**Crown of Akalle – Proof of Concept**

**Build Details**

Crown of Akalle is a Turn-Based Strategy game. In this build, much of the framework and core gameplay features has been completed. Tile-based movement, simulations of combat between units, and the framework for future customization have been implemented.

There are two stages in the main gameplay – the Strategy stage, and the Simulation phase.

In the Strategy phase, the player is shown a view of the tile-based map from a top-down view, during which they can freely manipulate the camera as they choose. Here, players will tell their units what to do during their turn. Clicking on units will select them and give options to move to a location (or stay still). Clicking on a blue highlighted square will move the unit there, and from there red tiles will show their available attacking options. Clicking on an enemy unit will initiate an attack and bring the player to the Simulation phase. Alternatively, they can click on themselves again to end their action without attacking. At any time during this process, the player can Right-Click to cancel/deselect the unit. Turns will also take place in this field. Turns are automatically ended once all the units of that turn have exhausted their actions, or if you press the End Turn button.

In the Simulation phase, players are brought to a different area where a small simulation of the interacting units are placed onto a field to fight. Units will change depending on which units are attacking or are being attacked. Different animations will take place for different types of interactions (Ranged, Melee, etc.). The Camera can also be manipulated similarly to that of the Strategy phase. Once the simulation has ended (either through time limit or going over the number of deaths needed), the player is brought back to the Strategy phase.

**Anticipated Future Work**

There needs to be a signal that shows when a unit has used their turn up already, either through an animation change or a shader change.

The User Interface still needs a lot of improvement, but takes the lion’s share of the work. Additionally, quality-of-life improvements should also be looked at.

Some bug-fixing needs to take place to take care of minor details. Noticed bugs include units spinning during the Simulation phase and shaders for units sometimes not rendering. Pressing the end turn button while there is moving will also cause the game to stop receiving clicks from the player.

Something to look into is having a small menu pop up when you left-click on a blue-tile to move. The menu should have options to Attack, Wait, etc. for the player to choose that is similar to Fire Emblem.

**Main Features**

**Tile-based map** – Pathfinding, generation of map, movement cost

The map is generated by reading values and creating the appropriate tile set. Certain tiles have a higher movement requirement than others, while some are just impassable. At the moment, there are three types of terrain. Grassland, Forest, and Mountain. Forests have an additional movecost to them, and Mountains prevent units from walking there. The pathfinding is done using Dijkstra’s algorithm.

**Unit combat**

All units have both a health statistic, as well as a unit size statistic. As the unit takes more damage, there will be less soldiers in it to attack.

When a unit is told to attack another unit, it will move to the appropriate square and start the Simulation phase (if it is toggled on). All units have animations in both the strategy and simulation phase.

The general calculation of combat resolution is that the weaker a unit is, the less damage they will do due to having less men.

This means that a swordsmen unit of 6/20 men will do far less damage than that of a full health unit.

Certain interactions between units will also affect the calculations. Spearmen will do amazing against mounted units, but fare less well against swordsmen. Additionally, ranged units attacking melee units will receive no damage in return, and vice versa.

**Strategy phase**

This is where the tile-based map is located and is where the player gives orders to their units. Units can only receive and act on orders during their turn. The turn is automatically ended once all units of that turn have exhausted their actions.

**Simulation phase**

Where the simulations of combat between the units in Strategy take place. Units of each side will generate the amount of men they have left and show combat animations going through each of them.

**Main Gameplay Instructions**

**Controls**

**W, A, S, D** – Moves the Camera.

**Q, E** – Controls the rotation of the Camera

**Mouse Wheel Scroll** – Zooms the camera in and out

**Left-Click** – Used for selection of units, telling them where to go, and what to attack.

**Right-Click** – Used for deselection of units and cancelling commands.

**Buttons**

There are four buttons located in the lower half of the screen. From left to right, there is:

* **Spawn Units** – Generates placeholder units for yourself (blue) and the enemy (red). It will not spawn another unit if there is already a unit in its grid location.
* **Delete Units** – Kills all units on the battlefield.
* **Simulation On/Off** – A toggle to control whether the game should simulate the combat
* **End Turn** – Ends your current turn. This is automatically done where there is no units available for you to control, but you can press this button to end a turn early.

**Gameplay**

1. Click on **Spawn Units** to generate units
2. Left-Click on an appropriate Unit (Blue – Player Turn, Red – Enemy Turn)
3. Click on one of the highlighted blue tiles to start Move Action
4. Click on one of the highlighted Red tiles to Attack, or click on the unit again to End without Attacking.
5. Simulation Phase Starts and Ends
6. Repeat Step 2 until all appropriate Units have done their action, or click on the End Turn button

Hovering and/or selecting a unit will show you their stats in the top left and top right corner of the screen.