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SWEN225 Assignment 1 Report

Assumptions

Miss Scarlett was not automatically the first player

- In the normal game Miss Scarlett always goes first. In our game whoever is Player 1 goes first

Teleportation of accused characters disabled

- In the normal game the player that is suggested or accused of murder is automatically teleported into the suggested room. We did not do this as the characters were teleporting into the wall.

No Clue Cards

- Some editions of the game have “clue cards” designating special events. This would have created too many additional rules, so we did not include it.

No instructions for gameplay were included

- We assumed that the players already knew how to play the game.

We allowed players to return to their previous tile on the same turn

- In the normal game this is not allowed. However, it is be allowed in our game so players can leave the room.

Players could not leave through any door just the one they entered in

- In the original game a player could leave through any door in the room
- This was not possible in our game. Our rooms were made up of individual tiles. Players in our game could only move a tile at a time and their turn would end whenever they settled on a room tile.
- This meant that when a player exited through a different door than that which they entered their turn would end immediately after one step. It would not matter what they rolled with the dice.
- This meant it was always better for a player to go out through the door they entered

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CRC Cards

CluedoGame:

- *chooseCharacter()* – lets players choose character and ensures there are the right number of characters (meaning 3 to 6 players).
- *dealCards()* – shuffles the cards and distributes them to the players.
- *movePlayer()* – takes in user input for movement; the *craftSandA()* method takes in the user inputs for suggestions and accusations; the *suggestAccuseEndTurn()* method allows game players a final suggestion or accusation before ending their turn or end it right away; the *suggest()* method lets players refute suggestions.
- W for north, A for west, S for south and D for east keys were used for the player movement, therefore players are not able to move in a diagonal direction.
- *ableToWin()* – this Boolean in the player class determines whether a player is still in the game.
- *player.setCanWin(false)* – takes a player out of the game when they make a false accusation. The player is also shown in the murder solution.
- *movePlayer()* – checks *if (player.getTile().getRoom == null)* which means the player not standing on a room tile. This also would prevent the player from making suggestions.
- *(square.getPlayer() != null)* is checked by *setsquare()* in the Player class. If this is not null, then a player is standing on the tile and therefore that player cannot move onto that tile.

Board:

- *setTile()* – sets starting location of characters and logs their updated location after each move.
- SetupBoard() – this method calls *setUpNineRooms()*, *setUpCorridors()*, *setUpInaccessableTiles()*, *setUpBlankTiles()* and *setUpWalls().* This all handles placement of the tiles

Player:

- *getCharacter() – determines the character linked to each player*
- *getCards() – determines the hand of cards dealt to each player*
- *getTile() – method that logs the position of players on the board*
- *Exceptions were thrown in the CluedoGame class when players made invalid inputs*

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Game Logic

CluedoGame:

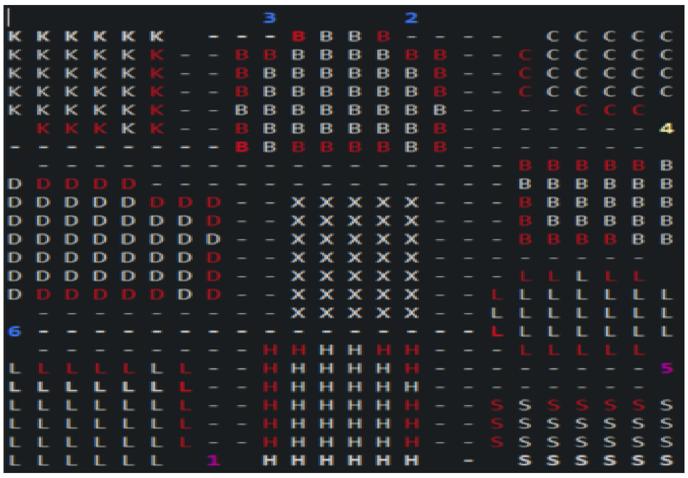
- Shuffles and deals the card
- Takes out the murder selection
- Handles the player's turns and inputs
  - Movement, accusation, suggestion, end turn
  - Goes on until one player wins or all players are out
- Throws exceptions at invalid inputs

Player:

- Game allows 3 to 6 players
- User input is based on the methods in the player class
- The position of the Player on the tile are determined by *setSquare()* and *getSquare()*

Board:

- Made from a two-dimensional tile array
  - The rooms, walls, corridors, inaccessible tiles and inaccessible doors
- It displays positions of all the players and all of the tiles



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|                 3         2
K K K K K K   - - - B B B B - - - -   C C C C C
K K K K K K - - B B B B B B B B - - C C C C C C
K K K K K K - - B B B B B B B B - - C C C C C C
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  K K K K K - - B B B B B B B B - - - - - - - 4
- - - - - - - - B B B B B B B B - - - - - - -
  - - - - - - - - - - - - - - - - - B B B B B B
D D D D D - - - - - - - - - - - - - B B B B B B
D D D D D D D D - - X X X X X - - - B B B B B B
D D D D D D D D - - X X X X X - - - B B B B B B
D D D D D D D D - - X X X X X - - - B B B B B B
D D D D D D D D - - X X X X X - - - - - - - -
D D D D D D D D - - X X X X X - - - L L L L L
D D D D D D D D - - X X X X X - - L L L L L L L
  - - - - - - - - - X X X X X - - L L L L L L L
6 - - - - - - - - - - - - - - - - L L L L L L L
  - - - - - - - - H H H H H H - - - L L L L L
L L L L L L L - - H H H H H H - - - - - - - - 5
L L L L L L L - - H H H H H H - - - - - - - -
L L L L L L L - - H H H H H H - - S S S S S S S
L L L L L L L - - H H H H H H - - S S S S S S S
L L L L L L L - - H H H H H H - - S S S S S S S
L L L L L L   1   H H H H H H   -   S S S S S S
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An example of the Board

Card:

- This is the interface for Room card, Weapon, and Character Card

GameCharacter:

- This is dealt to game players out of the deck at the beginning of the game and it represents the card of a game Character.

Room:

- This is dealt to game player out of the deck at the beginning of the game and it represents a room card.
- The tiles on the game board can also represent rooms. Rooms on the board can be used for suggestions and accusations
- Contains the entrance of all the rooms associates with it

Weapon:

- This is dealt to game players out of the deck at the beginning of the game it represents a weapon card.

Tile:

- This is a superclass used for RoomTile, EmptyTile, Corridor and InaccessibleTile
- It also determines the co-ordinates of each player

<u>Contributions</u>

CRC card, Player and Tiles- Elgene Leo Anthony

CluedoGame and Umple diagram- Maiza Rehan

CRC card, CluedoGame, Cards and cardTuple- Melissa Lok

CRC card, Board and Exceptions- Gelan Ejeta

Challenges encountered:

- Each row and each column had to be checked to discover if it was a wall, corridor, inaccessible tile or a door. This was very time consuming. We had to do this as we built the board. We had to create the board from scratch using “for loops”.

- After a player suggests a murder the character they referenced should have been teleported into the suggested room. However, our characters kept being teleported into the wall. Hence, we did not use this method in the game.

- We used two different character lists. One character list was for CluedoGame and the other in Board. Therefore, to get the game to work properly you have to type the exact character name e.g. “Mrs Peacock” not “mrs peacock”. You do not have to be this precise with room cards or weapons cards.