# Blackbox Testing

Blackbox testing has been used to ensure that visual aspects of the game engine work correctly.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test | Summary | Action | Expected Result | Actual Result | Pass |
| 1 | Text labels show the correct letters and sizes. | Use a UI layer with a text component, then run. | Correct text shows in the correct size and font. | Same as expected. | ✓ |
| 2 | Free 2D camera moves and rotates in the expected directions when the right keys are pressed. | Use a UI layer with text, run, and use Q, W, E, A, S, D keys to move and rotate the camera. | Text on screen moves in the opposite direction to the direction the camera would be moving. | Same as expected. | ✓ |
| 3 | Texture component adds a texture to a game object. | Add an object in a layer and add a texture component. | The texture should show on the game object. | Same as expected. | ✓ |
| 4 | Shader with light works. | Use a shader with a phong light on an object in a layer. | The object should look as though a light source is shining on it. | Same as expected. | ✓ |
| 5 | FPS camera works. | Add an FPS camera to a layer. Move it with W, A, S, D and the mouse. | The camera should move with the keyboard keys and rotate when the left mouse button is pressed and the mouse is moved. It should not move in the y axis and it should move as though it is a first-person camera. | Same as expected. | ✓ |
| 6 | Changing between controlling cameras in 2 layers. | Use a UI layer with a 2D camera and a game layer with a 3D camera. Set one to be controlled at the start and not the other. | One camera should be controllable at a time, when the button is pressed the controllable camera changes to the other one. | Same as expected. | ✓ |
| 7 | The oscillate component moves objects up and down. | Use an object with an oscillate component on it, set it to go up to begin with. | It should move up for a few seconds then move down for a few seconds. | Same as expected. | ✓ |
| 8 | The rotate component allows the player to rotate object with the mouse. | Use an object with a rotate component on it. | The object should rotate when the right mouse button is pressed and the mouse is moved. | Same as expected. | ✓ |
| 9 | The player component makes an object act like a player object, reacting to input and moving. | Use an object with a player component on it, set the player component to controllable, set the cameras position to be able to see the player object, use the input buttons and mouse. | The player object moves forward, back, left and right with the W, S, A and D keys being pressed. The player object rotates in the y axis when the left mouse button is pressed and the mouse is moved. | Same as expected. | ✓ |
| 10 | The 3rd person camera follows the player object and has a fixed offset position to the player object. | Use an object with a player component on it and a 3rd person camera, set them both to controllable, use the input buttons and mouse. | The player and camera should move together. The camera should stay in the same relative position to the player except moving up and down. The camera should rotate in all directions from the players position while the player still only rotates in the y axis. | Same as expected. | ✓ |