

# How to create custom models for the Out of the Park Baseball 21 Ballpark Construction Kit

## Overview

A ballpark in the Construction Kit ("CK") consists of

- a field model (a flat square with a field texture on it)
- a model of the lower stadium parts left and right of the field in a minor version and a major version
- 6 sectors behind the outfield

Multiple 3D models can be chosen for each of the 6 sectors. On the OOTP21 Construction Kit page the user can pick one of 5 field forms, which means technically that for each field form there are different models to choose from for each of the 6 sectors. It is possible to create custom field models and custom sector models. Ideally, if you decide to build a custom sector model, you should build 5 versions of it so it can be used in all of the 5 field forms (but you don't have to).

## Creating new field models

In contrast to sector models, for each field model there is only one version and they are shared by all field forms. They are found in the directory:

`"data\ballparks\models\construction_kit\fields"`

In the path listed above, you will find the folders field\_0, field\_1 ....

Copy one of those somewhere and change its name. Please don't name it like the other ones; this will avoid name clashes in the future when we provide more field models with names field\_N, where N can be any number.

Inside the folder you will find an image file "grass.png". Replace that one with a file you've created. But make sure that the foul lines and bases are in the same place on that texture and ideally make the edges transparent like the original.

Then create a normalmap for your texture by uploading your file to

<http://cpetry.github.io/NormalMap-Online/>

by dragging and dropping it on the square image on the left side of that page.

Then change the values on top of the bluish box in the center to

**Strength:** 0,55  
**Level:** 10  
**Blur/Sharp:** 32

Then click on the download button and you should have a bluish normal map that fits to your field image. Replace the grass\_n.png image in the field folder with that image.

Then rename the .pod file in your folder to the same name of the folder. For example, if the pod is named field\_0.pod and you named your folder „my\_field“ then you have to rename the pod file to "my\_field.pod".

## **Creating sector models**

You can find "demo.obj" and "demo.mtl" as a sector 3D model demo in the folder

"data\ballparks\models\construction\_kit\parks\park\_0\sec\_2\demo"

Lets have a look at the path: "parks" could be also translated to "field forms" because it holds the folders park\_0, park\_1, ...park\_4 which represent the 5 field forms the user can choose from inside OOTP 21. In each of these park\_N folders you will have the folders sec\_0, sec\_1, ... sec\_4 which represent the outfield sectors counting from left to right. So for example sec\_2 holds all the 3d models for the center field. And that is where our demo model folder "demo" is located.

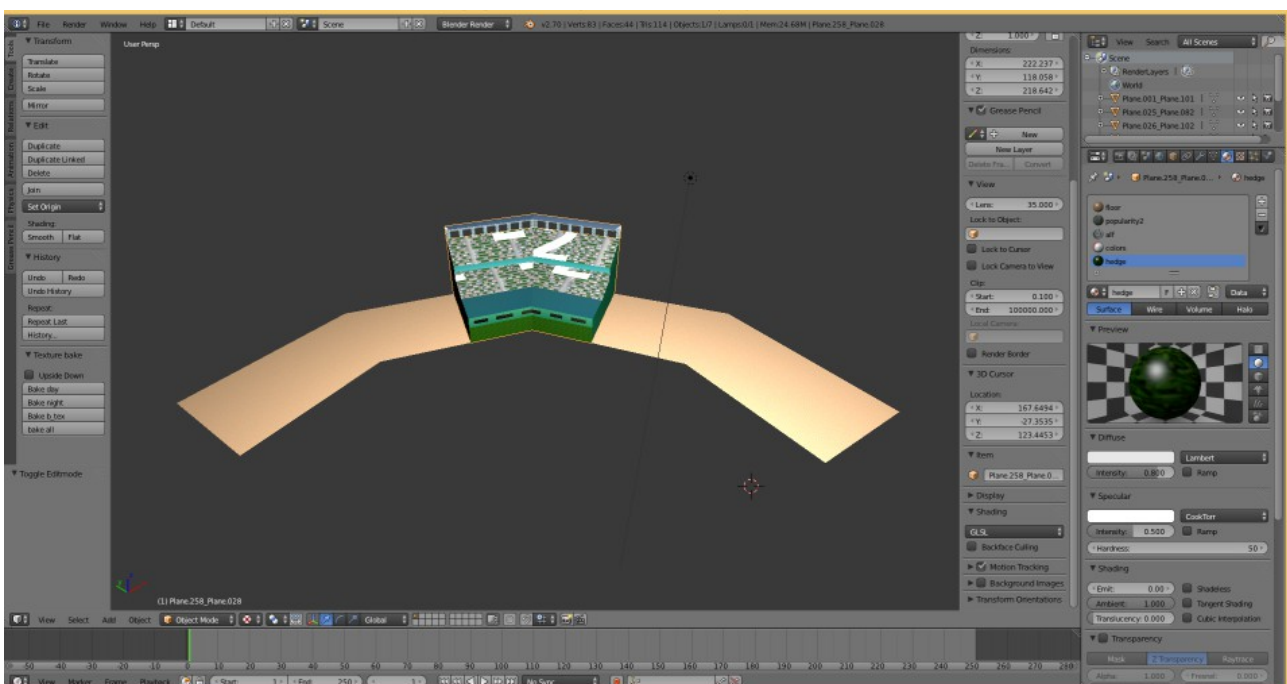
In this folder is an obj file and a mtl file. The mtl file contains the paths to all used texture image files.

To create an obj 3d model file, you can use any 3d modeling tool you like. It is only important that the exported 3d model is located exactly at the position in 3d space where it should appear.

To achieve this, use one of the 5 sector floor patters park\_0.obj, park\_1.obj, ..., park\_4.obj also located in the demo folder. You need to import those into your 3d modeling program one at a time and build what ever you want on top of it. You need to have applied all transformations like scale, rotation and translation before the export so they are applied to the model which should then fit perfectly to the pattern model.

While modeling, please make sure that you don't alter the pattern model. Otherwise it can't give you the exact position in space where you need to create your model.

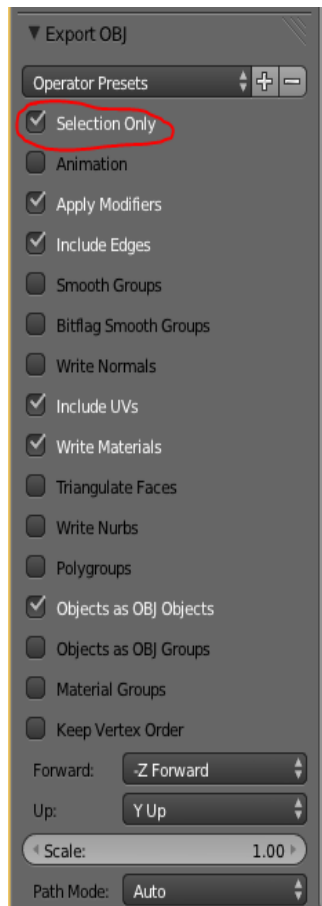
Also, make sure all surfaces do have a texture applied to it because untextured surfaces might cause OOTP 21 to crash.



**Image 1**

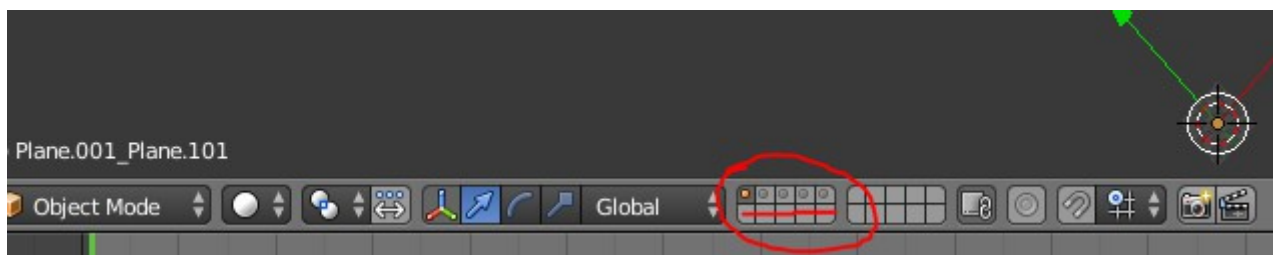
When you're done, export your work as an obj file. After export make sure all the texture paths are right (relative path, so no "c:/..." in it!). It is recommended to use blender for the creation of the 3d model since using it for creation and export has been tested and worked well in the past. Image 1 shows how it looks like for the demo model.

To export your created model without the floor patterns, select your model only and on the obj export options panel check "Selection Only" (see **image 2**).



***Image 2***

For convenience there is also a pattern model "all\_parks\_demo.blend" file for all field forms which makes modeling even easier. All patterns for one field form are located on one of the top layers going from left to right for park\_0 to park\_4 (see **Image 3**).



***Image 3***

After you're done modeling a new sector file for a park\_N (for one field form), you need to browse to the park\_N's sector folder and create a new folder with the name of your sector model there.

For example, if you created a model for sector\_0 (most left sector) of park\_2 (3rd field form since parks are counted beginning by 0), and you want to name it "demo\_1", the path to your 3d model will then have to look like this:

*data\ballparks\models\construction\_kit\parks\park\_2\sec\_0\demo\_1\demo\_1.obj*

Important to notice here is that you have to give your 3d model and its folder the same name, otherwise OOTP 21 will not be able to load your model. That is also the reason why OOTP 21 ignores the other obj files in the demo folder and only loads the "demo.obj" since it has the same name as its folder.

When choosing a name please make sure not to name it in the schematic "ext\_ + number" the existing models are named to prevent name clashes in case we provide more sectore models with patches in the future. For example, don't name it ext\_7.

### **Audience in sector models**

To have moving audience, you need to set the texture path in the exported .mtl file up like this:

"map\_Kd ../../../../attendance/seating\_popularity2.jpg"

Where "seating\_popularity2.jpg" can be replaced with one of the strings

seating\_popularity1.jpg  
seating\_popularity2.jpg  
seating\_popularity3.jpg  
seating\_popularity4.jpg

depending on how crowded a seating area is supposed to be. "1" is kinda empty, 4 is kinda full.

### **Day and night system**

It is possible to give the 3d sector models two sets of textures so the models look different when a play takes place at day time vs. when it takes place at night time. For example surface might look much darker at night compared to how they look at day time.

If you have created two sets of textures, just add "\_day" to the ones for the day version and "\_night" to the ones for the night version. When you look in the demo folder you will see "hedge128\_day.png" and "hedge128\_night.png" and in the demo.mtl file you will find the texture path

"map\_Kd hedge128\_day.png"

as an example of this.