Mesh to Terrain

Version 2.1

Contents

Description

Component to convert 3D models into Unity Terrain. Can work as with all objects on a layer, and only the selected objects. Does not require the manual addition of components of physics (colliders).

Using

Add the 3D scene model that you want to convert into Terrain. The number of models is not limited, and they can have any nesting.

Important: You can use any model, but Unity Terrains can only be rectangular. Keep this in mind when converting non-rectangular models.

Select the menu item «**Window / Infinity Code / Mesh to Terrain**», to open the component.

Specify the required settings, click «**Start**» and wait for the conversion. Depending on your computer performance, the number of pieces and settings it can take from a few seconds to several minutes.

Important: If the model has a collider, other than «**Mesh Collider**», it can be converted incorrectly. To solve the problem, remove the collider component from models.

Description of fields
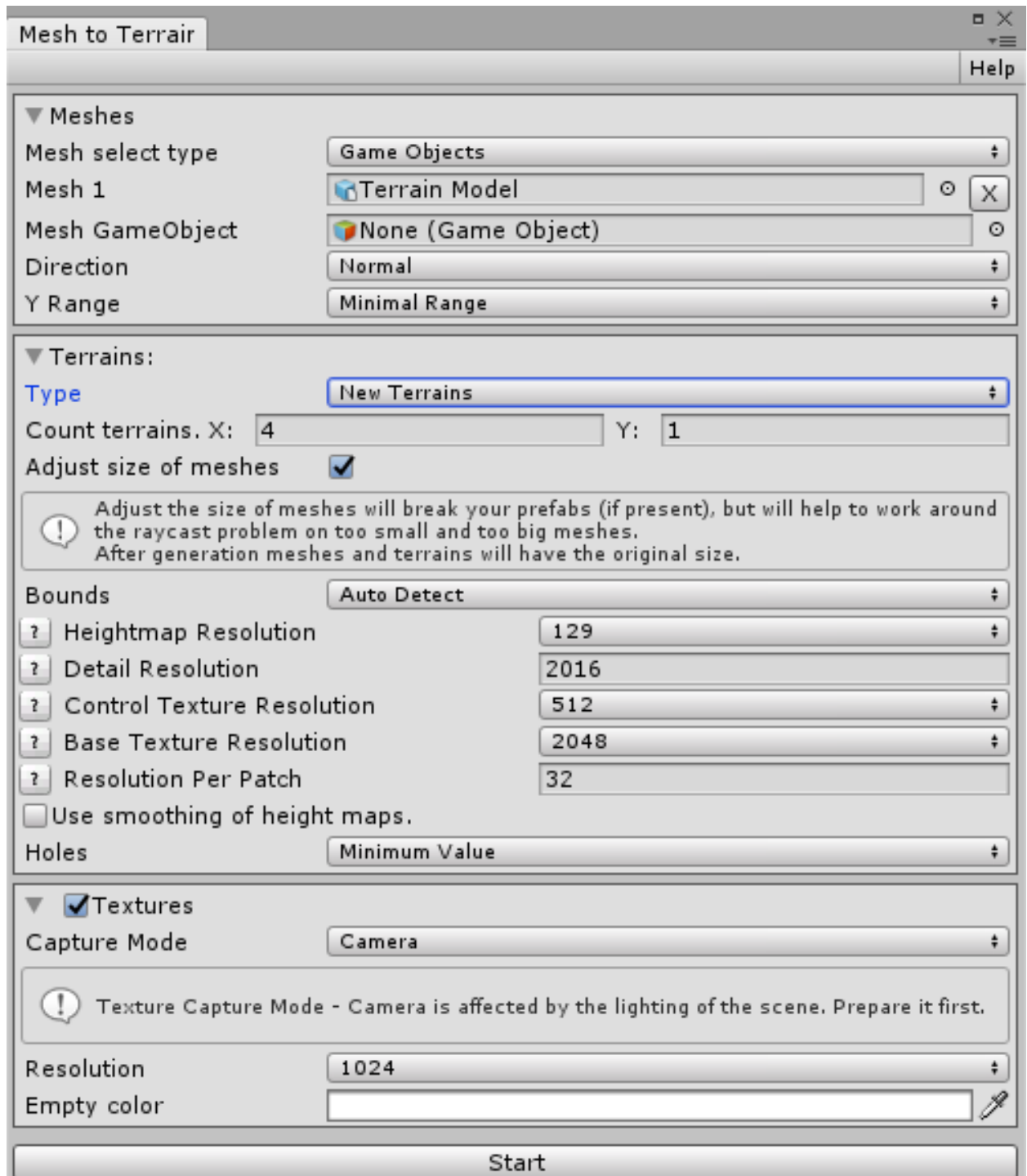
Mesh to Terrain window contains three sections:

- **Meshes** – List of mesh, which will be converted into terrains, and general conversion settings.
- **Terrains** – Settings of terrains.
- **Textures** – Settings of textures.

Meshes

In «**Mesh select type**» section Meshes, select how you want to define a model for the transformation:

- **GameObjects** – Objects to be added manually. For all the added objects considered subobjects. To avoid errors, you must remove all unnecessary sub-objects of the objects do not belong to the terrain.
- **Layers** – As models for the conversion of all the models used in the layer. In order to avoid errors from the layer to remove all unnecessary objects that do not belong to the terrain.

In «**Direction**», specify the direction of raytracing:

- **Normal** - Rays go from top to bottom.
- **Reversed** - Rays go from bottom to top. Must be used if the polygon model is facing downwards.

In «**Y Range**», select the desired range of heights:

- **Minimal Range** - the range of values will be determined automatically based on the meshes boundaries Y.
- **Long Mesh Side** - the range of values will be determined automatically based on the meshes boundaries by the maximum size of X and Z.
- **Fixed Value** - allows you to specify a Y range manually. The higher the value, the lower the accuracy.

Terrains

In «**Type**» section Terrains, select:

- **Exist Terrains** - If you want to convert your existing terrains. To do this, place the terrains under the models and add terrains to the list.
- **New Terrains** - Terrains will be created and placed under the model automatically. In the appropriate fields number of the terrains that will be created.

If «**Type - New Terrains**» is selected, then there are additional settings:

- **Count** - Number of terrains you want to get.
- **Adjust size of meshes** - The size of meshes will be adjusted to work around the problem of raycasting for very small and very big meshes.
  After generation, Mesh to Terrain will restore the original hierarchy and size of meshes.
  Important: If meshes are part of prefabs, after using this setting prefab will be lost.
- **Bounds** - Type boundary of the model:
  - **Auto Detect** – model boundaries are determined automatically.
  - **From GameObject** – boundaries of model set by another GameObject. This GameObject must be Cube without rotation and include the entire area you want to convert.

o   **Select Bounds** – you manually select the boundaries (like in Collider). Click «Show Selected», to start select the boundaries.
- **New terrains settings**.

If you want to use smoothing, choose the «**Use smoothing of height maps**» and set the smoothing factor.

Field «**Holes**» determines the behavior of Mesh to Terrain for areas of models where the height is unknown (holes and the edge of the model, if the model is not rectangular):

- **Minimum Value** - will use the minimum height.
- **Neighbor Average** - height will be calculated on the basis of the neighboring known values.

Textures

Mesh to Terrain can optionally generate one texture for each Terrains.

Mesh to Terrain has two modes for generating textures:

- **Camera** - textures will be created using a dynamic camera with orthographic projection. Required Adjust size of meshes - ON.
  Important: when generating textures, lighting is used, which will affect the result. Prepare the lighting first.
- **Raycasting** - textures will be created by raycasting the main textures of meshes.
  Important: this texture generation mode only uses the main texture of the first material.

Convert from the context menu

In the «**Hierarchy**» right-click on the GameObject, you want to convert into terrain. Opens «**Mesh to Terrain**» with the selected GameObject.

Holes

Unity Terrains not support holes, but you can work around it.

Use «**Holes**» to determine the behavior of Mesh to Terrain for areas of models where the height is unknown (holes and the edge of the model, if the model is not rectangular).

If you want to make a holes, you can use third-party assets (Terrain Hole System or equivalent).

Working with Relief Terrain Pack

Relief Terrain Pack is not included with Mesh to Terrain package and by default integration is disabled.

Import Relief Terrain Pack to your project. Open Mesh to Terrain. Third-party / Enable Relief Terrain Pack.

No settings Relief Terrain Pack is required. If you have any questions about Relief Terrain Pack, you can find answers in the documentation of Relief Terrain Pack.

If you want to delete Relief Terrain Pack from the project, you should first disable it in Mesh to Terrain (Third-party / Disable Relief Terrain Pack).

If you forget to disable Relief Terrain Pack and removed it, then you will see errors in the console. To manually remove support of Relief Terrain Pack, open PlayerSettings (Edit / Project Settings / Player) and delete the corresponding entry from «Scripting Define Symbols».

Updating versions

In Unity Asset Store we ship only stable versions. Renewal period is several months.

Mesh to Terrain has a built-in update system, using which you can get early access to all versions and updates.

Click «**Window / Infinity Code / Mesh to Terrain / Check Updates**», to open window checking for updates. Enter your Invoice Number, select a channel of updates and click «**Check New Versions**».

If updates are available, you can read the list of changes and download the update.

If you have any problems with installing the update, then:

1. Open an empty scene.
2. Delete the folder «**Infinity Code / Mesh to Terrain**».
3. Import the new asset version in the project.

Troubleshooting

After starting you get the error border or nothing happens.

There are two reasons for this:

1. The models in the scene have a size that is insufficient for correct operation of physics. You need to increase the model in 100 + times and start the component again The problem is that the default scaling factor of imported models «**0.01**».
2. You choose the models are not in the scene. Add model in the scene and convert them.

Terrains not correspond to the models axis Y.

1. Scale up the model several times.

New terrains have a insufficient resolution / accuracy.

1. Increase the Height Map Resolution.
2. Increase the number of new terrains.

You can not see the grass or trees.

1. Zoom in to the place where you draw grass or trees.
2. Increase the value of «Tree Distance» in Terrain settings.

You receive an error «Selected meshes not in the scene», and the model is in the scene.

Please make sure that you choose a model from the tab «**Scene**».

Support

We provide support by email (support@infinity-code.com) in English and Russian languages, or using forum (http://forum.infinity-code.com) in English language.

If you have something does not work, you find a bug, or you have a suggestion, please contact us.

Please, specify your version of Unity, OS, and the current version of Mesh to Terrain.

We strive to answer all emails in the customer support within 24 hours.

Other Infinity Code assets

Online Maps

https://assetstore.unity.com/packages/tools/integration/online-maps-v3-138509

Online Maps - is a universal mapping solution that is suitable for all applications and games that use a map.

Features:

- Supports Unity v2017.1 - 2019.x;
- Standalone, Android, iOS, Windows Store, WebGL;
- Online and offline maps;
- 2D maps and 3D maps with elevation;
- 2D, 3D and Billboard markers;
- Supports Texture, GUITexture, NGUI, SpriteRenderer, uGUI (UIImage, UIRawImage) and Tileset;
- Google Maps, Mapbox classic, ArcGIS, Nokia Maps (HERE.com), Virtual Earth (Bing Maps), Open Street Maps, and many others (16 providers, 88 map types);
- Multilingual map with the ability to create your own style;
- Supports Google API web services: Direction API, Elevation API, Geocode API, Places API, Roads API;
- Other web services: Open Street Map Overpass API, Bing Maps Elevation API, Bing Maps Location API, HERE Routing API, Open Street Maps Nominatim, Open Route Service;
- Show Google Street View using uPano;
- Additional Features: GPS (with emulator), cache, traffic, Overlays, Drawing API, runtime 3D buildings;
- Integration with: Bolt, Curved UI, EasyTouch, Fingers - Touch Gestures, NGUI, Playmaker, Real World Terrain, TouchScript, uPano;
- Easy-to-use and powerful API. Large number of examples of using is attached. Atlas of Examples;
- Built-in update system.

Real World Terrain

San Francisco, USA

Real World Terrain is a tool for creating terrains, meshes, Gaia stamps and RAW files, based on real geographic data and objects based on Open Street Map.

Features:

- Supports Unity 5.6 - Unity 2019.x.
- Elevation Heightmaps:
    - ArcGIS resolution of max 10 meter per pixel;
    - Bing Maps resolution of max 10 meter per pixel;
    - SRTM v4.1 resolution of 90 meters per pixel;
    - SRTM30 resolution of 30 meters per pixel;
    - Mapbox.
- Texture providers: ArcGIS, DigitalGlobe, Map Quest, Mapbox, Mapy.CZ, Nokia Maps (here.com), Virtual Earth (Bing Maps), Open Street Map + ability to download tiles from custom url.
- Satellite images resolution of max 0.25 meter per pixel.
- Can create: Unity Terrains, Meshes, Gaia stamps, RAW files.
- Can create objects based on Open Street Map:
    - Editable roads for EasyRoads 3D v3 and Road Architect;
    - Editable buildings for BuildR2 (editable) or built-in building engine;
    - Rivers;
    - Trees;
    - Grass.
- A tool to select area directly on Google Maps.
- A lot of extra tools for working with coordinates, objects and postprocessing.
- Unlimited number of generated terrains.
- Integration (optional): BuildR2, EasyRoads 3D v3, Gaia, Online Maps, Playmaker, Relief Terrain Pack, Road Architect, Vegetation Studio, VolumeGrass, WorldStreamer.

Terrain Quality Manager

https://assetstore.unity.com/packages/tools/terrain/terrain-quality-manager-28949

Terrain Quality Manager allows you to change the resolution of Heightmap, Detailmap, Alphamap and Basemap, without losing data.

If you need to increase the quality of terrain, or optimize terrain for better performance, with this tool you can do it.

Features:

- • Supports Unity v5.2 - Unity 2019.x;
- • Allows you to change resolution of Heightmap, Detailmap, Alphamap, Basemap and Resolution Per Patch, without losing data;
- • Works for single terrain, all terrains in scene, all terrains in project;
- • Allows you to scale up and scale down terrain maps;
- • Seamless result, when working with multiple terrains;
- • Very easy to use.

uContext

uContext is a unique productivity and usability toolkit for Unity Editor, which simplifies working with content, adds new features to the editor, corrects and improves the built-in behavior of the editor.

uContext is primarily aimed at level designers, and can improve and completely change the usual workflow.

Key features:

- The context menu allows you to quickly open the most useful windows and components, create objects, add components, navigate and perform many more useful actions.

- WAILA (What Am I Looking At) + Smart Selection. WAILA displays one or all GameObjects under the cursor, and allows you to quickly find any object, even if it is hidden behind another object.

Smart Selection allows you to quickly select any object that WAILA shows.

- Ability to open any component in a separate window. The component will always be available, even if GameObject has lost focus.

- View Gallery - displaying images from all cameras in the scene and all View States, with the ability to set the view from the camera or View State with one click.

- Bookmarks for components and GameObject, allow you to always keep your most needed objects at hand.

- Preview of cameras in Scene View, shows the image from any camera in Scene View.

Allows you to quickly view the scene from different angles, and adjust the scene view in one click.

Improves the built-in behavior of the Unity Editor:

- Drag and drop objects onto Canvas;

- Add Component by shortcut;

- Change the size of the brush Terrain Editor using the mouse wheel.

Additional features:

- Fast switching between Scene View and Game View (CTRL + SHIFT + TAB);

- Temporary objects. Allows you to create temporary objects that will be destroyed at start the scene;

- Fast zoom in / out scene view;

- Built-in update system.

uContext is fully customizable. If a feature does not fit your workflow, you can adjust or disable this feature.

uPano

uPano (Unity Panoramic Framework) is a universal solution for displaying dynamic and static panoramas, and creating VR tours.

Most of the existing types of panoramas are supported: spherical, cylindrical, cubic panoramas on single or six images, cubemap.

uPano is very easy to learn and use, and is great for people who do not have programming experience. In most usage scenarios, you can make interactive panoramas without creating your own scripts.

If you have some very specific purpose, uPano has a powerful and easy-to-use API that will allow you to implement any behavior.

Supports Unity v2017.1 -2019.x.

Supported platforms: Standalone, iOS, Android, Universal Windows Platform, WebGL.

Other platforms have not been tested, but most likely uPano will work well.

Additional features:

- Interactive elements (Hot Spots, Directions) + Visual Editor;

- Lots of built-in actions for HotSpots and Directions;

- Compound transitions;

- Download Google Street View panoramas by ID or location;

- Video panoramas;

- Control with: mouse, touch, keyboard, gyro, compass, UI buttons, UI compass, UI joystick;

- Integration with Online Maps;

- Built-in update system.

Final words

We sincerely hope that you will enjoy using Mesh to Terrain.

If you have any questions or problems, please contact us.

We will try to help you as quickly as possible.

Please do not forget to leave your review in Unity Asset Store.

It is very important for us to have feedback from users to make our assets better.

For other users, it is also very important to make a right understanding of this asset.

Links

Product page: http://infinity-code.com/en/products/mesh-to-terrain

Forum: http://forum.infinity-code.com

Support: support@infinity-code.com

Videos: https://vimeo.com/channels/490422