Design of Reversi (Board Game) with Embest board as User Interface

Chinmay Rai(2016CS501615) and Sarthak Vishnoi(2016CS10336)

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1 Introduction

The Document is a brief design description of the design and high level code used for an Implementation of the Reversi Board Game on the ARMSim (ARM processor simulator), using the EMBEST Board Plug-in as the Uer Interface.

2 Design

The following list describes the use of various input/ouput methods available on the Embest board Plug-in.

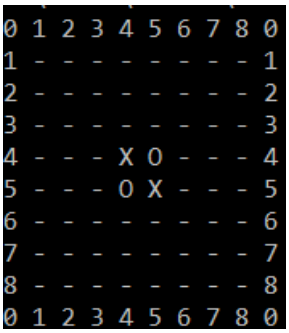
1. The Display Screen of 15×40 dimensions is used to display the current status of the playing board. Since the playing Board is of dimensions 8×8 (10×10 including the margin), we use the top left corner of the screen to display the board.
2. The 4×4 keyboard will be used to input the position where the particular user wants to place his disc. For this purpose we denote the characters ('0';'1';'2';'3';'4';'5';'6';'7';'8';'9'; ',' ; '(' ; ')') on the embest board as shown in the figure below.

1	2	3	4
5	6	7	8
9	0	(	)
,			

3. Left red LED's is used to indicate that the entered mode is invalid
4. The right LED is used to indicate that the game is over.

5. The left Input Button is used to instruct the system that the choice of coordinates have been made and the resulting process may be initiated.

The Display screen will be have indexing of all the positions on the board. When the game starts the Game board will look as shown below.



The discs of two players will be shown as X and O while the unclaimed positions will be blank. The User will have to specify the position at which he wants to place his disc using the keyboard and the input button. As a player enters the coordinate the code will do the necessary computation and show the resulting configuration of the board on the screen.