**Game Development POE 2017**

**RTS Simulation**

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1. High Concept

Simulate complex battles between opposing factions. Battles will feature buildings and units, each with unique attributes and skill sets.

1. Game Treatment

* Battles are viewed from a top down perspective of a 2D game world.
* Each faction will be filled with random amounts of units and buildings when a new game is started. Buildings will include a factory building and a resource building. The factory building spawns units and the resource building provides the factory building with materials to spawn those units. Units will include a melee unit and a ranged unit. The melee has an attack range and movement speed of 1 block and 20 points of health. The ranged unit has a randomised attack range, 1 block movement speed, and 10 points of health.
* Units fight in a 20x20 block arena with random spawn points.
* A save and load function where users can save an existing game when exiting and load a previous game on start up.
* Health bars showing a representation on the unit or buildings health. This is seen when the cursor hovers over the unit or building respectively.
* A winner is decided when one faction destroys the other.

# Character Design

Two units are featured in the RTS Simulation. These include the Melee Unit, which has a shorter attack range but has more health, and the Ranged Melee, which has a longer attack range but has less health. These units are spawned randomly by the Factory Buildings.

|  |  |
| --- | --- |
| Type | Attributes |
| Melee Unit | * 1 Block Movement Speed * 1 Block Attack Range * 20 Hit points |
| Ranged Unit | * 1 Block Movement Speed * Randomised Attack Range (1 - 5) * 10 Hit points |

1. World Design
2. Physical Dimension

The game plays on a 20x20 grid in a 2D special dimension. Blocks are the unit of measurement and are used by the Units when moving and attacking. The boundaries of the game world are signalled by the edges of the grid.

1. Temporal Dimension

## Since large scale battles would last too long, anomalous time is present during the gameplay sequence. The game updates every once every second and time is essentially frozen between ticks.

1. Environmental Dimension

Apart from units, the game world is completely bare. The game makes use of a simple cartoony art style that puts an emphasis on simplicity. Gameplay features a sandy environment with either green or red coloured units depending on faction.

1. Emotional Dimension

## Since the RTS Simulation is a simple mini game, players will never get emotionally invested during gameplay.

1. Story and Level Progression

## Mechanics

### Gameplay Mechanics

#### Move

Units can move at a rate of 1 block per tick.

#### Shoot

Units can shoot at each other, provided an enemy is within the unit specific range.

#### Spawn

Units are spawned using Factory buildings that are scattered across the map. These Factory Buildings rely on Resource Buildings for materials.

### Victory Condition

The victory condition is met when either faction destroys the other. Since there is no timer, this is the only victory condition.

## Experience Duration

Game usually lasts for around one minute.

1. User Interface Document
2. Menu System

The RTS Simulation makes use of an extremely simple menu system. The main menu features a start and exit button. Once start is clicked, the user can either start a new game or load a previous save by clicking on the respective buttons.

1. User Interface

During gameplay, the is a small “X” in the top right corner that allows the user to exit the current game. When clicked, there will be two buttons with the option to either save and exit, or exit without saving. A health bar is available that shows the current health of a specific unit or building. This appears when the user hovers over the respective unit or building.

1. Flow Board

Start Game button clicked

Would you like to load a save game?

YES

NO

Exit Game Button Clicked

Menu

Application Stops

New Game is started

Existing game is started

Gameplay

Exit Game Button Clicked

One Faction Wins!

Would you like to save the current game?

YES

NO

Game is Saved

1. Repository Link

https://github.com/MikaelRothig/GADEPOE\_17601300/invitations