Stained Glass Tutorial

About

The Dive to the Heart (sometimes also known as “Station of Awakening”) is a location inside a person’s heart, represented by large pillars in a dark realm. The top of the pillar typically shows an illustration of the affected person in a sleeping state. The characteristic style of this illustration is typically called “Stained Glass”. For an example see the image on the right.

Occurrences in KH3

Kingdom Hearts 3 contains quite a few instances of the Dive to the Heart. The list might be incomplete:

WHO	TEXTURE IN GAME FILES
SORA	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassSoraA_E.uasset /Game/Maps/ew_DLC/uasset/Textures/T_ew_Pro_StainedGlassSoraA_E.uasset /Game/Maps/dp/uasset/Textures/T_dp_Pro_StainedGlassSoraA_E.uasset
RIKU	/Game/Maps/bt_DLC/uasset/Textures/T_bt_Pro_StainedGlassRiku_D.uasset
ROXAS	/Game/Maps/kg_DLC/uasset/Textures/T_kg_Pro_StainedGlassRokusasu_D.uasset /Game/Maps/kg_DLC/uasset/Textures/T_kg_Pro_StainedGlassRokusasuXion_D.uasset
AQUA	Unclear, could be cutscene only
TERRA	Unclear, could be cutscene only
VENTUS	/Game/Maps/dp/uasset/Textures/T_dp_Pro_StainedGlassVenA_E.uasset
SAN FRANSOKYO	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassBX_E.uasset
THE CARIBBEAN	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassCA_E.uasset
ARENDELLE	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassFZ_E.uasset
OLYMPUS	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassHE_E.uasset
MONSTROPOLIS	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassMI_E.uasset
KINGDOM OF CORONA	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassRA_E.uasset /Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassRA_E_ver1.uasset
TOY BOX	/Game/Maps/ew/uasset/Textures/T_ew_Pro_StainedGlassTS_E.uasset
UNION X	/Game/Maps/ex/ex_05/uasset/T_key_stainedglass_emissiv.uasset

Which files are relevant?

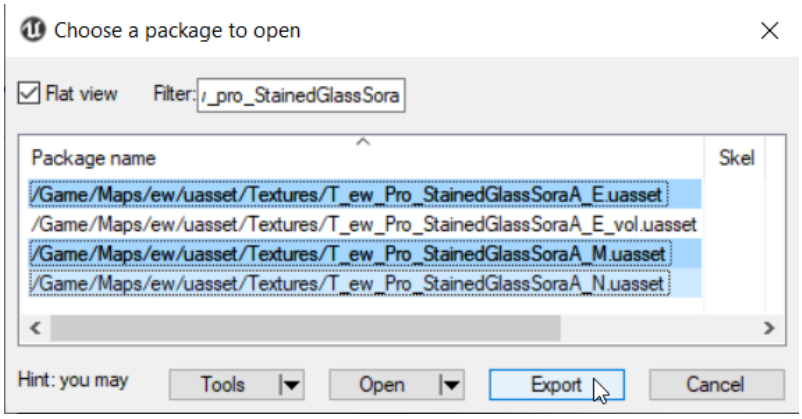
In the game files, there are three relevant files that need to be modified or recreated. Example:

- T_ew_Pro_StainedGlassSoraA_E.uasset → Actual colorful image.
- T_ew_Pro_StainedGlassSoraA_M.uasset → Mask. Gives glow.
- T_ew_Pro_StainedGlassSoraA_N.uasset → Normal Map. Gives depth.

How to modify the Dive to the Heart in the beginning of the game?

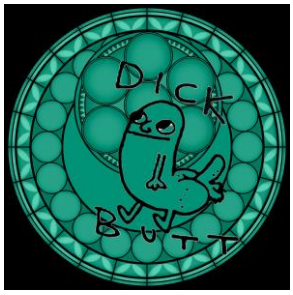
This tutorial will be based on GIMP. Some steps might be overly complicated.

1. Use UModel and export from `/Game/Maps/ew/uasset/Textures`:
   - T_ew_Pro_StainedGlassSoraA_E.uasset → Actual Image.
   - T_ew_Pro_StainedGlassSoraA_M.uasset → Mask. Gives glow.
   - T_ew_Pro_StainedGlassSoraA_N.uasset → Normal Map. Gives depth.



2. Export for example as PNG (TGA would work also)

3. Go to your folder and edit the base image T_ew_Pro_StainedGlassSoraA_E as you see fit. A good starting point is the [Template Pack by xDarkOdinx].



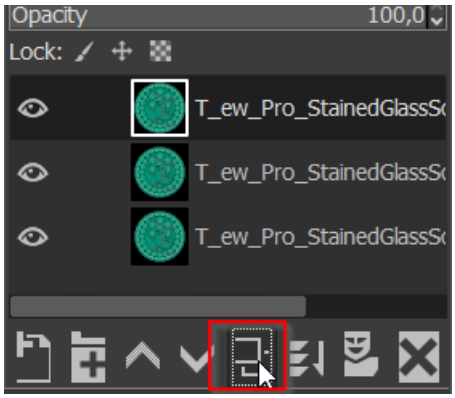
4. At the end, overwrite the file:

How to do the mask

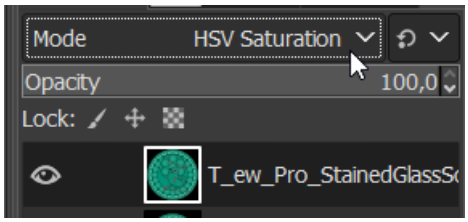
This one's a bit tricky, but basically, you'll only need a black outline of your previous image. If you don't have this, you'll find below a pretty ghetto way to go about it, but it works.

1. Re-open your T_ew_Pro_StainedGlassSoraA_E image in GIMP

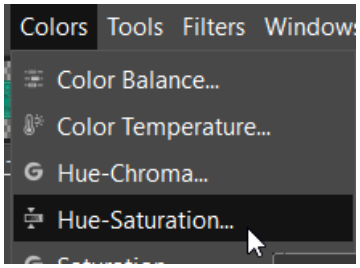
2. Duplicate your image layer twice



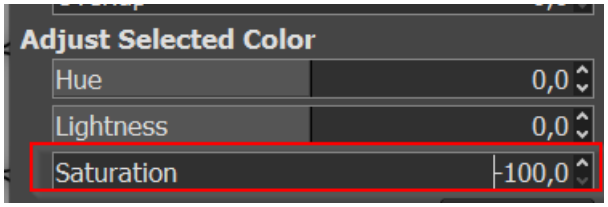
3. Select the top layer and set its mode to “HSV Saturation”



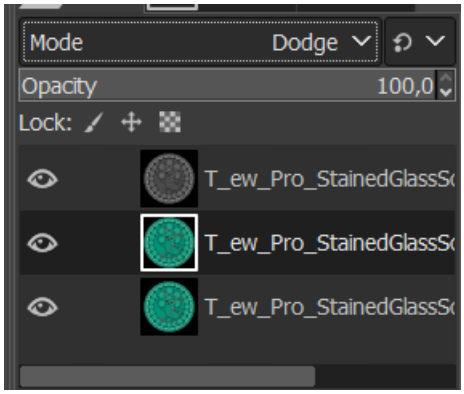
4. Still on the top layer, go to Colors > Hue-Saturation…



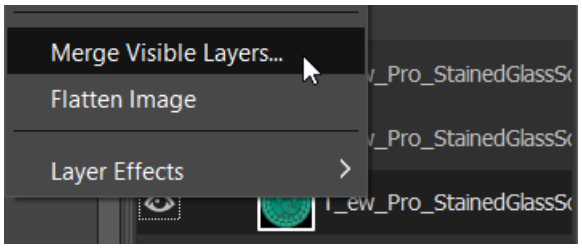
5. Set the saturation to -100



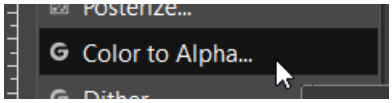
6. Set the mode of the middle layer to “Dodge”



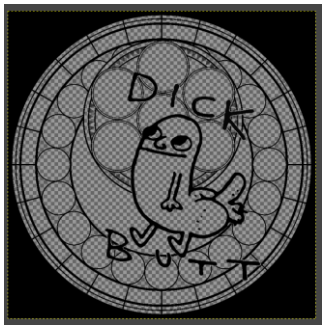
7. Right-click any layer and select “Merge visible layers”



8. Select Colors > Color to Alpha…



9. Set the color to white and press ok. You should have an outline of your image only:



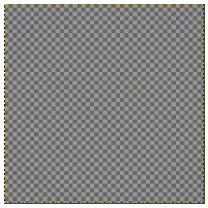
10. Select “Image” > “Scaler Image…” to scale the image to 4096x4096 px. If the image is too blurry later, you might need to change the interpolation mode.

11. Save it somewhere, for example as outline.XCF. Don’t overwrite your original image file!

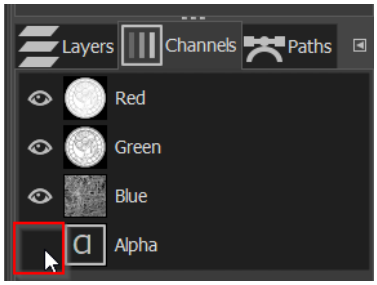
12. Download [lightfinder626 Blank Mask] as a base

13. Name it T_ew_Pro_StainedGlassSoraA_M.tga and copy it to your folder. Overwrite the existing file if needed and open it in GIMP.

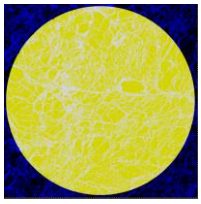
14. When you open it in GIMP, you may see an empty image:



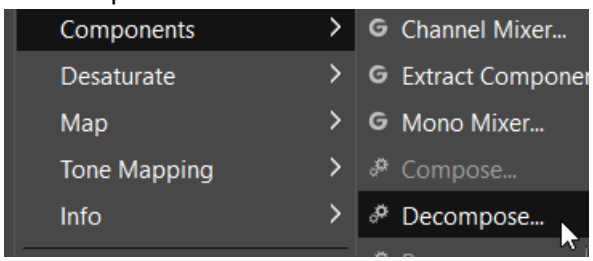
15. In GIMP go to the Channels tab and hide the alpha channel.



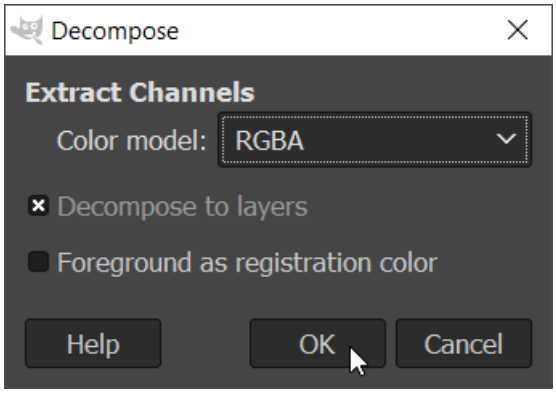
16. This will show you the actual mask



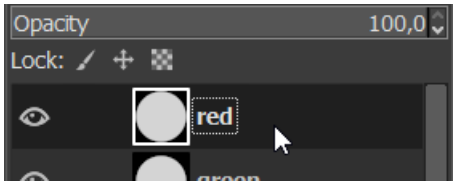
17. To properly edit the mask, we'll decompose the channels into layers. Go to Colors > Components > Decompose…



18. Set the color model to RGBA and make sure "Decompose to layers" is selected

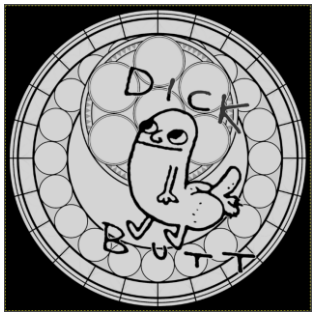


19. This will give you a new tab in GIMP for the decomposed image. The each channel was converted to a layer. Start by selecting the layer called "Red"

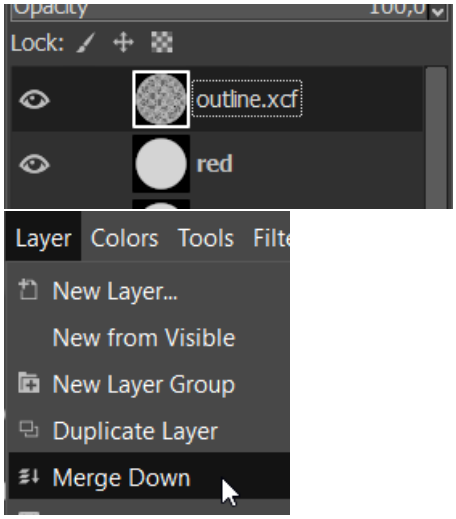


20. **Important, but optional**: The color of the circles defines the luminance in game. The default in the template is a slight grey, resulting in less vibrance. If you want a more glowing and brighter platform, make sure to edit the red and green layers before continuing and fill the circles with white color.

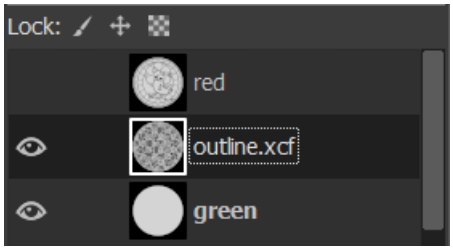
21. Drag your edited outline (e.g. outline.xcf) into your current decomposed mask image



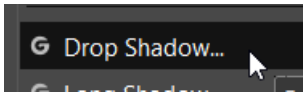
22. Select the new layer outline.xcf and go to Layer > Merge Down



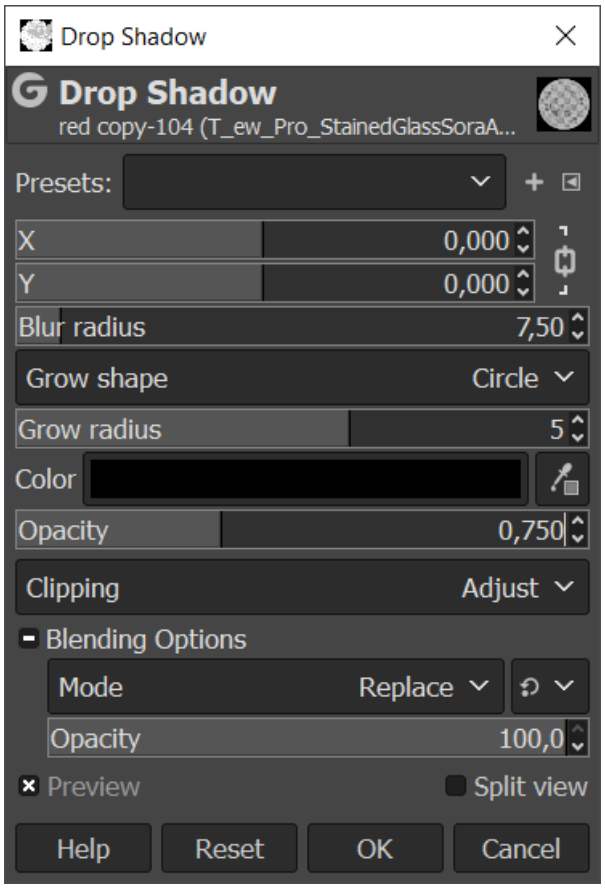
23. Red layer is done. For the green layer we want to add some additional glow. Drag outline.xcf again into your image and move the layer between red and green. Hide the red layer and select the outline layer.



24. Go to Filters > Light and Shadow > Drop Shadow…



25. You might need to play a bit with the settings. Here's what works for me. Note: You can right-click the values to enter them manually and not drag a slider.

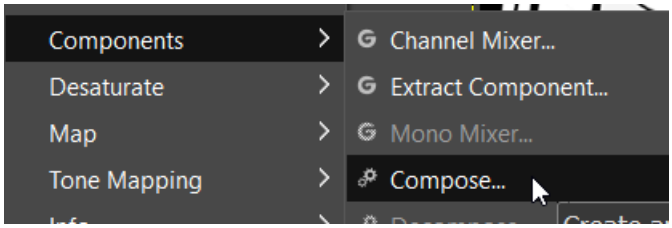


If you like it make sure to save it as a preset.

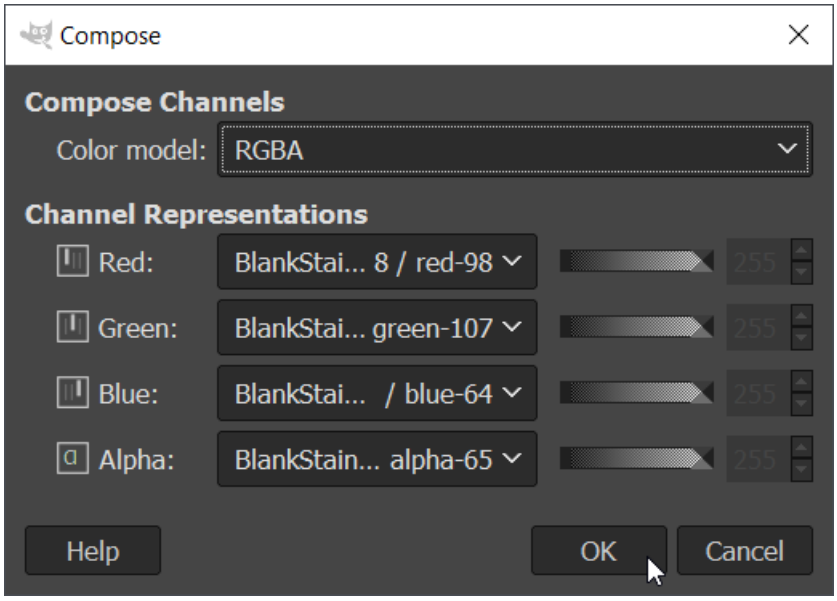
26. You should now have some glow on your outline

27. With your outline layer selected, merge it down again with the green layer.

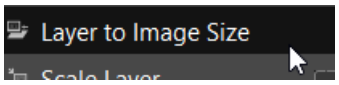
28. Go to Colors > Compose…



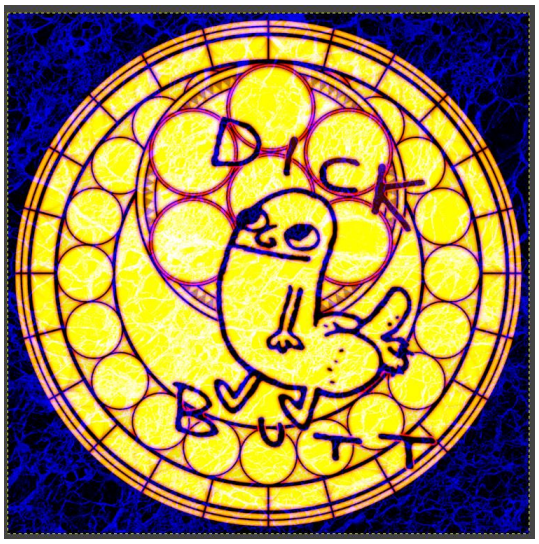
29. Make sure the color model is again set to RGBA



Note: If this fails, make sure all your layers have the same size. You can crop layers by selecting the affected layer and going to Layer > Layer to Image Size…

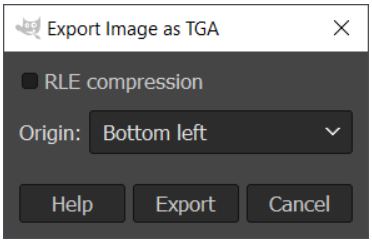


30. In your newly composed image, hide the alpha channel to see the finished mask



31. Re-enable all channels in your composed image and export the file

32. Export it to your folder as T_ew_Pro_StainedGlassSoraA_M.tga.

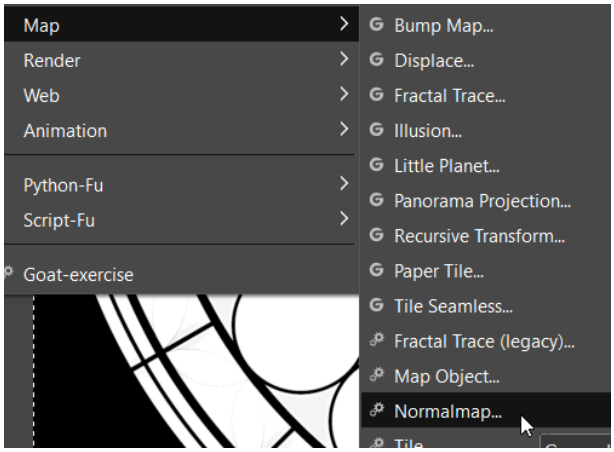


That's it for the mask.

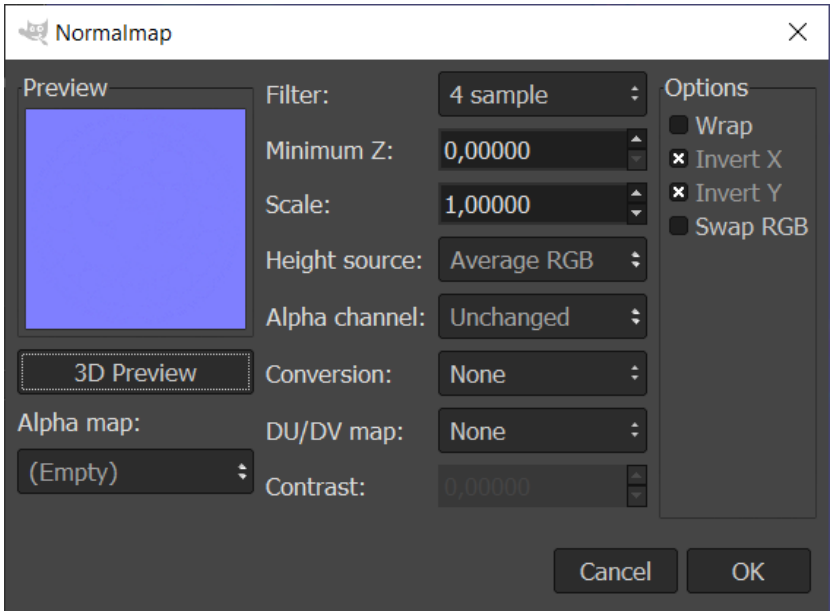
How to do the normal map

The following steps assume you have followed this tutorial to install the normal map plugin for GIMP.

1. Open your outline.xcf from before
2. Right-click the layer and remove the alpha channel
3. Go to Filters > Map > Normalmap…



4. Tbh I'm not familiar with the concept of normal maps myself. What works for me though:



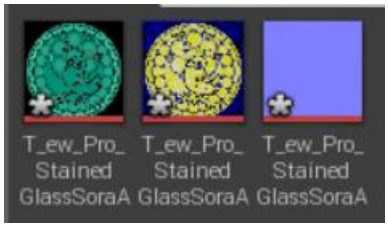
5. The result should look something like this

6. Export it as T_ew_Pro_StainedGlassSoraA_N.png

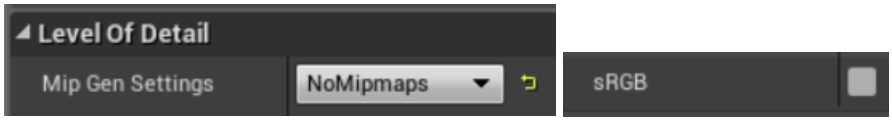
Bring it all together in UE4

1. Create a new project in UE4 and setup the folders

2. Import your three images



3. For all three, make sure to set Mip Gen Settings to “NoMipmaps” and disable sRGB



4. Save all and cook
5. Pack it and put it in your ~mods folder. You should see the result in game then: