

Auto Texture Assigner - Documentation

Overview

Auto Texture Assigner is a Unity Editor tool designed to automate the assignment of textures to materials based on a naming convention. The tool allows users to quickly associate textures with materials by analyzing file names, ensuring a streamlined workflow for material setup.

Features

- Drag and drop materials into the tool for processing.
- Retrieve materials from selected GameObjects in the scene.
- Automatically assign textures based on a predefined naming convention.
- Undo support for texture assignment actions.
- Persistent texture folder selection.

Opening the Plugin Window

To open the **Auto Texture Assigner** window in Unity:

1. Go to the **Window** menu.
2. Navigate to **Tools**.
3. Select **Auto Texture Assigner**.

User Interface

1. Material List

The tool provides a list of materials that can be manually added via drag & drop or automatically retrieved from the selected GameObjects.

- **Drag & Drop Area:** Users can drag and drop materials directly into the tool.
- **Remove Button:** Allows users to remove specific materials from the list.
- **Get Materials From Selection:** Fetches materials from the selected GameObjects in the scene.
- **Remove All Materials:** Clears the material list.

2. Texture Folder Selection

The tool allows users to specify a folder containing textures:

- Users can manually enter a folder path or select it via a file browser.
- The selected folder is stored persistently between sessions.

3. Assign Textures Button

When clicked, the tool attempts to assign textures to the listed materials based on naming similarities.

How It Works

1. Retrieving Materials

The tool scans the selected GameObjects in the scene and collects unique materials from:

- **MeshRenderers**
- **SkinnedMeshRenderers**

2. Loading Textures

The tool scans the specified texture folder and loads supported image files, including **PNG**, **JPG**, **JPEG**, **TGA**, **TIFF**, **BMP**, and **PSD**. The names of the textures are stored in a dictionary for fast lookup.

3. Assigning Textures

For each material in the list, the tool:

1. Extracts key tokens from the material's name.
2. Searches for the best-matching texture based on naming conventions.
3. Assigns the textures to the appropriate material slots based on the rendering pipeline (e.g., URP, HDRP, Standard).

4. Naming Conventions

To ensure proper texture assignment, textures and materials must have similar names. The system recognizes common texture suffixes such as:

- **Base Color:** `_basecolor`, `_albedo`, `_diffuse`
- **Metallic:** `_metallic`, `_maskmap`, `_glossiness`
- **Normal Map:** `_normal`, `_bumpmap`
- **Emission:** `_emission`, `_ emissive`
- **Height Map:** `_heightmap`, `_displacement`
- **Occlusion:** `_occlusion`, `_ao`
- **Detail Mask:** `_detailmask`
- **Detail Albedo:** `_detailalbedo`, `_detaildiffuse`
- **Detail Normal:** `_detailnormal`, `_detailbump`
- **Specular:** `_specular`, `_specularmap`

The tool attempts to find textures that contain one of these suffixes and assigns them accordingly.

Best Practices

- Ensure that texture file names closely match their corresponding material names.
- Store all relevant textures in a single folder before running the tool.
- Avoid spaces or special characters in texture names to improve recognition.

Conclusion

The Auto Texture Assigner is a powerful tool for streamlining texture assignment workflows in Unity. By maintaining consistent naming conventions, users can leverage automation to significantly reduce manual work.