SummerSardines APCS2 Period 1

Henry Carver, Cheryl Qian, Selina Zou 2018-05-29

Final Project Proposal

Tetris

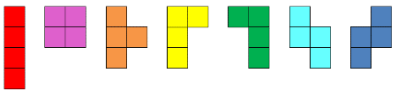
Our project will implement Tetris in Processing. It will allow a player to create a game and play in either one player mode(user plays until blocks stack past ceiling) or two player mode (user plays against the computer until either player's blocks stack past ceiling).

Setup

- 1500x900 screen
- Player is prompted to choose either One Player or Two Player Mode

Properties of Tetris Pieces

- Velocity attribute; increases with each level
- Type of piece—see below image of the 7 different pieces



Tetris Piece Functions

- Rotate (change orientation of piece) with up/down arrows
- Move (move left and right) with left/right arrows
- Drop with spacebar
- Temporarily store/hold piece with H key
    - Player is not allowed to store the same piece again

Properties common to both One Player and Two Player Mode

- Level attribute; increases with each 5 cleared lines
- Score attribute; where n is the current player level,
    - For 1 line cleared at a time, score += 40 * (n + 1)
    - For 2 lines cleared at a time, score += 100 * (n + 1)
    - For 3 lines cleared at a time, score += 300 * (n + 1)
    - For >=4 lines cleared at a time, score += 1200 * (n + 1)

- Random pieces generated at center top of screen
- Player Name stored with Score on leaderboard, which appears after the game ends

Unique to One Player Mode

- One game, player-operated

Unique to Two Player Mode

- Two games side by side—left is player-operated, right is computer-operated
- Computer AI—choose between dumb, semi-smart, and smart