CRC Cards

Simplified Monopoly

CmdLineUI

GameController runPlayerSetUp()

Interface Adapters

GameController

- id
- filepath
- netWorthGoal
- maxRounds
- BANKRUPT VALUE
- boardManager
- propertyManager
- auctionManager
- moneyManager
- + getPath()
- + getId()
- + save()
- + load()
- + runPlayerSetUp()
- + runGame() // initialize all managers

BoardManager PropertyManager AuctionManager MoneyManager

BoardManager

- board //an instance of Board
- players //a list of Players with pieces on the Board
- + getPlayerList()
- + getPlayerLocations()
- + addPlayer()
- + updatePos() //update player position by moving player up x tiles and determining which tile the player is on
- + updateBankruptcy()
- + turn() // a single turn in which a player rolls a die, moves, buys/sells
- + generateOrder() // generates the order that the players take turns in
- + toString()

Player Board

Property Manager

- properties
- propertiesOwned //hashmap of all properties in the game and the players that own them
- resetProperties() // re-make properties available of a player that was eliminated
- + buyProperty()
- + sellProperty()
- propertyAction(player: Player) // determines whether the player pays the bank, can buy a property or pays rent to another player

City
PublicProperty
Building

AuctionManager

+ tradeProperties() //trade properties between players if they are auctionable

Player City

MoneyManager

- payRent(renter: Player, payee: Player) **// could be moved to property manager for simplicity but there is high coupling accessing player attributes
- deductCostOfProperty(buyer: Player, cost: int)
- addSellbackOfProperty(seller: Player, cost: int)
- calculateNetWorth()

Player

Player

- username
- cash
- netWorth
- token
- + roll()
- + getCash()
- + setCash()
- + addCash() //more useful than calling setCash when just giving a player money
- + getNetWorth()
- s and the trace of the contract of the contrac
- + setNetWorth()
- + isBankrupt()
- + setBankrupt()
- + getUsername()

Token

Token

- id
- colour
- location
- inJail
- getColour() getLocation()
- setLocation()
- isInJail()
- move()

Player

tiles ArrayList<Tile>

Board

+ getTileAt() // returns Tile at a particular location

Tile

Enterprise Business Rules abstract	Tile	PropertyTile SpecialTile
- interact()		

City **PublicProperty**

Tile Buyable

- name
- rent
- price salePrice // for when a player sells a property, calculated as 80%
- of the original price
- owned // boolean storing whether or not someone owns this
- owner (Player object or null as bank)
- getRent()
- setRent()
- getPrice()
- getSalePrice()
- isOwned()
- setOwned()
- setOwner()
- getOwner()
- purchase()
- sell()

PublicProperty

Player Token PropertyTile Auctionable

Buyable

- setRent() [Override] // uses PropertyManager

City

Buildable Auctionable Buyable

PropertyTile

- colour
- buildings // a list of Building objects
- interact() [Override]
- setRent() [Override] // PropertyManager uses this
- getColour()
- sameColourBlock() // returns boolean representing whether this city is the same colour as another parameter city
- addBuilding()
- removeBuilding()
- getBuildings() // return a list of buildings on a city property

Player Token Building cash

StartTile

- interact() [Override] //interacts with player to give them

Player

Token

SpecialTile

interact()

randomEffects

SpecialTile

interact() [Override]

Token

SpecialTile

interact() [Override]

Building

- cost
- rentIncrease
- + getCost()
- + getRentIncrease()

City

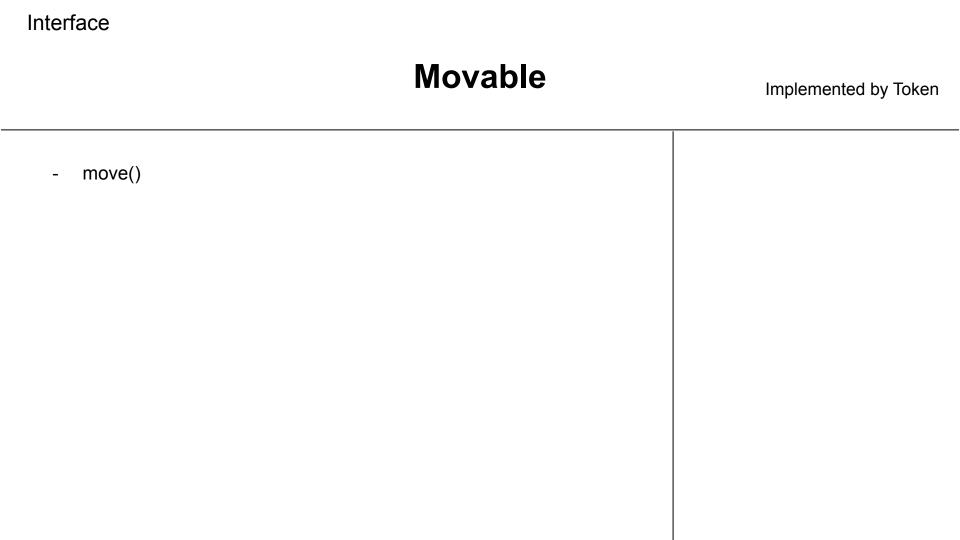
Interface **Buyable** Implemented by PropertyTile getPrice() getSalePrice() purchase() sell()

Interface **Buildable** Implemented by City addBuilding() removeBuilding()

Auctionable

Implemented by City,
PublicProperty

//marker interface (meaning it is empty it simply exists to exhibit a property of a class)



Main

main() // creates instances of GameController and CmdLineUI and initiates game