

Hellsmith WAD Editor Proposal

The proposed Hellsmith WAD editor will be integrated into future versions of the GZDoom codebase, for those who don't want to use Windows or apply Linux-specific kludges in their workflow. This proposal could be GZDoom's crown jewel for cross-platform high-quality map creation workflows.

The Namesake

This proposed tool is named after the **Hellsmith**, a major demon from Eriance/Amuscaria's old SP/co-op campaign, Demon Eclipse. Some players envisage the Hellsmith as one of Hell's great architects.

Synopsis

To invoke Hellsmith, launch GZDoom with the `--hellsmith` or `-hellsmith` command line switches. Launching GZDoom without those magic command line switches will launch the game, not the proposed integrated Hellsmith editor.

General Features

This editor will have an integrated ACS script compiler derived from ACC, capable of outputting any bytecode format supported by GZDoom.

The Archive Editor Interface

The archive editor's interface should be a WxWidgets-independent variant of SLADE 3.x's archive editor's interface, with additional features including an actor tester, a 3D model viewer, a save-capable reverb editor and archive-specific advanced properties window. The archive editor will include a material editor for making those pretty PBR materials for players with capable enough graphics cards.

The Map Editor Interface

The map editor's interface will have a similar interface to GZDoom Builder but with cross-platform interoperability in mind. Additional views can be created in a similar method to Blender's subdivision interface, with 2D and 3D views in separate areas. 3D views can be rendered using hardware or software. An example of a multi-view setup

is a big 2D view on the left, with a Carmack renderer view on the upper right and a hardware-accelerated 3D view on the lower right. Some interface elements may overlap, including dialog boxes and dockable properties windows.

Unique Features (Map Editor)

- NODES Viewer, with tree view on left-hand side of 2D view for BSP nodes
- BLOCKMAP Viewer
- Sound Propagation Viewer (GZDB and Eureka have this feature, and so will Hellsmith)
- Reject table builder (useful for monster-rich and/or sector-rich maps)
- Visplane Explorer (good for making vanilla DOOM/Heretic/Hexen maps)
- Visplane Overlay (Carmack renderer only, ditto for vanilla mapping)
- Rendering Statistics
- GZDoom rendering system, complete with Carmack, SoftPoly and hardware renderers
- User interface is drawn using the same code as the HUD, menus and console
- Platform-independent file browser for archives, archive entries, images and maps
- ACS script and line special preview (for previewing them switches!)
- Playtesting your map invokes the GZDoom game code (Quitting the game takes you back to Hellsmith when active)
- Ambient sound preview
- Animated textures, skies and flats
- Nodebuilding process visualization (optional)

Key Differences between Hellsmith and GZDB-Bugfix

- Cross-platform! (No need for Windows and DirectX when using Hellsmith)
- Hellsmith has 3D view areas in place of GZDB's visual mode
- Previews the map's ambient audio
- Previews ACS scripts and line specials
- Permits use of the Carmack renderer
- More accurate previews of the map (GZDB's visual mode may differ cosmetically due to Direct3D quirks)
- Visualizes the node-building process

How Hellsmith builds REJECT tables

REJECT tables are built with a variant of GZDoom's BLOCKMAP-based line of sight algorithm, with modifications for making monster line-of-sight tables for vanilla DOOM and other ports that use a BSP-based LoS algorithm.