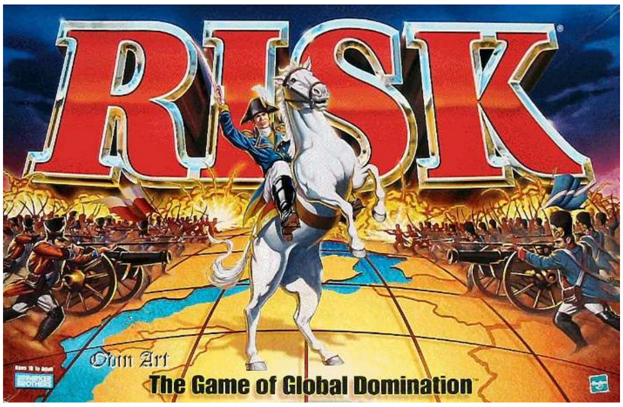
WORLD CONQUEST SPRINT II DESIGN DOCUMET

A Design Document for the Game 'World Conquest' for Raffle Games



MARCH 12, 2024

TEAM ONE
University of Sussex

Contents

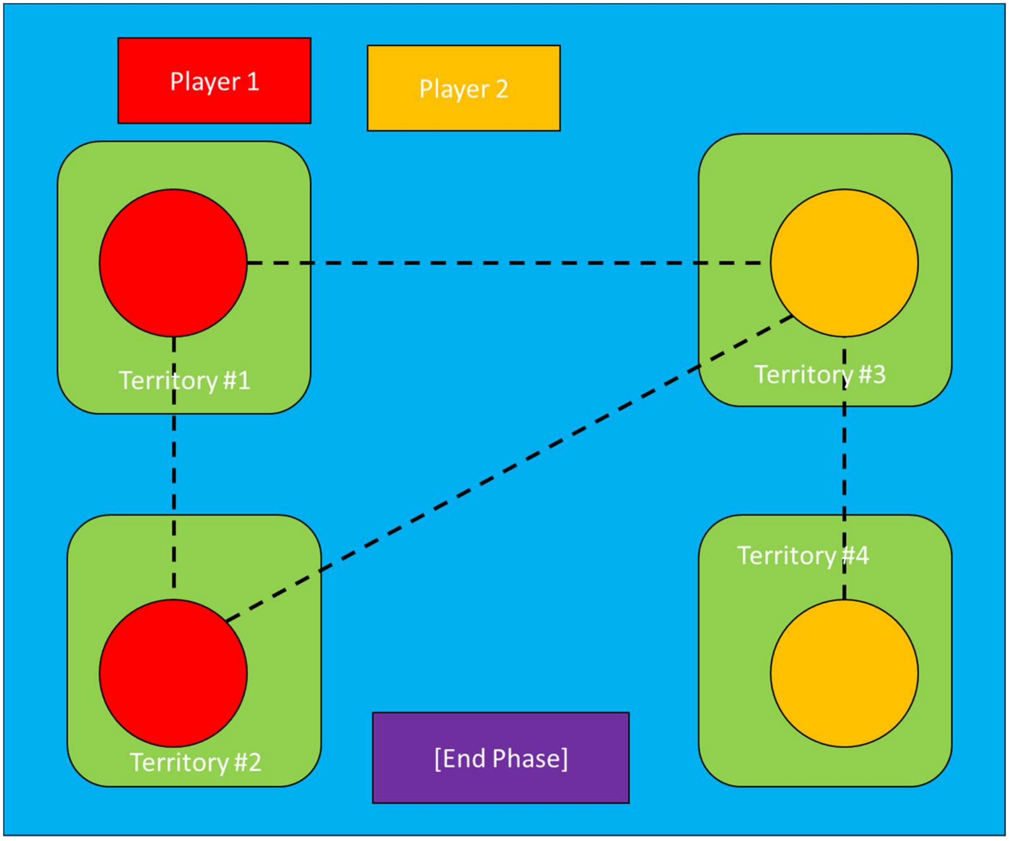
Sprint II

Design Objectives

For this sprint, our implementation aims are:

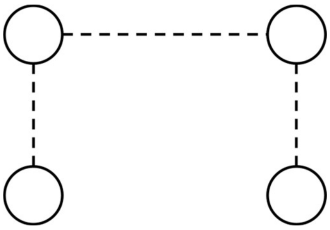
- Be able to deploy troops on a players turn
- Attack implementation with dice
- A total of 4 territories
- 2 players
- 5 troops per territory
- Territories can be conquered by another player (colour of node will change to opponent player)
- Player 1 is no longer the default winner (extension from sprint I
- Territories display their name
- Country selected with mouse

UI Design

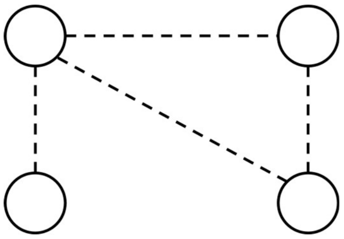


There are a variety of node connections that can be chosen when creating the map – this was one of a variety that I thought would be good for this sprint, but there is also:

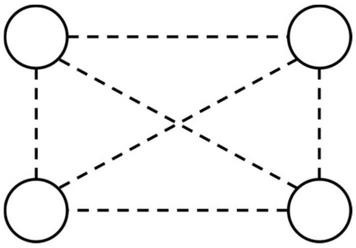
Map #1: Nodes have a connection 1 or 2 – it is a simpler implementation and it allows



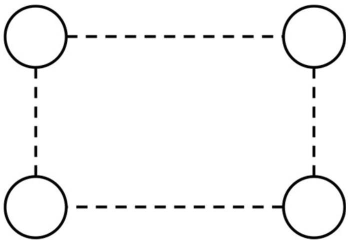
Map #2: Nodes have a connection of 1, 2 or 3 – This graph layout has a lobsided design where it is not symmetrical - which gives an advantage or disadvantage to players depending on what territories they hold



Map #3: All nodes have a connection of 3 – this is the most even graph layout – each node has the name number of connections so the difference between one territory or another is virtually negligible.



Map #4: All nodes have a connection of 2 – this has the same uniformity as map #3 but it has the has the added advantage of being a lot simpler in implementations.

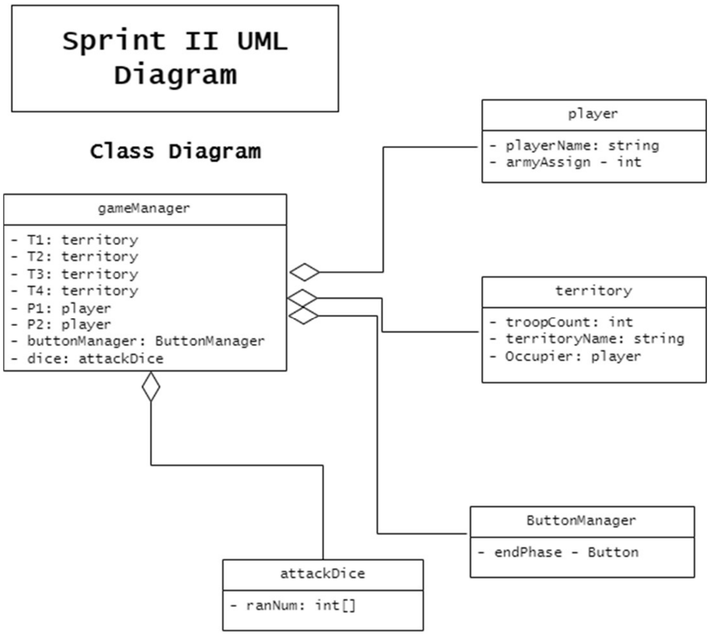


Class table

Class No.	Class Name	Attributes	Comments
1	player	• playerName: string • armyAssign - int	Player class, contains the player information as in Sprint I
2	territory	• troopCount: int • terrirotyName: string • Occupier: player	Terrorizes are able to occupied by different players depending on the outcome of player attacks
3	ButtonManager	• End_phase: Button	The Button should only end the phases that the player is in (such as in the event a player wants to end their attack phase prematurely)
4	GameManager	• T1: territory • T2: territory • T3: territory	The gameManager holds all the game object information as it is an

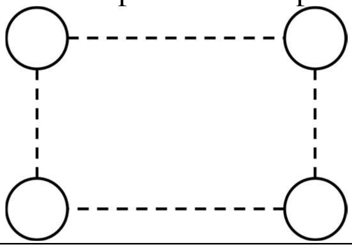
		- T4: territory - P1: player - P2 player - buttonManager: ButtonManager - dice: attackDice	implementation of the classes above
5	attackDice	- ranNum: int[]	The Dice class should determine if the player has won or lose a battle by return the outcome of random numbers generated

UML Diagrams



Design Changes

This is a section dedicated to a log of most of the major or notable design changes from the base design that are import to include:

Type	Design	Implementations
Map	Has a variety of graph layouts and connections for the developers to choose from.	Used map #4 in the implementation 
Player	- playerName: string - armyAssign - int	- playerName - troopsToDeploy - ownedTerritories: List<Territory> - playerColour: Color32
Territory	- troopCount: int - terrirotyName: string - Occupier: player	- territoryOwner - troopCount - territoryName - neighbours: List<Territory>

		• territoryColour: Color32
Button	• End_phase: Button	• continueButton (as apposed to a end phase button) • confirmButton: Button
Dice	• ranNum: int[]	•
GameManager	• T1: territory • T2: territory • T3: territory • T4: territory • P1: player • P2 player • buttonManager: ButtonManager • dice: attackDice	• buttonManager • gameDice • allTerritories: List<Territory> • currentPlayers: List<Player> • slider: Slider • previousSelectedTerritory: Territory • PlayerColours: List<Color32>
SliderManager	No Design	• slider: Slider

Conclusion

This splints design process improved from the first sprint by having a methodology of a first design and an evaluation of the design changes as the sprint continues. This helps for when accounting for aspects of the design that may seem straightforward but then are found out to be completely different than intended. This allowed a certain level of flexibility while still understanding the overall aims of the sprint and what was to be achieved by it.

References

Parker Brothers, 1993. *RISK - The World Conquest Game,* Beverly: Tonka Corporation.