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| **ID** | **Task** | **Task Summary** |
| **1** | **Pyrite Engine** | The final product built from all the tasks below. |
| **1.1** | **Window** | The window created from all the tasks below, used to show the engine output, the asset section and the component section. |
| **1.1.1** | **Starting Window** | The initial window will need to be created to house the different window containers. |
| **1.1.2** | **MDI Support** | Set up the window to be an MDI container so that the different sections can be added to the window. |
| **1.1.3** | **Displaying Scene** | Assign the Panda3D render output to the window. |
| **1.1.4** | **Asset Section** | Create the window within the window that allows the user to add files to their project |
| **1.1.4.1** | **Drag and Drop Files** | Allow the user to drag files from their file explorer directly into the asset section. Store these files in a new asset folder created with the project. |
| **1.1.5** | **Component Section** | Create a window within the main window that displays a component for the object. |
| **1.1.5.1** | **Displaying Components** | Set up an initial placeholder for displaying the components. This will be changed when components are added to the editor. |
| **1.2** | **User Input** | Set up input from the user. |
| **1.2.1** | **Keyboard Input** | Set up window to receive keyboard inputs from the user. |
| **1.2.2** | **Mouse Input** | Set up window to receive mouse inputs from the user. |
| **1.3** | **Scene Editor** | Set up how the user will interact with the scene |
| **1.3.1** | **Lock Screen Output** | Prevent the engine from looping while the scene is being edited. This will need to update positions without running all associated code. |
| **1.3.2** | **Object Creation** | Prevent the engine from looping while the scene is being edited. This will need to update positions without running all associated code. |
| **1.3.2.1** | **Drag Models from Assets to Scene** | Set up being able to drag a file from the asset window into the scene window. |
| **1.3.2.2** | **Create Object with Model** | From dragging the model onto the scene, an object should be created within the code. |
| **1.3.3** | **Selecting Objects** | Allow the user to select an object within the scene. |
| **1.3.3.1** | **Highlight Selected Object** | Highlight the selected object to ensure the user knows what object is currently targeted. |
| **1.3.3.2** | **Show Transform Indicator** | Show the transform indicator that will allow the user to move the object around the scene. |
| **1.4** | **Components** | Adding support for components that can be attached to each object in the scene. |
| **1.4.1** | **Transform Component** | Create the transform component that can be attached to each object in the game. |
| **1.4.1.1** | **Attach to Object** | Allow the user to define how the transform component with affect the object it is attached to. |
| **1.4.1.2** | **User Input to Define what Transform Does** | Allow the user to define how the transform component with affect the object it is attached to. |
| **1.4.2** | **Collision Component** | Create the component that will make collision possible within the game. |
| **1.4.2.1** | **Add Collision to Object** | Add the collision to the object that will prevent two objects from going through each other. |
| **1.4.2.2** | **Change Collision Type** | Set up either box or capsule colliders which will wrap around the object and allow you to change this inside the component. |
| **1.4.3** | **World Trigger Object** | Create an object within the world, when another object goes inside of it, the trigger will change a variable or other object |
| **1.4.3.1** | **Attach Other Objects** | Attach other objects to the trigger. |
| **1.4.3.2** | **Make Changes to Attached Object** | Once object is attached to trigger, support changing variables associated with object when trigger is entered. |
| **1.5** | **Project Management** | Adding the support for saving, loading and exporting the project as an EXE. |
| **1.5.1** | **Saving Project** | Add the ability to save the project as a JSON file. |
| **1.5.1.1** | **Export Information to a JSON File** | Export all the files, object positions and components attached to each object. |
| **1.5.2** | **Loading Project** | Add the ability to load the project from a JSON file |
| **1.5.2.1** | **Import Information from JSON File** | Take information from the JSON File to load the project |
| **1.5.3** | **Building the Project** | Turn the project into an EXE without the editor |
| **1.5.3.1** | **Remove Editor Code** | Remove anything to do with the editor when building the project. |
| **1.5.3.2** | **Include all Components on Build** | Allow the components to run on all objects once the project has been built. |
| **1.5.3.3** | **Create EXE for Game** | Create an EXE which installs the game to the PC, this will include all assets and source files. |