Design Document

LAB ASSIGNMENT – 3

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❖ **INPUT**: We will use the embest board to take input from the user. We have used 8 out of the 16 Blue buttons for taking input from the user (in form of row number and column number, one by one). First the user presses a button to enter the x-coordinate and then the y-coordinate.

❖ **OUTPUT / DISPLAY**: We will use the Display screen on the embest board to display the current position of the board. This would be changed after every legal move. The board would be displayed by printing '_' character at every spot which is empty, printing 'W' character at spots which contain White discs and similarly using 'B' character for black colored discs. Also the board display's the player whose turn it is, just above the board on the embest board LCD (eg. Player B's turn). In case an illegal move is made, this line remains the same, but after a legal move it switches from W to B or B to W. Any time if the turn of any of the player is skipped, then it is depicted in a message just below the board. When the game ends, the scores of both the players are displayed and the winner is also declared.

❖ **PROCEDURE**:
1. In the beginning, the display screen on the embest board will show 2 W and 2 B and rest '_' on the board.
2. Now the first player will press 2 blue buttons on the embest board. These are the x and y coordinates of the position where the player wants to put his/her disc. If this position leads to a valid move, then the move is performed and the turn is passed on to the second player. Else the same player has to again give his/her input. Now, after the first player makes a legal move, the turn is passed on to the other player.
3. If at any instant the current player is not left with any legal moves then the turn is automatically passed on to the other player and the player is again prompted to make a legal move, until he/she does so.
4. When both the players aren't left with any legal move, the game end and at this instant the player who has a higher number of discs on the board wins the game.