

# MONOPOLY-BITS EDITION

**Group 0: Subgroup Monopoly**

# GROUP MEMBERS

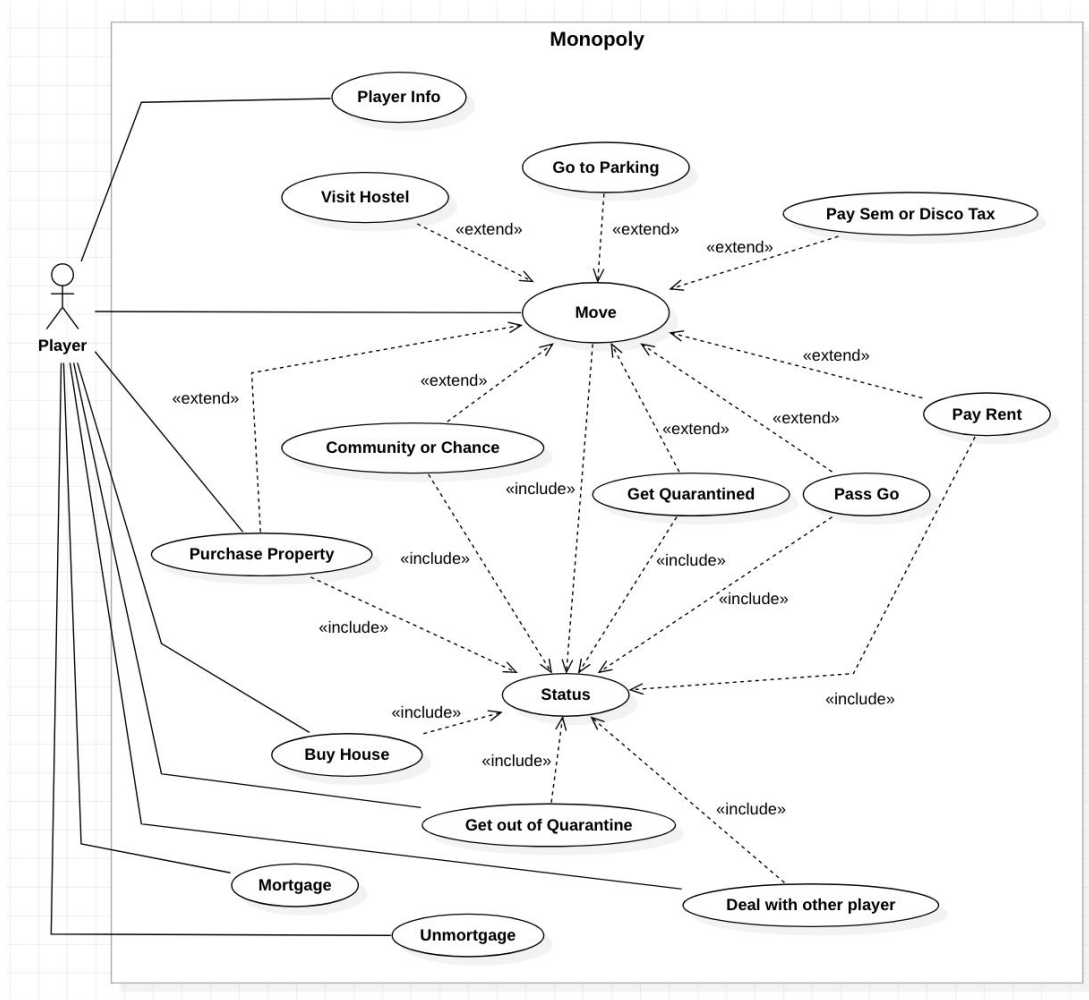
## **Group Leader:**

- Astitva Sehgal

## **Group Members:**

- Pronoma Banerjee
- Rijul Radhu
- Shrey Alpesh Khakhi
- Anurag Minesh Tendulkar
- Neil Jayesh Shah
- Sidhant Choudhary
- Himanshu Daga
- Mandar Dayanand Joshi
- Paul Titus Pallithottathu
- Neel Yashodan Khare

# USE CASE DIAGRAM



# USE CASES

Number	1	
Name	Player info	
Summary	Players enter their names	
Preconditions	None	
Postconditions	System receives the number of players for the game, and the name of each player. Game begins.	
Primary Actor(s)	Player	
Secondary Actor(s)	None	
Trigger	Start of a new game	
Main scenario	Step	Action
	1.	System asks for the number of players (2-8)
	2.	A player enters the number of players
	3.	System asks for the names of players
	4.	Players enter the names of players
	5.	System displays the board and names of players.
Extensions	Step	Branching action
	2a	System displays error if number of players are less than 2 or greater than 8
	2b	System starts game again, from step 1

Number	2	
Name	Move	
Summary	Each player plays a move by rolling 2 dice, which takes them to a certain board position and may lead to a certain task.	
Preconditions	For the first player in the first move: All players have entered their names. For the first player in following moves: All players have played a move in each of the previous rounds. For other players: Previous players have played their moves in the same round. All players have played a move in each of the previous rounds.	
Postconditions	After changing board position, the player might land at an ordinary cell with no task or a cell corresponding to the following tasks: Just Visiting Jail, Go to Parking, Income or Super Tax, Rent, Pass Go, Go to Jail, Community or Chance, Purchase Property.	
Primary Actor(s)	Player	
Secondary Actor(s)	None	
Trigger	Player's turn to play a move	
Main scenario	Step	Action
	1.	Player rolls 2 dice
	2.	System shows the value obtained each die
	3.	Player moves forward by the number of positions given by the sum of numbers obtained from each die.
	4.	System updates the new board position in the player's status
Extensions	Step	Branching Actions
	4a.	If the value of each die is the same (double), the player gets an extra chance. System moves to step 1.

Number	3	
Name	Visit Hostel	
Summary	The player visits the hostel.	
Preconditions	It is the player's turn. Player has rolled the dice and landed on Visit Hostel.	
Postconditions	Player has visited the hostel.	
Primary Actor(s)	Player	
Secondary Actor(s)	None	
Trigger	Player lands on Get Quarantined block.	
Main scenario	Step	Action
	1.	Player lands on Visit Hostel
Extensions	None	

Number	4	
Name	Go to Parking	
Summary	No change in players net amount	
Preconditions	It is the player's turn and after rolling the dice the player lands on the Parking block.	
Postconditions	There will be no change in the players net amount	
Primary Actor(s)	Player	
Secondary Actor(s)	None	
Trigger	Landing on Go To Parking	
Main Scenario	none	
Extensions	none	

Number	5
Name	Pay Sem or Disco tax
Summary	If a player lands on any of the two cells then certain amount corresponding to the block is deducted from the balance.
Preconditions	<ol style="list-style-type: none"> <li>1. Player has rolled the dice.</li> <li>2. Player has landed into the cell named "Disco tax" or "Sem tax".</li> </ol>
Postconditions	<ol style="list-style-type: none"> <li>1. A certain amount is deducted from the balance</li> </ol>
Primary Actor(s)	Player
Secondary Actor(s)	None
Trigger	Certain amount is deducted from the balance
Main scenario	<ol style="list-style-type: none"> <li>1. Rs 2 lacs is deducted from the balance of the player if landed on Sem tax. Rs. 1 lac is deducted if landed on Disco tax.</li> </ol>
Extension	1a. If the player does not have sufficient funds then the player is bankrupt. He/ she is out of the game.

Number	6	
Name	Get Quarantined	
Summary	The player has to be quarantined	
Preconditions	It is the player's turn. Player has rolled the dice and landed on Get Quarantined block.	
Postconditions	Player stays in quarantine.	
Primary Actor(s)	Player	
Secondary Actor(s)	None	
Trigger	Player lands on Get Quarantined block.	
Main scenario	Step	Action
	1.	Player lands on Get Quarantined
	2.	Player status changes to be in quarantine.
Extensions	Step	Branching Actions
	2a.	If the player gets a double, the system doesn't withdraw money.
	2b.	If the player has "Get out of Quarantine" Card, the system doesn't withdraw the money.

Number	7	
Name	Pass Go	
Summary	The player gains Rs. 2 lacs	
Preconditions	It is the player's turn. Player has rolled the dice and landed at Pass Go block.	
Postconditions	System transfers the money into the player's account.	
Primary Actor(s)	Player	
Secondary Actor(s)	None	
Trigger	Player lands on Pass Go block.	
Main scenario	Step	Action
	1.	Player lands on Pass Go
	2.	System transfers Rs. 2 lacs to the player's account and updates account value in status.
Extensions	Step	Branching Actions
	2a.	If the player is quarantined, the system doesn't transfer money.

Number	8											
Name	Community or Chance											
Summary	Player has to perform the task written on the card drawn											
Preconditions	It is the player's turn and after rolling the dice the player lands on a card cell.											
Postconditions	Player has performed the task and the gameboard is refreshed											
Primary Actor(s)	Player											
Secondary Actor(s)	None											
Trigger	Landing on a chance or community block											
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Number	9										
Name	Purchase Property										
Summary	Player can purchase the cell if he/she has sufficient funds										
Preconditions	It is the player's turn and after rolling the dice the player lands on a purchasable block.										
Postconditions	Player has purchased the property and the player's status is refreshed										
Primary Actor(s)	Player										
Secondary Actor(s)	None										
Trigger	Landing on a purchasable property										
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>System displays a purchase button</td></tr> <tr> <td>2</td><td>Player clicks on the purchase button</td></tr> <tr> <td>3</td><td>System debits the property value from Players amount</td></tr> <tr> <td>4</td><td>System refreshes the game board to display the properties owned and net amount of each player.</td></tr> </tbody> </table>	Step	Action	1	System displays a purchase button	2	Player clicks on the purchase button	3	System debits the property value from Players amount	4	System refreshes the game board to display the properties owned and net amount of each player.
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Number	10																		
Name	Buy House																		
Summary	Player can buy house(s) on their properties																		
Preconditions	It is the player's turn and the player has not rolled the dice. The player has to own all properties of the same color. (Player has monopoly over the color group).																		
Postconditions	Player has purchased house(s) on their property and the player's status is refreshed.																		
Primary Actor(s)	Player																		
Secondary Actor(s)	None																		
Trigger	Player has all properties of the same color (has a monopoly over the color groups) and has not rolled the dice																		
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Number	11												
Name	Pay Rent												
Summary	The player pays the rent to the owner. The amount of rent depends upon the property the player lands on.												
Preconditions	It is the player's turn and after rolling the dice the player lands on a property owned by someone.												
Postconditions	Player pays the property's rent and the player's status is refreshed.												
Primary Actor(s)	Player												
Secondary Actor(s)	None												
Trigger	Landing on a property owned by another player.												
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Number	12
Name	Status
Summary	A player can see all the information about balance and the properties owned by him
Preconditions	None
Postconditions	Player can know his status about the balance and the properties
Primary Actor(s)	Player
Secondary Actor(s)	None
Trigger	Player viewing the status view area.
Main scenario	<ol style="list-style-type: none"> <li>1. Player can see the name, balance and the properties owned</li> <li>2. Player can also see the attributes of the blocks including name, owner, number of houses, if it is quarantined and the price on the game board.</li> </ol>
Extension	None

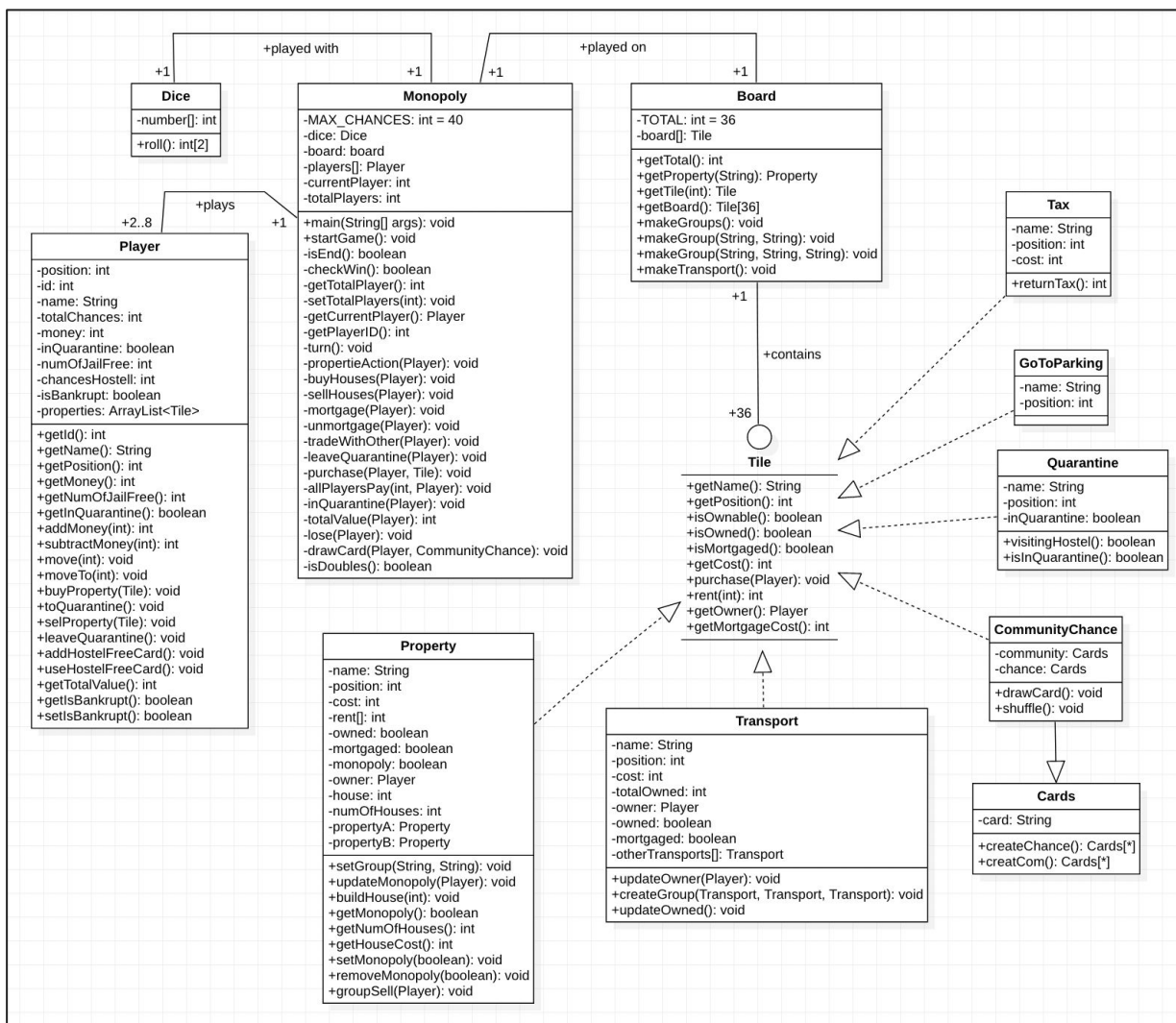
Number	13
Name	Get out of Quarantine
Summary	The player moves out of quarantine
Preconditions	<ol style="list-style-type: none"> <li>1. It is the player's turn</li> <li>2. The player has not rolled the dice</li> <li>3. The player is quarantined</li> </ol>
Postconditions	The player can move out of the quarantine and is allowed to play his turn.
Primary Actor(s)	Player
Secondary Actor(s)	None
Trigger	Player presses Get out of Quarantine button
Main scenario	<ol style="list-style-type: none"> <li>1. Before rolling the dice, the player needs to click on the Get out of Quarantine button.</li> <li>2. After clicking the button the player pays Rs. 1 lac and gets out of quarantine</li> </ol>
Extensions	1 a) If the player does not have enough balance then he is bankrupt and the Game is over for that player.

Number	14
Name	Deal with other player
Summary	Dealing of the property happens between two players if both agree else the deal is cancelled
Preconditions	<ol style="list-style-type: none"> <li>1. It is the player's turn</li> <li>2. The player has not rolled the dice</li> </ol>
Postconditions	1. One player's property is sold to the other player if both the players agree to trade the property among them.
Primary Actor(s)	Player
Secondary Actor(s)	Another Player
Trigger	Player selects the "Deal with other player" button to buy or sell from other player
Main scenario	<ol style="list-style-type: none"> <li>1. If the player wants to deal with other player he clicks on the button.</li> <li>2. Then the player(buyer) enters the name of another player(seller) with whom he wishes to trade with, the property which he wishes to purchase and the amount he is ready to pay for it in a dialog box.</li> <li>3. Then other dialog box appears to the seller if he agrees with the deal.</li> <li>4. The seller selects "YES" and the cell is sold to player(buyer) for that amount of money</li> </ol>
Extension	<ol style="list-style-type: none"> <li>3a) If the seller selects "NO" then the deal is cancelled.</li> <li>3b) If the buyer does not have enough balance then the deal is Cancelled</li> <li>3c) If the buyer selects "CANCEL" button after clicking the "Deal with other player" button then the deal is cancelled.</li> <li>3d) If the seller selects the "YES" option then sell is sold to the buyer.</li> </ol>

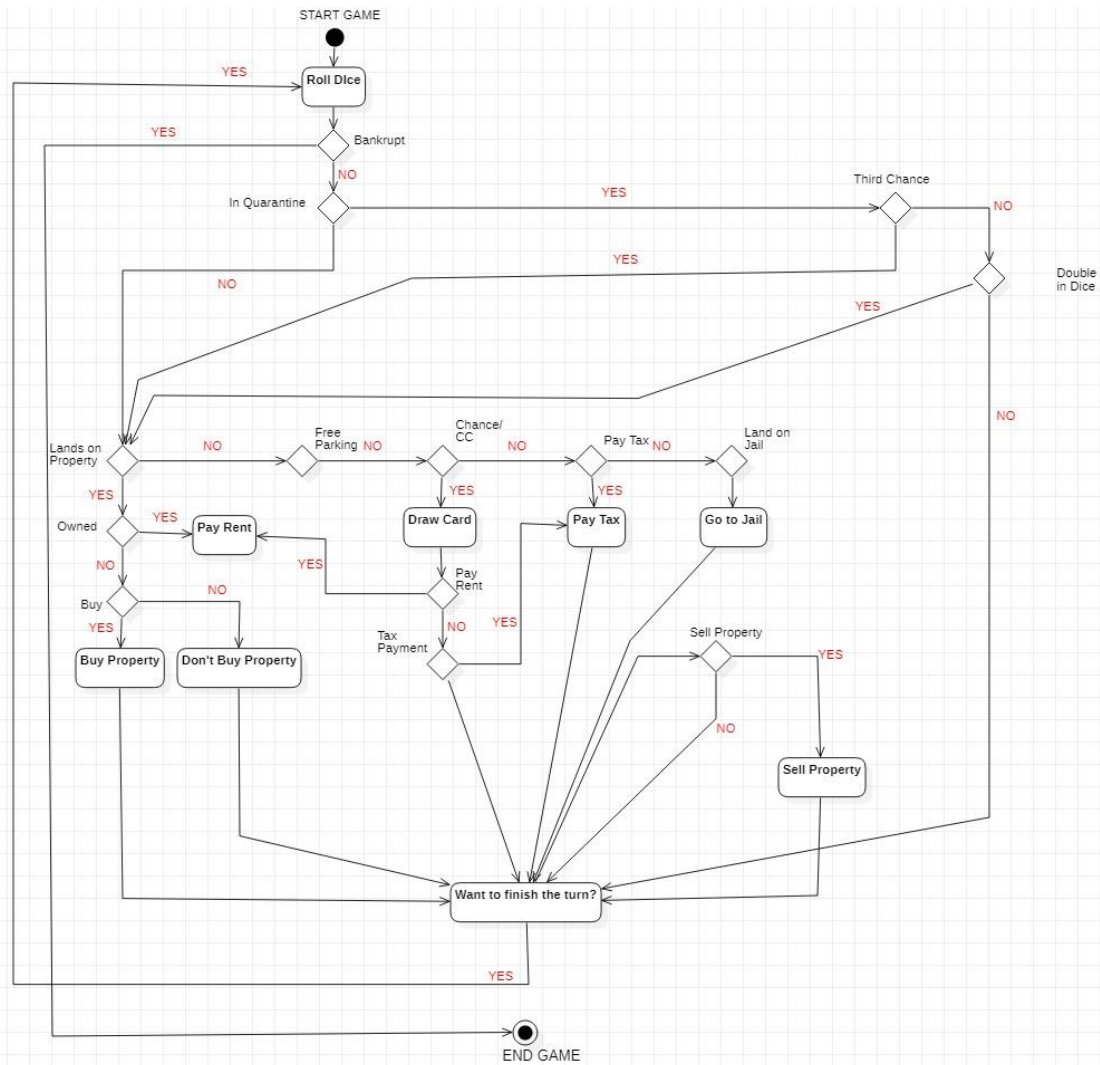
Number	15												
Name	Mortgage												
Summary	The player can mortgage a property. The banker refunds half the property's original value.												
Preconditions	1. It is the player's turn.												
Postconditions	Player either mortgages his/her property or not.												
Primary Actor(s)	Player												
Secondary Actor(s)	None												
Trigger	Pressing the "Mortgage" Button to call the system												
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Number	16												
Name	Unmortgage												
Summary	The player can unmortgage a mortgaged property. The player has to pay the mortgage value with interest.												
Preconditions	1. It is the player's turn.												
Postconditions	Player either unmortgages his/her property or not.												
Primary Actor(s)	Player												
Secondary Actor(s)	None												
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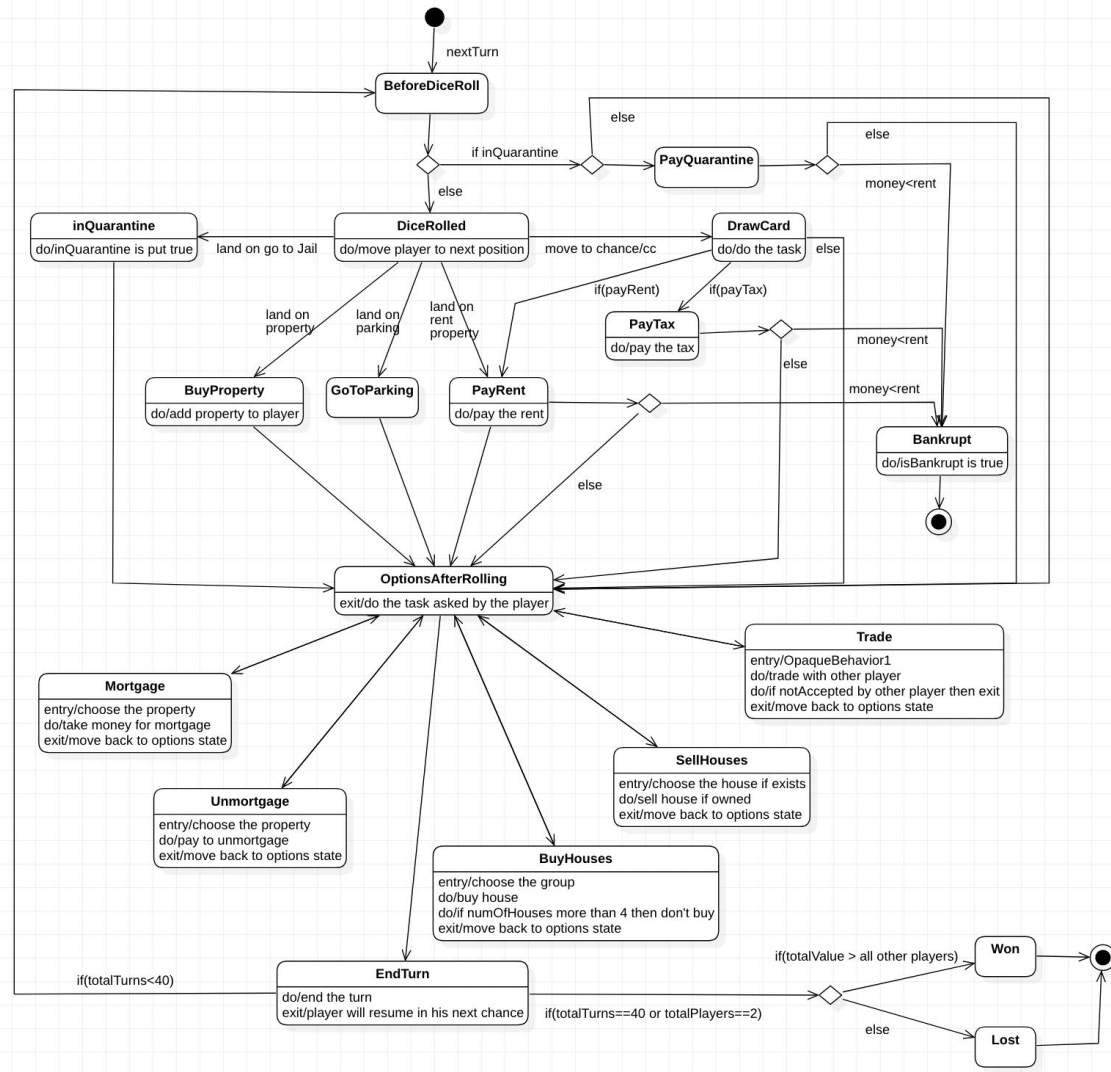


# ACTIVITY DIAGRAM





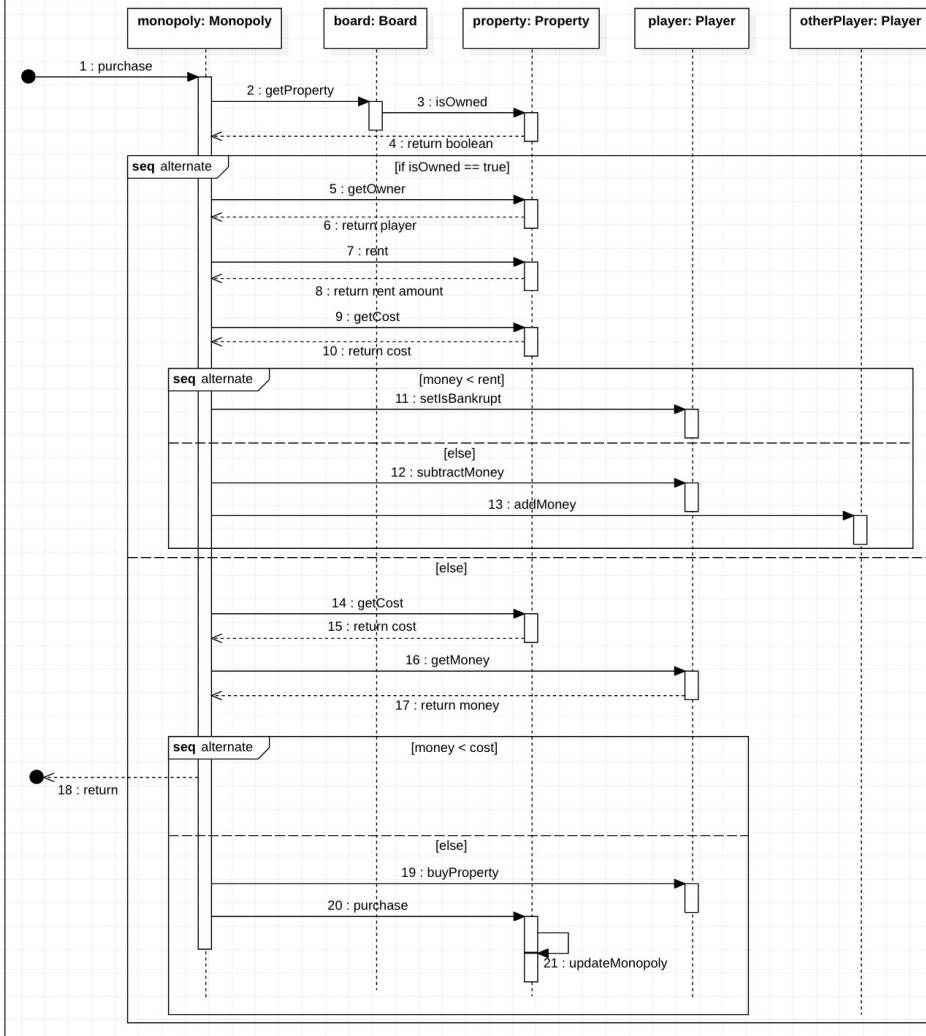
STATE DIAGRAM



# SEQUENCE DIAGRAM

(SCENARIO - BUYING A PROPERTY)

## sd Buying Property



THANKS!

