**Description:**

My game will be a symmetrical battle simulation.

There will be 2 teams spawning on opposite corners of the map

They will both patrol until they get within line-of-sight of each other, then they start fighting.

If one team can reach 12 kills, they win the game.   
Should the game run out of turns, the winner will be the team with the most kills.

**Map:**

The map will be a randomly generated 20x20 hex grid of different tile types, each with a unique cost.

The cost of the tile will be how many moves it takes for the unit to cross

Blue – Water, -2

Black tile – Wall, cannot see past

White – Empty, 1

Green – Grass, 2

Brown – Mud, 3

**State table:**

**Soldier**

Visibility range : 2 tiles, all directions

Attack range : 1 tile

|  |  |  |
| --- | --- | --- |
| **State** | **Transition** | **Next state** |
| Init | Immediate transition to next state | Patrol |
| Patrol | Enemy within visibility range | Chase |
| Teammate request for help with attacking | Chase |
| HP < 30 | Retreat |
| Chase | Enemy dead | Patrol |
| Enemy within line-of-sight | Chase |
| Enemy within attack range | Attack |
| HP < 30 | Retreat |
| Attack | Enemy dead | Patrol |
| Enemy out of range | Chase |
| HP < 30 | Retreat |
| Retreat | HP > 65 | Patrol |
| HP <= 0 | Dead |

**Medic**

Visibility range : 2 tiles in front, front left, front right

Heal range : 2 tiles

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| --- | --- | --- |
| **State** | **Transition** | **Next state** |
| Init | Immediate transition | Patrol |
| Patrol | Teammate requests for first-aid | Chase |
| HP <= 30 | Retreat |
| Chase | Teammate within range | Heal |
| HP <= 30 | Retreat |
| Heal | Teammate is healed/Teammate dies | Patrol |
| Teammate out of range | Chase |
| Retreat | HP <= 0 | Dead |

**Archer**

Visibility range : 5 tiles in front, front left, front right

Attack range : 4 tiles

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| --- | --- | --- |
| **State** | **Transition** | **Next state** |
| Init | Immediate transition to next state | Patrol |
| Patrol | Enemy within visibility range | Chase |
| Teammate request for help with attacking | Chase |
| HP < 20 | Retreat |
| Chase | Enemy dead | Patrol |
| Enemy within line-of-sight | Chase |
| Enemy within attack range | Attack |
| HP < 20 | Retreat |
| Attack | Enemy dead | Patrol |
| Enemy out of range | Chase |
| HP < 20 | Retreat |
| Retreat | HP > 50 | Patrol |
| HP <= 0 | Dead |

**Tank**

Visibility range : 4 tiles in front

Attack range : 3 tiles

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| --- | --- | --- |
| **State** | **Transition** | **Next state** |
| Init | Immediate transition to next state | Patrol |
| Patrol | Enemy within visibility range | Chase |
| Teammate request for help with attacking | Chase |
| HP < 45 | Retreat |
| Chase | Enemy dead | Patrol |
| Enemy within line-of-sight | Chase |
| Enemy within attack range | Attack |
| HP < 45 | Retreat |
| Attack | Enemy dead | Patrol |
| Enemy out of range | Chase |
| HP < 45 | Retreat |
| Retreat | HP > 85 | Patrol |
| HP <= 0 | Dead |