Requirements Specification Example: Monopoly Game

Team xx-2014a Gonzo Software	Monopoly Game
Document	Requirements Document

Brief problem statement

This system is an on-line version of the popular Monopoly board game. The game provides many of the features found in the board version of the game. Unless otherwise specified this game follows the standard rules of the board game found at http://www.hasbro.com/common/instruct/monins.pdf.

System requirements

- The system must be implemented in Java.

- The system must be capable of running on any platform that supports the Java runtime environment.

User profiles

- Persons age 10 or greater.

- Basic computer skills:

  - o   Can manipulate a mouse

  - o   Can click and drag with a mouse.

  - o   Can respond appropriately to dialogs.

Feature requirements (user stories)

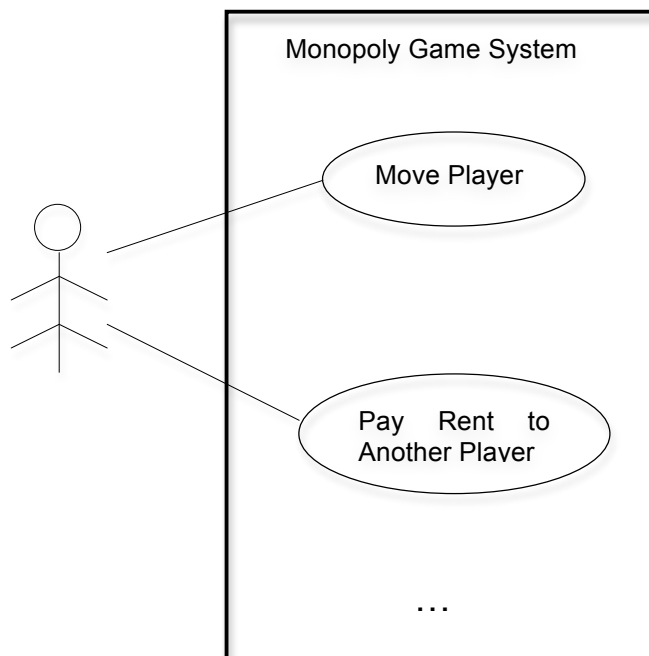| No.	User Story Name	Description	Which Release
1.	Game Initialization	At the start of a new game: • Each player enters his name and is credited with $1500 from the bank. • Each player begins on the GO cell.	**R1**
2.	Move Player	A player moves based on the dice roll (two dice, each with six faces). When the user reaches the end of the board, he cycles around.	**R1**
3.	Move Players in Turns	The players shall play in turns.	**R1**
4.	Pass Go	When a player passes or land on the GO cell, the bank gives the player $200.	**R1**
5.	Free Parking	When a player lands on the Free Parking cell, nothing happens.	**R2**
6.	Go to Jail	**If** a player lands on the "Go to Jail" cell, the player goes is moved to the jail cell, backwards so the player does not pass go (and therefore does not collect $200).	**R2**
7.	Get Out of Jail	When a player is in jail, he may pay $50 to get out of jail on his next turn. If he does not have enough money, he is out of the game, and the cells he owns become available without any houses.	**R2**
8.	Purchase Property	When a player lands on a property cell, and it is available, the player may purchase it. The price is the land value of that property.	**R1**
9.	Pay Rent to Property Owner	When a player (A) lands on a property cell owned by another player (B), A must pay rent to B. The level of rent paid is the base level of rent for that property, unless the owner has a monopoly or houses/hotel on the property.	**R3**
10.	Unable to Pay Rent	If a player (B) owes player (A) more money than player B currently has, player B is bankrupt, and must give all of their property to player A.	**R3**

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No.	User Story Name	Description	Which Release
11.	Trade Properties	If a player (A) wishes to purchase property owned by player (B), Player B will name an amount of money he will accept for the purchase of the property. Player A can decide to accept the offer or decline.	**R3**
12.	Buy Railroad	When a player lands on a railroad cell, and it is available, the player may purchase it. The land value of all railroads is the same.	**R3**
13.	Pay Rent to Railroad Owner	When a player (A) lands on a railroad cell owned by another player (B), A must pay rent to B. The level of rent paid is the based on the number of railroads B owns. If the base rent of a railroad is R, and the number of railroads owned is N, the amount of rent due is $R * (2^{**}(N-1))$.	**R3**
14.	Buy Utility	When a player lands on a utility cell, and it is available, the player may purchase it. The land value of all utilities is the same.	**R3**
15.	Pay Rent to Utility Owner	When a player (A) lands on a utility cell owned by another player (B), A must pay rent to B. The level of rent paid is the based on a dice roll. If B owns one utility, A pays 4 times the dice roll. If B owns both utilities, A pays 10 times the dice roll.	**R3**
16.	Buy House	A player has a monopoly when he purchases all the properties of a color group. The player can then buy houses for those properties at the beginning of his turn. The cost of houses is determined by the property. A player may purchase no more than 5 house on a given monopoly.	**R1**
17.	Draw Jail Card	When a player lands on a Community Chest or Chance cell, the players draws an action card. If the card is a "Go to Jail" card, the player goes to Jail cell, backwards so the player does not pass Go (and therefore does not collect $200).	**R2**
18.	Draw Lose Money Card	When a player lands on a Community Chest or Chance cell, the players draws an action card. If the resulting action is to lose money, the player pays the amount to the bank. If he does not enough money, he is out of the game, and the property cells he owns become available without any development.	**R2**

No.	User Story Name	Description	Which Release
19.	Draw Gain Money Card	When a player lands on a Community Chest or Chance cell, the players draws an action card. If the resulting action is to gain money, the player receives that amount from the bank	**R2**
20.	Draw Move Player Card	When a player lands on a Community Chest or Chance cell, the players draws an action card. If the resulting action is to move to a specific cell, the player advances to that cell. If the action causes the player to pass GO, he collects $200 from the bank.	**R2**

Use case diagram

Please note that all use cases haven't been shown in the use case diagram. In the diagram "…" has been shown to imply that there are more use cases. However for your project deliverable you should draw all the use cases in the use case context diagram.

Use case   description

An example use case description   using the template provided:

Use Case Number:	UC-09
Use Case Name:	Pay Rent to Property Owner
Overview:	When a player (A) lands on a property cell owned by another player (B), A must pay rent to B. The level of rent paid is the base level of rent for that property, unless the owner has a monopoly or houses/hotel on the property.
Actors:	Player <<Primary>>
Pre condition:	Execution of "Move Player" use case results in a player landing in a property that has been previously purchased
Flow:	Main (success) Flow: 1. System intimates user that player had landed on a property that is owned by another player. 2. Player requests the system to evaluate the rent 3. System displays the rent 4. Player authorizes payment of the rent 5. System updates the balance of both players and displays the bank balance of the current player
	Alternate Flow after step 2: 2.1. System states that the property owner has a monopoly or houses/hotel on the property 2.2. Player requests the system to display the total rent to be paid 2.3 Go to Step 4 of the main flow Alternate Flow after step 4: 4.1 System states that Player's bank balance is less than the rental amount
Post Condition:	Player who pays the rent for the property has the rental amount debited from his/her balance. Player who owns the property has the rental amount credited to his/her balance.