

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY



Project report

Course No : EEE 212

Course Title : Numerical Technique Laboratory

Section : A1

Level : 2 , **Term :** 1

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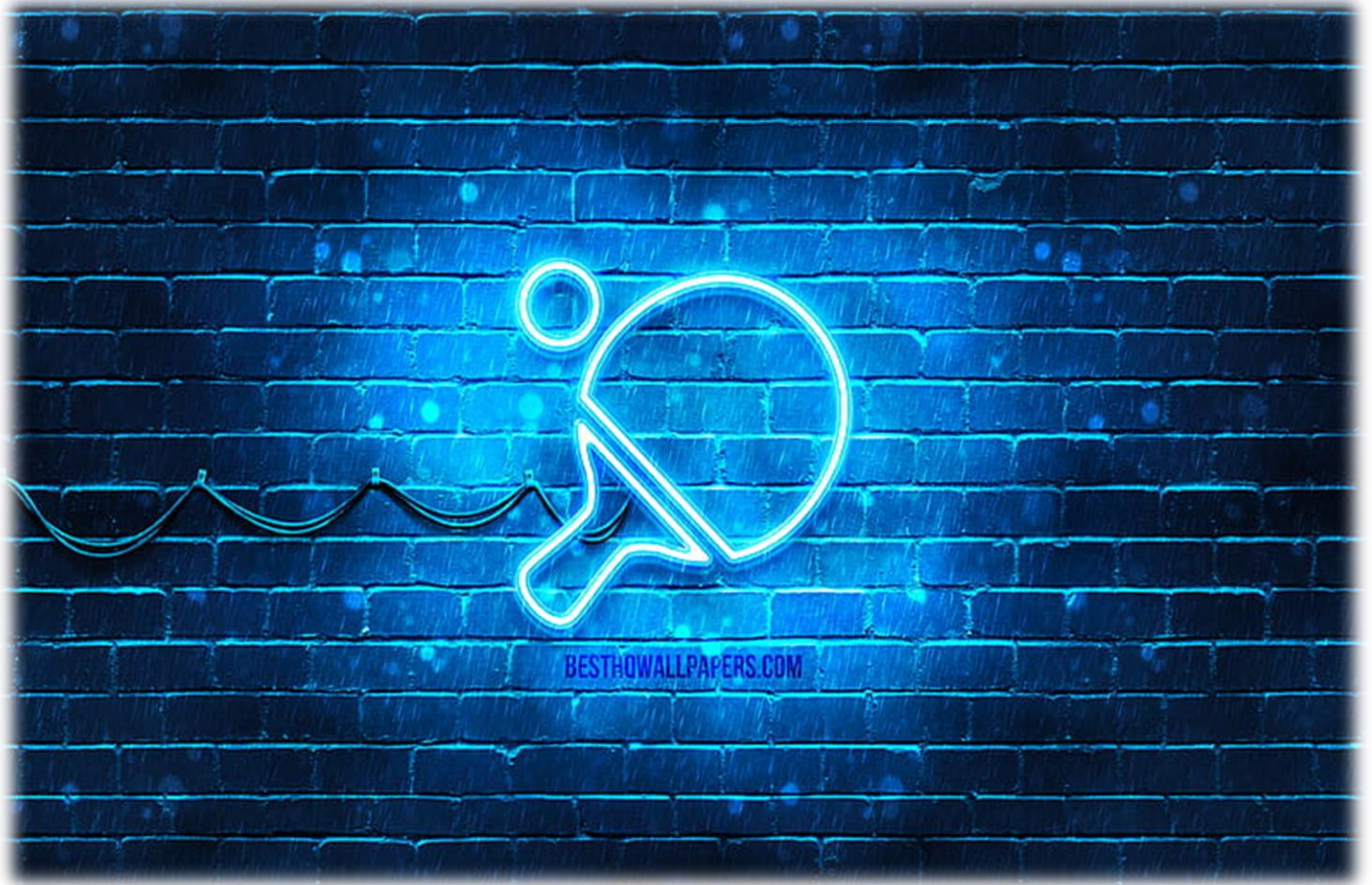
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Submitted by:

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Project Name:
THE PONG GAME



Objective:

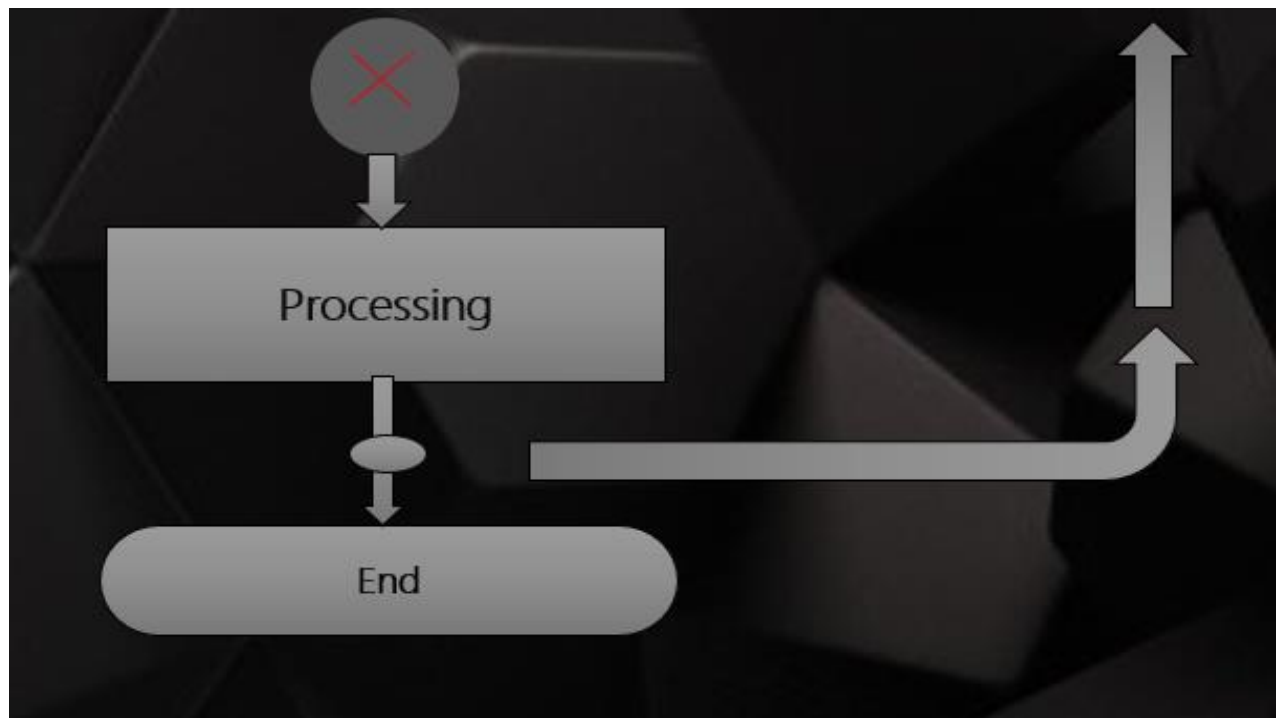
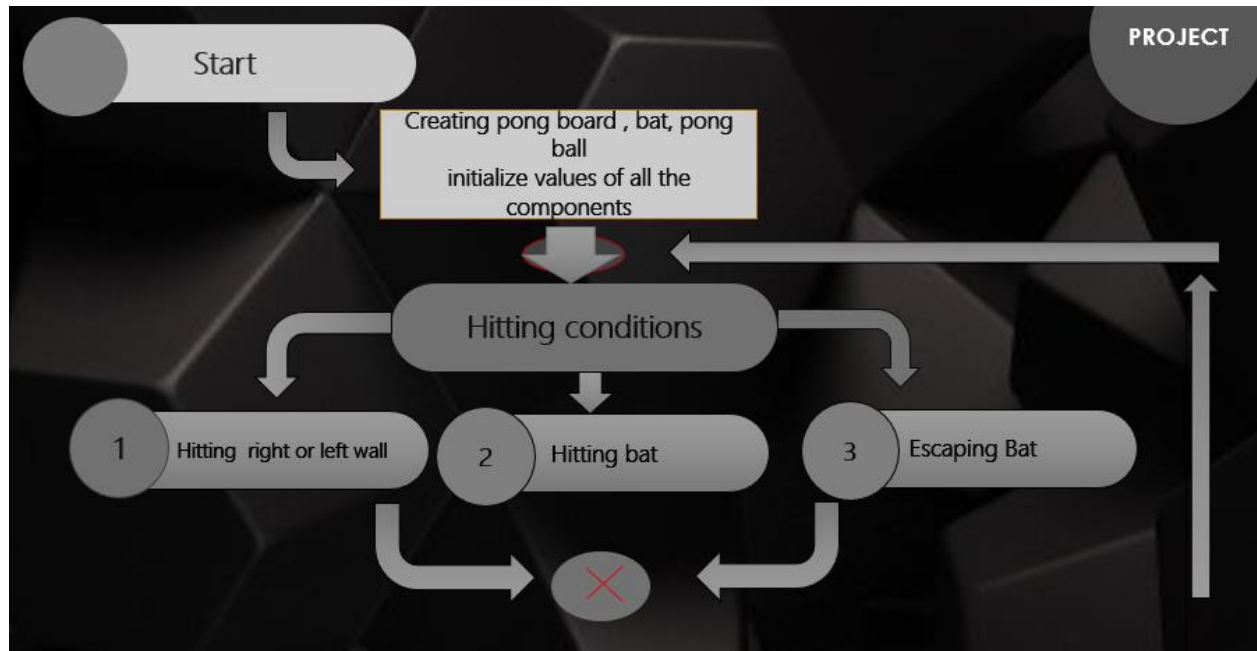
In this Project , We will present a computer game namely “ping pong” game. At first , there will be a graphical user interphase (GUI) for starting the game.as one clicks on the start button, the game starts. Two player can play this game. Player 1 “s control is inputted by RIGHT-Left Button while Player 2’s control is inputted by ‘a’ and ‘d’ button.

To make this program user friendly, We have used Graphical User Interphase(GUI) for taking inputs. Hence, the can be executed by a user with little experience on Matlab. The user can have a very good experience with playing the game as both the players can play it.

Features:

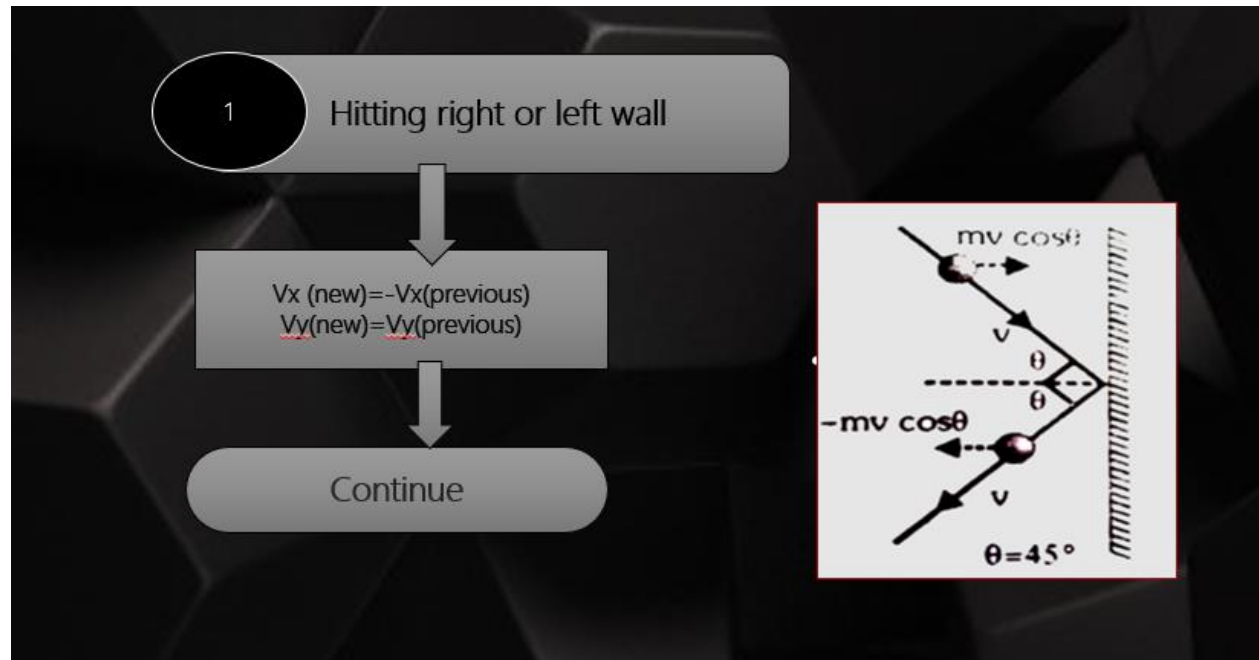
- It can take user or players input and respond .
- Two players can play the game at the same time from the same device
- Player can pause the game when they want
- The display can show each of the players score
- The code can decide who have won the game.
- Player can also play in three difficulty level

Flowchart and Algorithm:



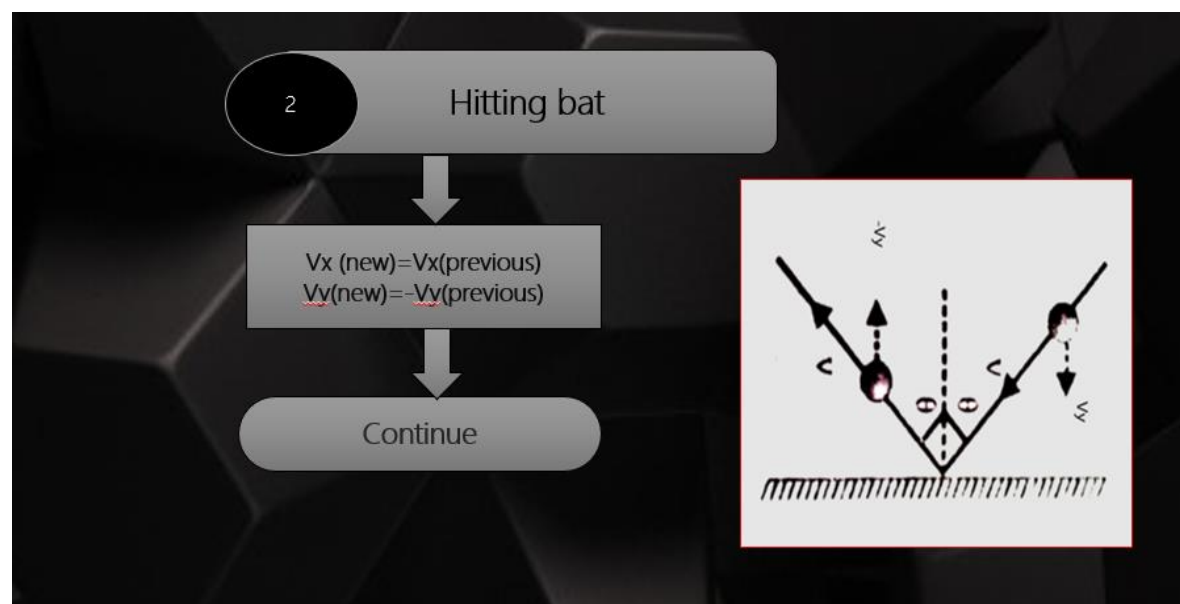
Hitting conditions :

Condition 1 :



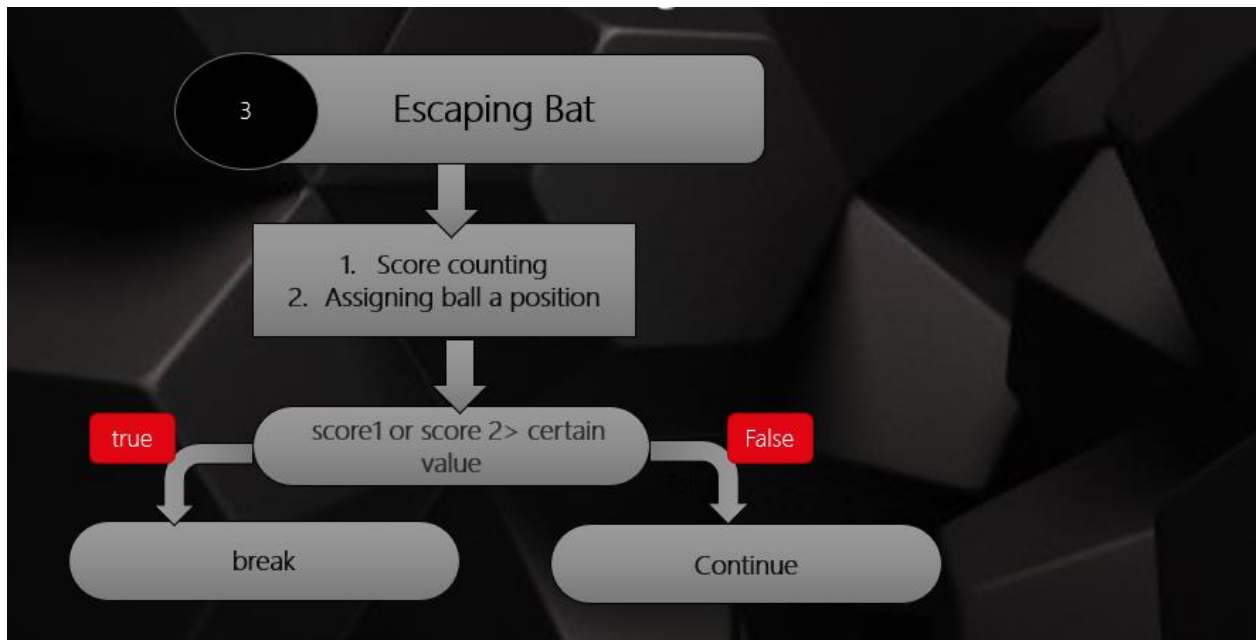
- When the ball hit right or left wall the sign of V_x will change it's sign .But V_y will remain same as previous .

Condition 2:



When ball hits any of the bat the ball will change the direction of x co-ordinate velocity. V_y will remain same .

Condition 3 :

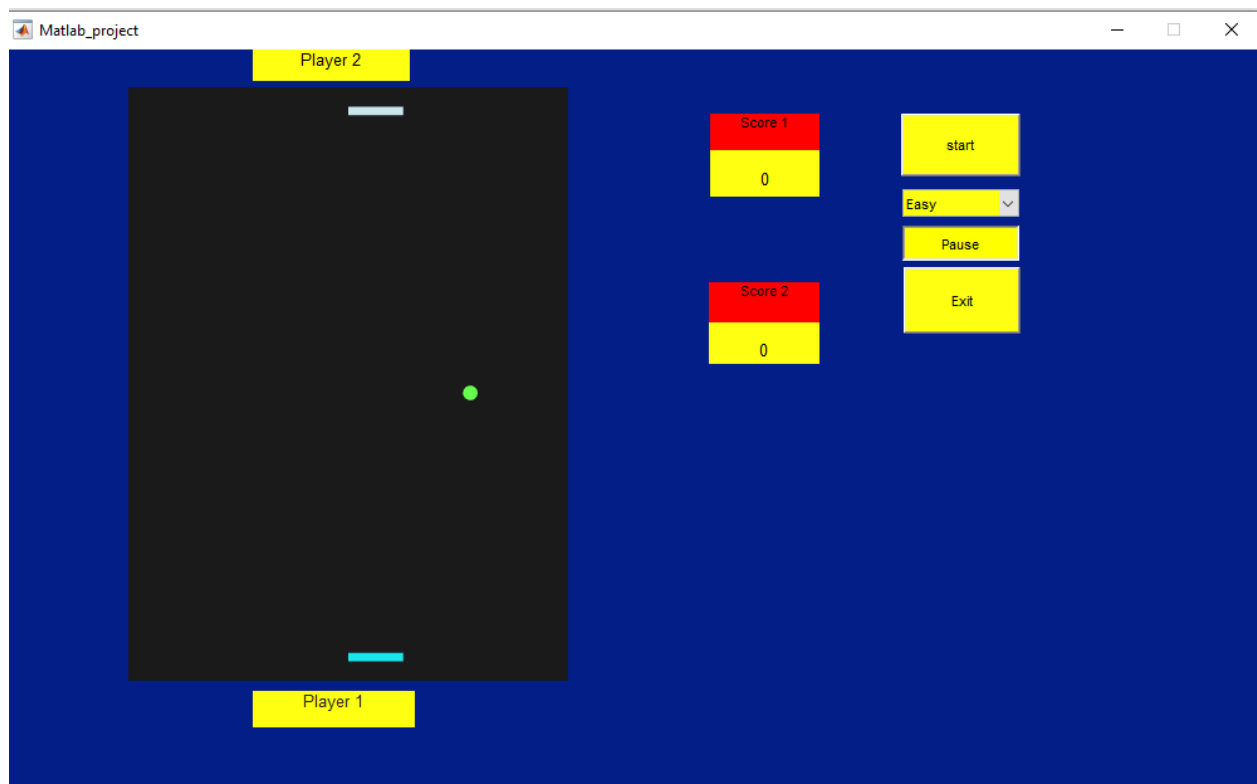


When the ball passes a bat, the score updater will update the score will update score and will assign the ball a new position.

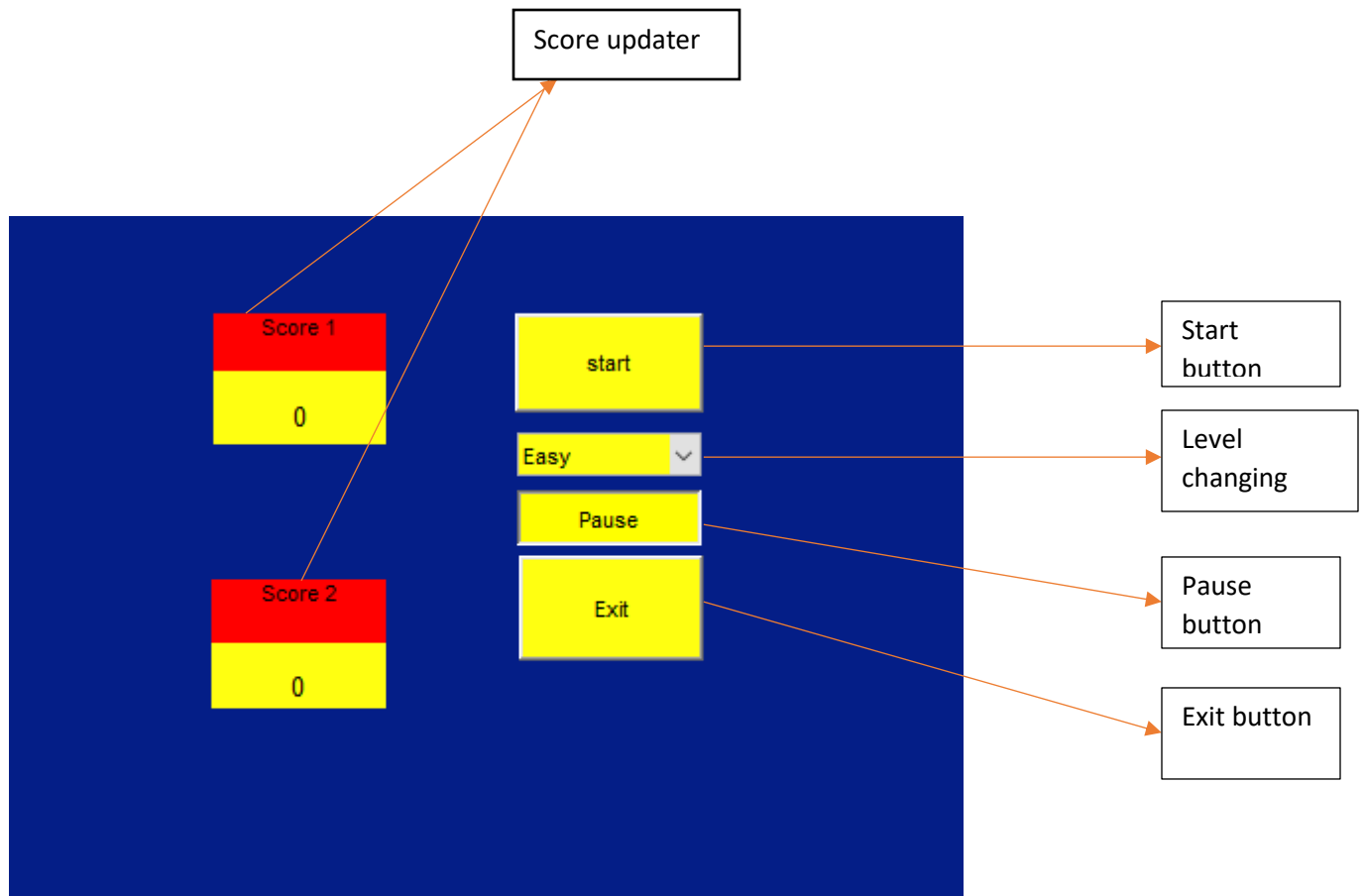
Possible Applications:

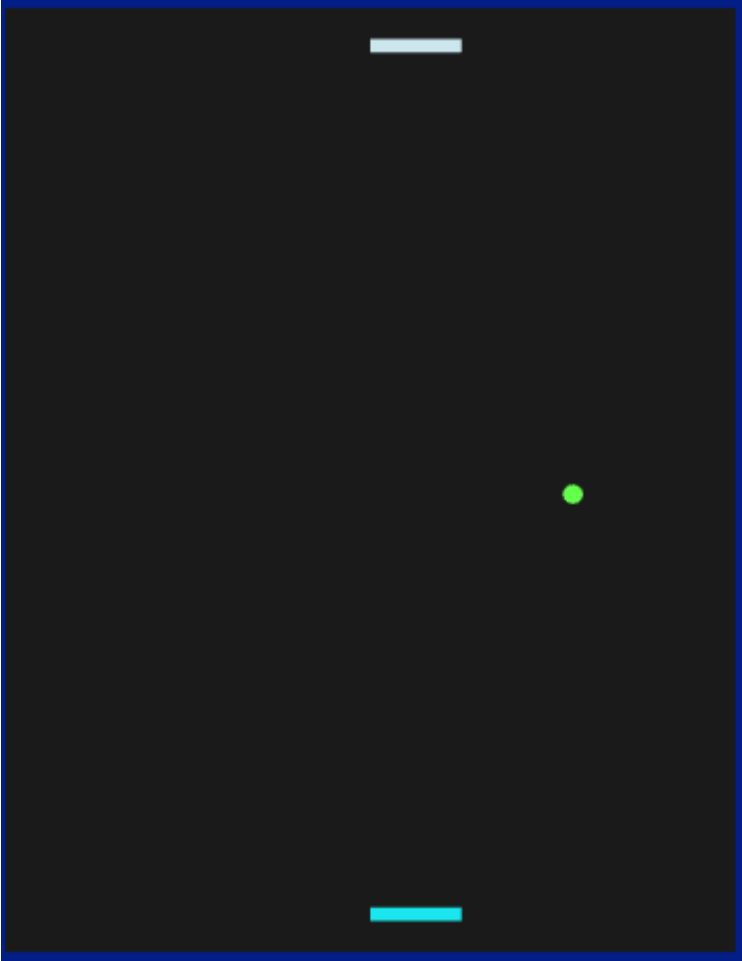
It's a great game for the children and adolescents as it does not contain any high graphics and addictive programs. It can be a source of entertainment and time passing for two gamers.

Graphical User Interphase :



GUI features:





Press 'start' button to enter into the game. Then this type of box will open up:

Player 1 will press the right left button and player 2 will use 'a' or 'd' button to move the bat.

If any player can not hit the bat. then other player will get a point. Player who will reach to the fixed point first will be the winner.

One can also see the instruction for help and can change the difficulty level. Press EXIT for leaving he game.

Accuracy:

We wanted to make a game that could count points and decide who is the winner. The code can successfully do this task .So accuracy level is quite good.

Limitations:

- We can change the board features .That will make the GUI more lucrative
- We can add music or vibration option that will make the game more user friendly.

Scope of Improvement :

These game should be played by more people to know possible improvements and making more user friendly . We can use background music to make the game more charming .

GitHub link:

https://github.com/J-H-OSSAIN/matlab_project-

Overall description:

This is a game namely “The Pong Game” using Matlab that is a high-level programming language. At first in the code, we have used a GUI to declare variables.

Then we have created a pong board, bat, and ball and scaled the board. The basic logic is that if the player can not hit the ball the opponent gets one point. The player reaching the fixed point timely will be declared the winner. The further logic is the collision of the ball with the walls and bats. It has been calculated using the rules of collision. The computer will get count points if the player can't hit the bat. After pressing EXIT we can exit the game.