SRS Documentation

# Lab Group: 171

**Group Members(Name and roll number)**:

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* **Introduction:**

­The aim of the project is to design a carrom-like game using C++. The reason of picking up this project is not only fun but also the learning that comes along with it. Designing a game like carrom might seem unimportant from a particular viewpoint. But it is the easiest way to understand how to handle problems with graphics in C++. It gives us an understanding of how particular objects can be made to appear like they’re moving by simply erasing and drawing it again over and over again at a different position. It is notable how simple laws of physics can turn out to be tough to apply in C++. But it’s a challenge we accepted. So, all in all, the project chosen by our team is an effort to put our knowledge and understanding of C++ to the test by creating something which can both be fun to create as well as play.

* **Purposes**:

The project is aimed at designing a carrom-like game using C++, and with graphics built using the EZWindows graphics library. The game requires two players, and does not permit a single player to compete against a computer opponent. The rules that follow are quite similar to those of the traditional carrom (explained later).

* **Outline:**

The game requires each player to move a carrom striker piece using the mouse until positioned as desired within the base lines running along each side of the board. Once positioned appropriately, the player must target a particular direction to shoot towards using the mouse. After doing so, the player must shoot the striker with an appropriate amount of force (which can be done using the mouse to select the power level from the power bar) at the carrom pieces and pocket those. Each piece has a particular point value. Pocketing the striker will result in negative points being awarded.

* **Game Rules:** As stated above the game is similar to the game popularly known as “carrom”, said to be introduced by India. The game is designed for two players. Both players get alternate turns to shoot. The “striker” is used to shoot other pieces on the board. The striker has to be placed between the base lines. There are 20 pieces, five of each of the following colors: Red, Blue, Black and Green. Each color has an associated value to it:

Cyan – 50 points

Blue – 40 points

Green – 25 points

Black – 10 points

All colors are open to both players and they score points corresponding to the piece they sink. For sinking the “striker” a penalty of 10 points is given. At the end of the game, the person with more points wins.

* **Implementation:**

Firstly, and introductory page was created displaying the different options available for the user such as How to play, Credits, Start game and Exit game. Each of the different pages were designed using EzWindows. The background of the carrom was created using EZWindows. The movement of pieces was shown using simple loops to create and erase the pieces over and over again at different positions to give the feeling of movement. The collision with other pieces and the walls of the carrom was shown by implementing simple physics laws of collision. Changing the line of motion by manipulating co-ordinates of the piece is an easier way to put it. Two objects named player\_1 and player\_2 were created and their scores maintained assigning points on every sink of a piece or the striker. And in the end the scores are displayed.

* **Division of Work:**
* **SRS Documentation:**

Vivan, Vamsi, Tejas

* **Background Code for Collisions:**

Tejas, Vivan, Vamsi

* **Graphics:**

Tejas, Suresh, Sunny, Sai Krishna, Vipul, Tarkeshwar

* **Game Controls:**

Tejas, Vamsi, Vivan, Sunny, Tarkeshwar