Bsg2obj ReadMe

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This software developed by using Visual Studio community 2017, c++10, uses DirectX12 to convert model meshes, MFC to design GUI, and winsocket for communication between foreground and background.

Watch out:

★ The communication between foreground and background need to use localhost:75 and localhost:76. Do not deny the access of using Internet. If there still problem, you can run BsgToOBJ.exe independently.

★All files in this software are using UTF8. Do not read or save them in other ways such as unicode.

★It is a normal phenomenon if the model was mirrored. That's how blender import .obj models.

★If you want to use the model for Besiege skins, you have to combine all the materials and textures since Besiege skins only have a single texture. You can use these blender's addons:

cats-blender-plugin: https: //github.com/GiveMeAllYourCats/cats-blender-plugin

material-combiner: https: //github.com/Grim-es/material-combiner-addon

The addons should be used together. Set blender's language to English while importing models, or it could cause some problems.

★Agreement:

●change the models converted by this software: enable

●Use the models converted by this software for videos: enable

●Use the models converted by this software for game mods: enable

● Change the code of background(BsgToOBJ.exe) and upload: enable, but have to be open source and free.

● upload the models converted by this software: enable, but have to be open source and free.

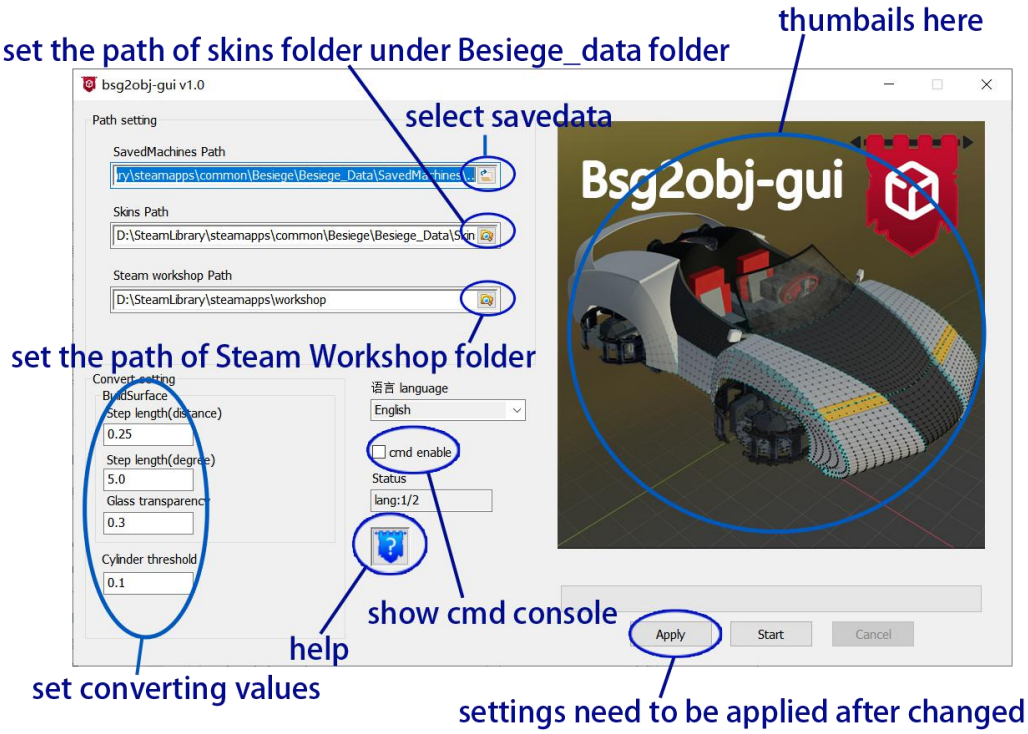
×Do not sell this software.

×Do not sell the models converted by this software.

★Declaration:

The author won't be held responsible for any consequences such as program crashes (generally not) or copyright disputes.

Chapter1. How to use GUI



Picture 1-1

Explanations:

Step length(distance): The distance between each vertex of BuildSurface. It may not totally match to models since it is calculated by distance between control points. This value should not less than 0.1.

Step length(degree): The degree between each vertex of BuildSurface. It may not totally match to models since it is calculated by degree between splines. This value should not less than 5 or larger than 90.

Glass transparency: The transparency of a BuildSurface while its material is glass. This value will multiply with Textures' Alpha. This value should not less than 0 or larger than 1.

Cylinder threshold: while a Brace, a ropewinch, or a spring's length is shorter than this value, it will be convert as a cube. Part B and Cylinder will not convert in the model. This value should not less than 0.1 or larger than 1.

Watch out:

★All values will only update after applied.

★The number of vertexes on a single edge calculated by Step length(distance) and Step length(degree) will select the max one as result. Also it will not less than 3.

Chapter 2. Set values and paths manually(if necessary)

If GUI works not well, you can run BsgToOBJ.exe independently. This program uses windows cmd console and UTF8. Messages in cmd console could be unreadable if your computer is not using simplified Chinese. Change files under settings folder to set values and paths.

2.1 set paths

Paths are saved in BSGPath.txt.

All paths should end with "\". Do not make any change on symbols both sides.

<saveM>: Path of SavedMachines folder under Besiege_Data folder.

<saveL>: Path of levels, not available now.

<skin>: Path of Skins folder under Besiege_Data folder.

<workShop>: Path of Steam workshop folder.

2.2 set convert values

Convert values are saved in BSGsetting.txt.

<minimal-cylinder-length>: Same as Cylinder threshold in Chapter 1.

<surface-step>: Same as step length(distance) in Chapter 1.

<surface-step-angle>: Same as step length(degree) in Chapter 1.

<glass-alpha>: Same as glass transparency in Chapter 1.

<language>: Language type, check the explanation of language table.csv in chapter 3.

<cmdOn>: Whether show cmd console, only for GUI.

<exePath>: Path of BsgToOBJ.exe, only for GUI.

2.3 set block table

Values of blocks' prefabs are saved in block table.csv. See in picture 2-1.

	A	B	C	D	E	F	G	H	I	J	K	L
1	id	block	positionX	positionY	positionZ	rotationX	rotationY	rotationZ	scaleX	scaleY	scaleZ	denied
2	0	StartingBlock	0	0	0	0	0	0	4.875	4.875	4.875	0
3	1	DoubleWoodenBlock	0	0	0.5	90	0	0	0.5	0.5	0.5	0
4	2	Wheel	0	0	0.16526	0	180	180	0.95	0.95	1.365625	0
5	3	MetalBlade	0	0.001493	0.651426	90	0	0	0.52729	0.52729	0.52729	0

Picture 2-1

id: Block id.

block: Block name.

position(X,Y,Z): Position of block in prefab.

rotation(X,Y,Z): Rotation of block in prefab.

scale(X,Y,Z): Scale of block in prefab.

denied: Whether deny the block during converting. Blocks will be skipped if this value is 1, unless their id is 71-73(BuildSurface). Do not change this value.

Negate block's scaleX if it has wrong rotation angles in model.

Watch out:

★All files should be saved as UTF8 after edited.

Chapter 3. Add custom language

Languages are saved in language table.csv. See in picture 3-1.

ID	简体中文	English
PATH_SET	路径设置	Path setting
PATH_SD	存档路径	SavedMachines Path
PATH_SK	皮肤文件夹	Skins Path
PATH_WS	工坊文件夹	Steam workshop Path
CONV_SET	转换设置	Convert setting
BS	蒙皮表面	BuildSurface
BS_R_Dis	步长(距离)	Step length(distance)
BS_R_Deg	步长(弧度)	Step length(degree)
GL_A	玻璃透明度	Glass transparency
CYL_MIN	点钢阈值	Cylinder threshold

Picture 3-1

Do not change the ID. Address on the right of ID are 0, 1, ... match with <language> in chapter 2.2.

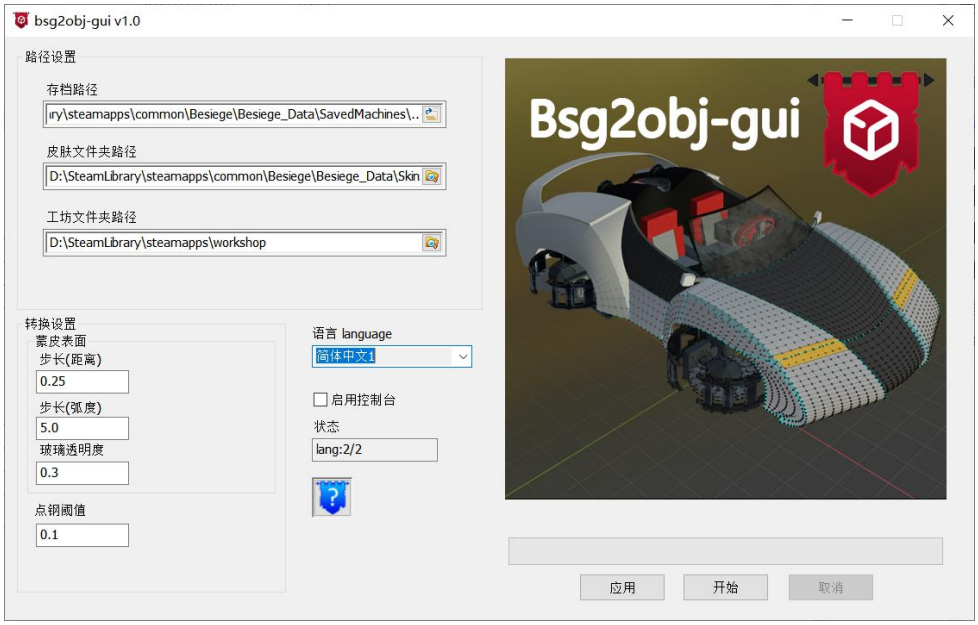
Add a new row as a custom language.

For example, add “简体中文 1” below “English”, see in picture 3-2.

	A	B	C	D
	ID	简体中文	English	简体中文1
	PATH_SET	路径设置	Path setti	路径设置
	PATH_SD	存档路径	SavedMachi	存档路径
	PATH_SK	皮肤文件夹	Skins Path	皮肤文件夹路
	PATH_WS	工坊文件夹	Steam work	工坊文件夹路
	CONV_SET	转换设置	Convert se	转换设置
	BS	蒙皮表面	BuildSurfa	蒙皮表面
	BS_R_Dis	步长(距离)	Step lengt	步长(距离)
	BS_R_Deg	步长(弧度)	Step lengt	步长(弧度)
10	GL_A	玻璃透明度	Glass tran	玻璃透明度
11	CYL_MIN	点钢阈值	Cylinder t	点钢阈值
12	CMD	启用控制台	cmd enable	启用控制台
13	TCP	状态	Status	状态

Picture 3-2

Saved as UTF8 and restart GUI, it should looks like picture 3-3.



Picture 3-3