



# Tecnológico de Monterrey

## Advanced Programming Blackjack

Professor: Gilberto Echeverría

Antony Adrián Morales A01019582

Esmeralda Magdaleno A01023086

## Table of Contents

<i>Project Description .....</i>	<i>3</i>
<i>User manual .....</i>	<i>4</i>
<i>Packages and dependencies .....</i>	<i>4</i>
<i>Compiling the project .....</i>	<i>4</i>
<i>Technical Description .....</i>	<i>5</i>
<i>Files organization.....</i>	<i>5</i>
<i>Files Description .....</i>	<i>6</i>
<i>References.....</i>	<i>6</i>

## Project Description

This project is a full version of a casino Blackjack 21 game with graphical interaction. The server works like the dealer and the players (clients) can join the game and play at the same time. Every player will try to reach 21 or the closest value without going over.

The project goal is to apply the concepts we saw on the advanced programming course and it has the following features:

- Normal blackjack algorithm
- The dealer controls the casino operations
- Every player has a credit and can make bets
- The player can hit, stand, double and surrender
- It is a multiplayer game, if the game has already started the player will be placed in a waiting queue

The project is developed in C++ and SFML library.

# User manual

## Packages and dependencies

- SFML v2.5.1

## Compiling the project

After downloading the project open a terminal and run the Makefile provided:

```
esmeralmagdalenomoraes@Esmerals-MacBook-Pro ~/Documents/ITC/Octavo Semestre/Programación Avanzada/BlackjackMX/BlackjackMX (network)
$ make
g++ mainClient.o sockets.o gameInterface.o game.o -o mainClient -lsfml-graphics -lsfml-audio -lsfml-window -lsfml-system -lsfml-netw
ork -lm
```

Next, you'll need to open different terminals

The first one to run the server with the following command: (it is important to use the 53000 port to run the program):

```
./mainServer 53000
```

Then you'll need one for the client or clients with the following command:

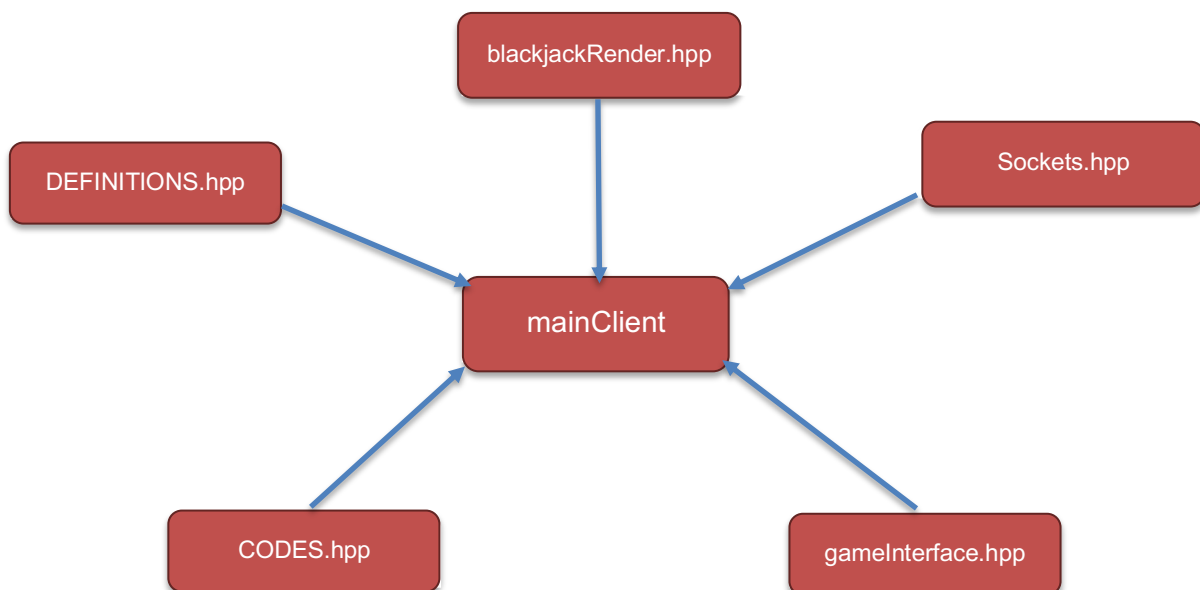
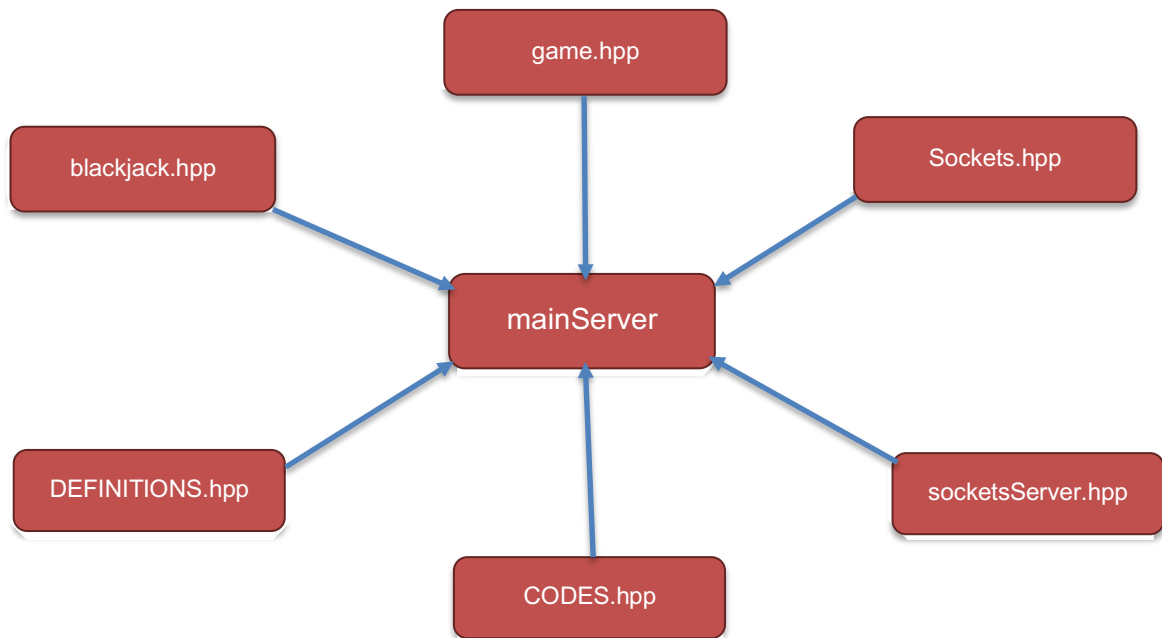
```
./mainClient
```

```
esmeralmagdalenomoraes@Esmerals-MacBook-Pro ~/Documents
$ ./mainServer 53000
***** BlackjackMX Server *****
[Server] Listening on port: 53000
[Server] Conection established with: 10.49.95.119:52546
Player init: 0
New player Usuario807 port 52546
[Server] Conection established with: 10.49.95.119:52547
Player init: 0
New player Usuario249 port 52547
```

The game window will display when running the client.

# Technical Description

## Files organization



## Files Description

1. **mainServer:** this file gets the port parameter and initializes the socketServer class to wait for connection
2. **mainClient:** initializes the gameInterface class
3. **blackjack:** This file has all the clases that will be exectued on the server
4. **blackjackRender:** This file has all the clases that will be rendered in the game window and in the mainClient
5. **CODES:** This file has all the typedefs that are used in the game to send to exchange data between server and client.
6. **DEFINITIONS:** This file has all the program definitions
7. **game:** This file has all the game logic and the blackjack algorithm, it uses the blackjack classes
8. **gameInterface:** In this file threads are used to render the window and to
9. **sockets:** This file has the sockets main logic, the sfml, and the sockets class for the client.
10. **socketsServer:** This file has the sockets main logic, the sfml, and the sockets class for the server.
11. **Makefile:** This file helps us compile the program.

## References

Simple and Fast Multimedia Library. (n.d.). Retrieved from <https://www.sfml-dev.org/index.php>

C Programming Language. (n.d.). Retrieved from <https://www.geeksforgeeks.org/c-plus-plus/>

Natri, S. (n.d.). Makefiles (C Tutorial, SFML). Retrieved from <https://samulinatri.com/blog/makefiles-cpp-tutorial-sfml/>

The C Resources Network. (n.d.). Retrieved from <http://www.cplusplus.com/>

Professor Gilberto Echeverría Advanced Programming class material.