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CMPT 370

User Interaction

Note: These notes are tentative

- Overview
- Menu
- Beginning the game
- Turns and rounds
- Moving and Attacking
- Vision
- Winning or losing the game

Overview of User Interaction

Upon running this application, the user will be prompted to select a number of players. After that, they will select a board size based on the number of players previously entered. The game board will be initialized with the specified options and gameplay will begin. The user will use the mouse to select hexagons to move to or attack. Each round players or AIs will move or attack with their tanks, the order of which depends on tank speed. Fog of war will cover any spaces that the tanks do not provide vision to. The player or AI who is the sole survivor will be declared the winner and the system will prompt the user if they want to play again or exit the application.

Menu

The menu should be simple and elegant. Upon starting of the application the player will be prompted to enter a number of players. The player will then be asked to choose a board size based on the number of players. Games of two players will have a board size of five, four players can have a size of five or seven, and finally, games of six players will have a size of seven.

Create Game Scenario:

Use case begins when the application begins

- User enters the number of players
  - Two humans
  - Two AIs
  - One human and one AI
  - Four AIs
  - Six AIs
- User enters the board size
  - Five for two players
  - Five or seven for up to four players
  - Seven for six players
- Board is initialized with given constraints

Spectating

If the player chooses a game involving only AI players and no humans, they will enter as a spectator. They will be able to see the entire board and will watch the AIs play until the game is over. Once the game is over, the player will be asked if they want to play again or exit.

Beginning of the game

At the beginning of the game, a hexagonal playing field is initialized with the specified options and tanks are placed at the player's start points. Players will be able to see their respective pieces and all squares within each piece's vision range will be revealed as well. Fog of war will cover the remaining pieces and stay as such until explored. The first turn and round will then begin.

Turns and Rounds

Each game is divided into turns and rounds. At the beginning of each turn, the first player will make their move, followed by the second, and so on until all players have made their move. This completes a round. Players move their tank with the highest speed first, and then second highest on the second round and third highest on third. If the player does not have a tank for the current round (destroyed in combat), the player will simply not move. After all rounds are done, the turn is over and a new turn begins.

Turn Scenario:

Use case begins each time a new turn begins

- Begin round one
    o Players make their moves
    o Current player is indicated
- If possible, begin round two
    o Second fastest tank moves
- If possible, begin round three
    o Third fastest tank moves
- End turn
- Begin new Turn Scenario

Hexagon Selection

When it is the player's round, the current tank will be indicated and all hexagons within the current tanks range will be interact-able. Upon clicking a valid hexagon, the player will be prompted whether they want to move or attack, as well as how many movement points will be required.

Hexagon Selection Scenario:

Use case begins while it is the current player's turn

- Human player selects a valid hexagon
    o Invalid hexagons do nothing
- System prompts player to move or attack
- Player chooses
    o Moving Scenario
    o Attacking Scenario
    o Nothing otherwise
- Action is performed

Moving

Each round, the current player can move their tank to a selected hexagon adjacent to the current one. This costs one movement point and moves the tank one hexagon in any direction and can be done until the tank is out of movement points. Multiple tanks can occupy the same square.

Moving Scenario

Use case begins when player has chosen to move

- Tank moves to given position
- Movement points are updated
- Vision is updated
- Players turn ends

Attacking

Along with moving, the player can also attack a hexagon with their tank. Attack costs one movement point and can be used on any hexagon within the current tank's range. Attacking will deal the current tank's damage to ALL tanks in the specified hexagon. It is possible to hit your own tanks.

Moving Scenario

Use case begins when player has chosen to attack

- Damage points are dealt to tanks in selected hexagon
- Destroyed tanks are removed
- Vision is updated if friendly tanks were destroyed
- Players turn ends

Vision

All hexagons within any tank's range will provide vision to their respective player. Any movement or attacks that occur in hexagons with vision granted will be seen by the player. Any hexagons outside of vision will be covered in fog of war, preventing the player from seeing any occurrences outside of vision. Movements or attacks that occur within the player's field of view will be logged in the user's on-screen log.

Losing the game

If the player's last tank is destroyed, the player will be declared the loser. The player will be prompted to play again, exit, or spectate the remainder of the game.

Game Loss Scenario:

Use case begins when the player the player's last tank has been destroyed

- System notifies player that they have lost
- System prompts the player to spectate the remaining game, play again, or exit
  - o Spectate Scenario
  - o Create Game Scenario
  - o Exit the application

Winning the game

Upon destroying the last enemy tank, the player will be declared the winner and gameplay will cease. The player will then choose whether to play again or exit.

Game Won Scenario:

Use case begins when the player has won the game

- System notifies player they have won
- System prompts the player to play again or exit
  - o Create Game Scenario
  - o Exit the application
- System performs selected action

Actors:

- The player
- The second player
- Spectator
- AI

Interaction required (Player should be able to...):

- Create a new game with the given options
  - Player amount
  - Board size
- Spectate an AI game with the given options
  - Player amount
  - Board size

While in game

- Move tank
- Attack an enemy tank
- Surrender or exit the game
- Pause
- See log of actions performed within vision