

## FINAL PROJECT PROPOSAL

### Artistic vision for the project

For this project, I plan on creating a two-player turn and grid-based strategy game. I will be taking inspiration from well-known board games such as chess and *Risk*, but also from video games like *Fire Emblem* and *Age of Empires*.

The game will be about large-scale medieval warfare. The players will be able to lead multiple types of different units into battle (infantry, cavalry, archers, heavy infantry, etc.), each type with its strengths and weaknesses. The goal of the game will be to either destroy all enemy units or to defeat all enemy lords. There could possibly be more victory conditions added in the future.

Each player will have three lords, which will be especially powerful units. These lords cannot be purchased like the other units, so players will have to be careful with how they use them if they want to keep them alive and avoid losing the game.

Every turn, the players will be able to move each one of their units a number of squares and take actions with them. Each type of unit will have stats such as an offense score, a defense score, a movement speed.

I plan to add more functionalities than just the basic ones to give more depth to the game. For example, during the game, both players will have the opportunity to seize important locations and strongholds, which will grant them a tactical advantage and some form of currency. With this currency, the players will be able to purchase new units to place on the map. They will also be able to hunt wild creatures such as dragons to gain more currency and boost their troops' morale. Another example would be to add a menu before the game starts on which you could select your preferences on things like probabilities for each type of tile, starting currency, number of lords, etc.

### Technical challenges

The main technical challenges for this project will be:

- a) To create some sort of algorithm to generate the map, which will not be completely random but somewhat coherent (so that there can't be a river completely separating both players and making the game impossible to resolve, for example). Tiles will have to take the type of neighboring tiles into account to determine their own in accordance to predetermined tile-generation rules;
- b) To implement a grid system which restricts the units' movement according to the tile types (water tiles cannot be crossed, mountain tiles stop cavalry units and slow down the other units, forest tiles have a random chance of encountering bandits, etc.) and

- allows nearby units to interact with one another as well as with their environment (castles, cities, etc.);
- c) To implement a step-by-step turn system where the players can purchase new units, then move their units, then attack, defend or take other actions of the sort with them, then place the units they had purchased earlier on the map (this order of actions is subject to change);
  - d) To keep track of all the necessary data in variables, since there will be a lot of them (for each unit's three current and max stats, unit types, tile types, player currency, victory conditions, etc.)
  - e) On the less programming-heavy side of things, to create a rule system that makes the game dynamic and fun to play and, ideally, to create all the necessary assets for the game (icons and music).

### **Prototype program**

The prototype for this project focuses on:

- a) Generating a random map made of various tile types with weighted probabilities and fitting dynamically within the user's window while accounting for the space taken by the menu bar.
- b) Creating the various unit types with their respective stats and ways to interact with the environment.
- c) Placing units on the grid and adapting their movement to their environment (water stops all units, mountains stop cavalry units, forests have a chance of encountering bandits, dragon rider units are not hindered by any terrain).

Red lords alive

## Player 1

## Lords



**Currency: 500 \$**

**BUY**

**<Project Title>**

**Currency: 500 \$**

**BUY**

## Lords



## Player 2

Mountain

Water tile

Red cavalry unit

Red lord

Neutral stronghold

Road tile

Unit movement

Unit defense

Unit attack

Blue stronghold

Blue infantry unit

Blue lord

Red stronghold

Forest tile

Neutral/wild unit

Player 1



Currency: 500 \$

BUY

<Project Title>

Currency: 500 \$

BUY

Lords



Player 2

Unit type



Infantry

3 3 3

100 \$

Unit cost

Unit stats (attack, defense, movement)



Cavalry

4 2 4

250 \$



Dragon

3 5 2

650 \$

Unit purchase menu

