

# DXF to Gerber Conversion: Programming Guide

## Introduction

This guide is intended to give an overview of the DXF to Gerber Conversion program flow and available documentation. The java source files are located in the “src” directory.

## Importing

Although the project can be imported into other programs, NetBeans is highly recommended for its built-in form editor and ready-to-use project settings. To import the project to an IDE, send the “DXF to Gerber” project folder to a ZIP file and select Import > From ZIP in the IDE.

## Documentation

The program’s documentation is location in the “doc” folder in the main directory. In this folder there are two pdf files explaining the specifics of the DXF and Gerber file formats. The User Guide is also in this folder and should be included in every distribution. In the “javadoc” folder there are .html documents containing information about the classes, methods, and variables in the application’s source code.

## Program Flow

1. The SplashScreenManager class is initiated by the PrimaryFileSelectorFrame to display a splash screen for a set amount of time.
2. The PrimaryFileSelectorFrame waits until the user has selected a valid DXF file.
3. The program searches the DXF file for unique layers and adds them to the list of layers using LayerManager.
4. The DataFrame is then populated with layer data using DataFrameModel. The user then modifies the layer attributes and selects "Next".
5. GerberWriterManager is used to create, manage, and write to Gerber files. The class searches through the DXF file in the ENTITIES section for valid entities. If an entity is found, GerberWriterManager initiates the entity class of the corresponding entity type (line, arc, or circle).
6. The entity class reads through the DXF file and grabs information needed to generate a replicate in Gerber format. Once the data has been processed, the entity class checks to see whether its line width is already active in the file and then adds the entity information to the Gerber file output string.
7. When GerberFileManager reaches the end of the ENTITIES section, it signals all Gerber files to write their output string. GerberFileManager finishes after writing output information to the Progress Frame.
8. The user is then allowed to see the output information in the ProgressFrame and exit the program.

**Note:** Detailed information about the codes and sections of the DXF or Gerber formats can be found in the "doc" folder.

## Contact

Developer: Zachary Geier  
Email: [zdgeier@gmail.com](mailto:zdgeier@gmail.com)  
Cell: 434-426-1753