

Final Year Project Report

Project Name:

Deck shuffle



Project Advisor:

Rao Faizan Ali

Submitted By:

Hafiz Muhammad Tayyab

12003065073

Ammar Ali Khan

12003065092

Session

2012-2016

University of Management and Technology

C-II Johar Town Lahore Pakistan

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Dedication

First of all, I want to dedicate this project to all my fellows who have been a part of this project either directly or indirectly for their support, dedication, hard work and benevolence in making this project successful especially to my FYP (Final Year Project) supervisor and to my beloved parents.

We also dedicate this project to our friend who always supported us and appreciated our work. In future, when I will go to practical field, I believe, this project will be very helpful for me in all aspects.

Final Approval

Panel of Examiners

- **Head of Department**

Department of Computer Science
UMT Lahore

- **Program Director (Final Year Projects)**

Department of Computer Science
UMT Lahore

- **Supervisor**

Department of Computer Science
UMT Lahore

- **Co-Supervisor**

Acknowledgment

I thank ALMIGHTY ALLAH for giving us strength, knowledge and competence to make a modest contribution. After so many months of hard work in completing this project, it finally comes to a day of expressing our gratefulness to a number of people. I would like to extend my highest appreciation and gratitude to:

Sir Rao Faizan Ali the initiator and supervisor of this project, who has inspired me and guided me in the achievement of this dissertation. This project would have been a complete fiasco without his guidance, assistance and constructive suggestions especially in early phases. I have no words to thank him for his laborious contributions in vivifying the raw ideas.

Project Title : **Deck shuffle**

Objective : **social gamers**

Undertaken by : **UMT**

Supervised by : **Rao Faizan Ali**

Starting Date : **11-12-2016**

Completion Date : **10-09-2017**

Tools Used : **Unity 2D, Android Studio, C#, Java Script, jQuery**

Operating System : **Android operating system 4.1 (jellybeans) or higher**

Documentation : **Final project**

Plagairism Report

Abstract

The proposed game will be an android card game. Players will be able to play the game in the single player mode, where users play against the computer. The game will allow four players to play. The game will deal with in artificial intelligence and we will make further improvements by upgrading graphics and resolutions. Due to the nature of the game, the graphics will be in 2D and offer a layout and feel similar to that of the board game. We are deciding to target social gamers in near future like 3 patti or luddo star. We will compete with these games and take our game to the heights of glory by making suitable and effective changes.

REVISION CHART

Version	Primary Author(s)	Description of Version	Date Completed
Draft	Hafiz Tayyab	Initial draft created for distribution and review comments	(2-04-2016)
Preliminary	Ammar Ali Khan	Second draft incorporating initial review comments, distributed for final review	(24-08-2016)
Final	Ammar Ali Khan	First complete draft, which is placed under change control	(02-08-2017)
Revision 1	Hafiz Tayyab	Revised draft, revised according to the change control process and maintained under change control	(05-08-2017)
Revision 2	Ammar Ali Khan	Revised draft, revised according to the change control process and maintained under change control	(15-09-2017)

CONTENTS

FINAL APPROVAL.....	3
CONTENTS.....	9
DEFINITIONS AND ACRONYMS	12
LIST OF FIGURES	13
LIST OF TABLES.....	15
1. INTRODUCTION	16
1.1 MOTIVATIONS	16
1.2 PROJECT	16
1.3 OVERVIEW	16
1.3 PROBLEM STATEMENT	16
1.4 OBJECTIVES	16
2. DOMAIN ANALYSIS	18
2.1 CUSTOMER	18
2.2 STAKEHOLDERS	18
2.3 AFFECTED GROUPS WITH SOCIAL OR ECONOMIC IMPACT	18
2.4 DEPENDENCIES/EXTERNAL SYSTEMS	18
2.5 REFERENCE DOCUMENTS	19
2.1.1 Related	19
2.1.2 Feature	19
3. REQUIREMENTS ANALYSIS	20
3.1 FUNCTIONAL REQUIREMENTS	20
3.2 NON-FUNCTIONAL REQUIREMENTS	21
Technical	21
Attribute	21
Feasibility	21

Operational	Feasibility
.....21	
Specification	Feasibility
.....21	
Motivational Feasibility.....	21
Legal & Ethical	Feasibility
.....21	
3.3 LIST OF ACTORS	
22	
3.3 LIST OF USE CASES	22
3.3.1 Create	Network
.....22	
3.3.2 Join	
Network	23
3.3.3	Restrict
User.....	24
3.3.4 Play	Game
.....25	
3.3.5 Quit	Game
.....26	
3.3.6 Change	Password
.....27	
3.3.7 Leave	
Network	28
3.3.8 Store Records	29
3.4 SYSTEM USE CASE DIAGRAM	
30	
3.5 USER INTERFACES (MOCK SCREENS)	
31	
4. SYSTEM DESIGN	
34	
4.1 SYSTEM ARCHITECTURE DIAGRAM	
34	
4.2 CLASS DIAGRAM	
35	
4.3 SEQUENCE DIAGRAMS	
36	
4.3.1 Create	Network
.....37	
4.3.2 Join	network
.....38	
4.3.3 Restrict	user
.....39	
4.3.4 Play	game
.....40	

4.3.5	Quit	Game	41
4.3.6	Change	password	42
4.3.7	Leave	network	43
4.3.8	Store	records	44
4.4	COLLABORATION DIAGRAMS		45
4.4.1	Create	network	45
4.4.2	Join	Network	46
4.4.3	Restrict	Network	47
4.4.4	Play	Game	48
4.4.5	Quit	Game	49
4.4.6	Change	Password	50
4.4.7	Leave	Network	51
4.5	OTHER UMLS		52
4.6	ERD		53
5.	IMPLEMENTATION DETAILS		54
5.1	DEVELOPMENT SETUP		54
5.2	DEPLOYMENT SETUP		54
5.3	ALGORITHMS		55
5.4	CONSTRAINTS		57
5.4.1	Assumptions		57
5.4.2	System	constraints	57

5.4.3	Restrictions	57
5.4.4	Limitations	57
6.	TESTING	58
6.1	EXTENDED TEST CASES	58
6.2	DECISION TABLE	63
6.2.1	Code snippet	63
6.2.2	Decision coverage table	63
6.3	TRACEABILITY MATRIX	64
6.3.1	RID vs UCID (requirements vs use cases)	64
6.3.2	Prototypes (RID vs PID)	65
6.3.3	Test Cases (RID vs TID)	65
6.3.4	Coverage (UCID vs TID)	66
7.	RESULTS/OUTPUT/STATISTICS	67
7.1	%COMPLETION	67
7.2	%ACCURACY	67
7.3	%CORRECTNESS	67
8.	CONCLUSION	689.
	FUTURE WORK	6910.
	BIBLIOGRAPHY	7011.
	APPENDIX	72
11.1	GLOSSARY OF TERMS	72
11.2	PRE-REQUISITES	72

Definitions and Acronyms

Table 1: table of acronyms and definitions

Acronym	Definition
UMT	University of Management and Technology
DS	Deck shuffle
SAD	Software design architecture
UC	Use case
TC	Test case
RID	Requirement ID
TID	Test case identity
ERD	Entity relationship

This table simply shows the key words uses in this document. Definitions or to all the definitions of the special terms and acronyms used within this document. Provide definitions or references to all the definitions of the special terms and acronyms used within this document.

List of Figures

Figure 1: sample use case diagram with explanation	30
Figure 2: prototype 1 (P1) register a new member	31
Figure 3: Prototype 2 (P2) Shuffle Setting	31
Figure 4: Prototype 3 (P3) Shuffle the cards	32
Figure 5: Prototype 4 (P4) Players	32
Figure 6: Prototype 5 (P5) Player completions	33
Figure 7: Prototype 6 (P6) Player 2 Won!!	33
Figure 8: System Architecture	34
Figure 9: Class diagram	35
Figure 10: Create Network	37
Figure 11: join Network	38
Figure 12: Restrict User	39
Figure 13: Play game	40
Figure 14: Quit Game	41

Figure	15:	Change	
password.....			42
Figure	16:	Leave	
network.....			43
Figure	17:	Stored	
record.....			4
4	Figure	18:	Create
Network.....			4
5	Figure	19:	Join
Network.....			
....			46
Figure	20:	Restrict	
Network.....			47
Figure	21:	Play	
Game.....			48
Figure	22:	Quit	
Game.....			49
Figure	23:	Change	
Password.....		Figure24: Leave	50
Network.....			51
Figure	25:	Domain	
model.....			52
Figure	26:	ERD	
Diagram.....			53

List of Tables

Table 1: table of acronyms and definitions	12
Table 2: list of stakeholders	18
Table 3: UC01	22
Table 4: UC02	23
Table 5: UC03	24
Table 6:	
UC04	
...25 Table	
7:UC05	

.....26 Table 8:

UC06.....

....27

Table 9: UC07.....28

Table10: UC08.....29

Table11:Basics sequence Diagram.....36

Table12: TC01.....58

Table12: TC01.....59

Table13:TC02.....60

Table14: TC03.....61

Table15: TC04.....62

1. INTRODUCTION

1.1 Motivations

The project proposed by our group is android based. We decided to compile this project by keeping in view the increasing number of online social gamers. The main aim of our project is to create an online cards game. We know that already a high number of card game are online available. However the one we decided to make will be first of its kind. This will help social gamers to enhance their gaming skill as we aim to provide them free virtual credit to bet on games worldwide.