2048 GAME – PROJECT REPORT (GROUP 12)

AMAL VATS -14D260008
RASESH SARAIYA – 145060003
SANKET CHIRAME - 14D260003
SHARANG BHAGDIKAR – 14D100018

In the following project we have implement a multiple versions of the game 2048.

- No frills version (Original)
- **2048 4D**
- **2048 Hex**
- **2048 Tetris/Multiplayer (if time permits)**

Description of the game:

Winning criterion: Get the 2048 tile
Losing criterion: The grid is full and no more combinations of tiles are possible

How to play: A blank 4X4 grid is provided and initially we have two tiles with numbers (either two or four) on any of the 16 tiles.

4 moves are possible: Swipe up, down, left or right.

On swiping in any direction, all the tiles with numbers collapse in that direction and if a tile collapses on an identical tile, then they merge to give a tile of twice the value. We allow only one merge at a time. For example, consider a column configuration of [2,2,4,4]. On collapsing to the left it should result in [4,8,0,0] and not [8,4,0,0].

At the end of every swipe, the computer generates a '2' tile 9 times out of 10 and a '4' tile otherwise.

The objective is to make a 2048 tile, on successively combining tiles in the manner described above.

Different variations of 2048:

The basic idea remains the same but the complexity of implementing in C++ and playing increases.

- **4D 2048: Here, the grid is divided in 4 quarters 2X2 in size. Each swipe affects each quarter independent of the others. The game goes on till any quarter has a possible move left. The winning and losing criteria are the same. Of course, the difficulty level is higher.**
- **Hex 2048: Instead of a square we have a hexagon and 6 possible directions instead of 4. They are**
  1. **East**
  2. **West**
  3. **North-East**
  4. **North-West**
  5. **South-East**
  6. **South-West**

The rest of the rules remain the same.

- **Time trial 2048: The user is allowed to enter a desired time to beat. (Range will be specified later). Player 1's maximum score in this time is saved and Player 2 is given a turn. The player with the higher score wins.**
- **Tetris 2048: It's a combination of the classic arcade game Tetrix and 2048.**