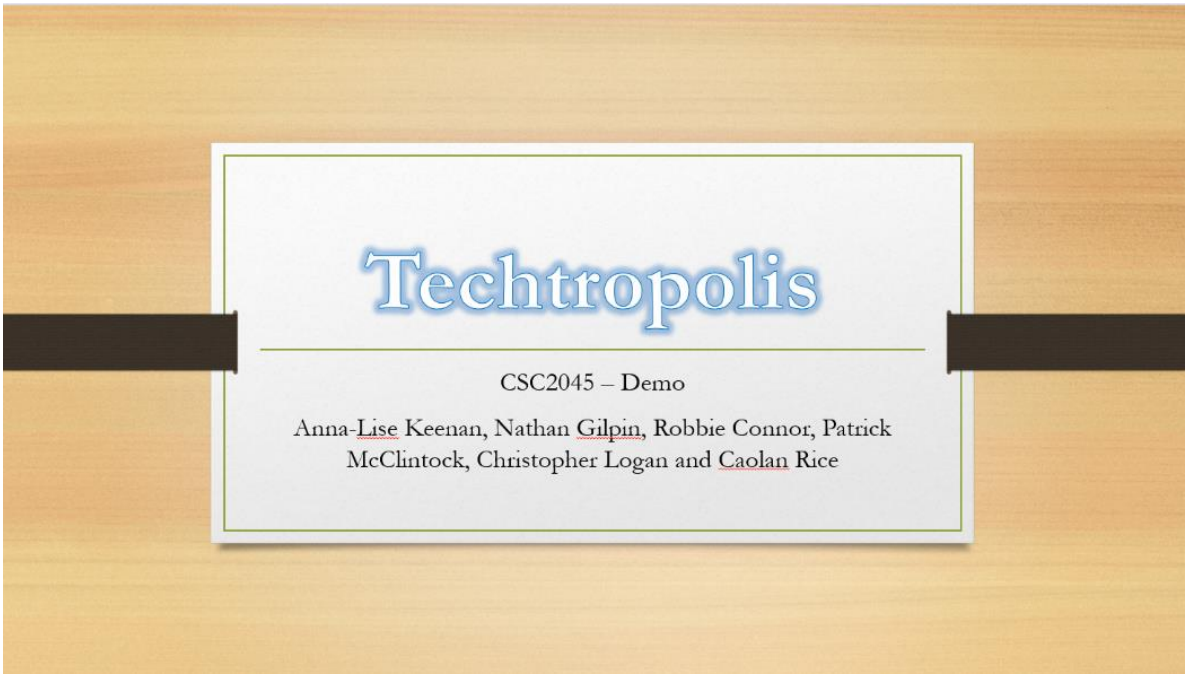
Enable/ Disable animation

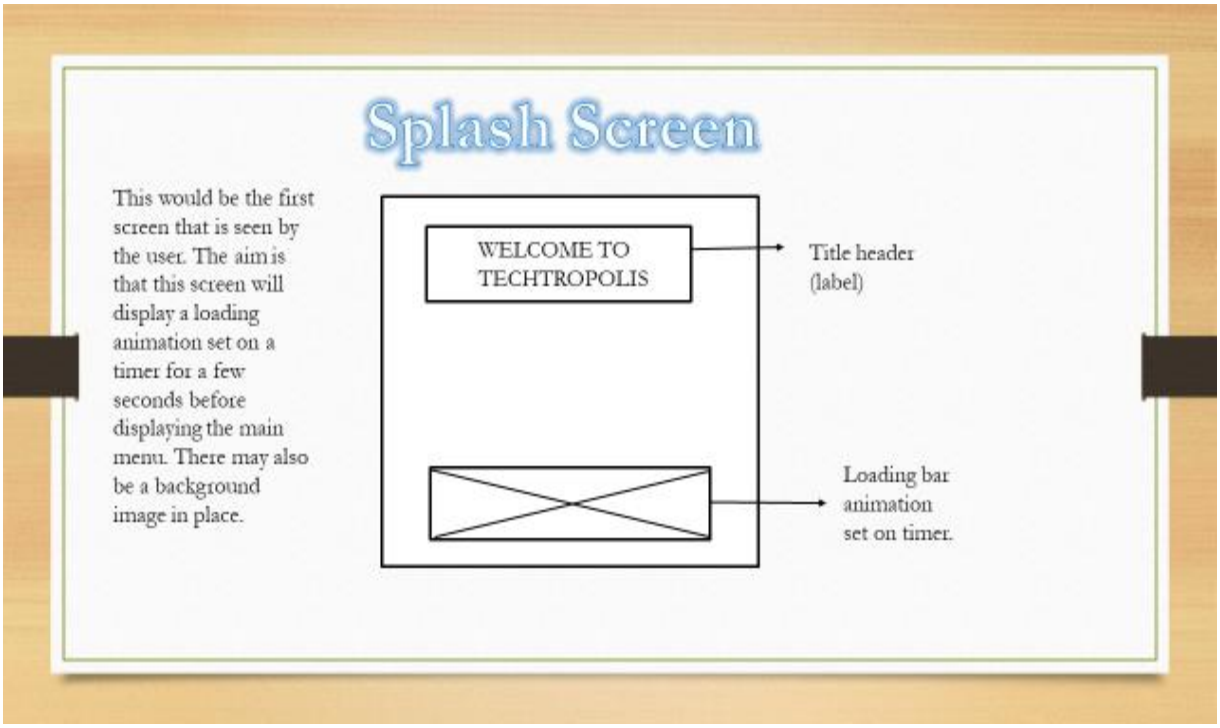


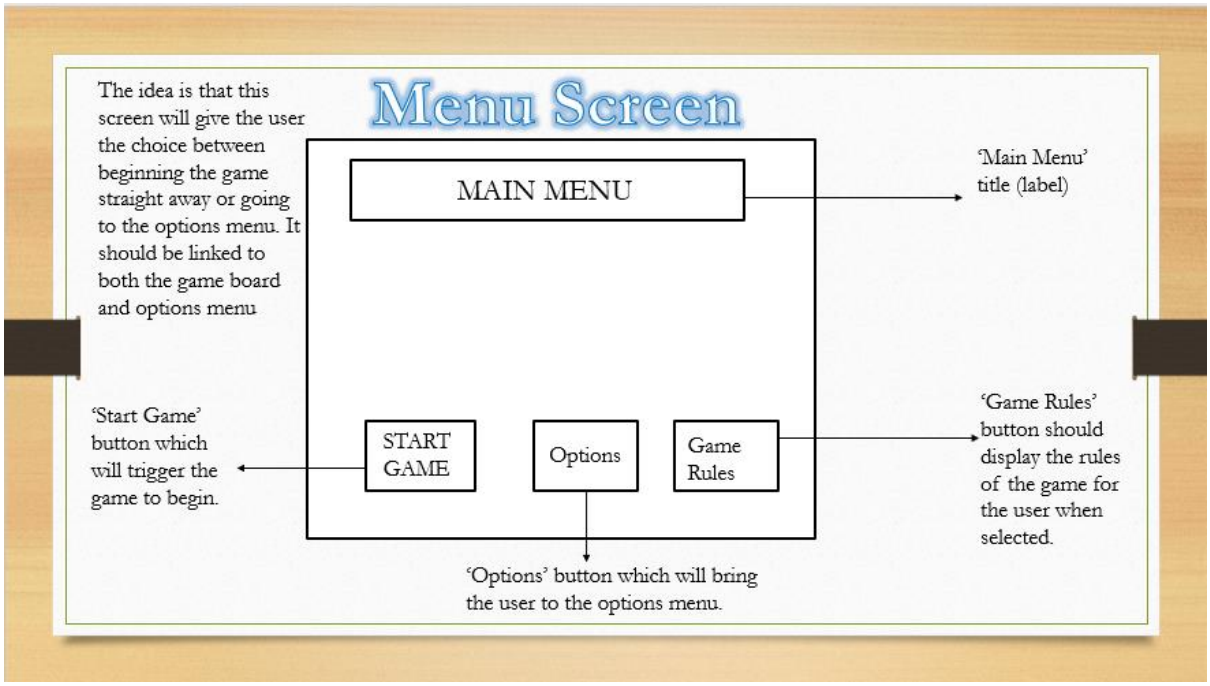
Move Unit

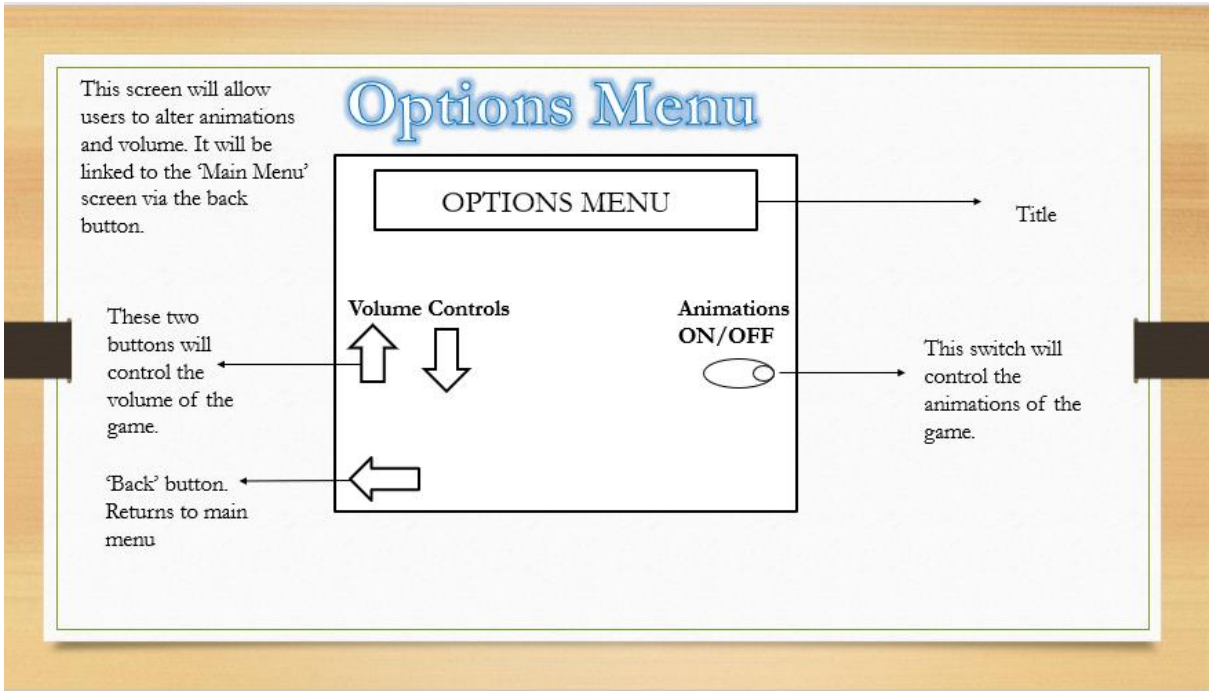


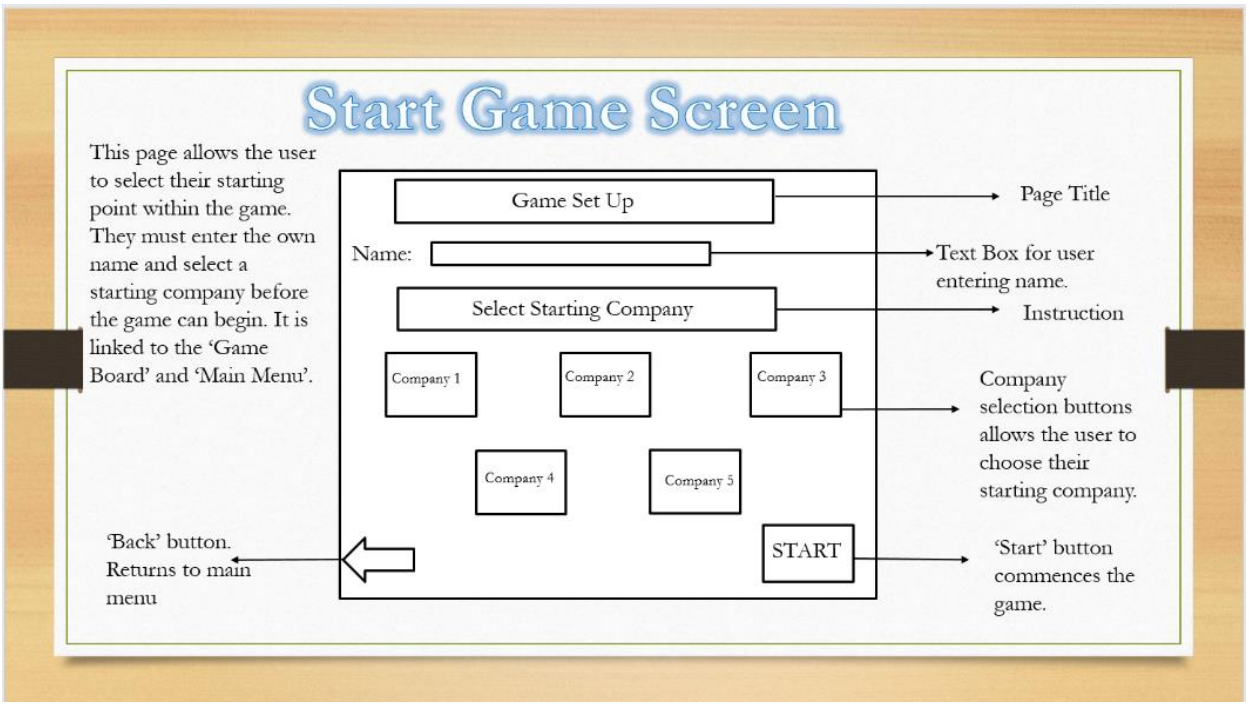
3. Interim Demo

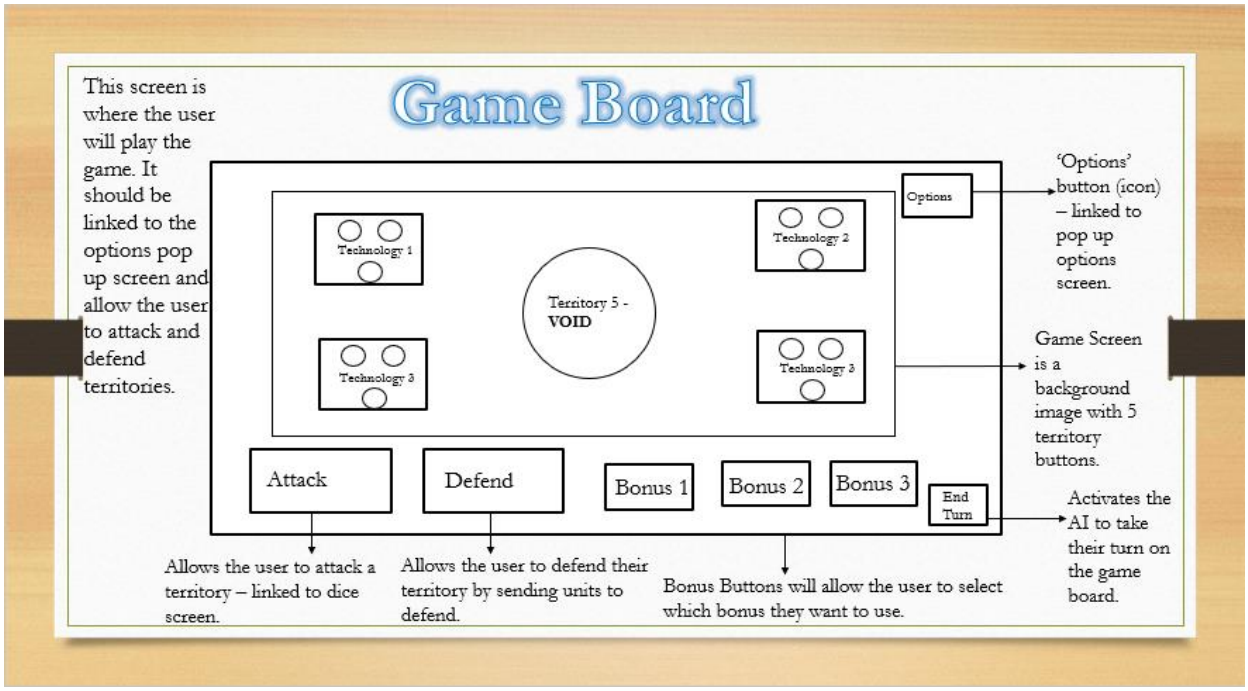


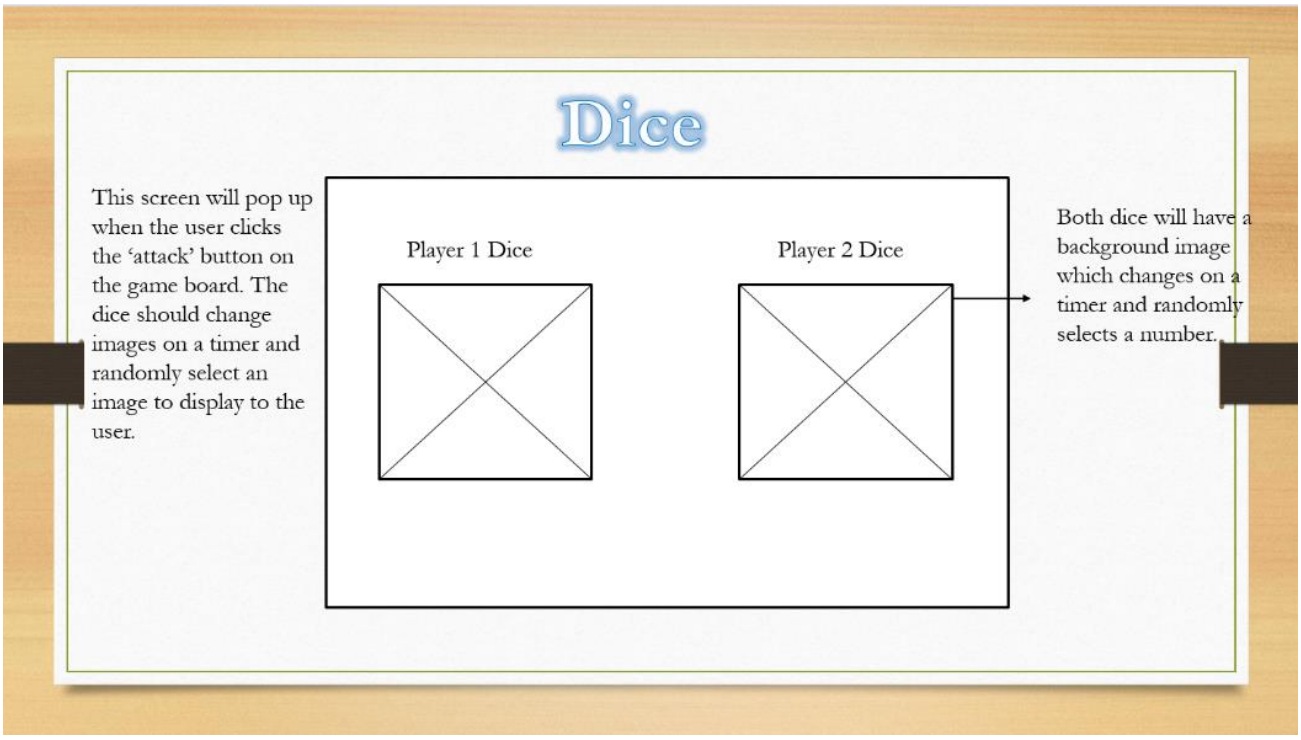


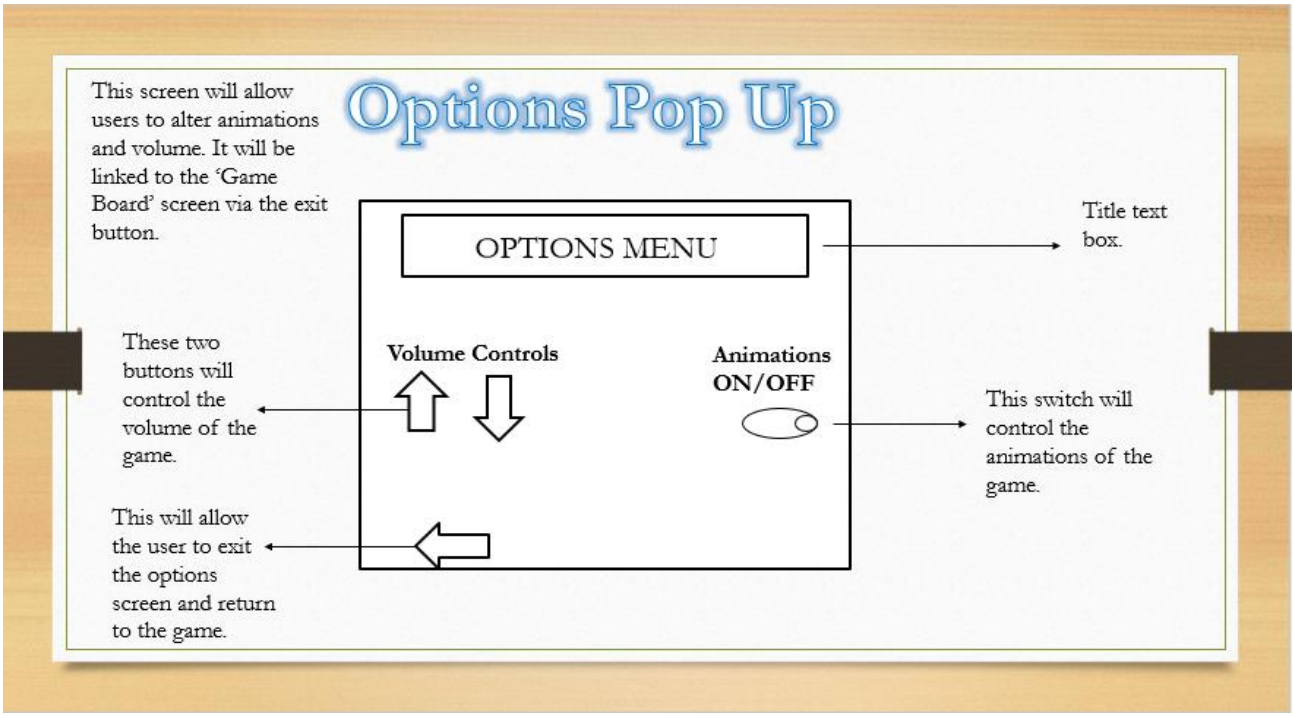

Menu Screen
The idea is that this screen will give the user the choice between beginning the game straight away or going to the options menu. It should be linked to both the game board and options menu
MAIN MENU
'Main Menu' title (label)
'Start Game' button which will trigger the game to begin.
START GAME
Options
Game Rules
'Game Rules' button should display the rules of the game for the user when selected.
'Options' button which will bring the user to the options menu.

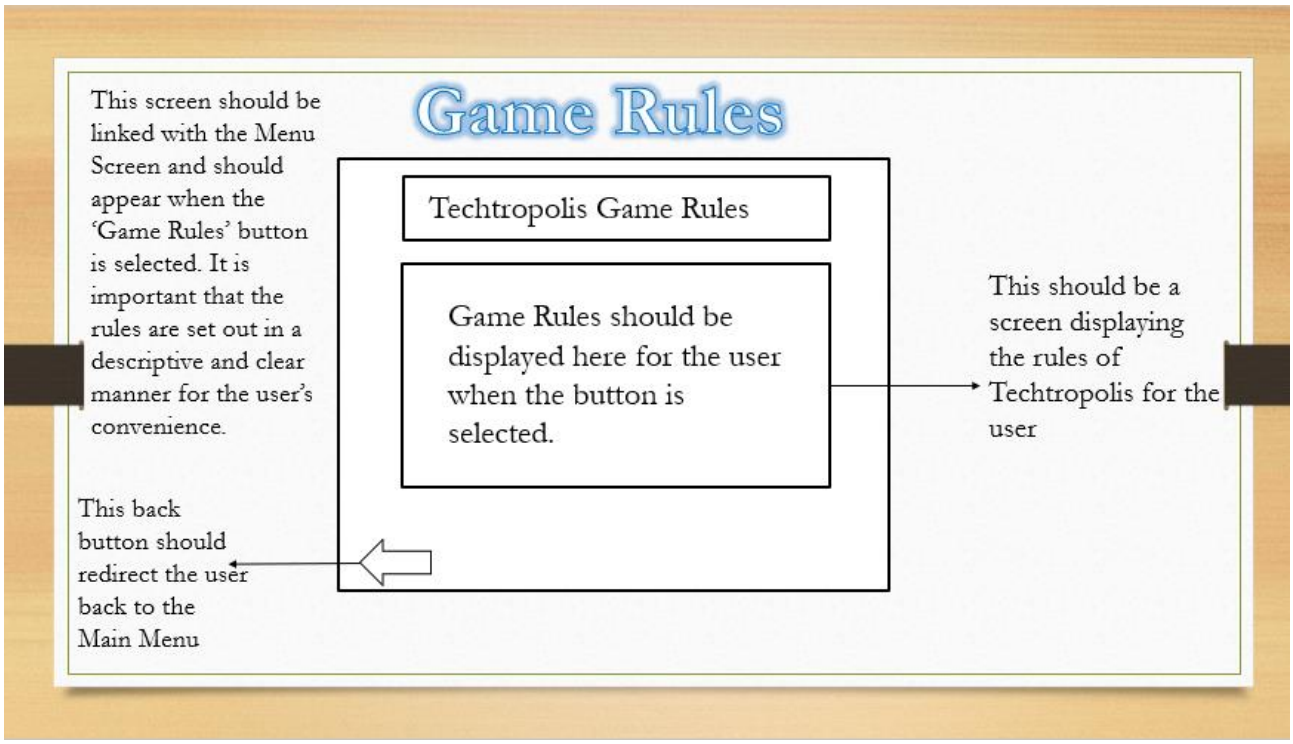

Options Menu
This screen will allow users to alter animations and volume. It will be linked to the 'Main Menu' screen via the back button.
OPTIONS MENU
Title
Volume Controls
Animations ON/OFF
These two buttons will control the volume of the game.
This switch will control the animations of the game.
'Back' button. Returns to main menu

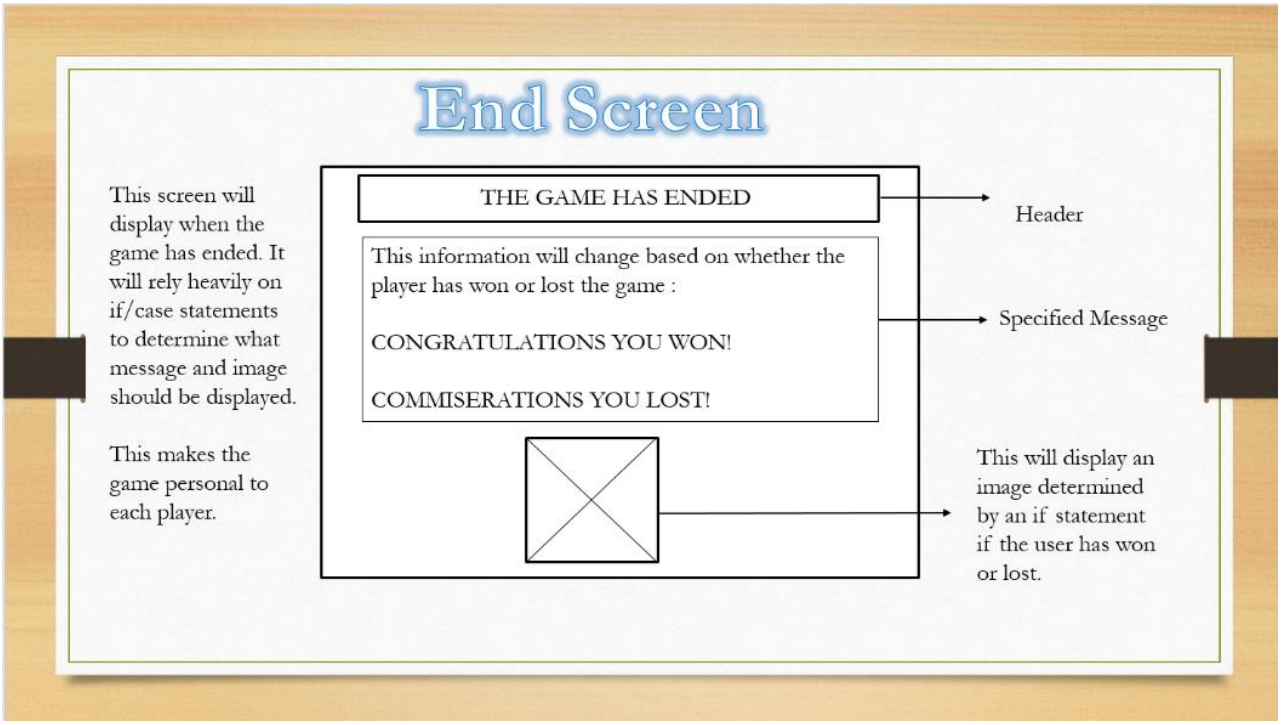

Start Game Screen
This page allows the user to select their starting point within the game. They must enter the own name and select a starting company before the game can begin. It is linked to the 'Game Board' and 'Main Menu'.
Game Set Up
Page Title
Name:
Text Box for user entering name.
Select Starting Company
Instruction
Company 1
Company 2
Company 3
Company 4
Company 5
Company selection buttons allows the user to choose their starting company.
'Back' button. Returns to main menu
START
'Start' button commences the game.


Game Board
This screen is where the user will play the game. It should be linked to the options pop up screen and allow the user to attack and defend territories.
Options
'Options' button (icon) – linked to pop up options screen.
Technology 1
Technology 2
Territory 5 - VOID
Technology 3
Technology 3
Game Screen is a background image with 5 territory buttons.
Attack
Defend
Bonus 1
Bonus 2
Bonus 3
End Turn
Activates the AI to take their turn on the game board.
Allows the user to attack a territory – linked to dice screen.
Allows the user to defend their territory by sending units to defend.
Bonus Buttons will allow the user to select which bonus they want to use.


Dice
This screen will pop up when the user clicks the 'attack' button on the game board. The dice should change images on a timer and randomly select an image to display to the user.
Player 1 Dice
Player 2 Dice
Both dice will have a background image which changes on a timer and randomly selects a number.


Options Pop Up
This screen will allow users to alter animations and volume. It will be linked to the 'Game Board' screen via the exit button.
OPTIONS MENU
Title text box.
These two buttons will control the volume of the game.
Volume Controls
Animations ON/OFF
This switch will control the animations of the game.
This will allow the user to exit the options screen and return to the game.


Game Rules
This screen should be linked with the Menu Screen and should appear when the 'Game Rules' button is selected. It is important that the rules are set out in a descriptive and clear manner for the user's convenience.
Techtropolis Game Rules
Game Rules should be displayed here for the user when the button is selected.
This should be a screen displaying the rules of Techtropolis for the user
This back button should redirect the user back to the Main Menu


End Screen
This screen will display when the game has ended. It will rely heavily on if/case statements to determine what message and image should be displayed.
This makes the game personal to each player.
THE GAME HAS ENDED
Header
This information will change based on whether the player has won or lost the game :
CONGRATULATIONS YOU WON!
COMMISERATIONS YOU LOST!
Specified Message
This will display an image determined by an if statement if the user has won or lost.

Peer Assessment 1: The Problem and the Early Solution

This Assessment Document is intended to provide you and your assessor with an overview of each team member's involvement in the preparation of CSC2045's First Deliverable, the report entitled *The Problem and the Early Solution*.

Each team should complete one Assessment Document and its content must be agreed by all team members. The completed form should be included as hard copy at the start of your team's report. ***Don't forget to fill in the Group Number and Group Name*.**

There are two main parts to the Assessment Document – the Evaluation and the Declaration. Both parts must be completed – otherwise your team's report will not be marked. Arrange a team meeting to discuss the evaluation, and see the note below!

Evaluation	Group Number: 56	Group Name:		
Name	Contribution of time and effort[1]	Contribution to team-working and motivation[1]	Contributions to this deliverable [1,2]	Peer Score (Range 85 – 115)
Anna-Lise Keenan	5	4	5	105
Nathan Gilpin	5	4	5	105
Christopher Logan	5	4	5	105
Patrick McClintock	5	4	5	105
Robbie Connor	5	4	5	105
Caolan Rice	5	4	5	105

[1]Values: 1 = Less than average; 2 = Slightly less than average; 3 = Average; 4 = Slightly more than average; 5 = More than average

[2]This value should consider contributions in the round – direct contributions to required deliverables, and contributions that have made the deliverables possible.

Declaration

"I declare that I have read the Queen's University regulations on plagiarism, and that any contribution I have made to the attached submission is my own original work, except for any elements that I have clearly attributed to third parties. I understand that this submission will be subject to an electronic test for plagiarism and will also be subject to the University's regulations concerning late submission if it is received after the deadline."

Name	Date	Confirmation *(use the words shown in the example below!)*
Anna-Lise Keenan	26/11/2018	I agree to the terms of the declaration
Nathan Gilpin	26/11/2018	I agree to the terms of the declaration
Christopher Logan	26/11/2018	I agree to the terms of the declaration
Patrick McClintock	26/11/2018	I agree to the terms of the declaration

Robbie Connor	26/11/2018	I agree to the terms of the declaration
Caolan Rice	26/11/2018	I agree to the terms of the declaration

A note on the Evaluation:

The Contribution columns in the Evaluation table are intended to help team members quantify each other's input to the First Deliverable, before they award agreed Peer Scores. There will not necessarily be a precise correlation between the Peer Score and the Contribution values. However, high Contribution scores, as an indicator of the importance of the team member's work to the success of the project, should normally result in a high Peer Score for a team member. Likewise a low Peer Score would be the expected outcome if Contribution values are low.

Each team member's overall score for the First Deliverable will be calculated according to the following formula, where S_i is Team Member *i*'s overall score, P_i is the peer score received by Team Member *i*, *N* is the number of members in the team, and M is the raw mark awarded to the report by the assessor.

$$S_i = \frac{P_i}{\frac{1}{N}\sum_{j=1}^{N} P_j} \times M$$

The following guidelines will help you award appropriate peer scores. If the team agrees that Team Member 1's overall contribution to the First Deliverable was much weaker than the average contribution, a peer score of 85 would be appropriate for Team Member 1. If Team Member 1's contribution was much stronger than average, consider a peer score of 115. If Team Member 1 did what was expected and shared the effort equally with their fellow team members, they could expect to receive a Peer Score of 100. Any mark within the range 85 – 115 will normally be accepted by the module Lecturer. Marks outside this range may require that the Team discuss its decision with the module Lecturer or Teaching Associate, in order to agree a fair distribution of marks. Where team members cannot agree a distribution, the module Lecturer's judgement will be final. ***Please inform the module Lecturer if a team member has left your group or has ceased to play an active role in the group.***