New piece: The Extended T

Next to regular tetromino T shape for scale.

The reasoning behind the design:

The base T tetromino is most useful for plugging small holes in the surface of the tetris stack. However during play I found that there tended to be many spaces where there was a deeper hole that would require an I block to fill that a T tetromino would only cap and prevent the player from properly filling. So, I decided to make the extended T to help fill this roll.

The Extended T can be used in one of two main ways. Either as an alternative to an I tetromino by placing it right-side up, or as a platform by placing it upside down. When upside down, the double length upper arms of the Extended T can be filled using either an O Tetromino or two L tetrominoes, giving the player the ability to fill in a 4 X 5 space of blocks if they get the right pieces, allowing them to get a large chunk of the board safely and easily secured.

How the custom gameplay experience demonstrates the piece's potential:

The unique experience I went with was a custom board state. It features two examples of the piece's potential. The first example is near the top of the board where it can be planted right side up to clear out a lot of lines with ease, and a second example in the bottom right of the board where the player can use the existing extended T to help fill in the empty space in the bottom right by slotting various Tetrimiones into the sides of it.

Challenges faced during implementation and how they were addressed:

The Extended T was actually one block taller in its original rendition in order to better fit L blocks placed against each other or O blocks stacked on top of each other to form a 2 X 4 stack of blocks. However this made it very awkward and unwieldy to place as it would not work with most other block arrangements and made it very situational. It also became very difficult to rotate it

against the walls. Shortening it by one block made it a lot easier to work with and rotate, while still allowing it to fulfil its role.

Next, there were issues with the preset board. The already placed pieces would slide downwards when initially placed, and then respawn at the top of the screen resulting in a pileup. This was resolved by creating a second lock piece script that would ensure pieces would stay where they were supposed to instead of trying to spawn them a second time.