UML Class Diagram for Monopoly

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Modified by the whole group

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GameUI

- gameboard: Gameboard
- PROPERTY: List<Property>

+ GameUI()
+ displayMessage(String message): void
+ displayRollCommand(): void
+ displayPlayerSelection(): ArrayList<Player>
+ printBoard(gameboard: Gameboard, players: ArrayList<Player>): void
+ selectPlayer(): String
+ displayCommands(): String
+ displayDiceRoll(firstRoll: int, secondRoll: int): void

0..1

GameLogic

- players: ArrayList<Player>
- ui: GameUI
- gameboard: Gameboard

+ createGameboard(): Gameboard
+ bankruptcy (debtor: Player, creditor: Player)
+ inspectPlayer(): void
+ buyProperty(buyer: Player): void
+ quitGame(): void
+ playerLandOnSquare(player: Player, square: Square): void
+ mainLoop(): void
+ main(args: String[]): void

Die

- NUM_SIDES: int

+ Die()
+ Die(numberOfSides: int)
+ roll(): int

1

0..22

0..n

Player

- money: int
- NAME: String
- PROPERTIES: ArrayList<Property>
- POSITION: List<Integer>

+ Player(name: String, money: int)
+ removeMoney(money: int)
+ addMoney(money: int)
+ getProperties(): List<Property>
+ getMoney(): int
+ getName(): String
+ addProperty(property: Property): int
+ getPosition(): List<Integer>
+ setPosition(position: int): void

0..1

Gameboard

- squares: ArrayList<Square>

+ Gameboard(squares: ArrayList<Square>)
+ getSquares(): ArrayList<Square>
+ getSquare(position: int): Square

0..n

0..28

0..n

Square
<<interface>>

+ getName(): String
+ toString(): String

Property

- PROPERTY_NAME: String
- COST: int
- owner: Player

+ Property(pName: String, c: int)
+ getName(): String
+ setOwner(player: Player)
+ getOwner(): Player
+ getCost(): int
+ *calculateRent(gameboard: Gameboard)*

Street

- colour: String

+ Street(name: String, colour: String, cost: int)
+ getColour(): String
+ calculateRent(gameboard: Gameboard): int
+ toString(): String