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| **Name** | | Garland Zhang | | | **Week of Mon:** | 2015/05/25 | **to Sun:** | 2015/05/31 |
| Mon | 1 | hrs | A: | Created a rough outline of the game layout. This includes potential ideas to incorporate in each screen. | | | | |
| C: | How should I create a tetromino( four block structure )? Draw a four block structure, or built into a 2D array?  How do I rotate a tetromino? Is there an algorithm I can use to rotate tetromino without having to redraw four blocks in different locations for each rotation case ( e.g.; 90 degree turn, 180 degree turn etc. ) of tetromino? | | | | |
| E: | I will finalize how to create a tetromino by creating a 2D array or by drawing it out. | | | | |
| Tue | 1 | hrs | A: | Decided on creating a tetromino by creating a 2D array and initializing it according to the design of the tetromino | | | | |
| C: | How to rotate a tetromino? Should I change the entire array to a “rotated” tetromino, or is there a way to manipulate necessary grid squares within the array? | | | | |
| E: | Find a possible way to rotate a tetromino without having to write every single case for a tetromino to rotate. | | | | |
| Wed | 1 | hrs | A: | Successfully constructed tetromino blocks each into a 2D array  Started animating tetromino blocks to fall down the grid | | | | |
| C: | Tetromino blocks clear grid after being placed and do not erase after creating a new tetromino. | | | | |
| E: | Prevent tetromino from erasing grid and allow user to interact with tetromino using the arrow keys to manipulate tetromino location and position. | | | | |
| Thu | 2 | hrs | A: | Successfully fixed the error with the tetromino erasing the grid.  Successfully found an approach to rotate each tetromino without having to write each case for every tetromino position. | | | | |
| C: | Rotation of each tetromino pivots are different locations. Should I save x and y coordinates( referencing to the 2D array indexes ) of the pivot point into variables? And how do I alter pivot points when a new tetromino comes out each time?  Rotates counterclockwise rather than clockwise. How do rotate the tetromino clockwise? | | | | |
| E: | Find a solution to rotate the tetromino without having to continuously write each separate case for each tetromino if rotation changes. | | | | |
| Fri | 1 | hrs | A: | Implemented an algorithm to rotate tetromino. To do so, the 2D array has to be rotated as well by rearranging the values. | | | | |
| C: | Bug with rotating the tetromino surpasses the boundaries of the grid. | | | | |
| E: | Fix the bug by keeping track of where the x-value will be for the tetromino if it rotates. Start adding colours to tetrominoes. | | | | |
| Sat | 3 | hrs | A: | Fixed bug where rotating the tetromino causes it to surpass boundaries of grid. Set previous x values for tetromino to redraw in previous location. | | | | |
| C: | Bug when tetromino does not stack on top of other previous tetrominoes. | | | | |
| E: | Fix bug by checking grid if any grid square is true( in other words if a tetromino square occupies that spot ), in order to stack on top of the square.  Implement the space bar to allow immediate drop for tetromino. | | | | |
| Sun | 2 | hrs | A: | Fixed bug where tetromino does not stack on top of previous tetrominoes. | | | | |
| C: | No space bar key provided by Turing in order to check for keyboard interaction. | | | | |
| E: | Check ASCII chart to see if the char value of space bar can be used in replacement of the missing key. | | | | |
| **Name** | | Garland Zhang | | | **Week of Mon:** | 2015/06/01 | **to Sun:** | 2015/06/07 |
| Mon | 1 | hrs | A: | Implemented the space bar to allow user to immediately drop tetromino to the lowest grid square beneath tetromino. This was accomplished by using the ASCII char value of the space bar. | | | | |
| C: | Bug involving tetrominoes colliding with each other horizontally.  Tetrominoes drop at uneven paces. | | | | |
| E: | Fix bug with tetrominoes colliding each other horizontally by checking for any grid squares that are occupied by tetromino blocks to the left and right.  Speed of tetrominoes will be fixed in order to be predictable so the game can be played with ease. Consult with teacher if necessary to find a different approach to time when tetromino drops. | | | | |
| Tue | 2 | hrs | A: | Fixed bug with tetrominoes colliding each other horizontally on the grid  Fixed bug with the irregular speeds of the tetrominoes. | | | | |
| C: | Tetromino collides with other tetrominoes when rotated.  Clearing lines require shifting down blocks from above rows. How to shift blocks with the colours? | | | | |
| E: | Fix bug with tetromino colliding with other tetrominoes after rotating.  Examine whether the grid should be a 2D array of boolean or colours. Necessary to store colour values of tetromino blocks when clearing a line in order to draw in new coloured squares to the current row of grid squares. | | | | |
| Wed | 2 | hrs | A: | Finalized decision on making the grid a 2D array of colours.  Successfully added the feature where the lines can be cleared. | | | | |
| C: | Time is too slow to fully operate when clearing lines ( an additional 2 loops to rearrange grid lows by shifting each row down ).  Bug where tetrominoes collide with each other after rotating still prevails. | | | | |
| E: | Expect to fix the bug by the end of the week and find an alternative solution to fixing the time issue when clearing lines since clearing the line is the most important component to gaining points in the game. | | | | |
| Thu | 2 | hrs | A: | No accomplishments. | | | | |
| C: | Bug to collide with tetrominoes requires alternative solution for simplicity.  Rows do not shift down following a line clear. New algorithm to clear lines and shift rows down is required. | | | | |
| E: | Plan to fix the tetromino colliding bug by tomorrow.  Expected to design and implement a new algorithm for clearing lines and still able to shift the rows down. | | | | |
| Fri | 2 | hrs | A: | Successfully designed and implemented a new simple algorithm to clear lines and shifting down rows. | | | | |
| C: | Bug with tetromino colliding with other tetrominoes still persists. | | | | |
| E: | Expected to design an algorithm to check if there is space for the rotated tetromino, prior to rotating the original tetromino. | | | | |
| Sat | 6 | hrs | A: | No accomplishments were made. | | | | |
| C: | Colliding bug still persists in program. | | | | |
| E: | Expect to try new approach(es) to bug. | | | | |
| Sun | 1 | hrs | A: | Fixed tetromino colliding bug. | | | | |
| C: | Which images to incorporate into each screen, | | | | |
| E: | Create an outline by tomorrow of all images to create for each screen( e.g; intro, game, game over ) | | | | |

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| Nam2e | | Garland Zhang | | | Week of Mon: | 2015/06/08 | to Sun: | 2015/06/14 |
| Mon | 1 | hrs | A: | No accomplishments. | | | | |
| C: | New bug where tetromino rotates out of grid persists. | | | | |
| E: | Plan to fix bug tomorrow  Plan to finish outline of all images necessary to create each screen. | | | | |
| Tue | 1 | hrs | A: | Finished outline of the screens. Also included additional features such as sound and animations. | | | | |
| C: | Bug still persists. Might need to consult with teacher for help. | | | | |
| E: | To solve bug prior to Friday | | | | |
| Wed | 2 | hrs | A: | Started working on rough drafts of each screen. | | | | |
| C: | Should I implement a back button in order for the user to return back to the homepage? How would that work if I don’t put the buttons in a loop?  Bug still remains in code. | | | | |
| E: | Finish screens by the end of Friday. | | | | |
| Thu | 6 | hrs | A: | Finished intro screen and instructions screen  Fixed bug where tetromino rotates out of grid. | | | | |
| C: | Cannot play music on Turing. Need to consult with teacher again for assistance tomorrow.  Limitations are brought on the user when playing Tetris because now rotating is not possible along the side lengths of the game. | | | | |
| E: | Expect to finish game over screen and personalize game screen more.  Solve how to implement music and sound effects into Turing. | | | | |
| Fri | 6 | hrs | A: | Finished personalizing game screen. | | | | |
| C: | Holding the tetrominoes requires redrawing it outside of grid for user reference. However it is deleted after redrawing the background and grid. How do I preserve the tetromino? | | | | |
| E: | Fix the redrawing issue with the tetromino being held. Possible store into a variable | | | | |
| Sat | 2 | hrs | A: | Fixed tetromino being held and positioned it into a white space. | | | | |
| C: | Better outline of the grid.  Add sound effects and music to make the game more exciting.  Instantaneous initiation of game can be unexpected by the user. Possibly add a countdown. | | | | |
| E: | Improve display of the grid to look more appealing.  Add a countdown before playing the game. | | | | |
| Sun | 1 | hrs | A: | Added sound effects and music to play alongside the game.  Improved game over screen by adding a high score board. | | | | |
| C: | More improvement on the outline of the grid. | | | | |
| E: | Finish outline of the grid. | | | | |
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