# Using Google SketchUp with 3DSimED Tutorial.

In this example I am going to resize an object from the rFactor Joesville Speedway track by using a combination of 3DSimED and Google SketchUp. There are simpler and quicker ways, to achieve the simple change below but I am giving you a method that will work even when you have more complex editing tasks.

The same procedure could be followed for tracks from GTR2 or Race 07/GTR-Evolution/STCC.

Before you start you may need to download the .DLLs 3DSimED requires to Export and Import SketchUp files. You can find those files at the support page: http://www.sim-garage.co.uk/support.htm.

1) Import JOESVILLE_SPEEDWAY.SCN.

2) Use the Export->Export Textures to save the texture maps. I would use a completely new folder for this. When you are asked whether to 'Rename Textures…' answer 'Yes' (the yes is important).
   rFactor tracks have all their objects and textures packed into .MAS files. These objects and textures are extracted and placed in temporary folders when a .SCN is imported and the folder plus its contents are deleted when the .SCN is closed. The Export Textures function gave us a copy of all the textures used by the track.

3) Use the Main->Save Materials function (the Main menu is accessed using the large 3DSimED button at the top left) to save the materials (to use same folder as the textures were exported to is fine). This is an important step.

4) Google SketchUp cannot read .DDS files so use the Tools->Texture Browser->Batch Conversion command to convert all the .DDS files, exported above, to .PNG format and make sure they are written to the same folder as the .DDS files. *When the scene is exported to SketchUp any textures with the .DDS extension will be renamed to .PNG.*

5) Use the Edit->Centre Objects function to make sure every object has its own coordinate system.

6) Save the modified scene with Main->Save 3SE, I would suggest to the same folder as the textures. This step is not essential but it gives us a backup of the scene with the centred objects and new texture path.

7) To export to Google SketchUp format use the Export->Google SketchUp command. When exporting the options should be set to 'yes' for all options: Soft & Smooth Edges; Exclude Sky Objects; and Hide Invisible Objects.
   Tip: if you think the Google SketchUp export is going to be used often then you could right-click on the button and add the command to the Quick Access Toolbar at the top of the ribbon and it will constantly be available. I export to a folder that is only used for SKP files exported from 3DSimED but, of course, it is entirely up to how you want to organize. One point worth mentioning is that you cannot overwrite a SketchUp drawing that is opened inside SketchUp.

8) If SketchUp is not running, start it and with the File->Open command of SketchUp it should be possible to open the SKP exported from 3DSimED.

9) Select one of the objects to edit, if you are working with Joesville I suggest the barrels object near the start/finish line, easy to find and to see later when you drive the track.
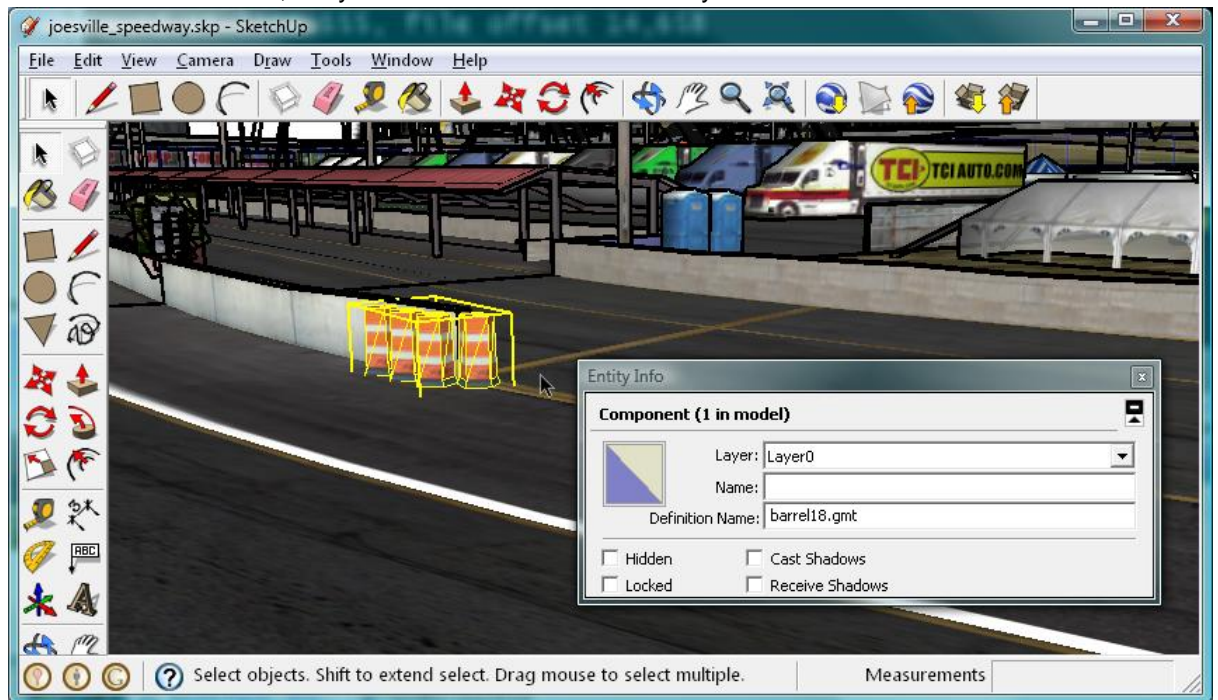
10) Change the height of the object. For this, you need some understanding of SketchUp but in brief: select the component; choose the scale tool; by clicking on the grip at the centre of the top of the selection; typing '2' you will re-scale by 2; deselect (CTRL-T or right-click on nothing). Save the changes, I would use a separate folder so that you still have a copy of the SKP exported by 3DSimED but it's entirely your choice.

11) Return to 3DSimED and Import the SKP with the both 'Create Objects…' and 'Use Textures contained …' set to yes. Select the SKP and be patient as it can take a long time for the SKP to load.

12) Hopefully, the changes made show but you make notice that the rendering looks very flat, because the material shaders are missing. Use Main button->Load Materials to open the materials saved in step 3) above. Note that this step is essential when working with any of the ISI formats – it is not just for 3DSimED rendering.

13) Taking as much care as possible only the edited object should be saved. To prepare to save the object, right-click and Hide the object. Then, use Edit->All->Objects->Erase to delete all visible objects. With Display->Object Filter->All On the object should become visible and it will be the only object remaining in the drawing. To keep everything working as quickly as possible then use Edit->Purge Objects to clear the unused objects from memory.

14) Now you can use Export->rFactor->Save Objects to save only the object altered. Save to Joesville folder and the game will use that object rather than the one packed in the .MAS file. At a later stage the object can easily be deleted to return the track to as it was before. However, before that you might want to drive a lap just to be sure the edited object has changed in the game.

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