



INFORMATICS
INSTITUTE OF
TECHNOLOGY

Coursework 2 (OOP) 5COSC001W

Informatics Institute of Technology

Department of Computing

Module: 5COSC001W – Object Oriented Programming

Coursework 2

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Functional Requirements

A functional Requirement is a function of a system or it's component. A function is described as a set of inputs, the behavior and outputs. Functional requirements may be calculations, technical details, data manipulation and processing and other specific functionality that define what a system is supposed to do. Behavioral requirements describing all the cases where the system uses the functional requirements are captured in use cases.

- **Add Coins**

I used this as a functional requirement. Because as the definition, User can add coins to the Game. But Initial coins are set to 10.

- **Display Credits**

I used this as a functional Requirement. Because User can see the credits he/she has or total of won credits and remaining credits. And it also a function of the system.

- **Bet One**

I used this as a functional Requirement. Because User can Bet only one credit to game if he/she wants. It will deduct that amount from the credits user has. And also it will add this amount to bet credits that can see from Bet Area.

- **Bet Max**

I used this as a functional Requirement. Because User can Bet maximum amount of credits to the game. The maximum amount of credits is set to 3. It will deduct that amount from the credits. And also it will add this amount to bet credits that can see from Bet Area.

- **Reset**

The user can Reset the credits that he/she has bet to first amount.

- **Display Bet amount in Bet Area**

The reason that I used this as a functional Requirement, Because User can see the betted amount via this label.

- **Spin Action**

The Main function of this system is this. User can Spin the Reels Using this Button. The each reel will show a new symbol that selected by randomly.

- **View Statistics**

The User can view the Statistics such as Wins, Loses, Average number of Credits that user netted/betted. *****explain the reason to JTextfield that used!!****

- **Save Statistics**

By clicking Save Statistics Button, The System will print the details to a .txt file , if user want them to save.

- **Display Won Message**

User can see the Won Message if he/she won the game. With Won Credits and matched reel details. And Change the color of matched reels.

- **Display Lost Message**

User can see the Lost Message if he/she won game. With Lost Credits details.

- **Save Statistics with the name of Date**

The System will save the statistics to a file that named the current date that user played.

Non-Functional Requirements

Functional requirements are supported by non-functional requirements which impose constraints on the design or implementation (such as performance requirements, security, or reliability).

- **Code readability**

Another programmer can read this code.

- **Code reusability**

Another programmer can use this code.

- **Code Efficiency**

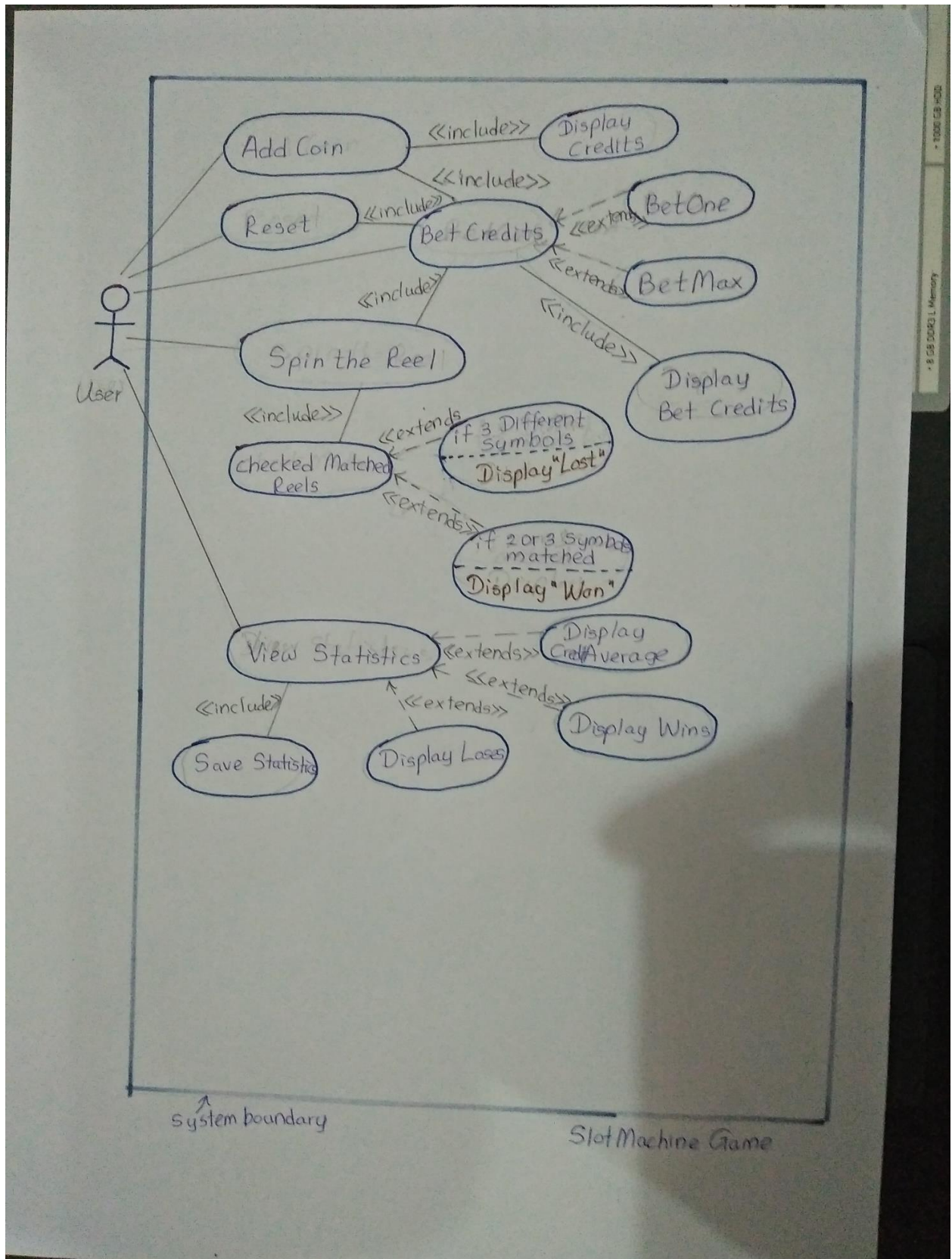
- **Randomly Populated symbols**

The User can't change the random symbols.

- **Characters, Button Alignments, backgrounds, statistics, Symbols**

The User can't change these.

Use Case Diagrams



Use Case Description for Spin the Reel

Name	Spin the Reel	
Use Case Number	001	
Priority	high	
Participating Actors	User	
Pre-Conditions	Click on Spin Button	
Triggering Event	Window Button Pressed event triggered	
Main Flow of Events	<p>Actor :</p> <ol style="list-style-type: none"> 1.clicks on Spin Button 5. click on one reel 	<p>System :</p> <ol style="list-style-type: none"> 1.check for Credits amount 3.Check for Bet Credits 4.start the Thread 6.stop the Thread 7.check matched reels 8.check win or lost 9.add betted amount to credits 10.increase wins 11.calculate won credit amounts 12.set bet amount to zero 13.display bet credits and Credits 14.display a "Won"/ "Lost" Message 15.handle Booleans to set the reel spin again.
Alt Flow 1		<ol style="list-style-type: none"> 3.if not betted, display ""Sorry but you must bet first!" 13. Go To 1.

Post Conditions	Click on another button	Post Conditions
Inclusions	admin	Inclusions

Use Case Description for Add Coin		
Name	Add coin	
Use Case Number	002	
Priority	high	
Participating Actors	User	
Pre-Conditions	Click on Add Coin Button	
Triggering Event	Add Coin button Pressed event triggered	
Main Flow of Events	Actor : 1.clicks on Add Coin Button	System : 2. checks the reel is spinning on current time. 3.update credits 4.calculate total credits 5.update label info 6.display credits
Alt Flow 1		7.if reel is spinning, 12." The game has already started! Please try again later!"

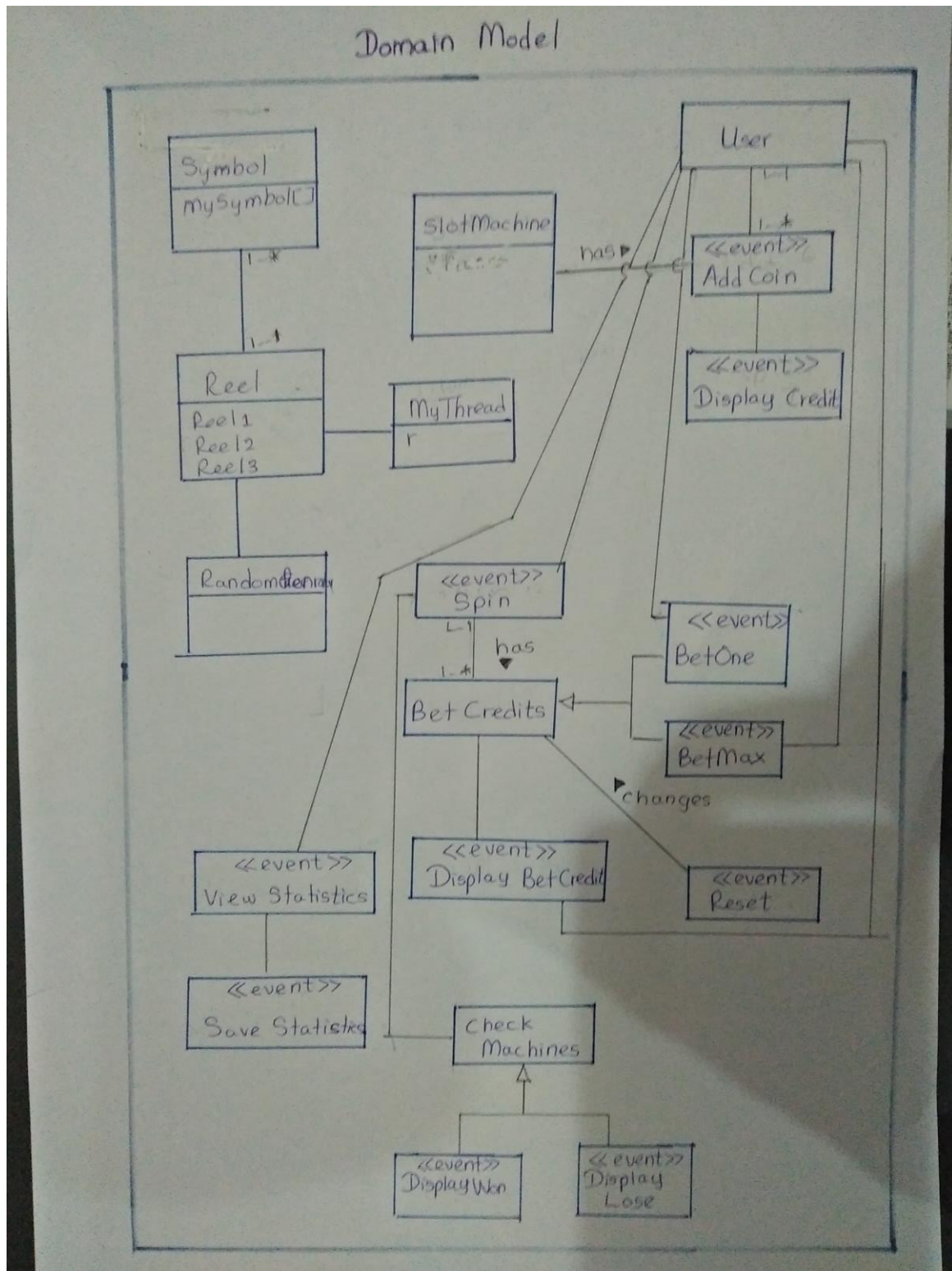
		13. Go To 1.
Post Conditions	Click on a another button	
Inclusions	admin	
Use Case Description for Bet Credits		
Name	Bet Credits	
Use Case Number	003	
Priority	high	
Participating Actors	User	
Pre-Conditions	Click on Bet Credits button	
Triggering Event	BetOne or BetMax button pressed event triggered	
Main Flow of Events	Actor : 1.click on Bet One / BetMax Button	System : 2. check the reel is spinning on current time. 3.decrease credit amount (by 1 or 3) 4.increase bet amount (1 or 3) 5.Display total bet amount 6.Display credit amount
Alt Flow 1		7.if reel is spinning, 8.” The game has already started! Please try again later!” 9. Go To 1.
Post Conditions	Click on another button	

Inclusions	admin	
Use Case Description for Reset		
Name	Reset	
Use Case Number	004	
Priority	high	
Participating Actors	User	
Pre-Conditions	Click on Reset button	
Triggering Event	--	
Main Flow of Events	Actor : 1.click on Reset button	System : 2.check for wins, loses, bet amount is zero 3. check the reel is spinning on current time. 4.calculate credit amount 5.set bet amount to zero 6.update credit amount 7.update bet amount
Alt Flow 1		2.display warning message 3display warning message
Post Conditions	Click on another button	
Inclusions	admin	

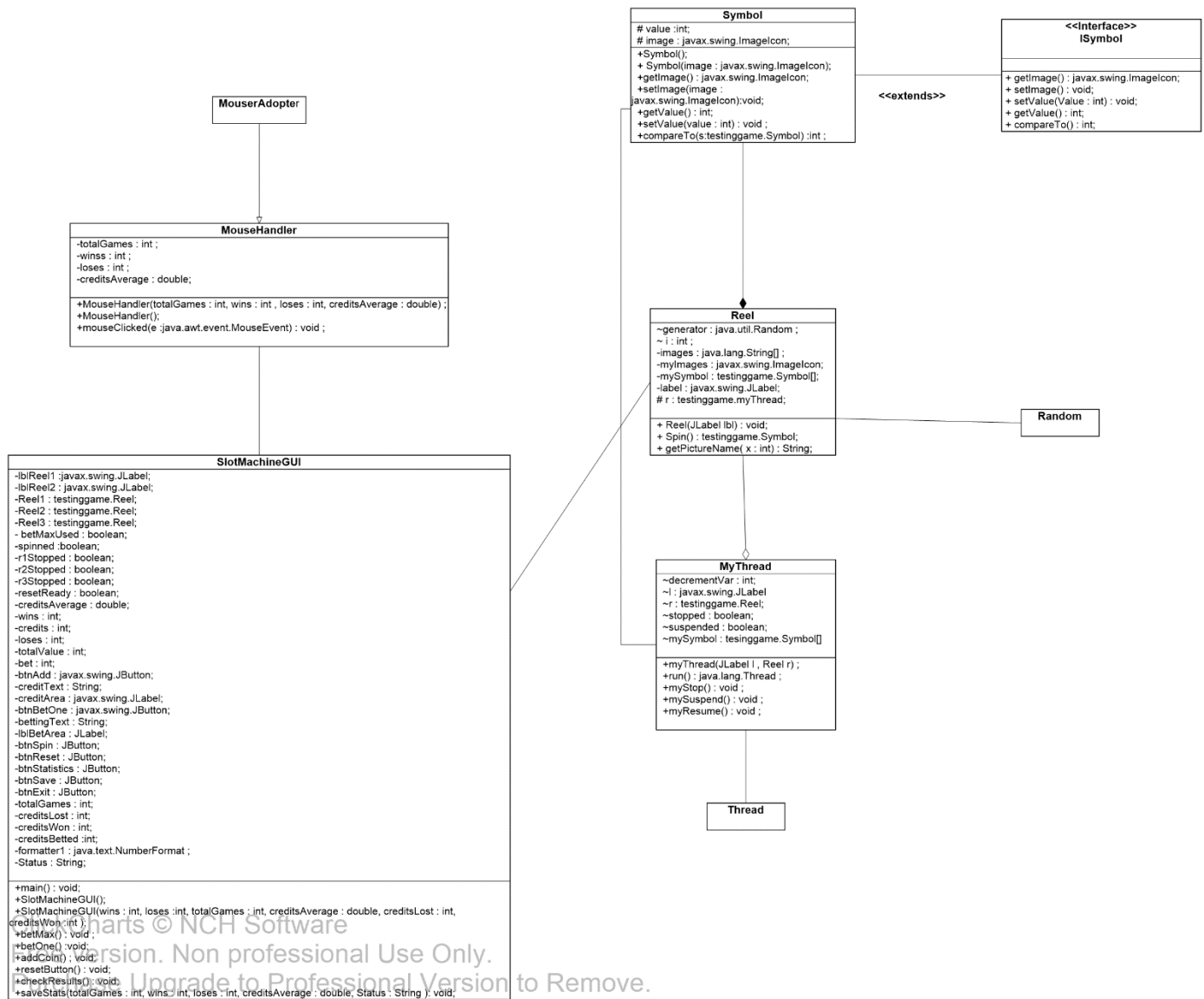
Use Case Description for Statistics

Name	view Statistics	
Use Case Number	005	
Priority	high	
Participating Actors	User	
Pre-Conditions	Click on Statistics button	
Triggering Event	Statistics Button Pressed event triggered	
Main Flow of Events	Actor : 1.clicks on Spin Button 5. click on save Statistics button	System : 2.open another window 3.display statistics 6.save details to a .txt file
Alt Flow 1		
Post Conditions	Click on another button	Post Conditions
Inclusions	admin	Inclusions

Domain Model

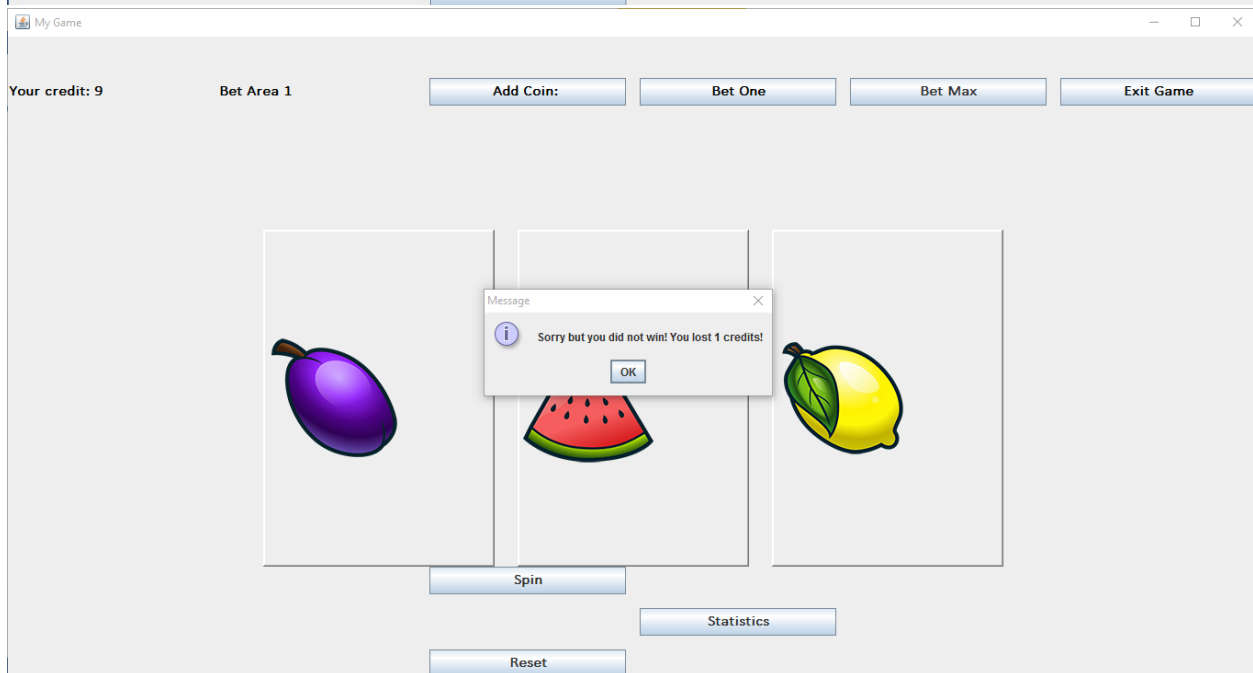


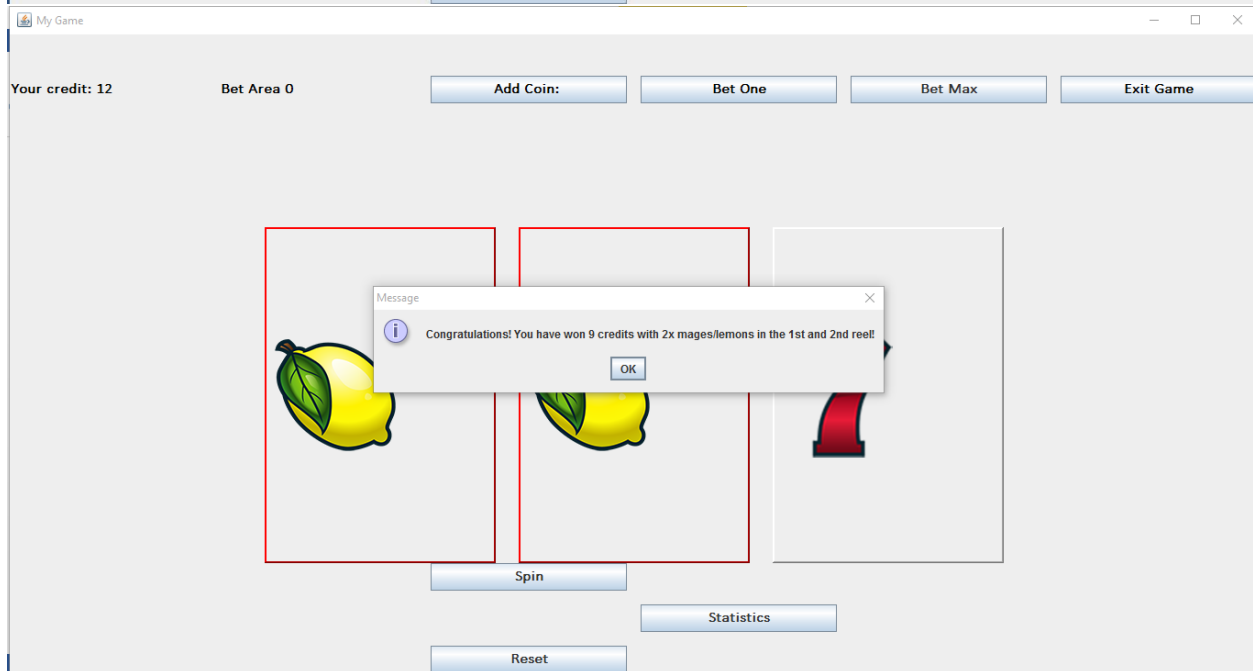
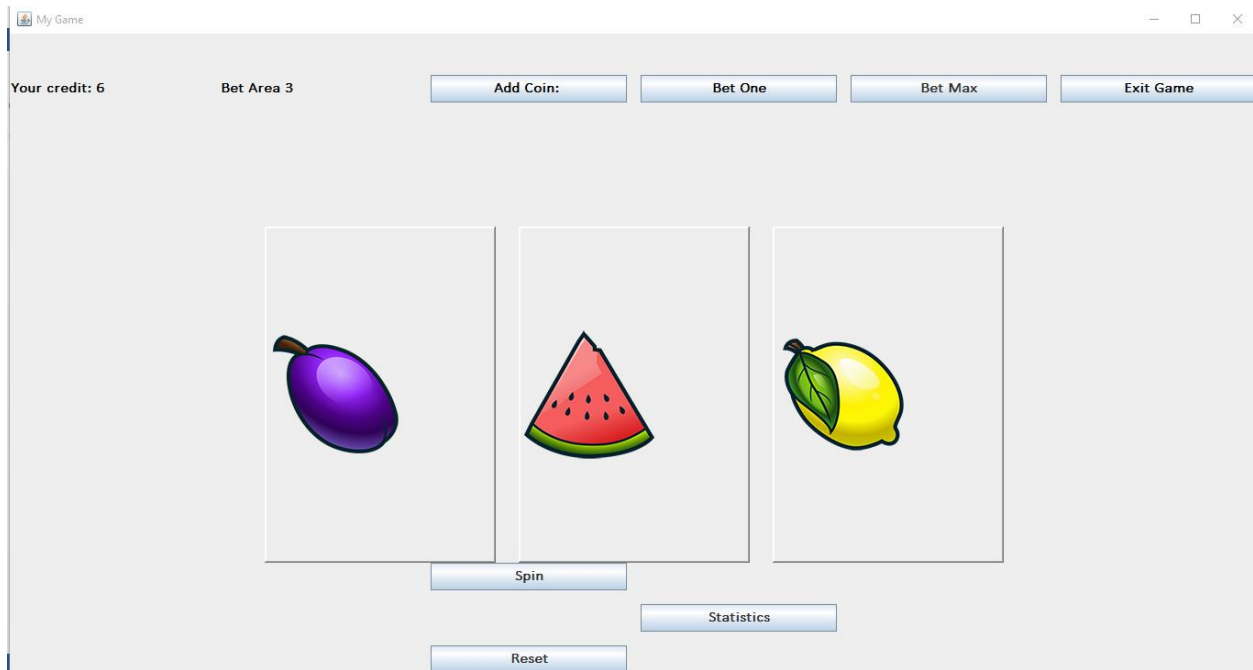
Class Diagram

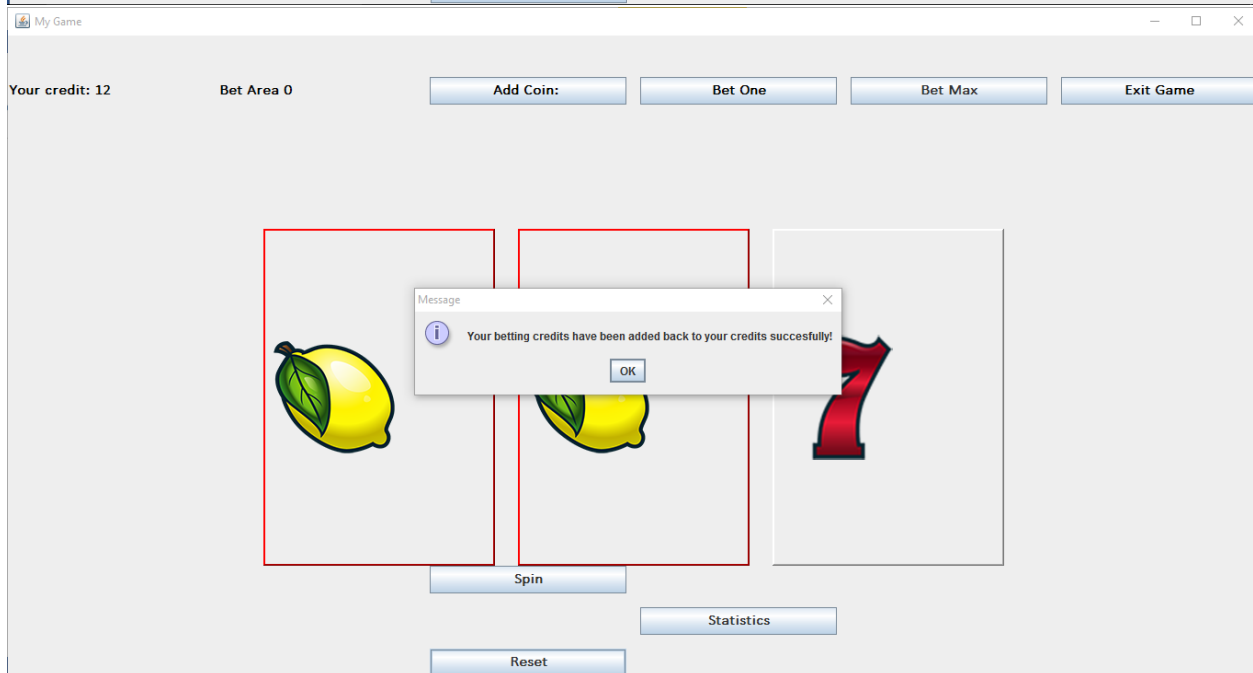
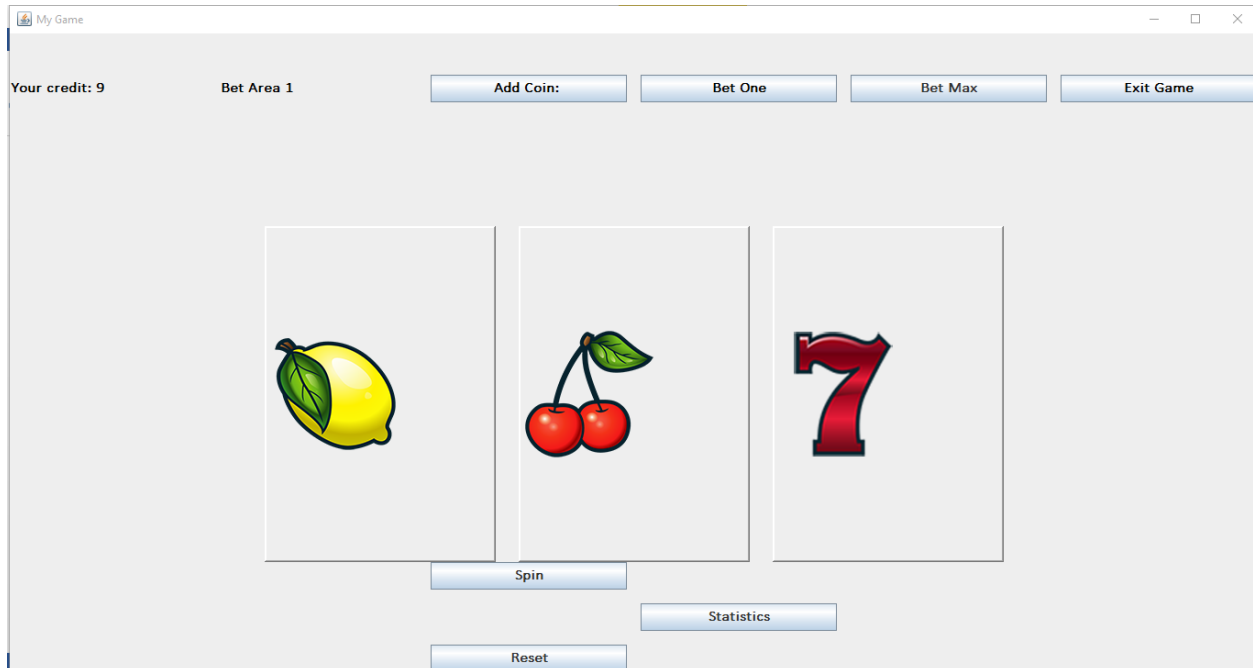


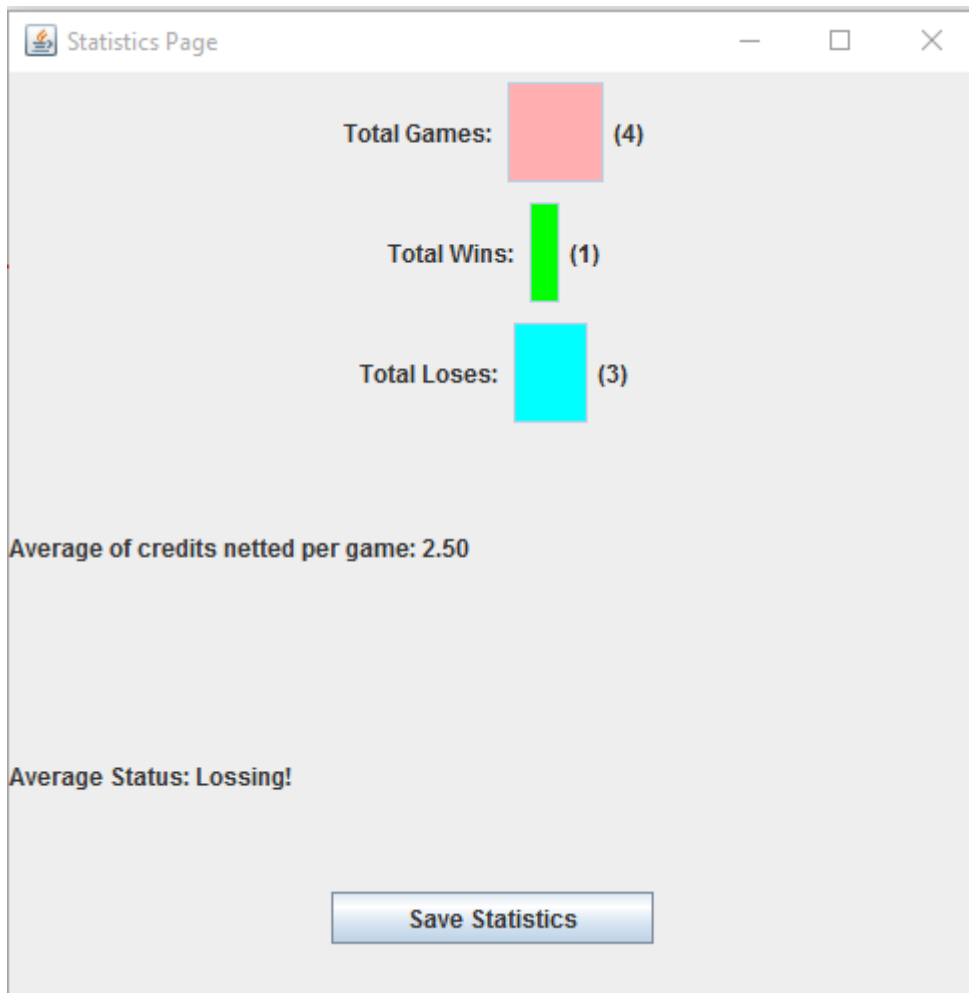
Screen Shots











20-12-2016 20-44 - Notepad

File Edit Format View Help

Total Games: 4
Total Wins: 1
Total Loses: 3
Average of credits netted per game: 2.50
Average Status: Lossing!

Testing

Black Box Testing

No	Input	Expected Output	Actual Output	Bug
1	Click add credits button	Add credits to the credit area	Add credits to the credit area	No
	Click add credits button(while spinning)	Display "The game has already started! Please try again later!"	Display "The game has already started! Please try again later!"	No
	Click on BetOne button			
	Click betOne(while spinning)	Display "The game has already started! Please try again later!"	Display "The game has already started! Please try again later!"	No
2	Click betOne button	Increase the bet area by one	Increase the bet area by one	No
	Click betOne button (without enough credits)	Display "Sorry but you don't have more credits"	Display "Sorry but you don't have more credits"	No
	Click on BetMax button			
4	Click betMax	Increase the bet area by 3	Increase the bet area by 3	No
	Click betMax(while spinning)	Display "The game has already started! Please try again later!"	Display "The game has already started! Please try again later!"	No
	Click betOne button (without enough credits)	Display "Sorry but you don't have more credits"	Display "Sorry but you don't have more credits"	No
	Spin the reel			
10	Click on Spin button	Spin the reels and Display message "GOOD LUCK!!"	Spin the reels and Display message "GOOD LUCK!!"	No
	Click on Spin button (without betting)	Display "Sorry but you must bet first!"	Display "Sorry but you must bet first!"	No
	Click on Reset Button			

8	Click on Reset button	set bet area to 3 and display "Your betting credits have been added back to your credits succesfully!"	Set bet area to 3 and display "Your betting credits have been added back to your credits succesfully!"	No
	Click on Reset button(while spinning)	Display "The game has already started! Please try again later!"	Display "The game has already started! Please try again later!"	No
	Click on Reset button(when bet area is 0)	Display "There is nothing to reset from the bet area!"	Display "There is nothing to reset from the bet area!"	No
	View Statistics			
	Click on Statistics button	Open a new Window and Display	Open a new Window and Display	No
	Click on Save Statistics button	Save details to a txt file and Display "Your stats have been saved succesfully"	Save details to a txt file and Display "Your stats have been saved succesfully"	No
	Results			
	Click on a reel (if reel1==reel2)	Stop Spinning and Display "Congratulations ! you have won 9 credits with 2 x images/lemons in the first and second reels!" Update credit area	Stop Spinning and Display "Congratulations ! you have won 9 credits with 2 x images/lemons in the first and second reels!" Update credit area	No

White Box Testing

Serial No	Function	Condition	Path
01	Add Coin	If (Add Coin is clicked)	Path 1 (True) Path 2(False) Stop
02	BetOne	If(BetOne is clicked)	Path 1 (False) Path 2(False) Path3(True) Stop

03	BetMax	If (BetMax is clicked)	Path 1 (True) Path 2 (False) Path 3 (False) Path 4 (False) Path 5 (False) Stop
04	Reset	If (Reset is clicked)	Path 1 (True) Path 2 (False) Path 3 (False) Stop
05	Statistics	If(Statistics is clicked)	Path 1 (True) Path 2 (False) Stop
06	Results	If(Spinning is stopped)	Path 1 (False) Path 2 (True) Path 3 (False) Path 4 (False) Stop