Tetris Final Project - Proposal

User Interactions:  
-Left and right keys to move the current falling tetramino left and right.  
-Space to hard drop the current tetramino.  
-Down key to soft drop the current tetramino.  
-Up key to rotate tetramino clockwise.  
-Left shift to swap the current held tetramino.  
-Z key to rotate tetramino counterclockwise.  
-User can press the buttons in the menu to play the game, see the credits, or quit.

Basic classes/objects:  
-Key listener  
-Graphics  
-Panel  
-Main class (Start menu GUI and starts game class.etc)  
-Game class? (2d array of board and current tetramino, held tetramino, upcoming tetramino array)  
-All subject to change.

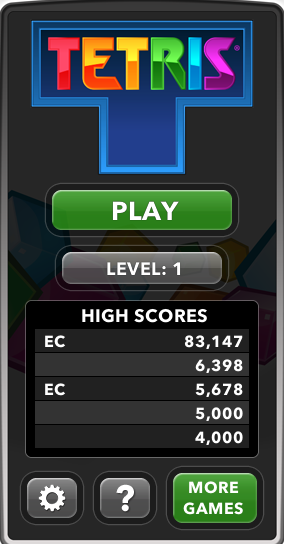
Other Ideas:  
-External text file which contains high score  
-Scoring (By line? Will need to consider combos and special circumstances)  
-Wall kicking (To enable actions like triple t-spins)

Programming Challenges:  
-Wall kicking is a complex feature to implement.  
-Basic scoring is easy to implement (How many lines cleared) but more complex scoring will be difficult (t-spins, combos, and multi-line clears)

Timeline:  
-Friday May 27: Finish proposal.  
-Thursday June 2: Create skeleton of classes and start screen.  
-Tuesday June 8: Finish game screen and basic game.  
-Thursday June 16: Finish difficult features (Wall kicks, scoring.etc)  
-Saturday June 18: Add music and score saving.  
-Sunday June 19: Submit.

Game Description:  
-Drop tetraminos (4 blocks in different shapes) into a 10x20 board to achieve a high score.  
-If the dropped tetraminos form a line, it gets cleared and the blocks on top of it are moved down.  
-The teraminos can be moved left and right and rotated clockwise and counterclockwise  
-They can also be soft dropped (increased drop speed) or hard dropped (instant drop)  
-Wall kicking exists which is a system to counteract rotating a tetramino into a position where it collides with a block.  
-Wall kicking will kick the tetramino left/right/down/up and enable clears like a triple t-spin.  
-Clearing different amounts of lines gives points and certain clears such as a t-spin or combo clear give more points

Reference Images:

Chart, treemap chart

Description automatically generated