Design Overview for SplashTris

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Summary of Program

A game implementation based on the well-known puzzle game Tetris is the SplashTris program. The SplashKit SDK, which offers a graphical user interface and a game framework for development, is intended to be used to run the program.

The program's main feature is the creation of a grid-based game board on which tetromino shapes, which are made up of four square blocks, descend. As these shapes fall, the player's task is to move and rotate them in order to arrange them into full horizontal lines. A line vanishes after it is finished, and the player gains points.

The implementation makes use of input functions to manage player interactions via keyboard controls and rendering functions of SplashKit to display the game elements on the screen. The logic of the game also includes line clearing, shape manipulation, collision detection, and scoring calculations.

Players can start and restart the game as they try to improve their Tetris skills and earn high scores. The program faithfully recreates the original Tetris gameplay while offering an enjoyable and challenging gaming experience.

Required Roles

Responsibility	Type Details	Notes
GameState	The primary game logic and control flow are represented by this class. It controls game state variables like the level, score, and lines cleared. It manages user input, updates game components (like the tetrominoes that are falling), and carries out collision detection and line clearing.	
Tetromino	A tetromino shape is represented by this abstract class. It keeps track of the shape's position, rotation state, and individual building blocks. It offers ways to move and rotate the shape.	
Position	It provides methods for checking cell occupancy and performing operations on the grid, such as clearing completed lines.	

Grid	Game grid of gameboard. Keeps track of the state of each cell in the grid	

UML Diagram