

MaxEd 2.0 Overview

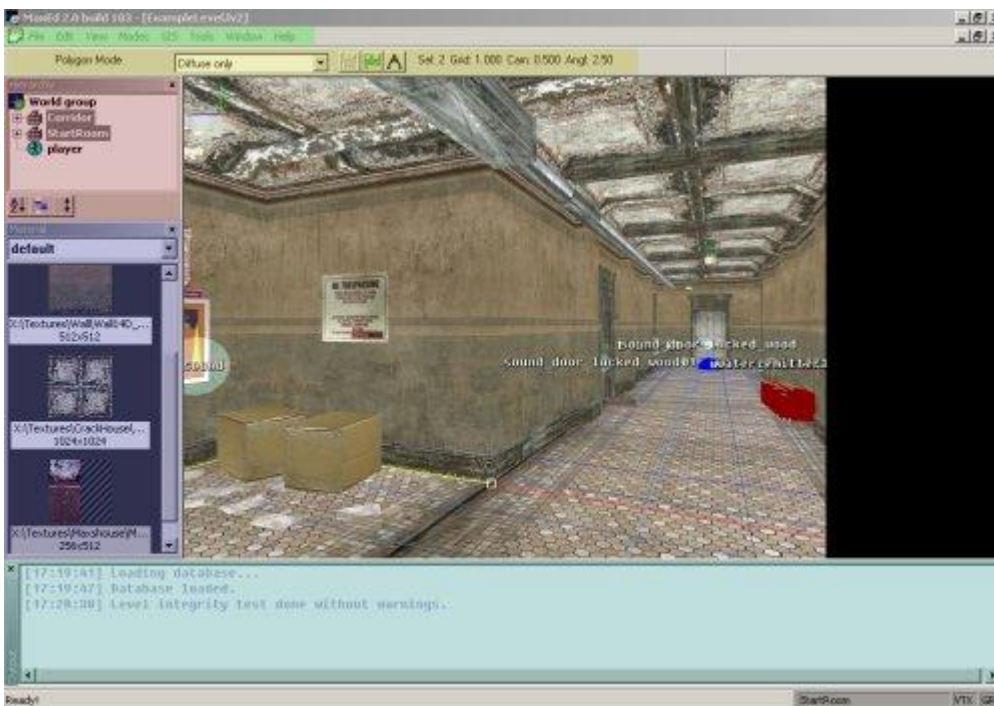
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Overview

Well, the editor GUI is quite simple constructed and structured. There's a **Menubar** (green), below is the **Toolbar** (yellow). The toolbar shows some informations and several options.

At this point I want to tell you, that pretty much options of the MaxEd are accessible through a shortcut and in the 3D Window through the middle MB.

In the top left corner is the **Hierarchy** (red). Below is the **Materialbrowser** (blue). Most of the workspace is covered by the **3D Window**, which is the main editing window. The first row at the bottom is the **Output Window** (azzur). It basically shows the actions the editor did like Autosaving and Undo. At least the second row at the bottom is the **Statusbar** (gray).



Menubar

The Menubar was reduced since MaxEd 1, now showing the options that count:

File

- **New** (Ctrl+N), creates a new .lv2-file
- **Open** (Ctrl+O), opens an existing .lv2-file
- **Close**, closes the current open .lv2-file
- **Save** (Ctrl+S), saves the current .lv2-file
- **Save As..**, saves the current .lv2-file with a new name

- **Import**, imports an old Max Payne lvl-file
- **Export**, exports the map to an .ldb-file
- **Export Selection..**, exports the selected part of the map (f5-mode) as an .ldb-file
- **Export Selection Gameplay Critical..**, exports the selected part of the map (f5-mode) as an .ldb-file, but only those objects which aren't set to "Gameplay Critical".
- **Insert Document..**, inserts a .lv2-file into the opened one
- **Exit**, closes the editor

Edit

- **Undo** (Ctrl+Z), undoes the last work step
- **Cut** (Ctrl+X), deletes the selected object and copies it into the clipboard
- **Copy** (Ctrl+C), copies the selected object into the clipboard
- **Paste** (Ctrl+V), pastes the data located in the clipboard

View

- **Hierarchy View** (F9), displays the hierarchy window
- **Material View** (Shift+F9), displays the material window
- **Output Window** (F10), displays the output window
- **Display Filter** (F1), displays the display properties window
- **Status Bar**, displays the statusbar
- **Toolbar**, displays the toolbar
- **Grid**, options concerning the grid, the usage of shortcuts and hotkeys is recommend
- **Camera**, options concerning the camera, the usage of shortcuts and hotkeys is recommend
- **Texturing**, texture display mode, read more under **Toolbar**
- **Unhide All**, unhides all hidden objects

Modes

- **Model-Mode** (F3), switches to Model-Mode, !!use the hotkey!!
- **Polygon-Mode** (F4), switches to Polygon-Mode, !!use the hotkey!!
- **Object-Mode** (F5), switches to Object-Mode, !!use the hotkey!!
- **Texture-Mode** (F6), switches to Texture-Mode, !!use the hotkey!!
- **Portal-Mode** (F7), switches to Portal-Mode, !!use the hotkey!!
- **Grid-Mode** (F12), switches to Grid-Mode, !!use the hotkey!!

GIS concerns the lighting

- **Send Level**, sends the whole level to the GIS renderserver (lighting calculation of the geometry)
- **Send Selection**, sends the selected area of the level to the GIS renderserver
- **Send Level (vol)**, sends the whole level to the VOL renderserver (this

- one is for lighting up dynamic things like characters, weapons, DOs)
- **Send Selection (vol)**, sends the selected level area to the VOL server
- **Set lighting Curve**, lets you change some lighting properties of the map

Tools

- **Go To Default Keyframes**, every dynamic object that has more than one keyframe will display its default keyframe
- **Refresh All Prefabs**, reloads all prefabs, changes will be updated
- **Display Document Statistics**, shows the statistics of the current .lv2-file
- **Dump FSM's to XML Document**, every object that has an message which contains the entered string, will be displayed as an XML-file (similar to HTML)
- **Dump FSM Data**, I am not 100 percent sure about that, didn't work when I tested it
- **Replace Database Names in FSM's**, e.g. at the message: this->A_Play3DSound(enemy,mobster_alert,""); you can change the parameters "enemy" and "mobster" for all messages
- **Level Integrity Test**, searches the level for errors
- **Change File References**, changes the file references
- **Document Preferences** (Ctrl+P), opens up the preferences for your map
- **MaxEd Preferences**, opens up the preferences for the editor

Toolbar

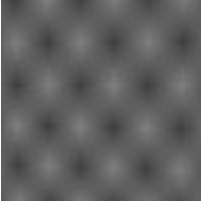
The toolbar contains only few options, they are all accessible through a shortcut.



The text on the left displays our current editing mode. In our case it's the "Object Mode".

Using the dropdownlist, you can display the texture layer of your choice. This also works by using the shortcuts *NUMPAD1*, *NUMPAD2*, *NUMPAD3*, *NUMPAD4*.

The textures you see ingame is the final result of several texture layers that were "mixed" together. At Max Payne 2, the two main layers are the **Diffuse**-Layer (the "normal" texture) and the **Lightmap**-Layer (holds lighting information). The lightingrenderer creates new lightmaps every time you rerender the map. Unrendered Lightmaps (default) look like the image below. A rendered lightmap has a fine colour tone with lit up and darkened areas. When Diffuse -and LightmapLayer are multiplicated together, the result will be a nice textured and exposed area.



You have the following options:

- **Diffuse only** (NUMPAD1), displays the "normal" texture in the 3D window (Picture 1)
- **Lightmap only** (NUMPAD2), displays the lightmap only (Picture 2)
- **Diffuse * Lightmap** (NUMPAD3), multiplies diffuse and lightmap - you can now see how the lighting will be (Picture 3). If you forgot to render or the face has to be re-rendered, the result would look like Picture 4
- **Light Layer only** (NUMPAD4), displays the Light Layer - I don't want to go into detail about that



The next three symbols to the right have the following meaning:

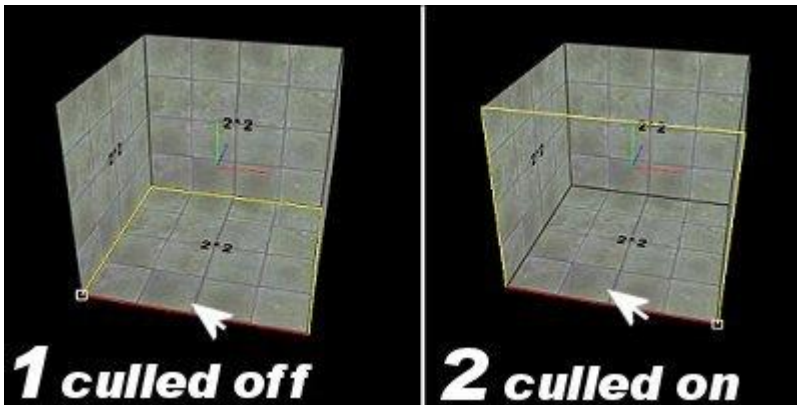


Pivot

This button activates the "*Pivot Rotation Mode*" (F5 + A). You use that mode in Object-Mode (f5) to let an object rotate around a pivot point you specified at your own.

Culled

This changes the way how the selection of polygons (Polygon-Mode) is handled. Lets you select the first visible polygon (Picture 1) or the polygon that is in the foreground (Picture 2).

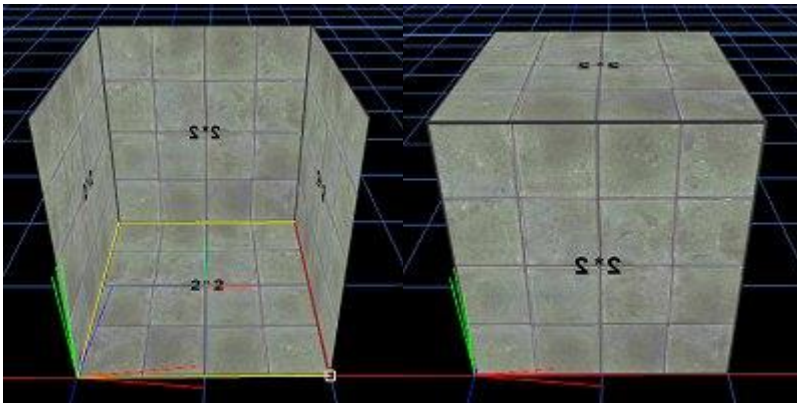


A - Animate (N)

Everytime you want to change a keyframe you have to activate the animation-mode. When it's activated there is a red border around the 3D window. If it's not activated, changes you make to the keyframes wouldn't take effect.

Hierarchy

The Max Payne Engine uses a room geometry. This means you don't create a room by using blocks, you just create 1 block/mesh and flip the faces to the inner side. Levelobjects are created with blocks like in other games. To flip a Mesh you have to go into Polygon-Mode (f4), move the mouse over a polygon and then press *Ctrl+F*.



There's one important rule: Every object (prefabs, entities like weapons and triggers), has to be grouped to a room. Basically the MaxEd groups the objects automatically, but sometimes you have to do it yourself. On the top-level of the hierarchy there are only rooms allowed, otherwise you get errors when exporting the map:

z.B. -> Can't export. There are x top level entities that are not grouped to a room

The hierarchy-window displays, which object is grouped to which room. By selecting a "parent"-object (it's the object located one level up), all child-objects will be selected and moved too. When you select a child in Object-Mode (F5), then the "parent"-object will have a violet border.

Here is an example for a mesh hierarchy:



As you can see there are two normal Meshes (child-objects) and a so called JumpPoint (PlayerStart, child-object too), grouped to a room (parent-object).

The grouping of objects is quite important in MaxEd. You need it for scripting and visibility calculation. Once you know how it works, it's quite useful.

Through the Hierarchy you have direct access to the objects. When you left-click on an object, it's getting green in 3D window. An "intelligent" name assignment can save a lot of time. Generally, when you select a mesh, all child-objects are selected too. To prevent this, go into Object-Mode (f5) and press "V". You can undo this option by the same way.

When you select an object with the **left MB** and then with the **right MB** again, an optionsdialog opens:

- **Properties** (Return, Doubleclick), opens the properties window of the object
- **Edit FSM** (b), opens the FSM editor
- **Edit Player FSM** (Shift+b), enter the messages when playerevents like onDeath occur (e.g. DMW -> gameend)

- **Hide Selection** (H), hides the selected object
- **UnHide Selection** (Shift+H), unhides the selected object
- **Hide Children** , hides the child-objects of the selected mesh
- **UnHide Children** , unhides the child-objects of the selected mesh
- **UnHide All**, unhides all objects
- **Inverse Hide** (Ctrl+H), hides visible objects and unhides invisible objects

- **Goto Node** , camera jumps to the selected object
- **Delete Selection** (Del), deletes the current selection
- **Clear Selection** (ESC), deselects all
- **Add Polygroup** , adds a new polygroup for the object, if selected it adds one for every child-object too
- **Duplicate Polygroup** , creates a copy of the selected polygroup
- **View Matrix** , ???

As an example I have renamed my meshes:



At the bottom of the hierarchy there are three buttons:

- **Button1**, sorts the whole hierarchy by alphabetical order
- **Button2** (F5 + V), when activated, the child-objects of a parent-object won't be selected
- **Button3** (F5 + Shift + Select), when this one is activated and you select an object in 3D View, then the hierarchy window jumps to the selected mesh



Material Window

Using the Material Window, you can administrate all your textures. The different types of textures are partitioned into *texture-categories*. Every category has it's own characteristics, like decals, sounds, particles and collisions. E.g. when you shoot at a texture of the "pipes_steam"-category you will see smoke coming out of the bullethole, when it's a texture of the "stone"-category small stones will fall down the wall. As you can see the texture should allways be in the right category

The textures are saved direct into the .lv2-file. Every map has it's own textures, this also means, that textures affect the map size. Allowed texture-formats are:

.dds (all internal formats), .tga (24bit only), .jpg (24bit only)

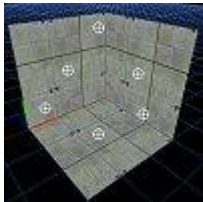
It's important that the textures have a size of the powers of 2 - 2^n (1,2,4,8,16,32,64,128,256,512,1024).



Through the top dropdownlist you can select a category. Afterwards, all textures located in this category will be shown below the dropdownlist with

name and size. You select a texture by pressing the "left MB". By clicking the "right MB" you get a lot of options:

- **Properties** (Alt+Return, Doubleclick), opens the properties window of the texture - under *Diffuse-Texture > Name* you can choose the "normal" texture
- **View as List** , shows a list of the available textures, you get more overview choosing this option
- **View as Thumbnails** , switches to thumbnails
- **Insert Bitmaps** , adds one or more textures to the category
- **Insert Materials from File** , inserts all categories and materials of another .lv2-file into the opened one
- **Delete** (Del), deletes the selected texture
- **Refresh Material** , when you change something at the imagefile you have to chose that option
- **Reset Scalings** , sets the Default Width/Height of the texture back to 0.5
- **Copy Diffuse to Clipboard** (Ctrl+C), copies the selected texture to the clipboard
- **Memorize** , -
- **Replace With** , -
- **Add/Remove Location Aid**, every polygon using this texture will be marked with a white circle



- **Add Category** , adds a new category
- **Move to Category** , moves the selected texture to a chosen category
- **Copy to Category** , copies the texture to the a chosen category
- **Merge Category** , copies all textures of the current category to another and then deletes the current category
- **Remove Category** , deletes the category
- **Refresh All Materials** , reloads all textures
- **Purge Unused Textures** , deletes every texture which is not used - reduces the file size of the map

3D Window

The 3D Window is your main workspace. Through the different modes, you can build new rooms, fly through 3D space and take a look how the level will look like..

Output Window

Displays actual informations about your last working steps (like union, subtract) and informations about procedures that run in the background like AUTOSAVE.

Statusbar

Well, it just shows the name of the object your mouse is pointing at.

Modes

The whole working process with the editor covers a lot of different types of work (modeling, texturing, ..). To keep everything easy, the MaxEd functions are splitted into several modes (*Build (f3)*, *Polygon (f4)*, *Object (f5)*, *Texture (f6)*, *Portal (f7)*, *Grid (f12)*, *Move (Space)*). Every mode has it's own target. During your work, you will have to switch a lot between this modes, so it's recommend to use the shortcuts.

Build-Mode (f3):

Creating new rooms/blocks (meshes), entities like triggers and enemies

Polygon-Mode (f4):

This mode includes the functions to edit polygons (extrude, split).

Object-Mode (f5):

You can select objects and move, rotate them or change their properties.

Texture-Mode (f6)

You can texture your polygons here (scale, align). Another important thing is that you set the lighting options of an face here.

Portal-Mode (f7)

You are able to create new portals here. This is useful for visibility calculation. By adding a new portal, you split a room into two.

Grid-Mode (f12)

This mode is for moving, rotation and aligning the grid.

Move-Mode (Space)

You can change the cameraposition of the 3D window here.

Note: All the options of a mode is accessible through the middle MB. Just go into a mode and then press the *middle MB* when your mouse is inside the 3D window. Try out what the modes offer you.

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