MeshMaze User Guide

Introduction

MeshMaze is a web application for managing 3D content and the related files. Application is represented as a PHP back-end service and JS front-end. Hence, application requires web-server. MeshMaze may run under Windows or Linux environment and contains only one platform-dependent component, which requires manual compilation.

This guide is divided into 2 parts. Part 1 describes the installation process for the system administrator. Part 2 then describes how to use the system by introducing 4 user roles.

Installation guide

The system is packed as a ZIP archive. This archive contains source code of the system and all the related files, which this system needs. Steps have to be taken to deploy the system are described in this section.

System Unpacking

The main web application is stored inside 'MeshMaze' folder. The entry point for the application is stored inside '`MeshMaze/public`' folder. This folder contains entry-points for the web-server which runs the system. '`Index.php`' serves as a back-end entry-point. '`Index.html`' server as a front-end entry-point. This folder also contains '`.htaccess`' file with important mod-rewrite rules defined. Specifically, any route which starts with "`api/`" is redirected to '`Index.php`'. Blank route "`/`" is redirected to '`Index.html`'. Anything else is used to serve files.

Another folder in the Zip archive is called Assimp2JSON. It contains sources for C++ application to convert different geometry formats using Assimp Library. Once Assimp2JSON application is built, place the executable and library into `MeshMaze/app/bin` folder. Please check the access rights for the executable.

Web Server Configuration

The system was tested on Apache, but system administrator may choose any server, which is capable of serving PHP files and making primitive route modifications to the request.

Phalcon Installation

System uses Phalcon PHP Framework. Phalcon is distributed as a PHP extension and requires manual installation. Please, visit http://phalconphp.com/en/ and install the appropriate PHP extension.

System Configuration

`MeshMaze/app/configuration/InjectConfiguration.php` contains config definition. Line 40 defines permanent system administrators. Please, fill those with your own usernames. Also, please ensure, that the application has R/W access to the `MeshMaze/filedb` folder. Once application is up, please make sure to register accounts with the usernames defined as permanent administrators. to prevent any unauthorized access.

MeshMaze Application User Guide

This section contains instruction on how to use MeshMaze web application. System exposes 4 different user roles:

- Guest
- User
- Moderator
- Administrator
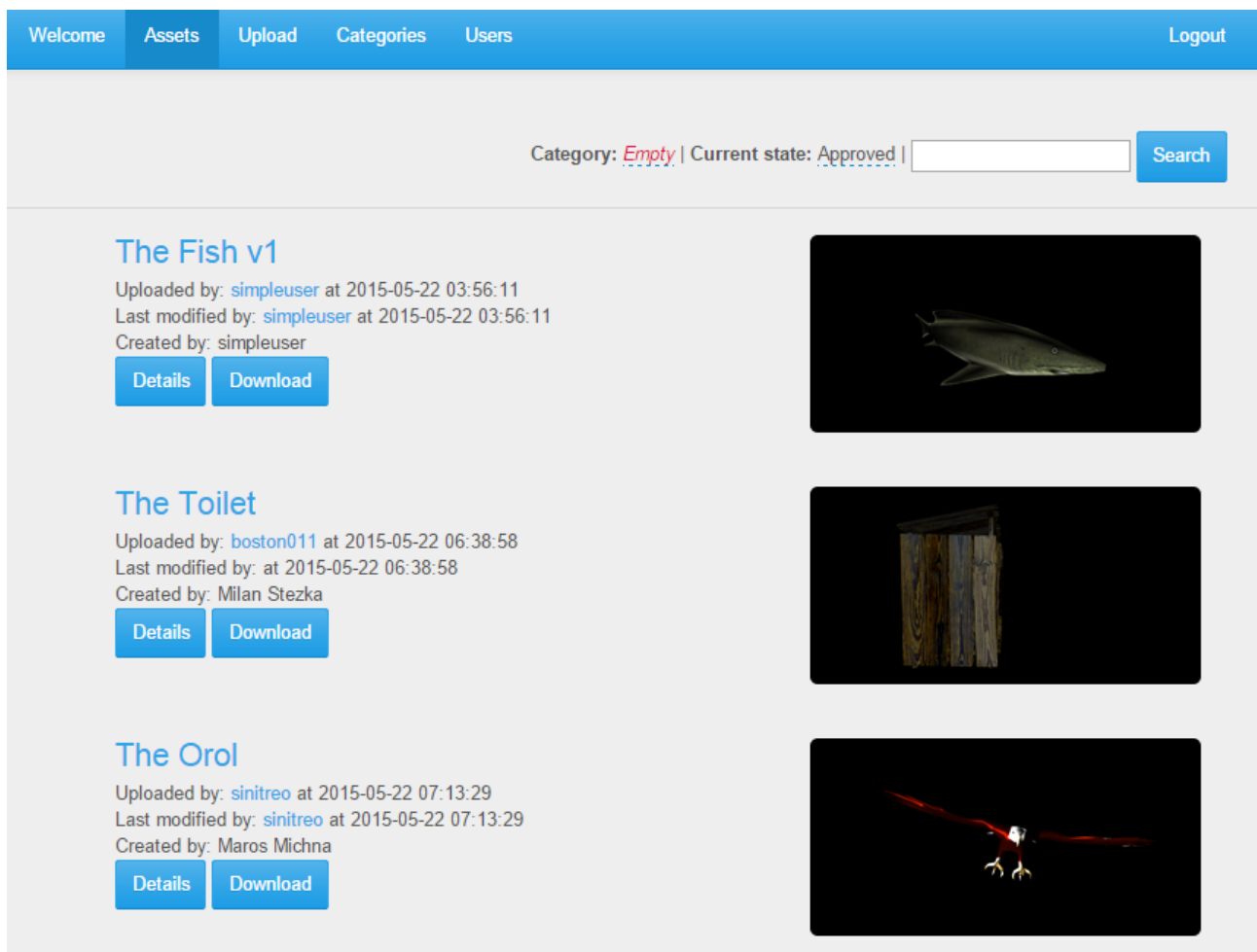
This guide contains description for all the roles, as well as operations, available for those users.

Guest

Any user without certain session data is considered to be a Guest and has a minimum set of available operations. As a guest you may search for different assets. You may then preview, validate and download any public content. Only approved assets are visible for the guest. Additionally, guest may register in the system. With his username and password, guest may log in and become an authorized user.

Asset Browsing

To start searching for assets, open MeshMaze main page and navigate to assets.

By default, latest approved assets will show up. Use search controls, in the top right part of the page, to filter search results based on category, state and search text. Notice, that as a guest, filtering by Pending or Declined state will not show any results. Notice also, that text searching covers asset title, uploader and tags. Click search button to apply selected filters. (However, if you have just installed the system, asset database is empty. Hence, nothing will show up.)

You may navigate to a certain asset by clicking "Details" button. Asset details page contains a lot of information, such as meta data, files and preview image. You may download ZIP version of the asset by clicking "Download" button.
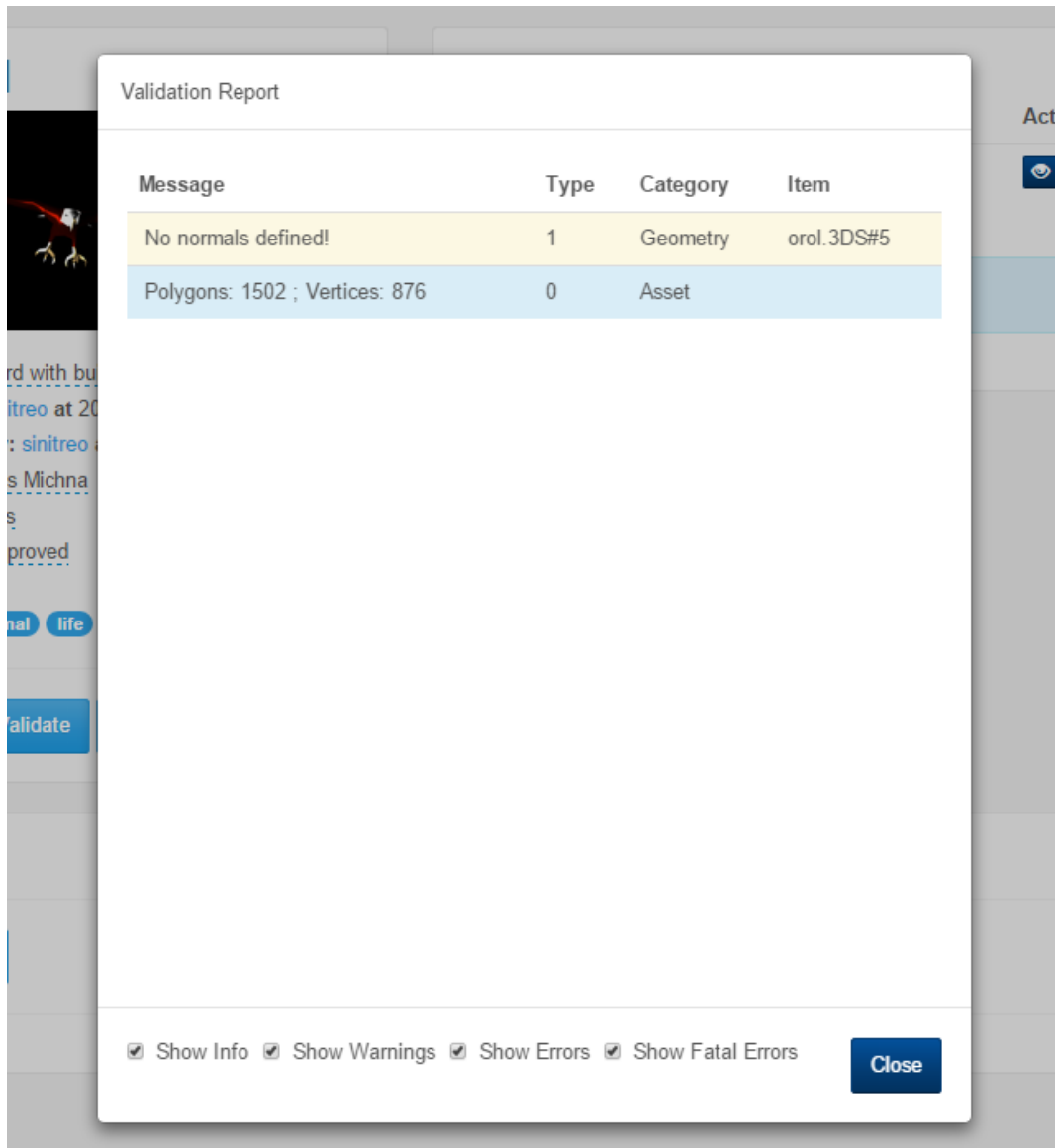
Validation Report

By clicking "Validate" button, you may request Validation Report. Such report contains possible errors, warnings and other messages. Validation Report may contain useful information, such as texture reference deviations and total number of polygons and vertices for each mesh.

Notice, that validation is time consuming operation and may require from 1 up to 20-25 seconds to complete. Time depends on mesh complexity and total number of geometry files, attached to the asset.
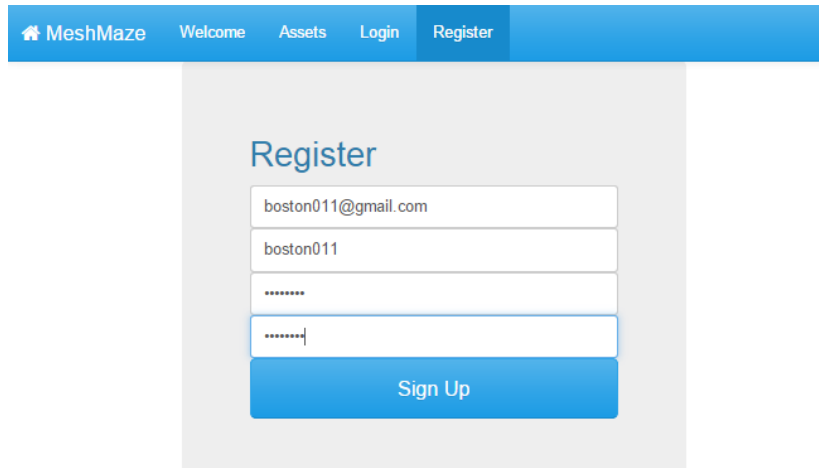
Previewing

You may preview certain content within the asset. Preview-able content is marked with a special button with an eye icon. Certain image formats may be previewed in a modal window. Geometry previewing, however, will bring you to another page with an online model viewer. Model viewer allows you to control lightning model, light intensity and shading. If you preview your own content, it allows you to setup preview picture for your asset.
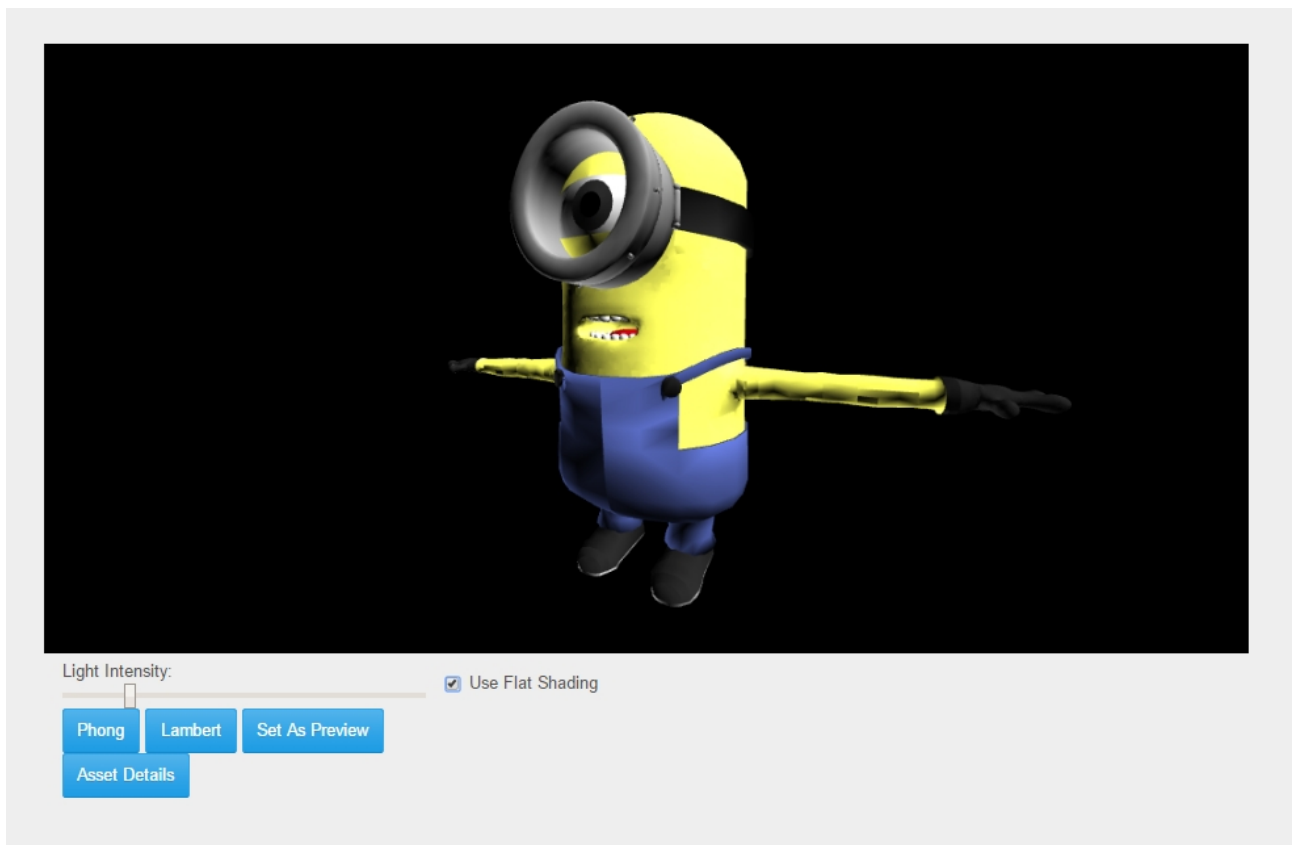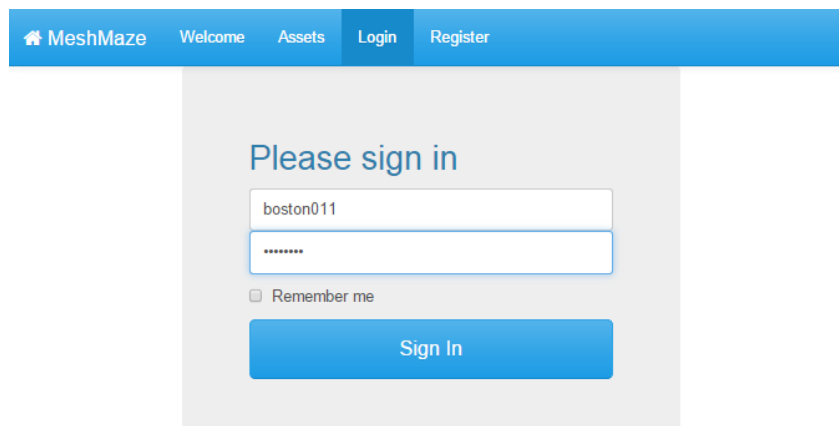
Registering

As a guest, you may navigate to the "Register" tab. This will allow you to create an account within the system. Once registered, you will be automatically redirected to the logic. Then you can use your account data to log in.

User

User is a regular person which has access to general system operations, such as asset uploading and content management.

Asset uploading

To upload new asset, log in, open MeshMaze main page and navigate to Upload tab. Once in there, you will see certain fields to be filled.

Title

The Toilet

Description

The description can be as long as you want it to be.

Tags

building country village wood

Category Buildings

Author

Milan Stezka

Choose File No file chosen

DROP ASSET FILES

Files:

#	Filename	Type	Controls
0	plank1.png	image	Remove
1	plank2.png	image	Remove
2	plank3.png	image	Remove
3	portapotty.mtl	material	Remove
4	plank4.png	image	Remove
5	plank5.png	image	Remove
6	plank6.png	image	Remove
7	portapotty.obj	geometry	Remove
8	portapotty.max	extra	Remove

Submit

Title of the asset should be unique text with minimum of 6 symbols. *Description* is a text which describes your asset. You may include any additional information there. *Tags* are space-divided words. System then uses tags while searching assets. *Category* is a required field. It is used for proper categorizing and searching. If your content is taken from somewhere else, you may specify the original *author*. Leave this field empty, if you are the original author.

You may now select files to upload by either using Choose File button, or dragging and dropping your files, using a special area. Currently MeshMaze recognizes the following formats:

- .mtl
- .material
- .jpg
- .jpeg
- .png
- .dds
- .bmp
- .tga
- .max
- .txt
- .jpg
- .jpeg
- .png
- .bmp
- .fbx
- .obj
- .3ds
- .lwo
- .bvh
- .dae
- .ms3d

Finally click upload. System will try to register your asset in the system. If it succeeds, you will be automatically redirected to the asset details page.

Asset managing

Initial state of your asset is "Pending". This means that moderators are responsible for reviewing your asset and setting it's state to either "Accepted" or "Declined". If your asset is accepted, it becomes public available. However, if your asset is declined, this means something is totally wrong with your content. Probably, moderator will leave a comment for you.


To fix your asset, you may change certain meta data fields, such as category and description. Such fields have a blue underline. You may also add upload new files, or replace the existing ones. Notice though, that uploading the same file again will result into a "File Duplication" error. Once you feel that your asset if fixed, you may click "Pend for review" button. This will set asset to "Pending" state and the process will start from the beginning.

Setting up preview

Preview picture for the asset can be either chosen from a set of textures attached to your asset, or created manually using online model viewer. To create preview picture using model viewer, open your geometry preview, set up the camera, lightning model and light intensity. Then click "Set as preview". Click "Asset Details" to get back to the asset details page and observe the results.
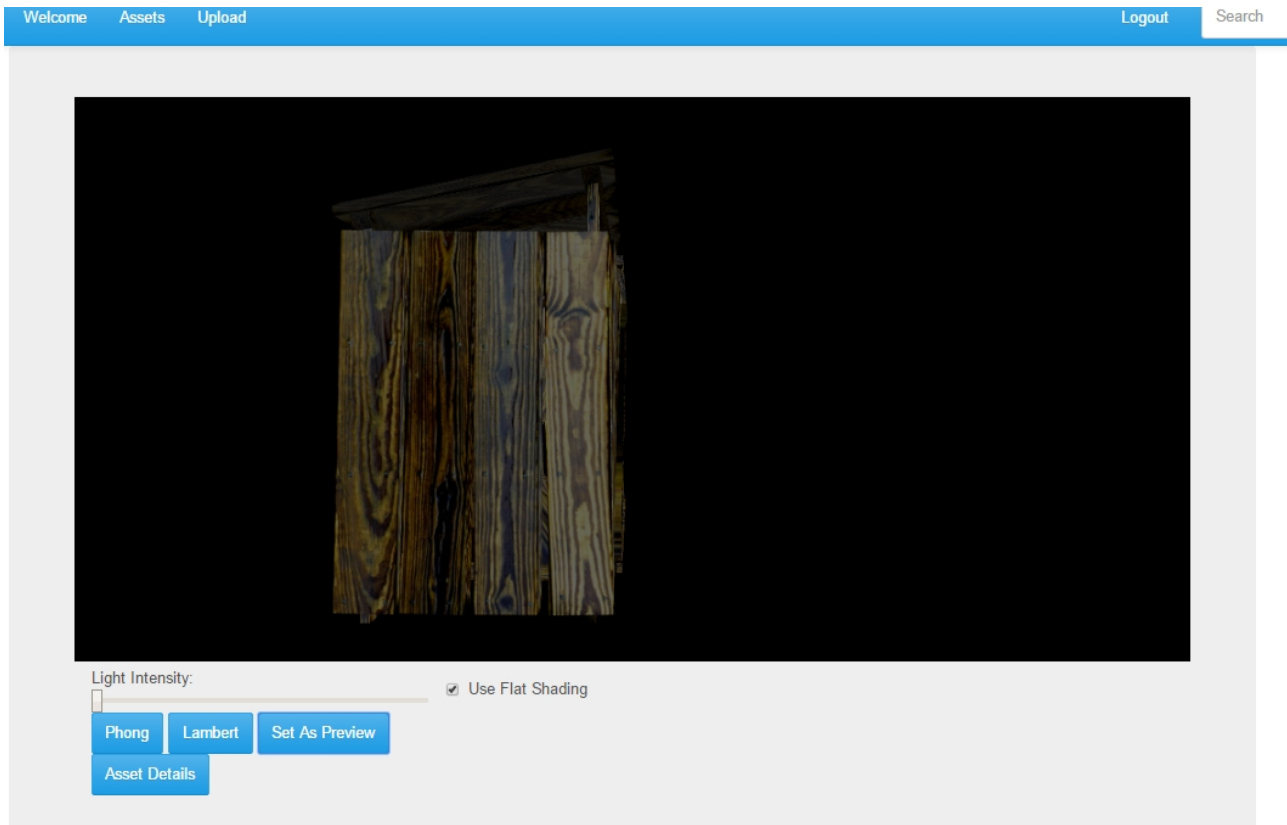
Commenting

Being a registered user, you may leave comments for all the other approved assets. You may express your subjective feelings about the content, or you may leave some important information related to the current content.

Moderator

As a moderator, your main responsibility is asset evaluation. Using the described system features, you have to conclude if the content is acceptable. You then change the status of the asset. Notice also, that as a moderator you may modify asset content. To search for pending assets, navigate to the assets tab and adjust your search filters as shown. Then click Search.
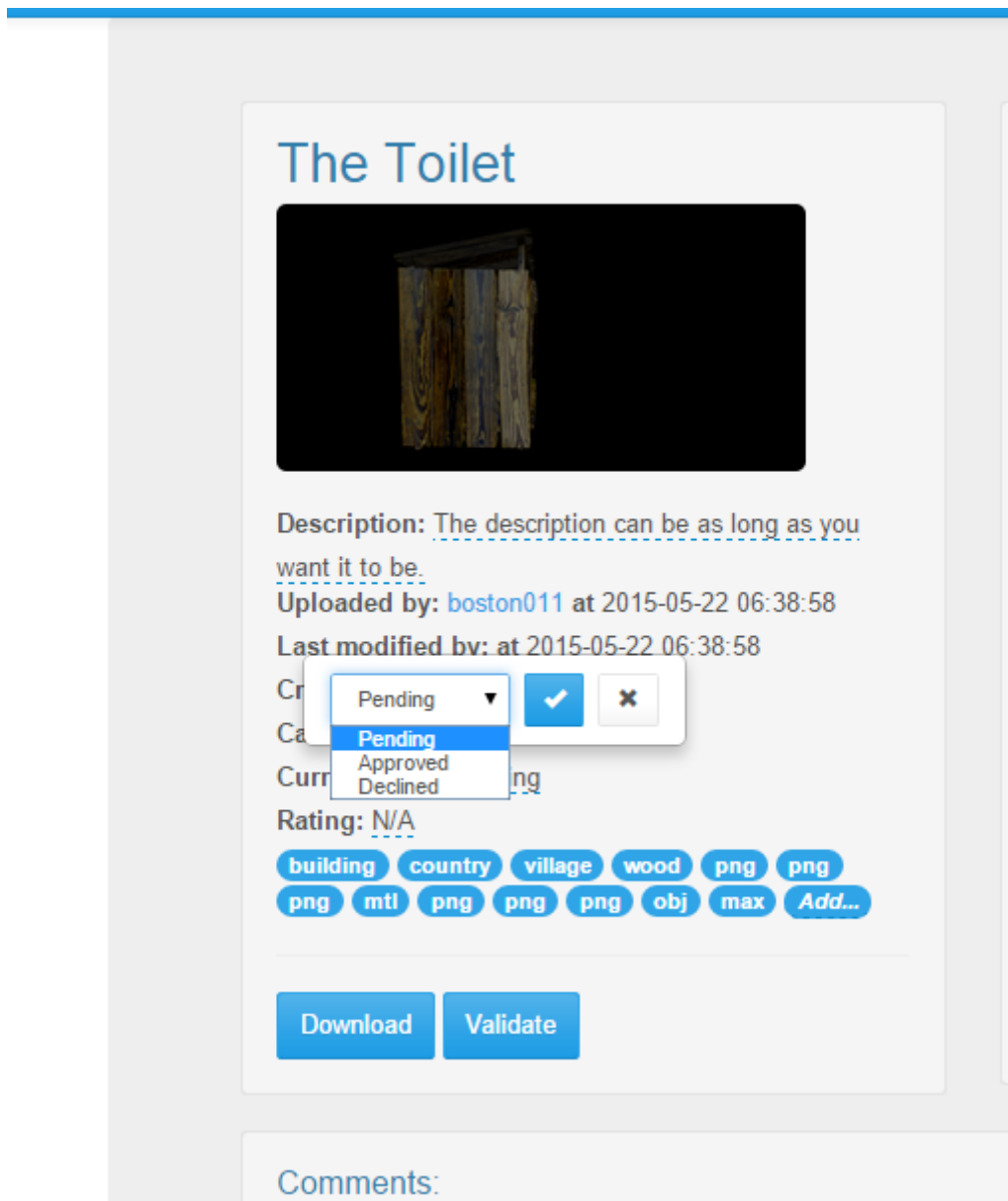
On the asset details page you may now change status for the desired asset.

Once you change the status to "Accepted", asset will become public. Notice also that you can change rating of the asset and leave optional comments.

Administrator

Administrator has an ability to add or remove categories and moderators. Administrator has all the other rights, as well. To manage categories, available in MeshMaze, navigate to the "Categories Tab". A very minimalistic control panel allows you to add and remove categories. Notice, that you can click category title to change it.
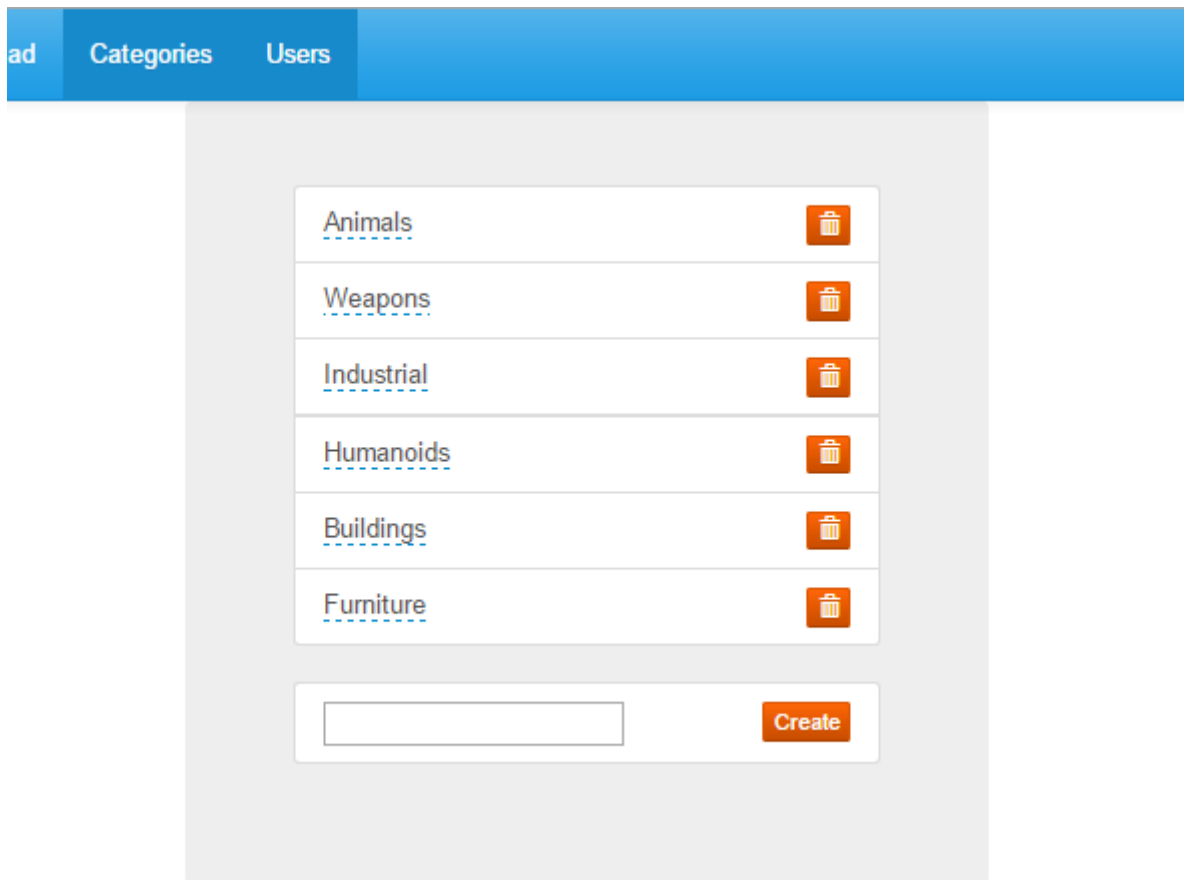
To manage system moderators, Navigate to the "Users" tab. A table of users will show up. For any non-administrator user, you may define the rights using 2 buttons: "Make Moderator" and "Make User". User is then attached to a certain user group. You may also change user emails. Search menu is available in the top-right part of the page

#	Username	Email	Controls
16	sinitreo	sinitreo@gmail.com	Permanent Administrator
17	simpleuser	simpleuser@gmail.com	🔧 Make Moderator
18	boston011	boston011@gmail.com	🔧 Make Moderator
19	moderator1	moderator1@gmail.com	🔧 Make User