2048 Game Using Blank-Canvas

EECS 776 Project

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EECS 776 – Functional Programming & DSLs

Professor Andrew Gill

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Dear Professor Andrew Gill,

My initial approach towards solving the project was to understand the flow of Tic-Tac-Toe problem explained in class. The initialization of data structures and passing of arguments and respective values to arrive at the required solution was clearly depicted and was easy to understand in the example and that’s where I started working on my project.

The main modules of my project are; creating a blank board, displaying the game layout, passing the values to the layout, computing the possible values on each event, reflecting the computed result on to the game layout replacing the earlier values and checking if the goal is reached or each event.

I defined arrow keys( ) as ‘eWhich event’ input to read the required user input direction. The approach which I followed to arriving at the solution is ‘Linear Approach’. So, I defined the methods as required and passed respective arguments and values between the methods to arrive at the solution. The ‘moveRow’ method is where the core functionality of the project lies. Based on the keyboard event it moves the rows/columns on the board, adds the values and accumulates them in respective direction. The ‘gameState’ method, produces the Board state after each user action. It verifies if the new state of the board is similar to the previous state and then computes to check if the required goal (2048) is achieved for each event and halts the process, otherwise it returns an updated board with new random values.

References:

Hackage Tutorial on 2048 Game.

<http://hackage.haskell.org/package/h2048>

Blank Canvas Syntaxes from Hackage.

<https://hackage.haskell.org/package/blank-canvas>