Project Report

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“3D Tetris”

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Project Plan

Phase 1

- ➢ Start documentation of the project.
- ➢ Create Github Repository.
- ➢ Import assets for the 7 shapes
    - S-shape
    - Z-shape
    - T-shape
    - L-shape
    - Line-shape
    - Mirrored L-shape
    - Square-shape.
- ➢ Import a background Sprite

Phase 2

Write Scripts for each scenario:

- ➢ A randomly chosen Tetris piece from the seven possible shapes is drawn at the top of the board. The pieces start falling at regular intervals; one at a time.
- ➢ Allow the user to move shapes horizontally and vertically rotate coloured blocks in a playing field.
- ➢ The user can use the arrow keys to move and rotate the pieces; ‘Left’, ‘Right’, ‘Down’ arrow keys move the piece left, right and down by 1 square. The ‘Up’ arrow key rotates the piece. The user can also drop a piece by pressing the spacebar. Dropping a piece results in the piece falling down until it can no longer move, the user can no longer rotate or move it in any other direction.
- ➢ When a piece hits another piece or the bottom of the board, it stops moving and a new piece appears at the top of the board.

Phase 3

- ➢ A menu displays score and status of the game.
- ➢ If a complete row forms, it disappears (with a particle effect) and all the blocks above it fall down one row.
- ➢ If a new piece can no longer be placed at the top of the board, the game ends and a “Game Over” message is displayed and sound is played.

Phase 4

- Level 1 has medium difficulty including Tetris piece fall speed. Level 2 is slightly more difficult with faster speed (accelerating slowing). Level 2 also introduces occasional bonus bomb that blows away some cubes.

Collaboration and Allocation of Tasks

Week 1:
Jamie's role: Project plan and import background

Sean's role: Collaboration and Allocation of Tasks and create shape prefabs

James' role: Create a github repository, set up initial unity project and create first cube prefab.

Week 2:
Jamie's role: Rotation of shapes and the main menu system

Sean's role: Movement of shapes and spawning

James' role: Working of the grid and randomly selection of cubes

Week 3:
Jamie's role: The menu system and make level 1

Sean's role: The destruction of cubes when a line is complete and make bonus bomb for level 2

James' role: Make it possible to lose and display game over message and make level 2

Activity Summaries

Week 1:
Jamie's activity: Created the google drive documents for the tetris project and organised art assets for the projection.

Sean’s activity: Finished the collaboration and allocation of tasks. Finished making prefabs for all the shapes

James’ activity: Created a cube and prefab at a set cube size. Created a repository and added an empty unity project and scene.

Week 2

James’ activity: Completed the random generation of shapes and worked on the grid

Jamie’s activity: Completed the main system and rotate shape at 90 degrees on button press. Researched how to stop the shape when it's at the bottom of the grid.

Sean’s activity: Completed the movement of the shapes and finished the spawning

Week 3

James’ activity: Fixed collisions, gameover, scoring, sounds, level 2

Jamie’s activity: UI, menu system, completed level 1, dropping function and particle effects

Sean’s activity: Removing lines and made bonus bomb