Milestone 4: CRC Cards

The Quintet
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Game

- Initializes player and bot
- Passes player and bot to Player for ship placement
- Runs game loop
- Delegates player turn
- Receives attack choice from Player
- Determines outcome of attack
- Gets current grid from Player for display
- Ends game

- Player
- notAIBot
- Ship

Player

● Builds available fleet
● Gets player input for ship placement
● Places ship choice on grid
● Gets player attack choice and coordinates
● Gets player move choice
● Passes move choice to Grid
● Passes attack choice to Attack
● Receives attack specifics from Attack
● Returns attack specifics to Game

Subclasses: notAIBot

● Game

● Ship

● Grid

● Attack

● LUT

notAIBot

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- Builds available fleet
- Places bot fleet on grid
- Gets bot attack choice
- Passes attack choice to Attack
- Receives attack specifics from Attack
- Returns attack specifics to Game

Superclass: Player

- Game

- Ship

- Grid

- Attack

Attack

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- Receives attack choice from Player
- Determines attack specifics
  - Space laser/sonar/normal
- Passes attack choice to respective subclass
- Receives attack specifics from respective subclass
- Returns attack specifics to Player

Subclasses: sonarAttack, spaceLaserAttack, coordAttack

- Player

coordAttack

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- Receives attack choice from Attack
- Returns name and coordinates to Attack

Superclass: Attack

- Player

sonarAttack

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- Receives attack choice from Attack
- Creates coordinates for sonar area of effect
- Gets name of attack
- Returns name and coordinates to Attack

Superclass: Attack

- Player

spaceLaserAttack

Superclass: Attack

- Receives attack choice from Attack
- Gets attack coordinates and name
- Returns coordinates and name to Attack

- Player

Grid

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- Instantiates board game grid
- Establishes Captain's Quarters information
- Performs legal checks on coordinate input
- Prints board game grid
- Manipulates grid space based on attacks
- Manipulates grid space for ship placement
- Handles ship movement, undo, and redo
- Checks outcome of a hit
- Handles Captain's Quarters hits
- Gets outcome of attack
- Returns attack outcome to Player

- Player

Ship

- Instantiates ships with length/shape, name, direction, and Captain's Quarters
- Returns ships information via Ship_LUT delegation

- Game

- Ship_LUT

LUT

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- Creates a selection of valid attack coordinates for Player to choose from

Subclasses: Ship_LUT

- Player

Ship_LUT

Superclass: LUT

- Creates selection of valid ship placements given direction and length

- Ship

InputCoordinate
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- Keeps track on input coordinate
- Checks that input coordinate is on board
- Returns transformed coordinates

Subclasses: InitialInputCoordinate,
AttackInputCoordinate

- None

InitialInputCoordinate

Superclass: InputCoordinate

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- Receives direction for ship placement
- Receives initial coordinate for ship placement
- Checks direction input
- Determines all coordinates the ship will occupy
- Verifies entire ship will be on board
- Asks for input until user input is valid
- Returns transformed coordinates to game

- Game

AttackInputCoordinate

Superclass: InputCoordinate

- Receives user input on attack coordinates
- Asks for user input until input is valid
- Returns attack transformed coordinates to game

- Game