

Cura-Dremel-3D20-Plugin

Dremel Ideabuilder 3D20 plugin for Cura version 3.2 or greater. This plugin enables the user to export the proprietary .g3drem files using Cura. This code is **heavily** based upon the Cura gcode writer plugin. Although the software functions reasonably well for the author, the author will not guarantee that the software won't break your 3D printer, set it on fire, or do other **really_bad_things**. The software is supplied without warranty and the user is responsible if they use this software and bad things happen either to their person, their 3d printer, or any of their other property as a result of using this software, or the files that it creates. Please remain near the 3D printer while using files generated by this software, and pay close attention to the 3D printer to verify that the machine is functioning properly. The software is provided as-is and any usage of this software or its output files is strictly at the user's own risk.

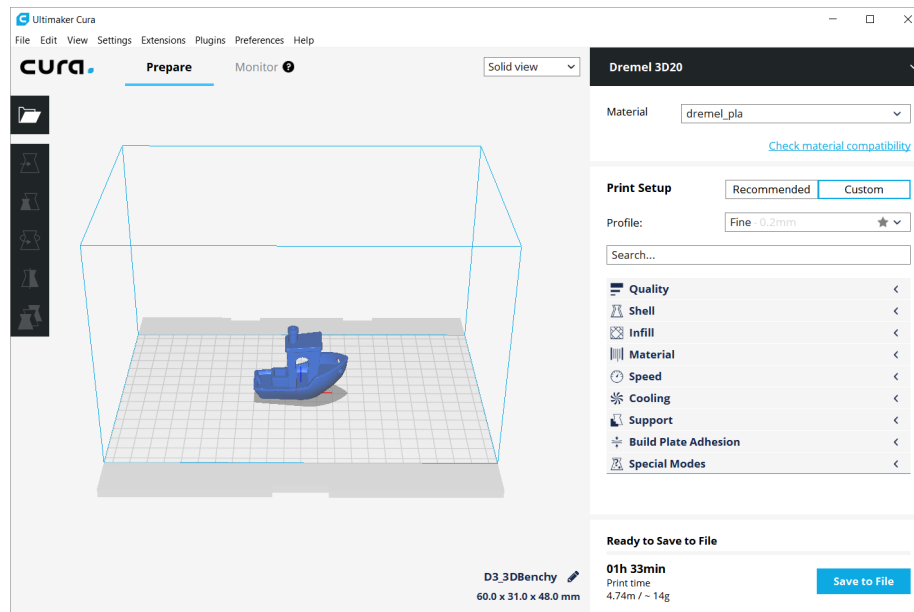


Figure 1: The Cura GUI

This software consists of one plugin for Cura and an optionally installed 3d model of the Dremel print bed. The Dremel3D20 plugin contains the necessary printer files to add the Dremel IdeaBuilder 3D20 to Cura and enables Cura to export the proprietary g3drem file format that the Dremel 3D20 needs.

Note: This version of the Cura-Dremel-3D20-Plugin will not work with Cura versions 3.1 or earlier due to changes that Ultimaker implemented in the Cura architecture. For a version that works with Cura versions 3.0 or 3.1, please check out version 0.2.5 of the plugin [here](#)

Uninstallation

To uninstall the Dremel printer files, open the Extensions menu->Dremel3D20 Printer Plugin->preferences and uncheck the box next to “Dremel 3D Printer File Installed?”.

To delete the plugin itself navigate to the directory listed below and delete the Dremel3D20 folder. - Windows: *USER/AppData/Roaming/cura/CURA_VERSION/plugins*
- Linux: *USER/.local/share/cura/CURA_VERSION/plugins/* - Mac: *User/Library/Application Support/Cura/CURA_VERSION/plugins*

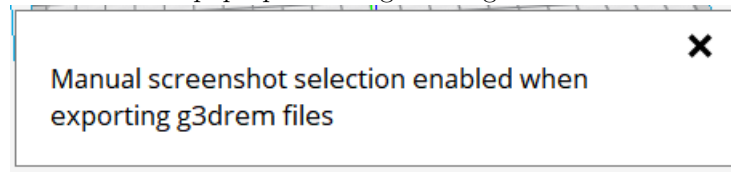
Note: These directories are subject to change at Ultimaker’s discretion. The latest information on these directories can be found on this page

Preview Image Options

The plugin has implemented the following logic for selecting a preview image that will show up on the Dremel screen. The thick dark line follows the default options which are selected at plugin installation. To deviate from the default options the user must intervene as outlined in the text below:

1. The plugin allows the user to optionally select an image file for use as the preview on the Ideabuilder 3D20 screen. To enable this feature, go to the Extensions menu, and select Dremel3D20 Printer Plugin->preferences and check the box next to the text that reads “Select Screenshot Manually.”

Cura will then pop up a message stating that screenshot selection is enabled



To disable this feature after enabling it, simply click the “Toggle Screenshot Selection” menu item again, and a message will state that the screenshot selection is disabled.

After enabling manual selection, once the user selects a location to save the .g3drem file out a secondary file selection menu will be brought up allowing the user to select a screenshot. If an image file is selected then it will be used, if the cancel button is pressed then the plugin will skip Step 2 and proceed to Step 3

2. If manual screenshot selection is disabled, then the plugin searches the directory where the user saves the .g3drem file for an image file with the same name. If no valid image file with the same name is found in the same

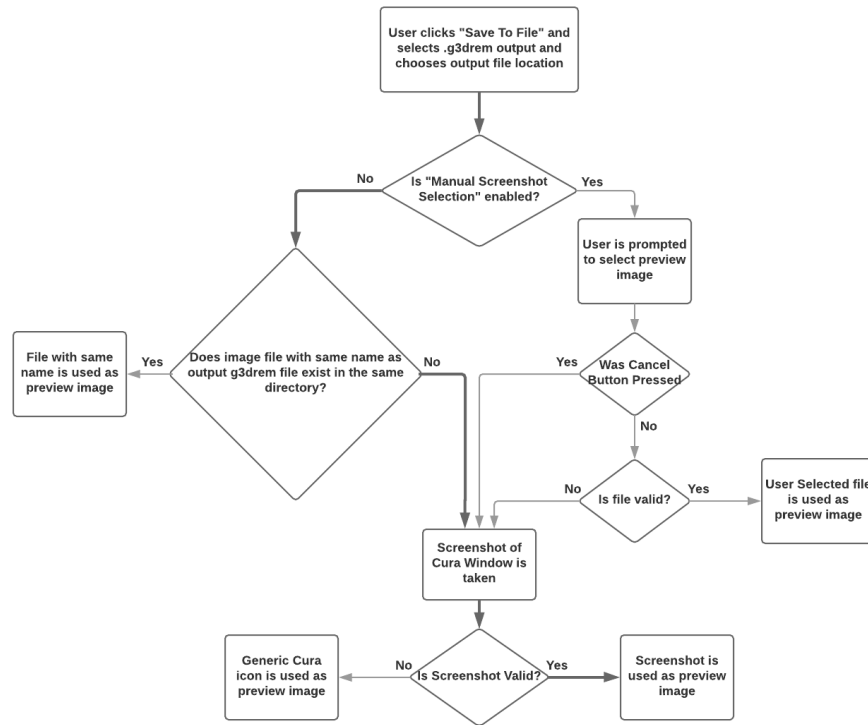


Figure 2: Image Selection Flowchart

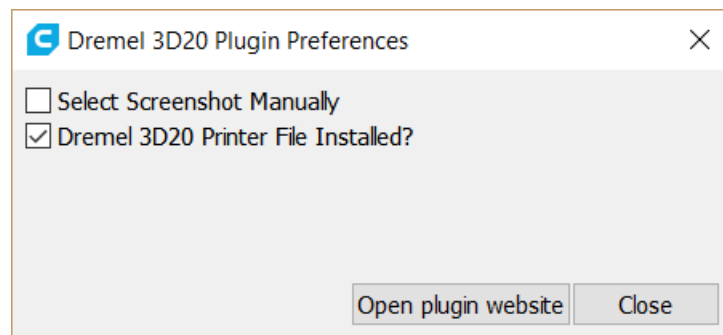


Figure 3: toggle screenshot

directory, then the plugin proceeds to Step 3. Valid image extensions are .png, .jpg, .jpeg, .gif, and .bmp.

For example if the user saves llama.g3drem to the dekstop and the desktop folder has a llama.jpg image file within it then the llama.jpg file will be used as the preview image on the Dremel:



Figure 4: llama preview

(llama photo by Johann “nojhan” Dréo, distributed under a CC BY-SA 2.0 FR license.)

3. If a screenshot has not been found after steps 1 and 2, then the plugin attempts to take a screenshot of the main Cura window and save it to the file (explained in Step 5 above) This is the default behavior of the plugin, and is what will happen normally if the user doesn't perform the actions listed in Steps 1 and 2.
4. If the screenshot fails for some reason then a generic Cura icon will be selected as the preview image.

Wishlist

The following items would be great to add to this plugin - any and all collaboration is welcome - feel free to raise an issue if there's a feature you'd like * Figure

out a way Auto-install the printer bed .stl file in the same way as the other files. * ~~Make small GUI to display plugin preferences as checkboxes~~ * ~~Creation of plugin container with Dremel printer json, material json, and printer bed mesh to ease user installation~~ * Thanks to metalman3797 the following items have been optimized * ~~Optimized print profiles for IdeaBuilder 3D20 (current non-custom profiles are pretty generic and may not work as well on the Dremel as they could)~~ * ~~Optimized Dremel3D20.def.json file~~ * ~~Optimization of Dremel brand PLA settings~~

Contributors:

Many thanks belong to the following users, who have spent their time and energy to report issues and help make the plugin better: * WeavingColors * SwapFaceL * metalman3797