CS101 PROJECT

Ultimate Brick Breaker

Team ID - 275

Ayan Mandal (Team Leader) (140070034)

Pankaj Kumar Meena (14D070037)

Akshay Kumar (140040114)

Santosh Meena (140040067)

Contents

Introduction

This project is about a game named 'Ultimate Brick Breaker' made in C++ using **SimpleCPP** graphics library. It is a single player game which was made by us just for entertainment purpose. It is a very interesting and refreshing game and has about 5 different levels of different difficulties, so that the player doesn't get bored.

Problem Statement

Writing the code for the game is relatively simple for beginners using basic C++.

Our main aim was making the game interesting by making most out of the basic functions like loop and **initCanvas.**

We tried to make this code as user friendly as possible. For the same reason we wrote this programme in **SimpleCPP** graphics library, so that the user can easily understand the code.

Requirements

Our project is a software project, so you don't any hardware component other than a computer system.

To play this game you should have a system having **Code::Blocks** installed in it along with **SimpleCPP** graphics library.

The player gives the input to move the board using a keyboard, so you'll need a keyboard also.

Implementation

Functionality of the Programme:-

1) The brick pattern was printed on the screen using `Rectangle` in **SimpleCPP**. We used `for loop` for large and symmetric patterns. Special bricks which break after two collisions were given different colour.

2) To move the 'ball' and the 'board' separate functions were created for each of them.

3) For the 'special power' hidden in the bricks a `while loop` was constructed, inside which the functions for ball and board movement were called.

Testing of the Programme

In total we created five different levels in our game.

To be sure that everything works fine, every level was tested at least five times or so to check any kind of flaw or problem. We basically tested our code for smooth motion of the board on pressing the key, continuous motion of the ball, following the laws of physics such as reflection after hitting boundary or brick, fall of the power in the proper trajectory and implementing that on successful catch, the proper breaking of strong bricks, etc.
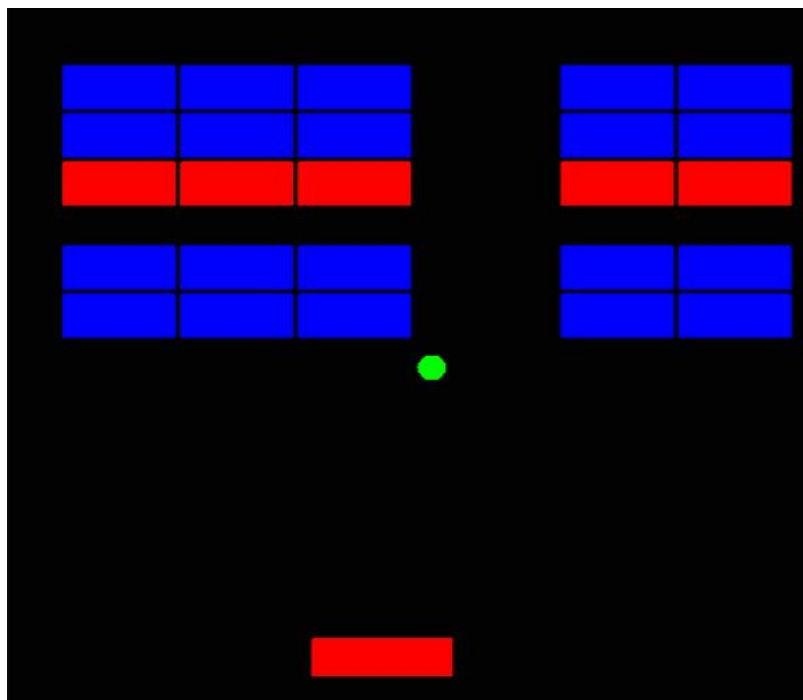
Future Work

1) The first thing which we can do is obviously using some other graphics library such as `Allegro` or `OpenGL`.

2) Also we can randomize the brick pattern and try to make the game of more levels.

3) Adding more powers like having multiple balls on the screen, something which adds a cannon to the paddle etc.

Conclusion

This game is a single player game which is very easy to play.

To play this game you need system having **Code::Blocks** installed in it.

You need to press left and right arrow keys to move the board left and right respectively.

To win the game you need to break all the bricks and just don't let the Ball fall.
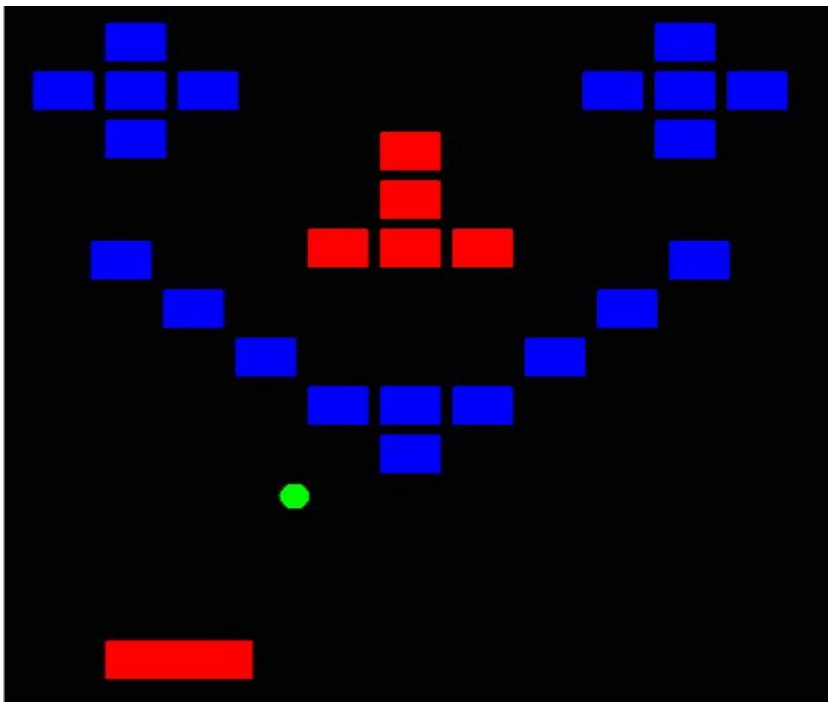
References

1) Download Code::Blocks from
   http://www.codeblocks.org/downloads/26#windows

2) **Code::Blocks** and **SimpleCPP** installation manual
   available at
   http://www.it.iitb.ac.in/frg/wiki/images/e/e8/CodeBlockManual.
   pdf

3) Video link for setting up things to be able to run this
   software
   https://www.youtube.com/watch?v=EI1Yow1hyx8