

# [ ] Dicon Texture Atlas Generator

> Created by Jintaek Seo on 15<sup>th</sup> November, 2013

> Modified by Jintaek Seo on 10<sup>th</sup> June, 2017

Copyright: We referred to the following source

**3d\_io-TextureAtlasGen\_original.mcr**

This tool is public, just as the original license is public although it has been modified so much.

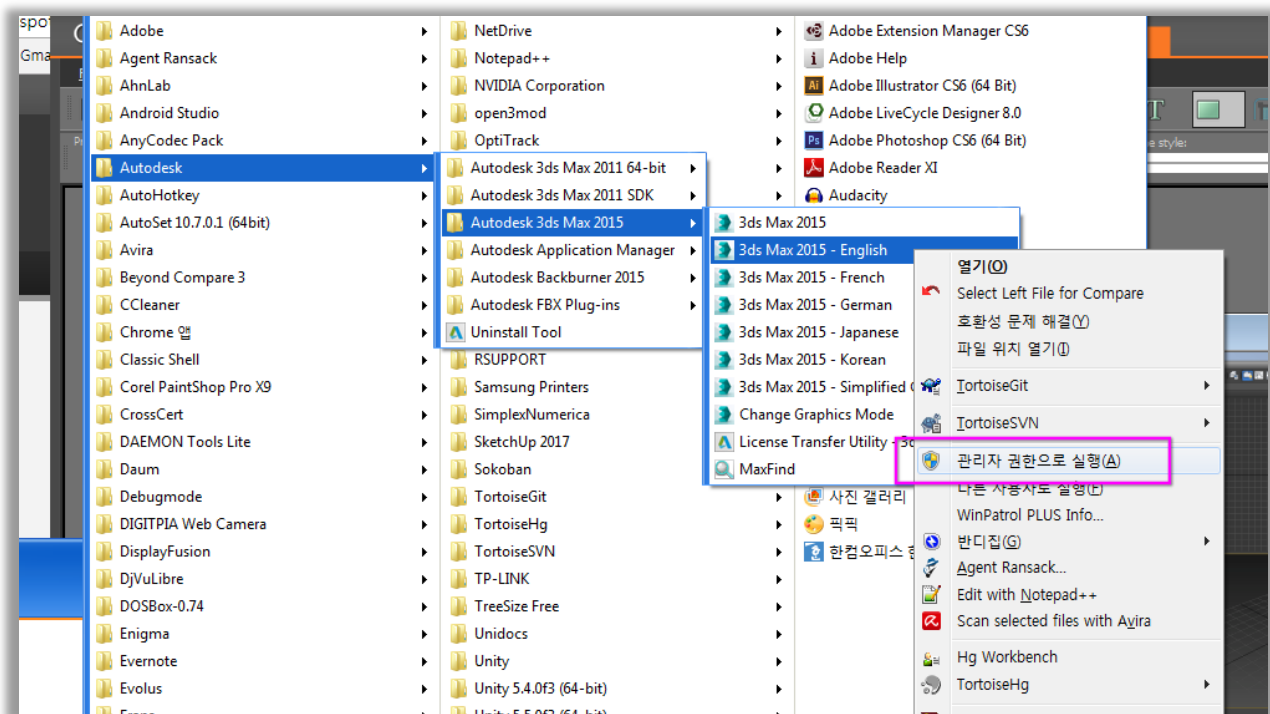
## [ ] What is this?

\* The toolset which generates a texture atlas for 3dsMax 2015.

## [ ] How to install.

\* You must run 3dsMax with administrator privilege to install plugins. Click right mouse button on the 3dsMax icon, and select 'Run as Administrator' menu item.

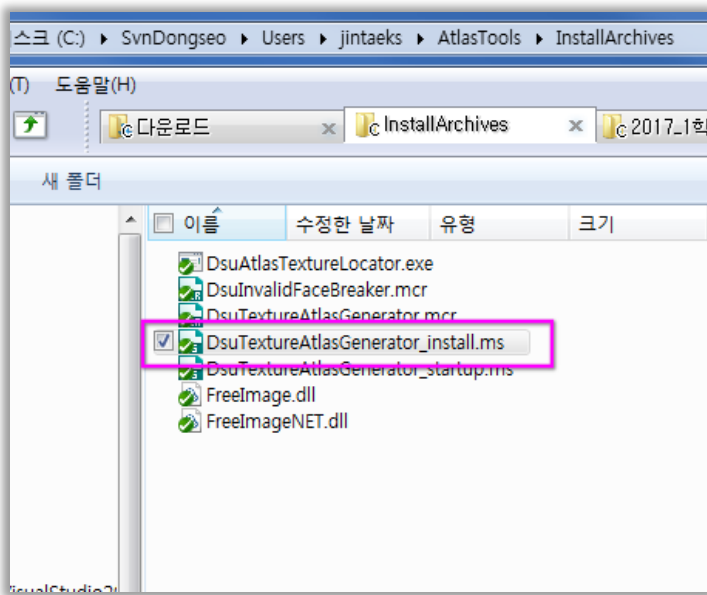
**[Figure] Run 3dsMax 2015 as Administrator privilege.**



\* Check following 7 files

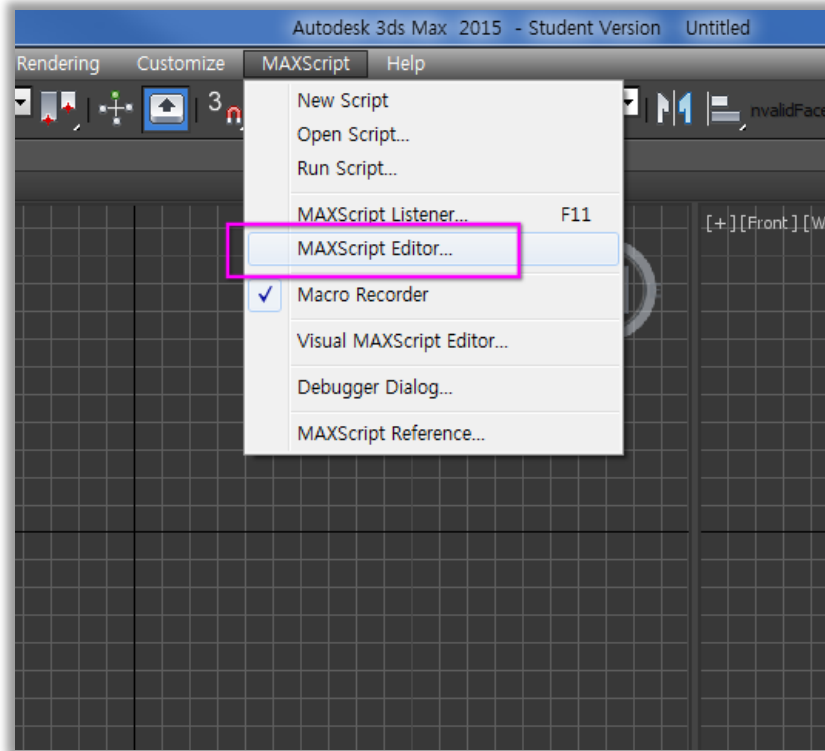
- ✓ FreeImage.dll
- ✓ FreeImageNET.dll
- ✓ DsuInvalidFaceBreaker.mcr
- ✓ DsuTextureAtlasGenerator.mcr
- ✓ DsuTextureAtlasGenerator\_install.ms
- ✓ DsuTextureAtlasGenerator\_startup.ms
- ✓ DsuAtlasTextureLocator.exe

**[Figure] Atlas Tools are composed with 7 files.**



\* Select 'MAXScript Editor...' menu item in 3dsMax.

**[Figure] To install plugin tool set, run MaxScript editor by selecting 'MAXScript Editor...' menu item.**



- \* Open 'DsuTextureAtlasGenerator\_install.ms' file and evaluate.
  - This file will copy required files to proper locatoin.

**[Figure] Open 'DsuTextureAtlasGenerator\_install.ms' in MaxScript editor.**



\* The dialog will be opened and displays the destination path for file copying.

\* The default installation path is **C:\Program Files\Autodesk\3ds Max 2015\**. The program will automatically copy the following three files to the appropriate path(If the Atlas tools doesn't work properly, check the path for the following files).

- ✓ FreeImage.dll
- ✓ FreeImageNET.dll
- ✓ DsuAtlasTextureLocator.exe
- ✓

\* Next, installation script will run following macro scripts.

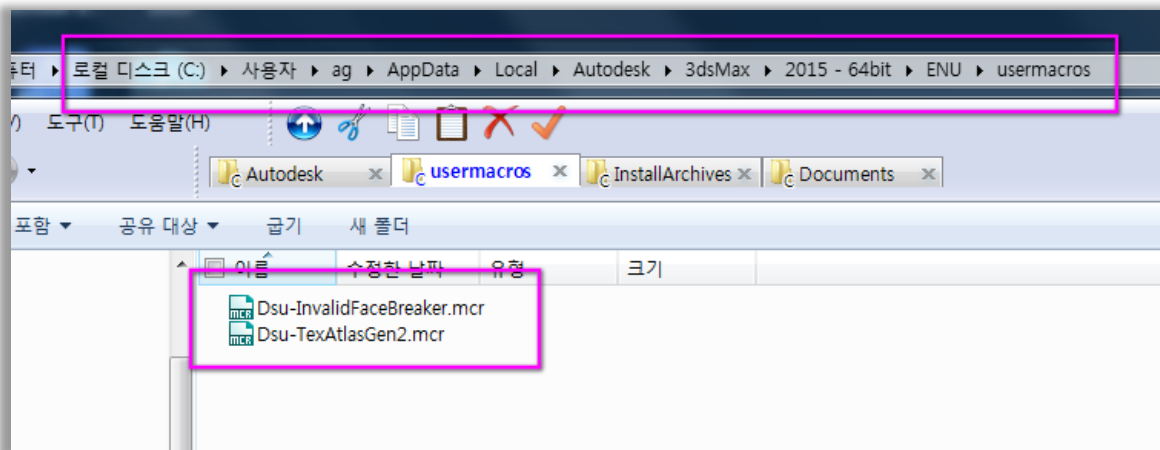
- ✓ DsuInvalidFaceBreaker.mcr
- ✓ DsuTextureAtlasGenerator.mcr

\* ' **DsuInvalidFaceBreaker.mcr**' is a tool for face arranging.

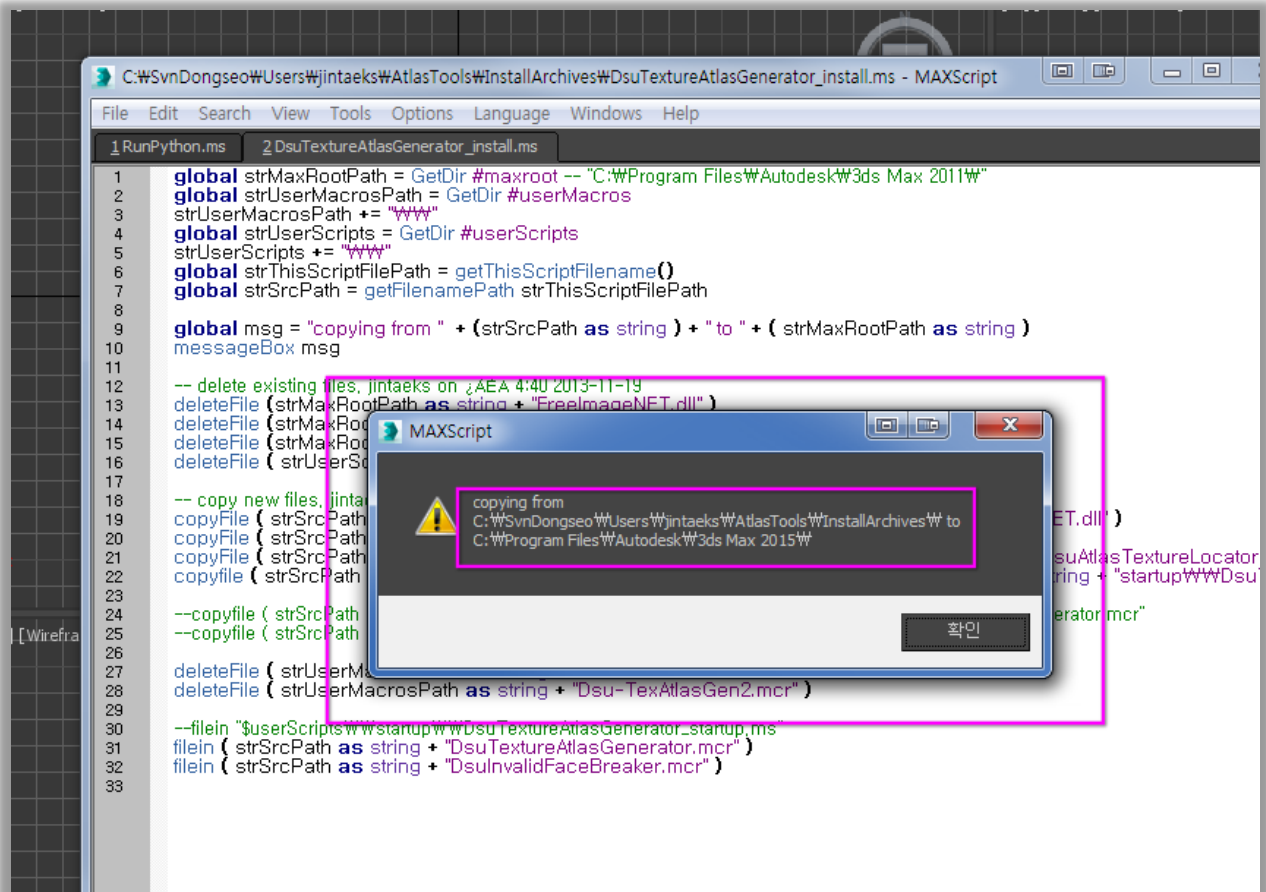
\* ' **DsuInvalidFaceBreaker.mcr**' is a tool for generating atlas textures.

\* Once you evaluate a .mcr file, it will be registered in 3dsMax environment. So you don't need to manage these files after installation.

[Figure] The macro script will be copied to special folders managed by 3dsMax.



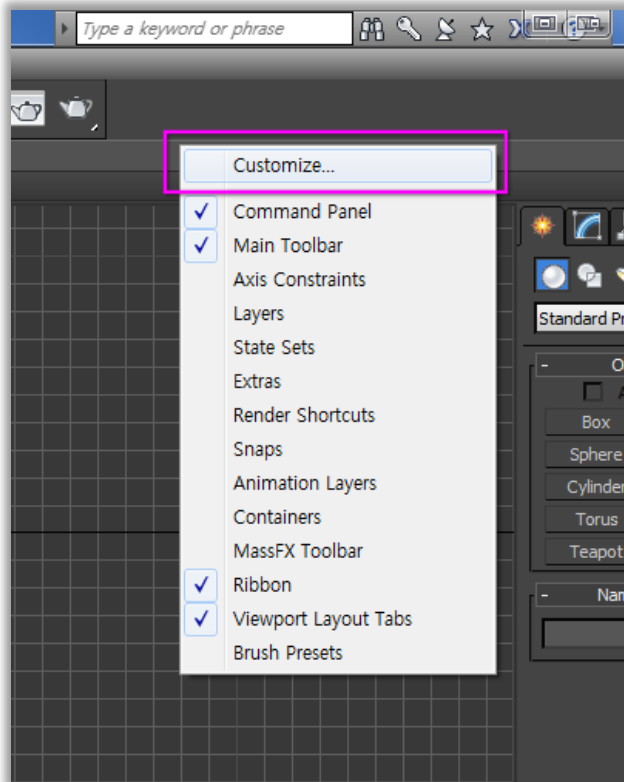
[Figure] This dialog displays the source and destination paths for file copying.



## [] Register Tool UI Icons.

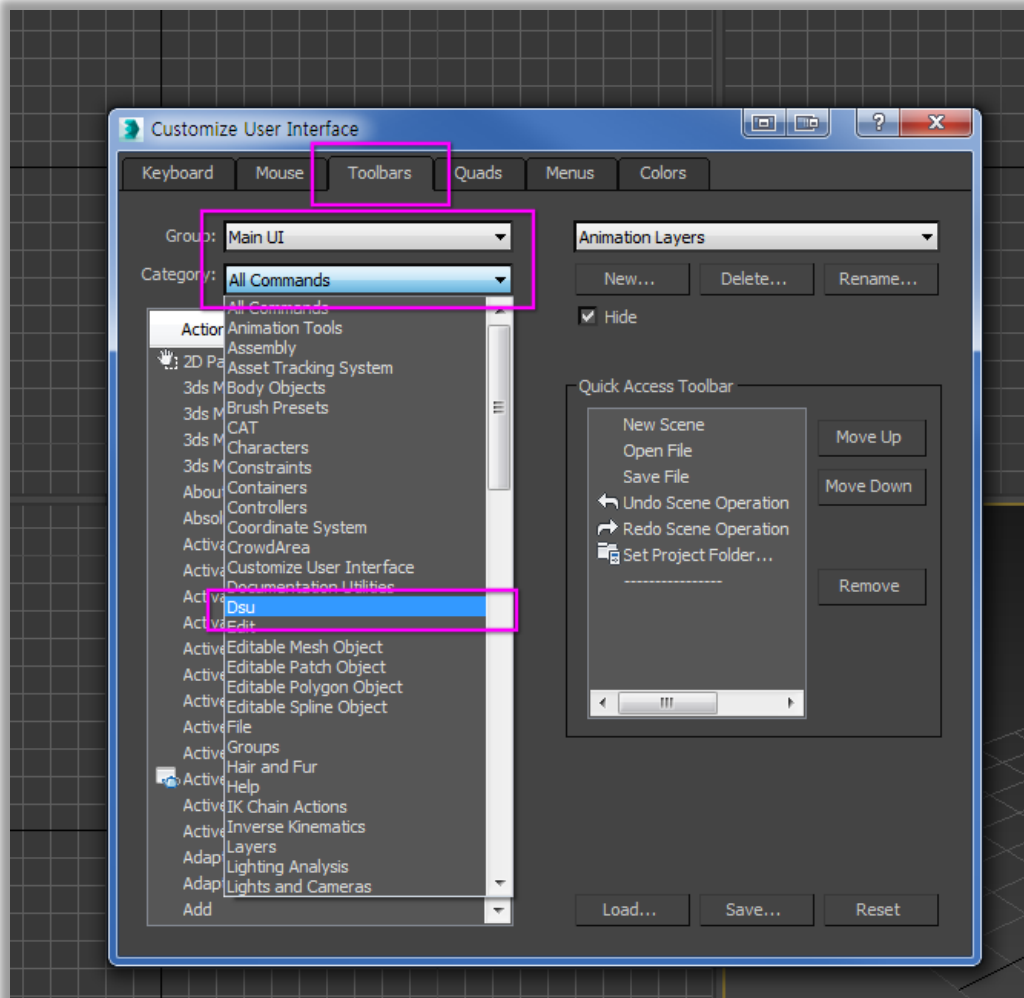
- \* Register the Atlas tool and the Face breaker tool as the icons in the main toolbar.
- \* (1) To register Atlas tool, select [Customize → Customize...] menu item.

[Figure] Select [Customize → Customize...] menu item to customize main toolbar.



- \* Press right mouse button on the main toolbar.
- \* Select 'Dsu' in category dropdown list box, it displays tool items in the list.

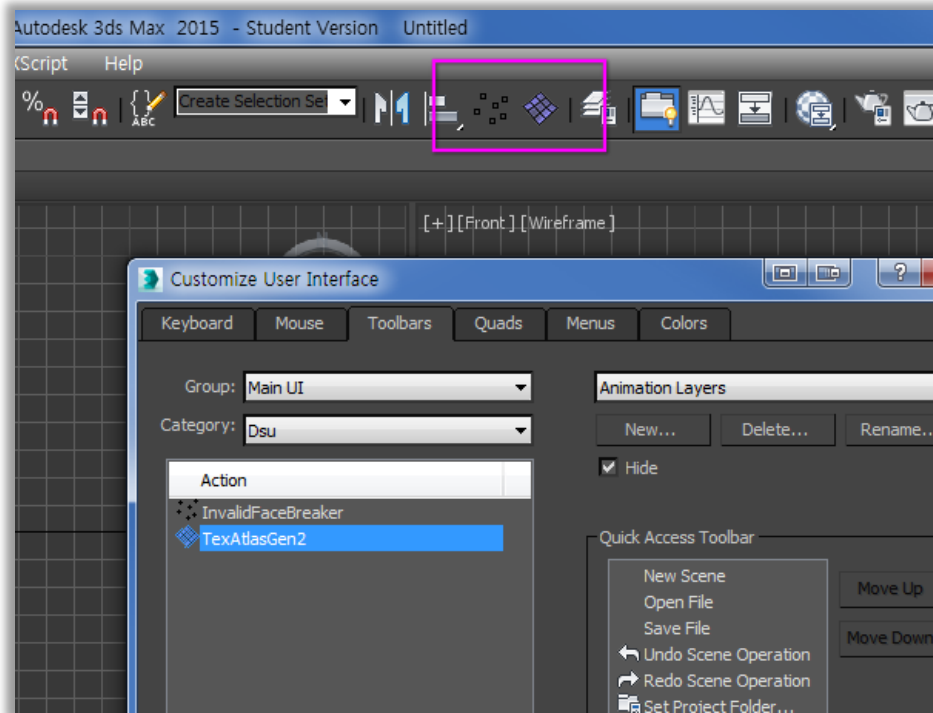
**[Figure] Select [Category → Dsu]**



- \* Locate [TexAtlasGen2] item in appropriate place in the main toolbar by drag & drop.
- \* Locate [Invalid Face Breaker] item in the same way.

**[Figure] Locate macro script item in the appropriate place in the main toolbar.**

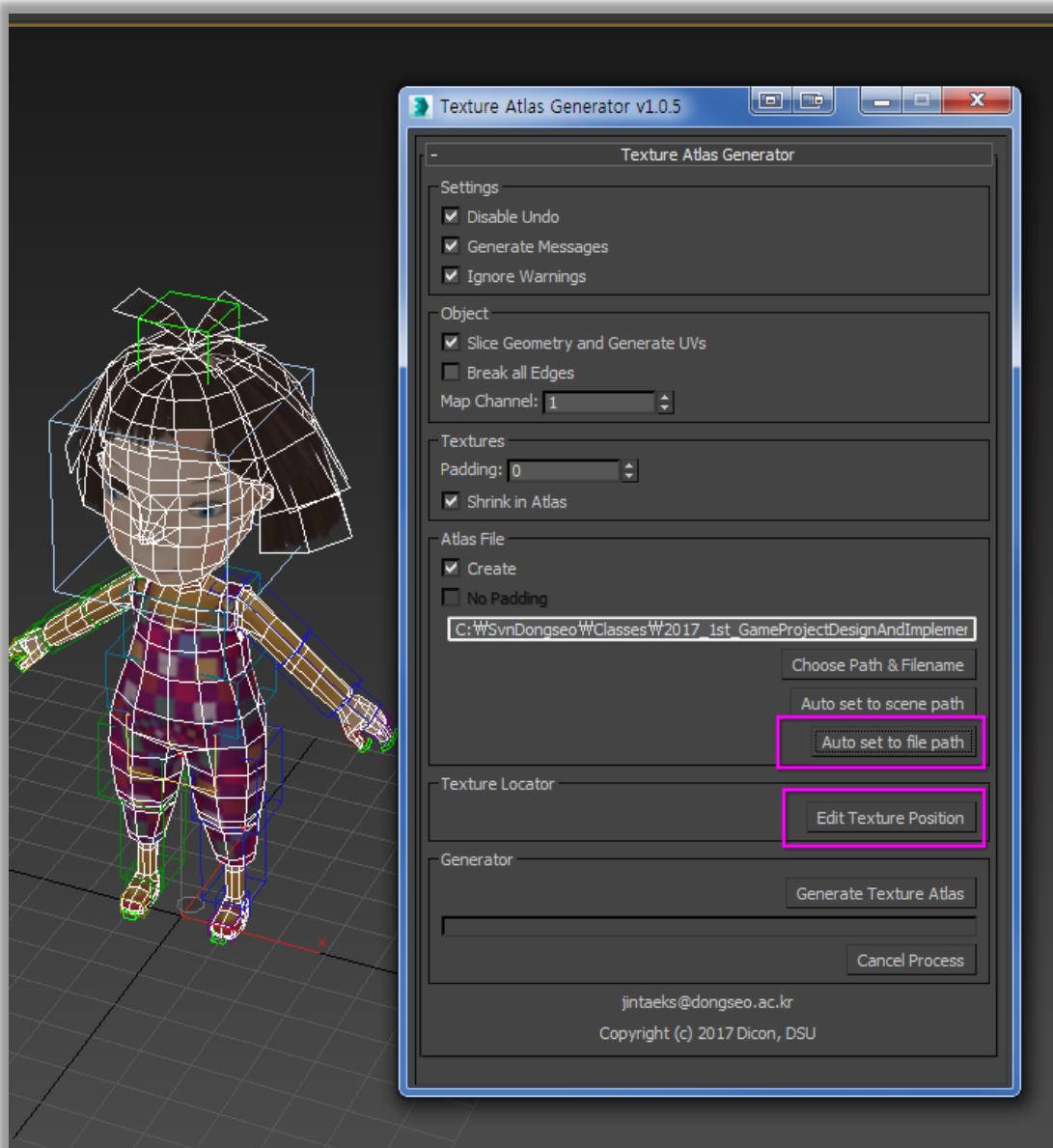




## □ Generating Atlas Textures

- \* Select an object you want to generate atlas texture for it.
- \* Press [Generate Texture Atlas] button.
- \* (1) If you select 'Auto set to file path' button, you can set destination folder for atlas textures.
- \* (2) Run the texture locator tool by selecting 'Edit Texture Position' button. With this tool you can edit texture positions.
- \* (3) Generate textures by selecting 'Generate Texture Atlas' button.

[Figure] Atlas generator dialog box.



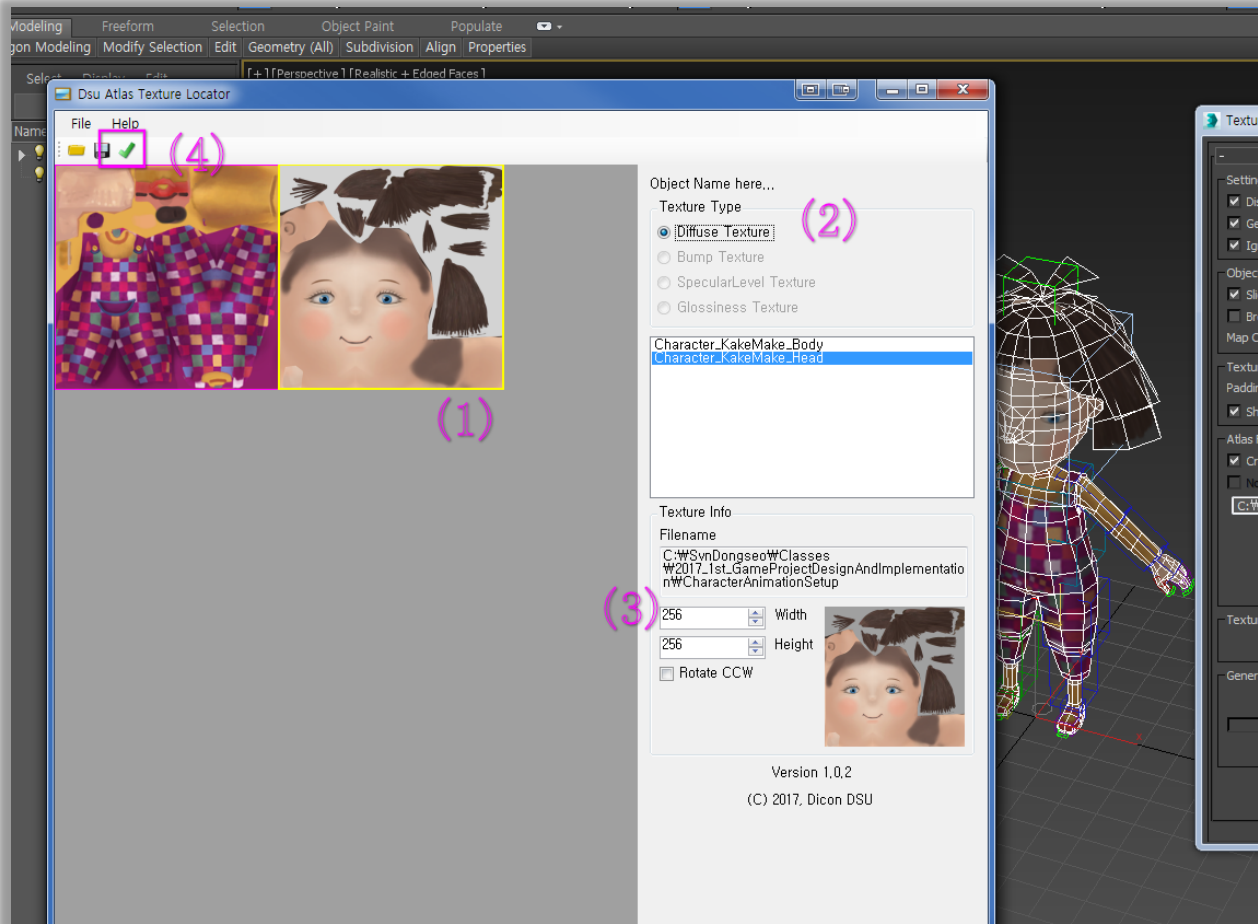
## [] Editing texture locations that make up the Atlas

\* Texture locator tool was written in C#, and texture layout information is transferred to 3dsMax via Windows clipboard..

- \* (1) At first, textures are placed automatically. The user can adjust the position and size of the texture.
- \* (2) If the material contains bump, specular and glossiness, you can see all the textures.
  - All layout information which is not diffuse uses same information with diffuse.
  - If the texture is empty, that place is filled with a black color.
- \* (3) Can adjust the width and height of the current texture.
- \* (4) Select the check box icon, when you finished the texture placement.

- This action will copy texture placement information to the clipboard.
- This value is used when the 'Generate Texture Atlas' button in the Atlas dialog pressed.

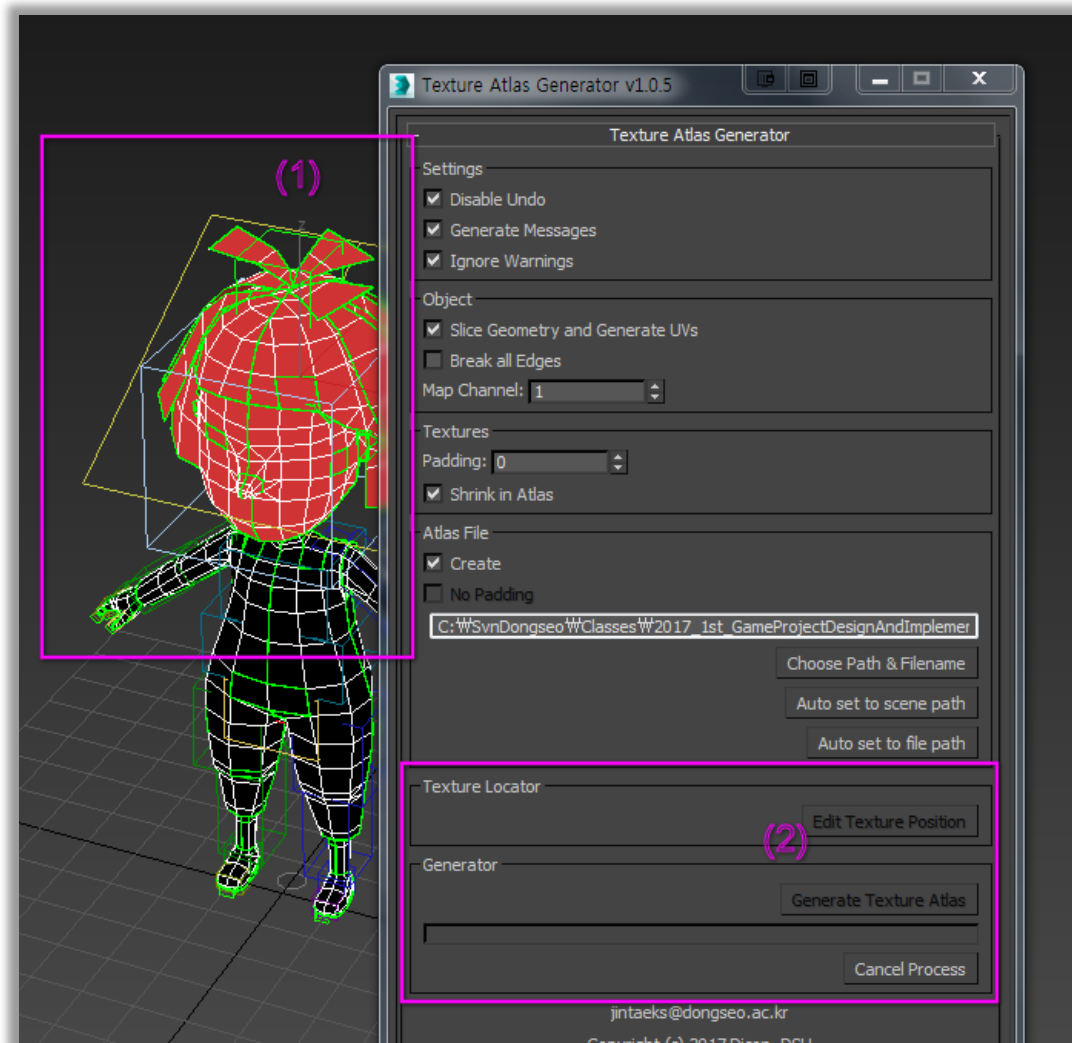
**[Figure] Texture Locator tool**



## **[ ] Generating Atlas Textures**

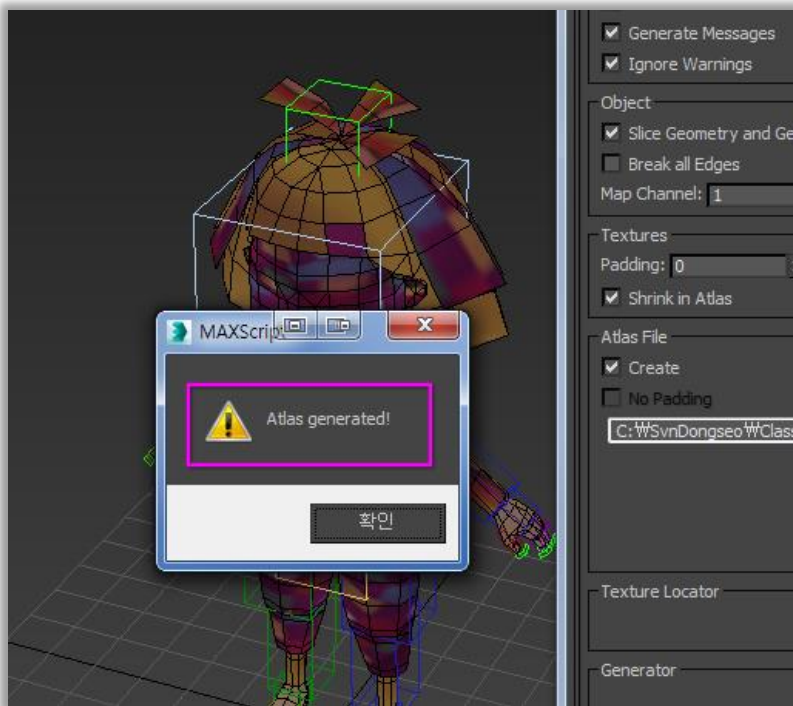
- \* Starts the Atlas texture generation.
- \* (1) Uvw modifier appears on the screen. And you can see current face breaking actions.
  - Internally it create a copy of current object and place it in the origin of the World.
- \* (2) It displays the current progress in the progress bar.

**[Figure] Atlas generator displays the progress of the generation.**



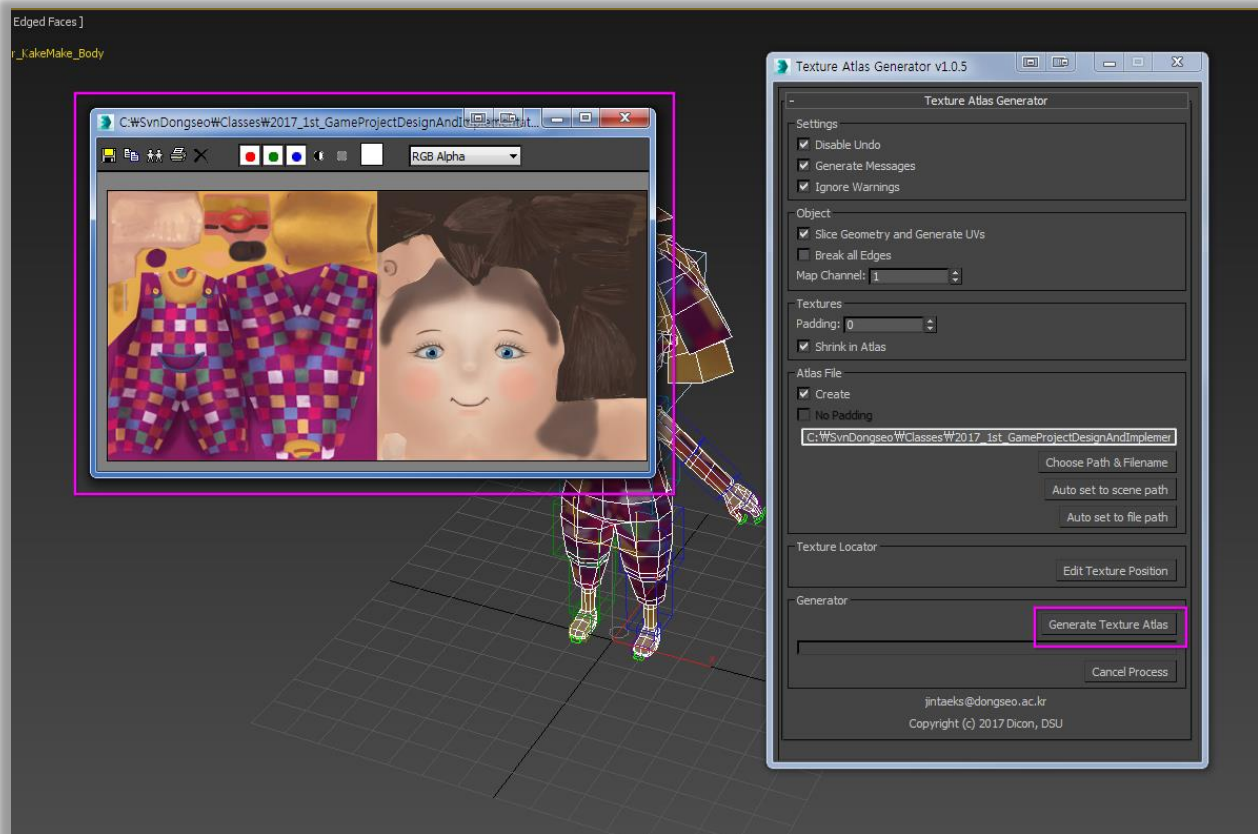
\* If it succeeded, you can see 'Atlas generated!' dialog box.

[Figure] If the atlas texture generation is succeeded, it displays 'Atlas generated!'.



- \* When the atlas task is completed successfully, it shows the generated Atlas textures.
- \* (1) It displays the diffuse texture of the Atlas texture.
- \* If the material contains bump map, it displays the normal map atlas texture also.

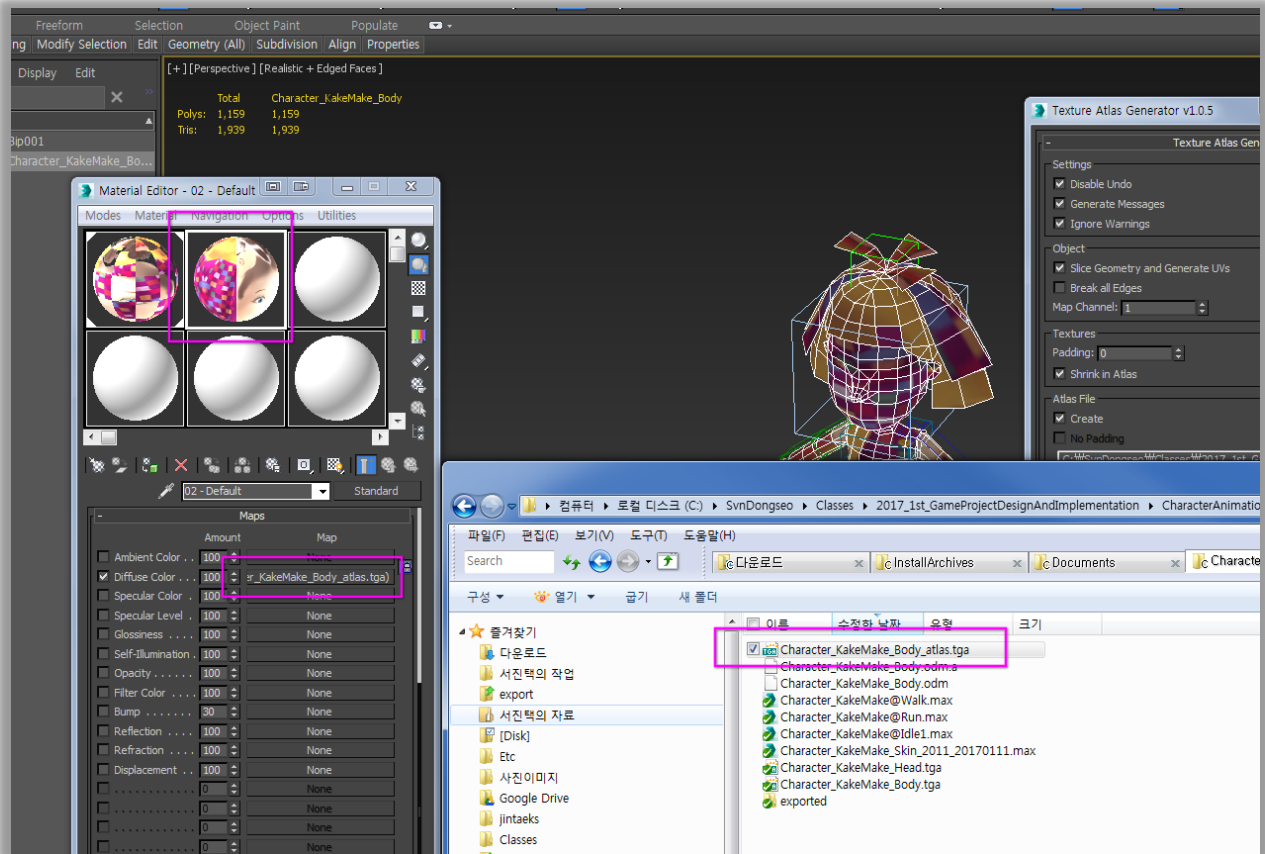
**[Figure] It displays the generated atlas textures.**



## [] Applying a atlas texture material for the Object

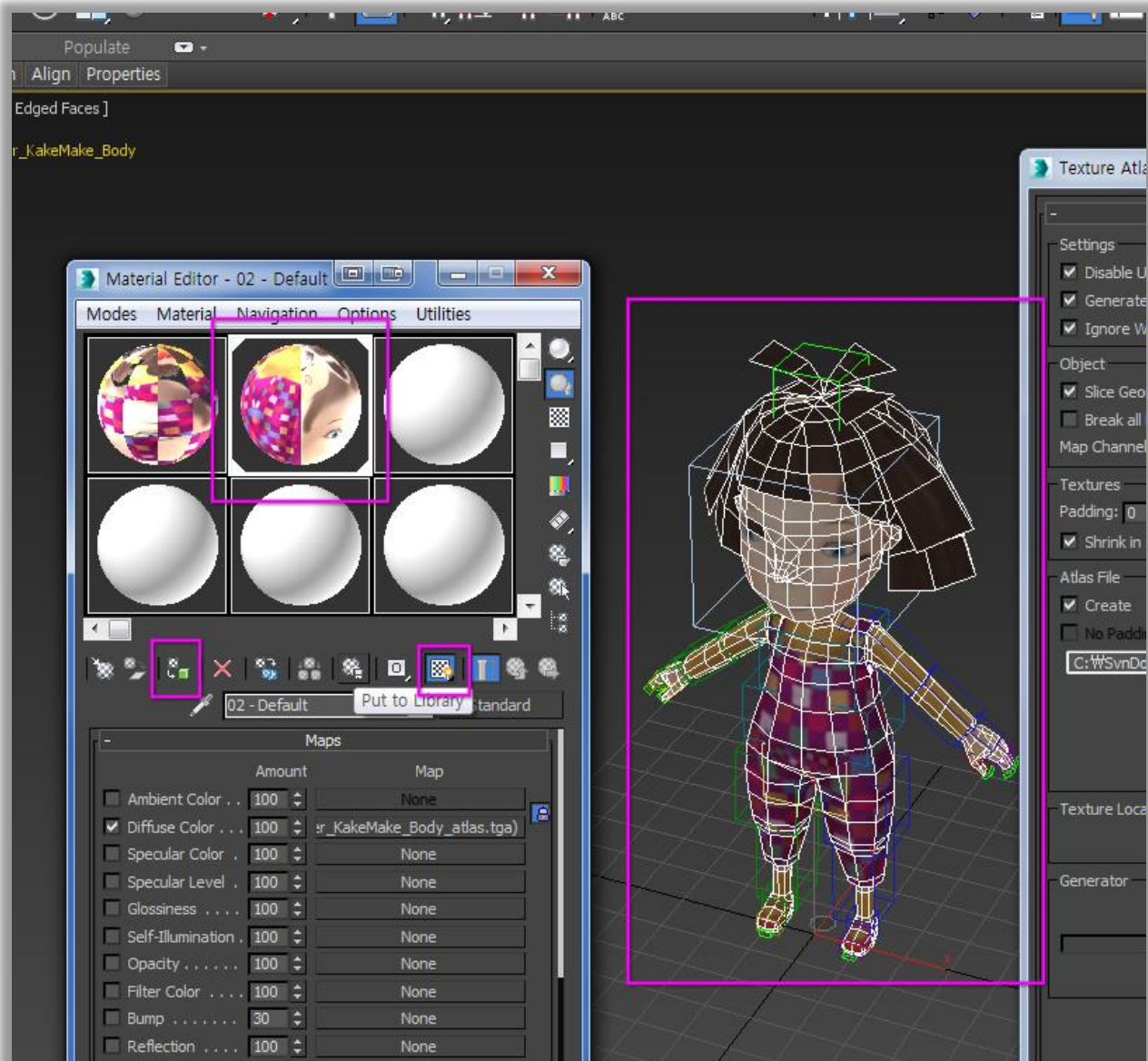
- \* The current version of the tool doesn't automatically apply the generated atlas texture to the object.
  - Therefore, after creating the atlas texture, you must create the 'Standard' material and apply the material to the object manually.

**[Figure] Create a standard material and assign the generated atlas texture to the bitmap.**



[Figure] You can see the atlas applied object by applying the standard material to the object.





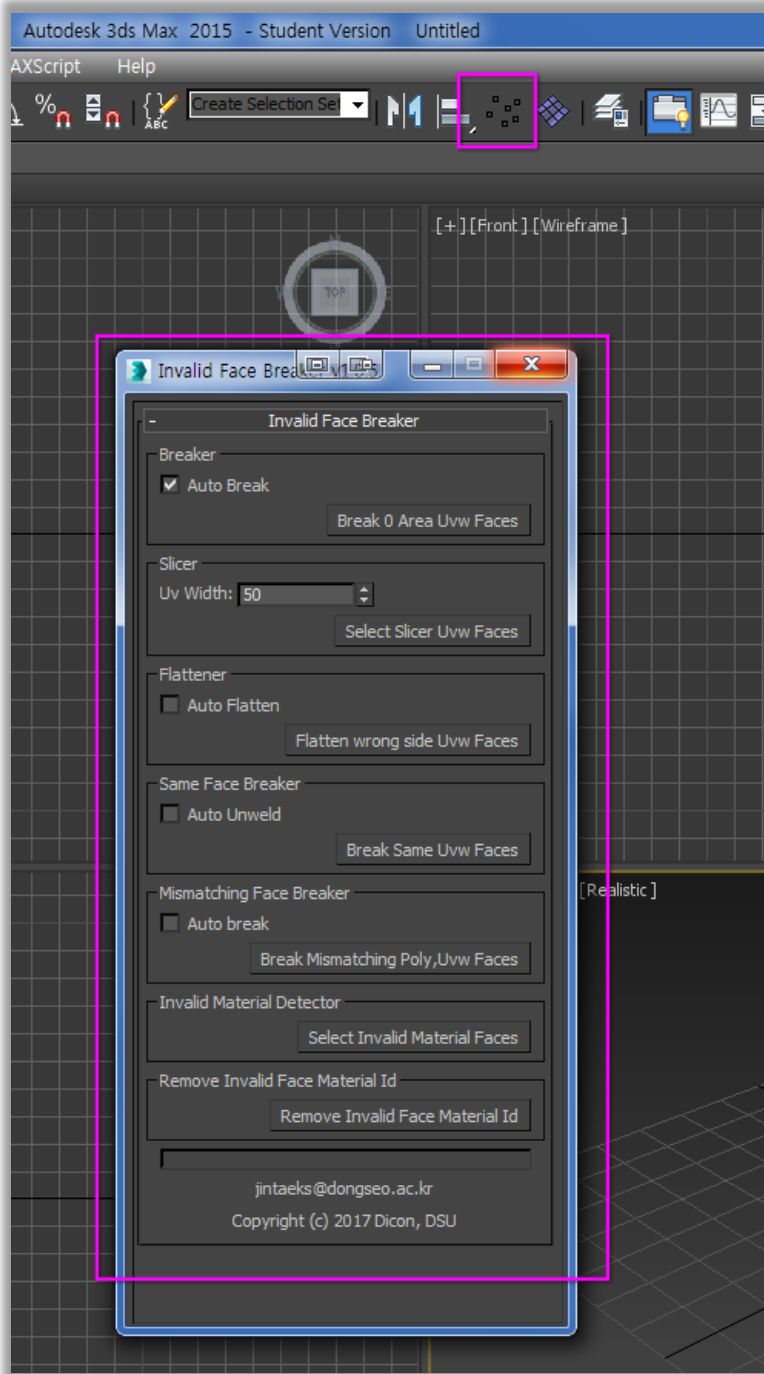
## ❏ Face arranging tool: Invalid Face Breaker

- \* Atlas creation may fail for a variety of reasons.
- \* Invalid Face Breaker is the tool for fixing invalid UVW faces.
  - With Invalid Face Breaker tool, you can fix various type of problems.
- \* [Break 0 Area Uvw Faces] tool for breaking area 0 faces.
- \* [Select Slicer Uvw Faces] tool for selecting big size UVW faces due to uninitialized.
- \* [Flatten wrong side Uvw Faces] tool for flattening flipped faces.
- \* [Break Shared Uvw Faces] tool for breaking faces by invalid welding.



- These faces are multiple faces of an object, but are recognized as a face in UVW Unwrap.
- \* [Break Mismatching Poly,Uvw Faces] tool for breaking faces when the Object face and the UVW face mismatch.
  - When different faces share the same UVW.
  - If there are partially shared edges.

**[Figure] Invalid Face Breaker is tool for breaking invalid UVW faces.**



@End of Document