

Final Year Project Report

LAST CARD



Project Advisor:

Ilyas Butt

Submitted By:

Jawad Ahmed	14024020089
Muhammad Ahmad	14024020224
Adeel Najeeb	14024020142

Session

2014-2018

University of Management and Technology

C-II Johar Town Lahore Pakistan

Dedication

We dedicate this work to our beloved parents for always supporting us, because they are the driving force in our life and career. Without their love, none of this would matter. Throughout our life, they have actively supported us in our determination to find and realize our potential, and to make this contribution to our world.

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

We say thanks to each person who had contributed in the completion of our project. We express our utmost respect to our Project advisor, Ilyas Butt for his invaluable advice, guidance and his enormous patience throughout the documentation and development of the product.

In addition, we would also like to express our gratitude to our loving parent and friends who had helped and gave us encouragement so that we can completed our documentation first phase successfully in given period of time.

Jawad Ahmed, Muhammad Ahmad, Adeel Najeeb

- 1) **Project Title:** Last Card
- 2) **Supervised by:** Ilyas Butt
- 3) **Starting Date:** 01 February 2018
- 4) **Completion Date:** 03 June 2018
- 5) **Tools Used:** Unity3d, Photoshop
- 6) **Operating System:** Window, Android

PLAGIARISM REPORT:

ABSTRACT

The project title is “LAST CARD”. This is a Unity based game application. The main objective of this application is to provide the entertainment to the people. So that they can spend good time in our game. We are determined to design game application for only mobile users. In this project we are using the latest programming language and tools for backend and front end like blender for designing and backend we will use C-sharp language. This product is much needed in the market right now and with proper support we can hit the market really well and till date we have no competitors. People use this game application and enjoy the main features of our applications like multi player and single player. Our game is user friendly and everyone can easily use their all features. We connect social media and share profile on it. In future we will plan to add more features on our application and make more attractive. And we will launch our application on play store and app store.

CONTENTS

Contents

Plagiarism Report: Abstract	6
Contents.....	1
List of Figures & Prototypes	3
1 Introduction	3
1.1 Motivations.....	5
1.2 Project Overview	5
1.3 Problem Statement.....	5
1.4 Objectives.....	6
2. Domain Analysis	7
2.1 Customer	7
2.2 Stakeholders	7
2.3 Affected Groups with social or economic impact	8
2.4 Dependencies/ External Systems.....	9
2.5 Reference Documents.....	9
2.5.1 Related Projects.....	9
2.5.2 Feature Comparison.....	10
3. Requirements analysis	11
3.1 Nonfunctional Requirements.....	11
3.2 Functional Requirements.....	12
3.2 List of Actors.....	13
3.3 List of use cases.....	13
3.4 System use case diagram	14
3.5 Extended use cases	15
3.6 User interfaces (mock screens).....	22
4. System Design	27
4.1 System Architecture Diagram	27
4.2 Class Diagram	28
4.3 Sequence Diagrams	29
4.4 Collaboration Diagrams.....	30
4.5 Other UMLs	31
4.6 ERD.....	31
5. Implementation details	32

5.1 Development Setup	32
5.2 Deployment setup.....	33
5.3 Algorithms.....	33
5.4 Constraints.....	33
5.4.1 Assumptions	33
5.4.2 System constraints.....	33
5.4.3 Restrictions.....	33
5.4.4 Limitations.....	33
6. TESTING	34
6.1 Extended Test Cases.....	34
6.1.1 First login (sign up)	34
6.1.2 Auto login (sign in)	35
6.1.3 Offline match.....	36
6.1.4 Online auto-match	37
6.1.5 Create room for online match with friends.....	38
6.1.6 Join room for online match with friends	39
6.1.7 Match start.....	40
6.1.8 Auto-Match required players not joined.....	41
6.1.9 In game chat	42
6.2 Decision Table.....	43
6.3 Traceability Matrix.....	43
6.3.1 RID vs UCID (requirements vs use cases)	43
6.3.2 Prototypes (RID vs PID)	44
6.3.3 Test Cases (RID vs TID)	44
6.3.4 Coverage (UCID vs TID)	45
7. RESULTS/Output/Statistics	46
7.1 %completion.....	46
7.2 %accuracy	46
7.3 %correctness.....	46
8. CONCLUSION	47
9. FUTURE work	48
10. BIBLIOGRAPHY	49
10.1 Books.....	49
10.2 Other References	49

List of Figures & Prototypes

Contents

Plagiarism Report: Abstract	6
Contents.....	1
List of Figures & Prototypes	3
1 Introduction	5
1.1 Motivations.....	5
1.2 Project Overview	5
1.3 Problem Statement.....	5
1.4 Objectives	6
2. Domain Analysis	7
2.1 Customer	7
2.2 Stakeholders	7
2.3 Affected Groups with social or economic impact	8
2.4 Dependencies/ External Systems.....	9
2.5 Reference Documents.....	9
2.5.1 Related Projects	9
2.5.2 Feature Comparison.....	10
3. Requirements analysis	11
3.1 Nonfunctional Requirements.....	11
3.2 Functional Requirements.....	12
3.2 List of Actors.....	13
3.3 List of use cases.....	13
3.4 System use case diagram	14
3.5 Extended use cases	15
3.6 User interfaces (mock screens).....	22
4. System Design	27
4.1 System Architecture Diagram	27
4.2 Class Diagram	28
4.3 Sequence Diagrams	29
4.4 Collaboration Diagrams.....	30
4.5 Other UMLs	31
4.6 ERD.....	31

5. Implementation details	32
5.1 Development Setup	32
5.2 Deployment setup.....	33
5.3 Algorithms.....	33
5.4 Constraints.....	33
5.4.1 Assumptions	33
5.4.2 System constraints.....	33
5.4.3 Restrictions.....	33
5.4.4 Limitations.....	33
6. TESTING	34
6.1 Extended Test Cases.....	34
6.1.1 First login (sign up)	34
6.1.2 Auto login (sign in)	35
6.1.3 Offline match.....	36
6.1.4 Online auto-match	37
6.1.5 Create room for online match with friends.....	38
6.1.6 Join room for online match with friends	39
6.1.7 Match start.....	40
6.1.8 Auto-Match required players not joined.....	41
6.1.9 In game chat	42
6.2 Decision Table.....	43
6.3 Traceability Matrix.....	43
6.3.1 RID vs UCID (requirements vs use cases).....	43
6.3.2 Prototypes (RID vs PID)	44
6.3.3 Test Cases (RID vs TID)	44
6.3.4 Coverage (UCID vs TID)	45
7. RESULTS/Output/Statistics	46
7.1 %completion.....	46
7.2 %accuracy	46
7.3 %correctness.....	46
8. CONCLUSION	47
9. FUTURE work	48
10. BIBLIOGRAPHY	49
10.1 Books.....	49
10.2 Other References	49

1 INTRODUCTION

The project we are working on is a multiplayer cards game named Last Cards. It is a card game involving the 52 cards deck as other card games but it is different in rules playing sequence and its way of presenting cards, value of each card is different and scoring strategy is different according to its rules. Maximum number of players that will be allowed in our game will be four.

We are determined to develop this application mostly for Mobile (android) users but we are also interested to make this game available on the ios device users like iPhone and pc (windows) users. We have collected data about almost all similar card games and till date we don't have much of competition but to the most probability we will be able to hit the market as there is no Last card multiplayer game live on play store.

1.1 Motivations

The things that motivated us at first place was the emerging era of game development around the world. The second thing that motivated us the most is that we ourselves are Gamers, we play games understand them better and are sure to come up with the best way possible to make games at our best. We are motivated as we will get exposure to the game development industry as we are keen to pursue our futures as game developers.

1.2 Project Overview

As mentioned in the introduction we are developing an entertainment a multiplayer cards game named as Last Cards. In this game the four players will be able to play and interact with other players. The players will be allowed to play with the Ai build in the game to play solo and to practice their skill set according to the game rule to get more and more scores during the multiplayer while playing with different people with different kind of IQ levels.

1.3 Problem Statement

As most of the card games are offline or are arcade the players are only playing with the same developed Ai always and there is no human competitor and there is no variation of decisions his game playing skill will not improve. As internet has already become the need of the hour and everything is going online our game will allow the players to get entertained as there will be players coming against them from around the world and will increase his interest in the game and his entertainment time will be in better quality.