SRS Documentation-Tetris

Purpose of this Document:

The purpose of this document is to provide a detailed instruction to the TETRIS game made by our team so that the users can understand what to expect from the game. TETRIS is a tile-matching puzzle game created by Russian programmer Alexey Pajitnov in 1984. It quickly became one of the most popular and enduring video games of all time. The game's name, "Tetris," is derived from the Greek numerical prefix "tetra," meaning four, because the game revolves around four-block shapes called ‘tetrimino’.

Introduction:

Game interface: The game has a matrix and a pause button. The game starts with the first tetrimino falling within the game matrix.

Tetrimino mechanics: Tetriminoes are of 7 shapes with 4 blocks each. These shapes can rotate, move left, right and fall down faster. When the tetrimino hits another tetrimino or the bottom of the game board, it stops.

Game mechanics: Points are awarded for each completed row. Game is ended when new tetrimino cannot be placed in the game matrix due to reaching the top. The final score of the user is displayed at the end of the game.

Technical Details:

- This is a single user game coded in python.
- The python libraries used are Pygame, random and art.
- The cross-platform Pygame library used here excels in creating 2D games, animations and graphics besides offering open-source versatility.
- A list of colours are defined for the tetriminoes and the game grid.
- The shape of figures are specified through coordinates of the 4*4 matrices.
- The figures can move left and right through left and right arrow keys respectively and fall faster through down arrow key or start a new game

through Esc key and settle at bottom using space key. You can rotate through up arrow key.
- The game board has fixed 20 rows and 10 columns.

Scope of this Software:

This software is coded in python. To use it, one needs a basic understanding of this language and python interpreter with installed libraries for which one can use any python package manager, text editor or IDE(Integrated development environment) and access to command line. One also needs to ensure that they have the necessary permissions to create, modify, and execute files on your computer, especially if you're working in a restricted environment. Once you have these requirements in place, you can write, save, and execute this code on your computer.

Conclusion:

This Technical Software Requirements Specification (SRS) serves as a fundamental cornerstone for the planning, design, and implementation of the Tetris Game. It has meticulously documented the essential requirements, constraints, and expectations that will guide our development efforts.

Throughout this document, we have defined clear goals and scope, outlining the desired functionality, performance criteria, and user experience standards. This clarity in requirements is not only crucial for our development team but also serves as a critical communication tool among all project stakeholders.

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