CRC Diagrams

Class Name: Player	ID: 1	Type:
Description: Represents a user playing the game		**Associated Use Cases:** Player joins a game session Player buys property Player buys buildings Player sells property Player sells buildings Player bids in auction Player goes to jail Player declares bankruptcy Player does a deal Player picks up a card Player pays rent

Responsibilities	Collaborators
Maintains data about the user	Game Piece
Keeps track of the user's money	Wallet
Keeps track of the user's inventory	Property, Card
Retains the user's location on the board	Board, Square

Attributes
Name
Colour
Piece
Wallet
Inventory
Position
Relationships

Generalisation (a-kind-of)	
Aggregation (has-parts)	
GamePiece	
Inventory	
Other Associations	**Collaborators**
'Is on'	Square
'Buys', 'Sells', 'Bids'	Property, Card, Bank
'Joins'	Game
'Goes to'	Jail
'Picks Up', 'Keeps'	Card

Class Name: Bank	ID: 2	Type:
Description: Holds all the money, properties and buildings		**Associated Use Cases:** User allocated money User buys property User buys buildings User sells properties User sells buildings User mortgages property User unmortgages property Property up for Auction
Responsibilities	**Collaborators**	
Maintains money		
Maintains properties	Property, Cards	
Maintains buildings	Property	
Gives out money	Player	
Sells property	Property, Player	
Sells buildings	Property, Player	
Buys property	Property, Player	
Buys buildings	Property, Player	

Gives out mortgages	Property, Player
Holds Auctions	Property, Player
Attributes	
Money	
Houses	
Hotels	
Properties	
Relationships	
Generalisation (a-kind-of)	
Inventory	
Aggregation (has-parts)	
Property	
Other Associations	**Collaborators**
'Sells to', 'Buys from', 'Allocates to', 'Gives mortgage to'	Player
'Sells', 'Buys', 'Auctions'	Property

Class Name: Board	**ID:** 3	**Type:**
Description: Maintains information about the game board and is what users will navigate around in the game play.	**Associated Use Cases:**	
Responsibilities	**Collaborators**	
Maintain information about squares on the board	Square	
Maintains information about the dimensions of the board		
Attributes		
Title Deed Card		
Purchase Cost		
Mortgage Value Price		

Grouping
Name
Location
Colour
Relationships
Generalisation (a-kind-of)
Aggregation (has-parts)
Card
Square

Other Associations	Collaborators
'Is bought by', 'Is sold by', 'Is bidded on by'	Player

Class Name: Card	**ID:** 4	**Type:**
Description: This represents a game card and can be a chance, community chest or title deed card.		**Associated Use Cases:** Player picks up a card Player buys a property Player sells a property Player does a deal Player declares bankruptcy
Responsibilities	**Collaborators**	
Maintains information about each card		
Gives information about properties	Property	
Attributes		
Type		
Description		
Keep		

Relationships	
Generalisation (a-kind-of)	
Aggregation (has-parts)	
Other Associations	**Collaborators**
'Is linked to'	Property
'Sold to', 'Bought by', 'Picked up by', 'Orders'	Player
'Is kept in'	Inventory

Class Name: Property	ID: 5	Type:
Description: Represents a property that can be owned by a player.		**Associated Use Cases:** Player purchases a property Player sells a property Property goes up for auction Player pays rent
Responsibilities	**Collaborators**	
Maintains information about the cost of each property	Card	
Holds information about the property grouping		
Attributes		
Type		
Description		
Keep		
Relationships		
Generalisation (a-kind-of)		
Square		
Aggregation (has-parts)		
Card		

Other Associations	Collaborators
'Is bought by', 'Is sold by', 'Is bid on by', 'Collects rent on'	Player
'Is landed on by'	Piece

Class Name: Game	ID: 6	Type:
Description: This represents the actual game.		**Associated Use Cases:** Player joins game session Player wins game Player loses game

Responsibilities	Collaborators
Keeps track of players in the game	Player
Keeps the game running	
Initiates the board	Board
Shows success screen for winner	Player
Shows the user menu	
Allows players to choose their game pieces and colours	Game Piece, Player
Ends the game	
Eliminates players from the game	Player
Attributes	
Players	
Winner	
Running	
Relationships	
Generalisation (a-kind-of)	
Aggregation (has-parts)	

Player	
Other Associations	**Collaborators**
'Initialises'	Board

Class Name: Square	**ID:** 7	**Type:**
Description: Is a space on the board that can hold properties, jail, 'Go', tax, utilities, cards and stations.		**Associated Use Cases:** Player lands on a property Player lands on a card space Player passes Go Player goes to Jail Player lands on tax square
Responsibilities	**Collaborators**	
Holds information about each space	Card, Property	
Attributes		
Location		
Type		
Name		
Relationships		
Generalisation (a-kind-of)		
Aggregation (has-parts)		
Property		
Other Associations	**Collaborators**	
'Player lands on'	Player	

Class Name: GamePiece	**ID:** 8	**Type:**
Description: Represents a game piece which the player uses to navigate around the board		**Associated Use Cases:** Player makes a move
Responsibilities	**Collaborators**	

Keeps track of player's location on the board	Player, Board, Square
Attributes	
Name	
Position	
Image	
Relationships	
Generalisation (a-kind-of)	
Aggregation (has-parts)	

Other Associations	Collaborators
'Is moved by'	Player
'Moves around'	Board
'Lands on'	Square

Class Name: Die	ID: 9	Type:
Description: Represents a die that is used to determine the number of spaces the player navigates around the board.		**Associated Use Cases:** Player rolls the dice

Responsibilities	Collaborators
Determines the amount of spaces a user moves around the board	Player
Attributes	
Numbers 1 - 6	
Relationships	
Generalisation (a-kind-of)	
Aggregation (has-parts)	

Other Associations	Collaborators
'Is rolled by'	Player

Class Name: Inventory	ID: 10	Type:
Description: Is a collection of properties and cards that a user owns		Associated Use Cases: Player purchases property Player sells property Player gets a 'Get Out Of Jail' card Player does a deal
Responsibilities	Collaborators	
Holds a player's property and 'Get Out Of Jail Free' cards	Player, Property, Card	
Attributes		
Property		
'Get Out Of Jail Free' cards		
Relationships		
Generalisation (a-kind-of)		
Aggregation (has-parts)		
Property		
Card		
Other Associations	Collaborators	
'Owned by'	Player	
'Items are places in by'	Bank	