

Level Editor & Panels - Usage Guide

Bloody Good Curry — SofaSpuds Engine

Introduction

This document explains the Level Editor and its various panels in the SofaSpuds custom engine. The editor is built using ImGui and allows developers and designers to view, modify, and test gameplay elements in real time.

1. Viewport Controls

The Viewport Controls panel manages the visualization of the game world and the editor interface.

- Editor Enabled (F10): Toggles the in-game editor UI on or off.
- Game Full Width (F11): Expands viewport across full window for testing without editor clutter.
- Game Width/Height sliders: Adjust visible viewport size (0–100%) to test scaling and aspect ratios.
- Play / Stop: Starts or pauses the simulation (Logic, Physics, Audio systems).
- State: Playing/Stopped: Indicates current game state.
- View Height: Zoom control for orthographic camera.
- Camera Enabled: Switch between static editor camera and player-follow camera.
- Undo feature which undo action like translation, scaling ,rotate, spawning and deleting object

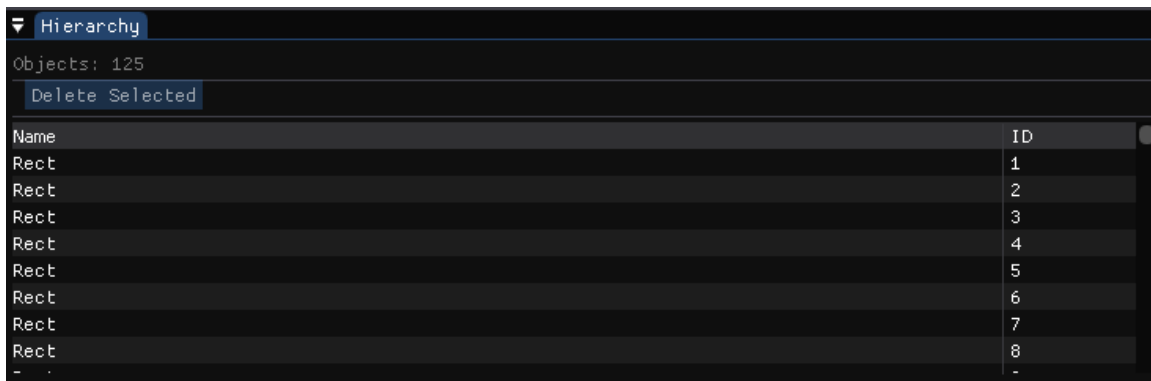


2. Hierarchy Panel

Lists all active GameObjects in the current level. Selecting an object highlights it in the viewport.

Supports:

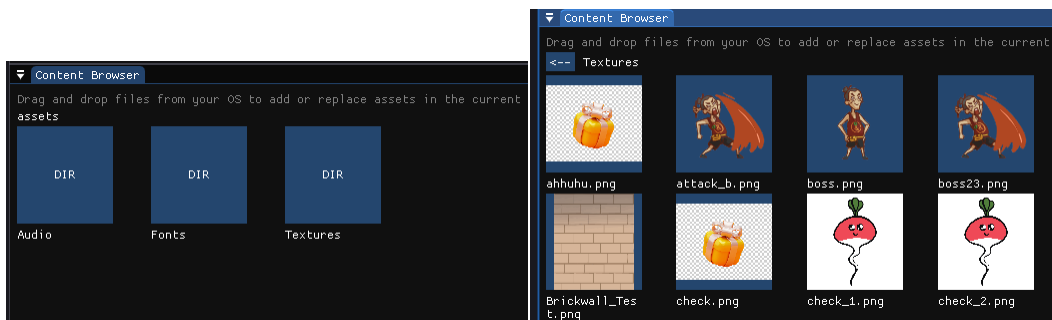
- Click to select and inspect GameObject.
- Right-click to delete object or select object and press delete in the keyboard
- Hover to show tooltips with ID and component summary.
- Used together with the Inspector Panel to modify selected object properties.



3. Asset Browser

Displays imported assets such as textures, audio clips, and prefabs.

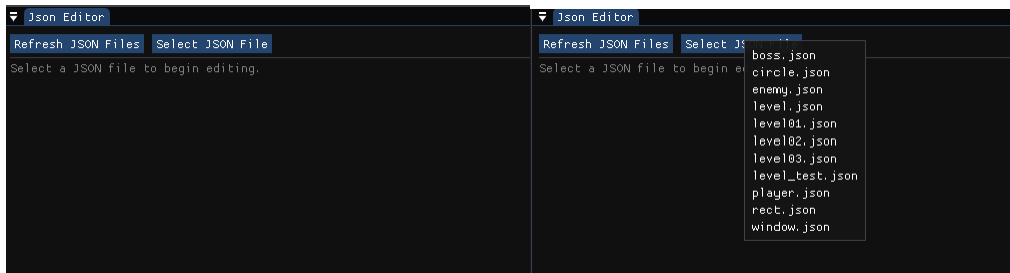
- Shows thumbnail previews for texture assets by clicking Textures
- Drag-and-drop functionality for applying textures to GameObjects by dragging texture to the spawn texture to change the texture of object.
- Replace or refresh asset files directly.
- Auto-refreshes assets when updated externally.



4. JSON Editor

Used to edit level or prefab JSON files directly within the engine.

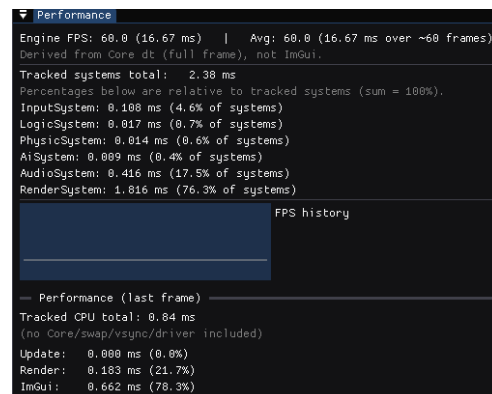
- click Refresh Json to get the updated Json file
- Browse available JSONs from the data folder by clicking Select Json file
- Select the available json file to edit
- Edit the Json file by changing value
- Save changes to disk instantly.
- Enables debugging of prefab configurations and edit level.



5. Performance Viewer

Displays timing data for each engine system per frame to help identify bottlenecks.

- Shows performance percentages for systems (e.g., Physics 5%, Graphics 30%).
- Includes graph of frame time history.
- Assists in profiling and runtime optimization.
- short cut key is F1 to see this panel



7. Spawn Panel

-To use spawn panel first select which prefab that you want to spawn. Press the spawn button below to spawn object. Edit the prefab by clicking on the override prefab, it will use it default value from the object json file if it not edited.

- The second option is layer which we can select to choose which layer will the prefab spawn at , do that by selecting the layer and Apply layer.

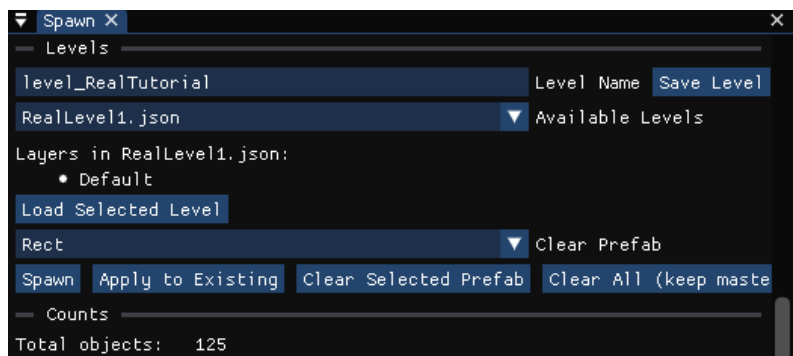
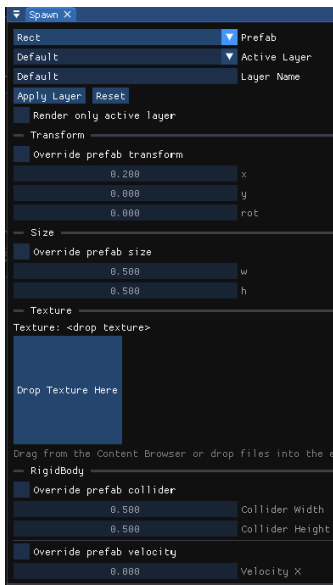
- under levels choose the level name and save the level after editing the game level by pressing save.

- On the scroll Available level select the level that you want to load by pressing the Load selected level

-Select the specific prefab you want to clear and press clear to delete the specific type of object

- select prefab object -> make changes to component -> apply to Existing will apply all changes to object in the screen

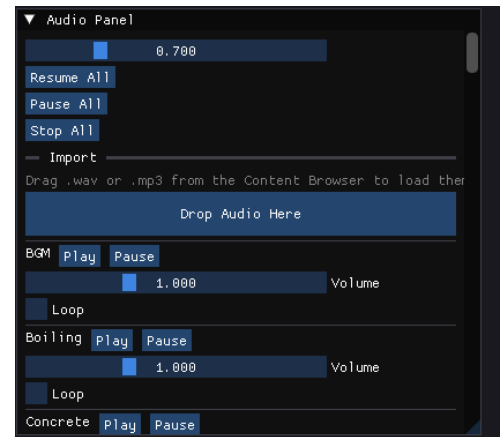
- Use Case: Spawn → tweak by picking and drag→ Save Level. Later, Load Level to restore the same state for verification or regression testing.



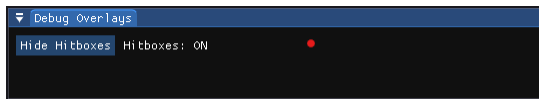
8. Audio Panel

The Audio Panel controls playback and management of audio assets within the engine.

- Lists sound assets (BGM, SFX, Voice).
- Play, pause, and stop buttons for previewing sounds.
- Master, Music, and SFX volume sliders.
- Reload and import audio files (.wav, .mp3).
- Displays playback state and channel debug info.
- Integrated with the AudioSystem for runtime control.



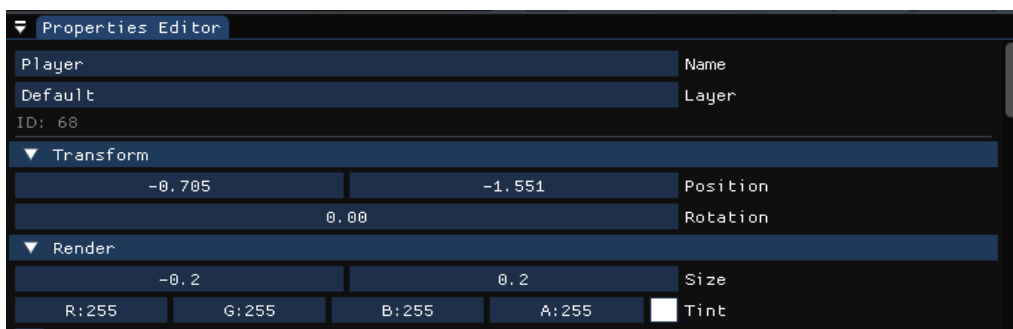
9. Debug overlay



-Click Hitboxes to turn on of off hitboxes

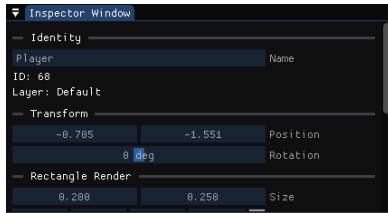
10. Properties Edito

Properties Editor can edit the component of the object by selecting the object (click on object) and make changes to it.



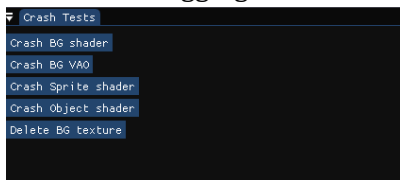
11. Inspector Window

- Select an object and able read the components of the object.



12. Crash Test

- Use for debugging and crash testing



13. Animation Editor

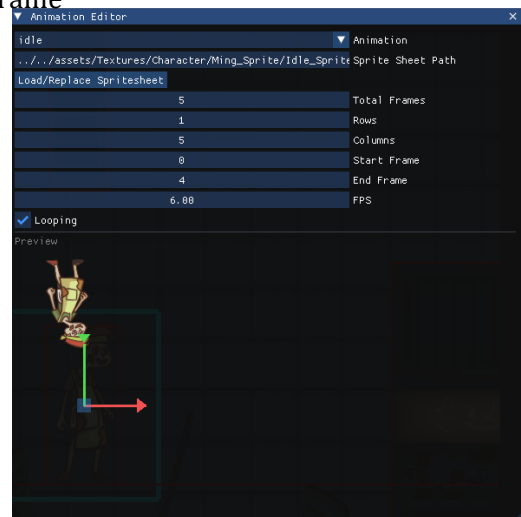
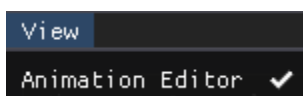
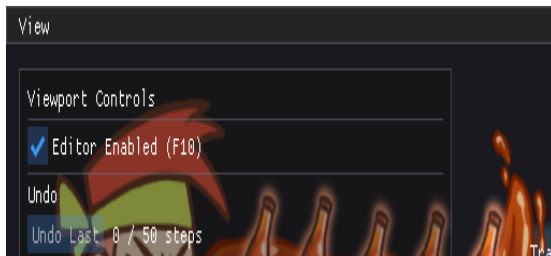
- To use this panel click on view and enable Animation editor

- The Animation Editor allows you to define animation clips for your characters and objects. You can create new animations (like 'Idle', 'Run', 'Attack'), set their speed (FPS), and define which frames of a sprite sheet they use

- Choose which animation action the object is using

- Copy the relative path of the directory of the spritesheet

- Edit the Total frame, Rows, Column, start frame, end frame and fps based on the spritesheet.



14. Gizmos

- To use gizmos press S to change to scale, T for Translation and R for rotation of the object

