Game Programming  
Final Project

“Feuds”

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Feuds is a quick paced RTS game that aim for player to test both their quick response in controlling as well as their strategic planning.

Game Objectives:

The game broke down into 6 rounds. In the beginning of each round, players are given 2100 coins to buy and/or upgrade units. Afterward, one player will be defender and the other will be the attacker. The attacker must control his units and claim the victory by capture defender’s base by having any of his units standing in a circle in defender’s base. The defender has 2 ways to achieve victory; 1. Killing all the attacker’s unit or 2. Protect his base until 5 minutes has passed.

Available Units

1. Guards: This is the cheapest unit with high physical defense but has no magical resistance at all. However, he can use his skill to temporary buff his and his allies’ defense stats.
2. Archer: A long range unit that can attack from far away. He has the highest move speed and has the skill to slow down enemy for a period of time.
3. Wizard: The only unit that has a magic attack type. He can also cast a powerful area of effect spell.

Controls

This game use simple mouse and keyboard control which regular RTS gamers should be able to use it right away.

1. Player select unit by clicking left mouse button or drag mouse around when holding left mouse button to select multiple units.
2. Player can add unit(s) to selected group by holding down shift key and select more unit(s).
3. Player can assign control group to unit(s) by holding ctrl + number (0-9) to assign the selected characters to that particular control group.
4. By pressing the number, the selected units will be that particular control group.
5. By pressing both ctrl and shift, player will be able to add selected unit(s) to that control group.
6. Right click is used for issuing command such as move to position or attack a unit, which all selected units will follow that command.
7. When selected only one unit, player can press ‘a’ or click on the icon skill to activate that unit’s special ability.
8. Moving mouse around the edges of screen will move the camera in that direction.
9. Player can click on minimap to transport the camera to show that location. Clicking on unit’s icon when selecting them also transport the camera to that unit location.

Features

1. Network play; Players can play this game across the network through Unity’s master server. The game achieves this by combination of State synchronization and RPC calls.
2. When units are inactive (did not receive command from player), each unit will make decision using behavior tree. For example, if the unit see enemy nearby and is currently not in defensive mode, that unit will continue moving toward enemy until it is within its attack range. Then that unit will change from moving to attacking.
3. Every animation uses Finite State Machine to decide which animation to play (Attack, Move, Special Skill, etc.).
4. Fog of war uses both shader to show the fog and turning off enemies’ renderer when they are too far from player’s units.
5. Archer’s and Wizard’s projectile is fully in synchronization with the attack animation.
6. The game will display messages when certain event happens such as enemy’s unit died.