Class Diagram

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Main Interface
<<interface>>

+selectNumberOfPlayers()
+choosetBoardSetting()
+selectNumberOfComputerPlayers()
+selectDifficulty()
+createNewGame()
+loadExistingGame()
+chooseColorSettings()
+enableHint()

Game

-numPlayers: int
-numComputerPlayers: int
-difficulty: string
-colorSetting: string
-boardType: string
-hintSetting: boolean

+createGame()
+loadGame()
+saveGame()
+setPlayers(numPlayers, numComputerPlayers, difficulty)
+createBoard(boardType, hintSetting)
+enableHint()

Player

-name: string
-score: int

+getName()
+getScore()
+makeMove() : initialize Turn()
+incrementScore()

ComputerPlayer
<>

-score

+getScore()
+incrementScore()

ExtremeAI
...
...

NormalAI
...
...

Turn

-numberofMoves: int
-moveSequence : ArrayList<tuple>

+moveRobot()

GameBoard
<>

-gridSquares: Object
-goals: Arraylist <gridSquares>
-listOfRobots: ArrayList <RobotPiece>
-targetChip: Object
colorSetting: string
hintSetting: boolean

+flipTargetChip()
+checkValidityofMoves()
+createRobot()
+displayHint()
-moveRobot()

RobotPiece

- color: string
-location: tuple

getColor()
getLocation()

TargetChip

-colorList: ArrayList<string>

+getcolor()

FileHandler

fileName: string

addRow(int][]): void
read(String): void
write(String) : .xls File
load(.txt) : .xlsFile

<External database>

GameStatus

-CountdownTimer: Object
-ScoreBoard: Object

+startCountDown()
+displayScore()
+displayTimer()

CountdownTimer

allocatedTime: int

start()
stop()
reset()

Scoreboard

player1Score: int
player2Score: int
player3Score: int
player4Score: int

displayScore()

SimpleBoard
...
...

ComplexBoard
...
...

Relationships / labels:
- initializes
- sends data to
- creates instances of
- consists of
- has
- set color of
- displays
- selects type of
- creates instances of
- inherits from
- inherits from
- creates
- sends sequences of moves to
- consists of
- moves
- has
- flips
- Retrieve from / save data to
- consists of
- exports data to
- retrieves data from
- displays
- displays
- consists of
- consists of
- 0.. 3
- 1..4
- 1..*
- 1
- 4