



User Manual

TAB2MXL: Text File to MusicXML File Converter

EECS 2311: Software Development Project

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Overview

TAB2MXL is a conversion software application designed to convert a text tablature file to a MusicXML file. The produced output file can be used with various music editing programs that support MusicXML files.



1.0 Introduction and Purpose

1.1 Product Name

The purpose of the product, TAB2MXL, is to allow users to convert their text tablature file to a MusicXML file. The scope of the product is limited to text tablature files for guitar, bass and drums music.

1.2 Product Scope and Purpose

The user will select a text tablature file from their device, and upon successful conversion, the program will produce an output MusicXML file that is converted from the provided input text file. To ensure successful conversion, input files will contain music tablature that is written in conventional musical notation for tablature of the given instrument. The input file is translated to an output file of MusicXML file format, which is widely used in the music industry and compatible with numerous music editing software, such as MuseScore and Finale.

1.3 Designated Use

The intended use of this software system is for musicians and anyone who wishes to translate their text tablature file to a downloadable MusicXML file that can be played or edited with various other music software programs.

2.0 Installation

TAB2XML is completely written in Java and will support the following three operating systems:

- Windows
- Mac OS X
- Linux

STEP 1. Installation of Java Version 11

Please note that your computer must have the latest version of Java installed. The link below provides further steps needed to download Java successful:

https://www.java.com/en/download/help/download_options.html

STEP 2. Download Eclipse IDE

To run our software application, you must download the latest version of eclipse, the link is below:

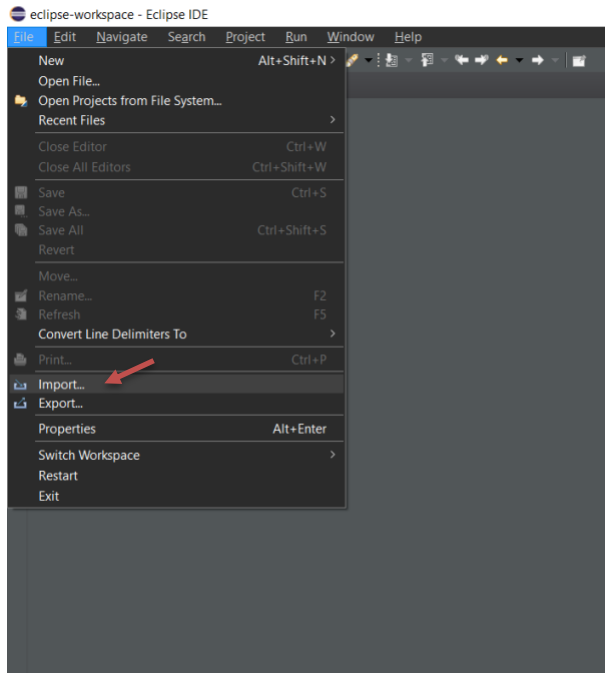
<https://www.eclipse.org/downloads/>

Once the download is complete please install the Eclipse IDE for Java Developers. When your download is complete, create a folder on your desktop and open Eclipse. Eclipse will prompt you to choose your workspace. Click the file browser and select the folder you created on your desktop. All Eclipse related files will save to this folder.

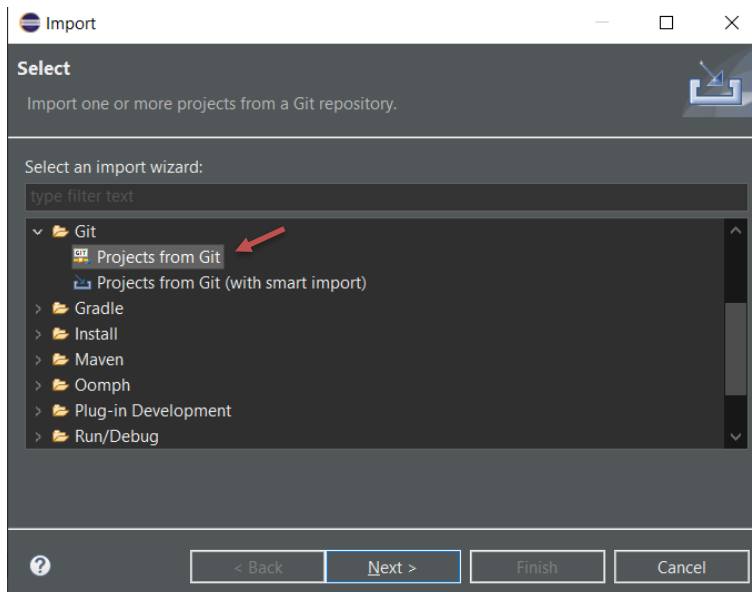
STEP 3. Import the TAB2MXL project from GitHub

Once you have successfully downloaded the Eclipse IDE, follow the steps below to import the TAB2MXL project.

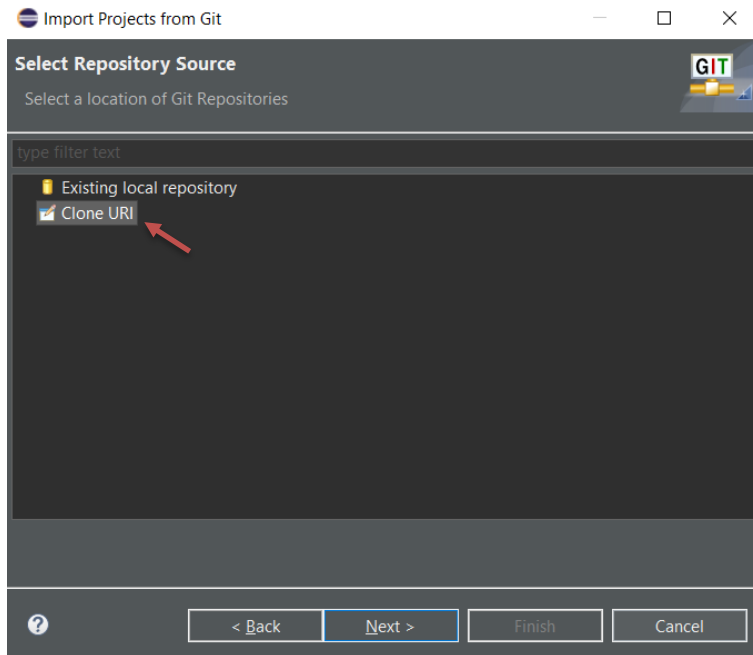
1. In the top left corner of Eclipse, click File -> Import. This will open the import window.



2. In the Select window click Git -> Projects from Git, then click Next.

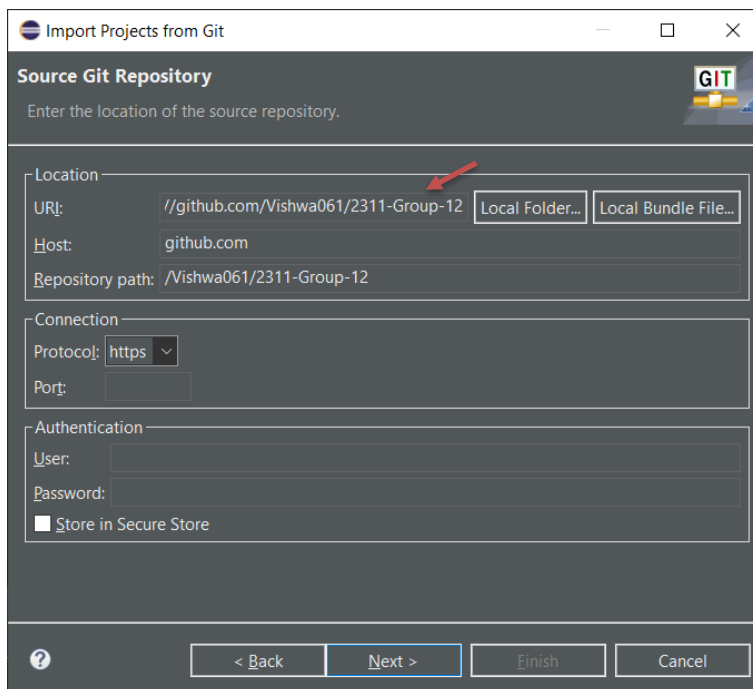


3. In the Select Repository Source window, click the Clone URI option, then click Next.

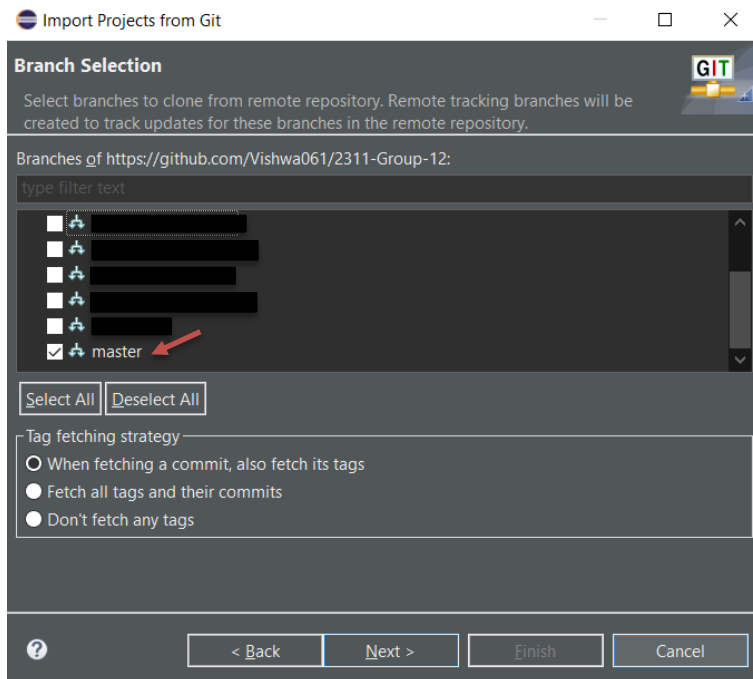


4. In the Source Git Repository window, copy and paste the GitHub link provided below into the URI text field, then click Next:

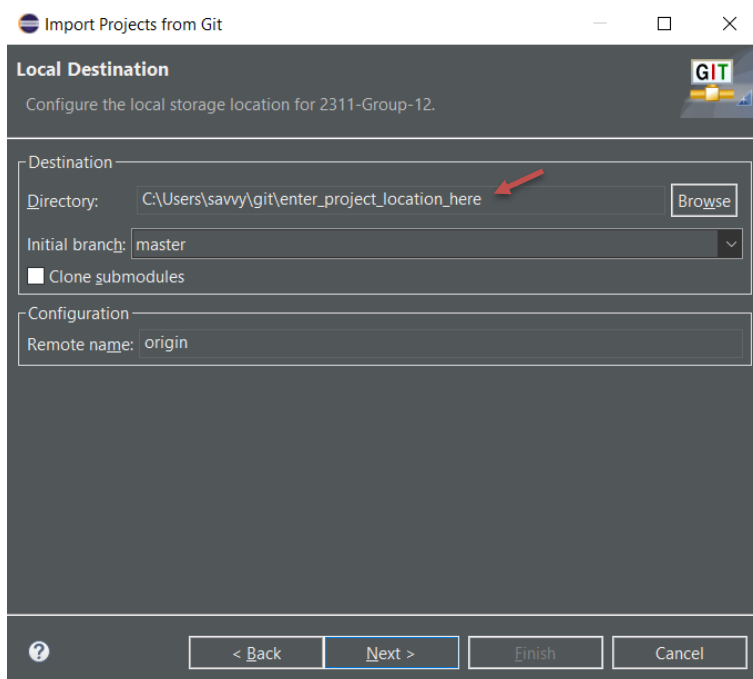
<https://github.com/Vishwa061/2311-Group-12>



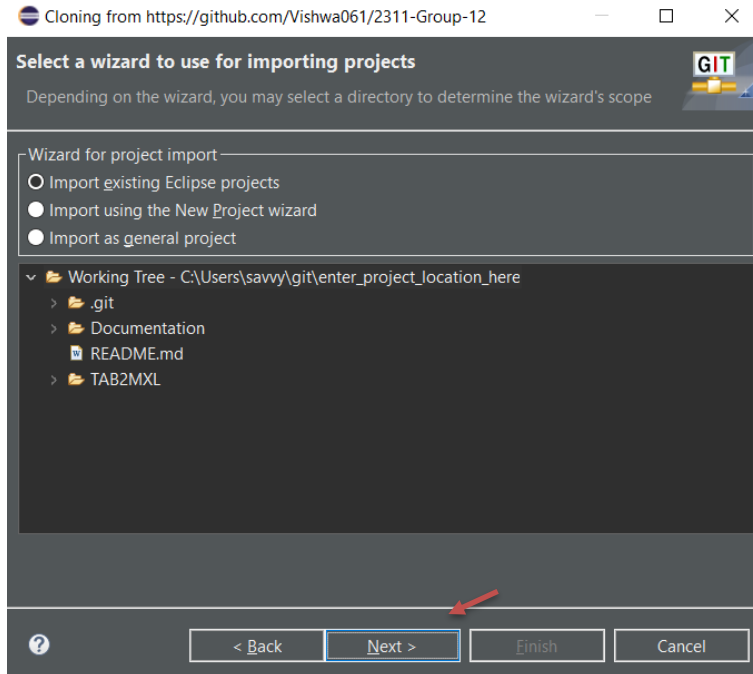
5. In the Branch Selection window, check only the box for the master branch as indicated in the image below, then click Next.



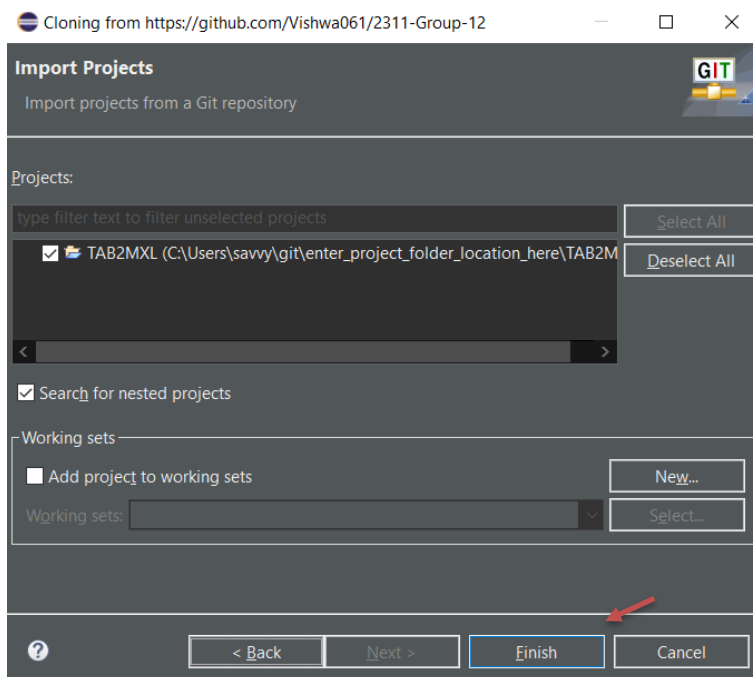
6. In the Local Destination window, select a folder where you would like to save the project, then click Next.



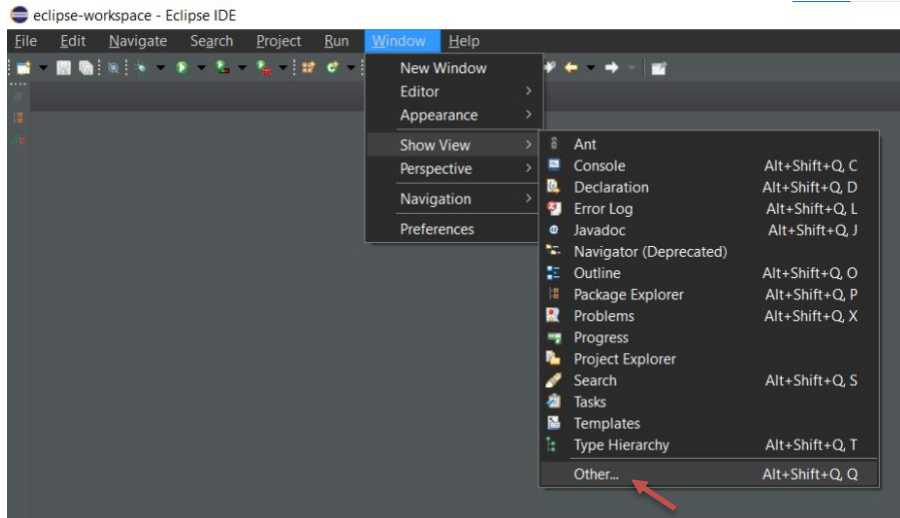
7. No action is necessary in the following window. Click Next.



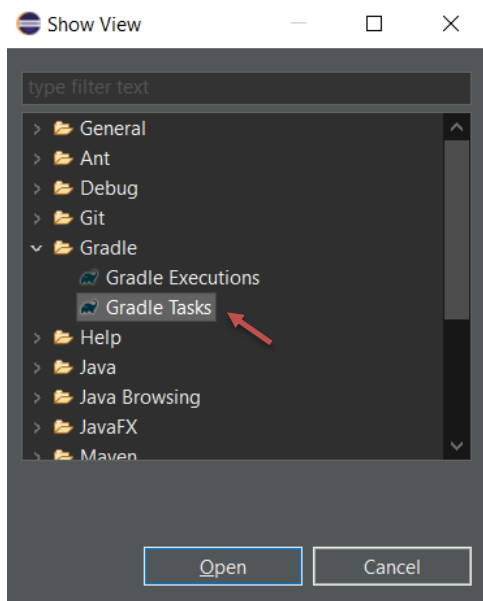
8. No action is necessary in the following window. Click Finish. The project has been successfully imported into your Eclipse IDE.



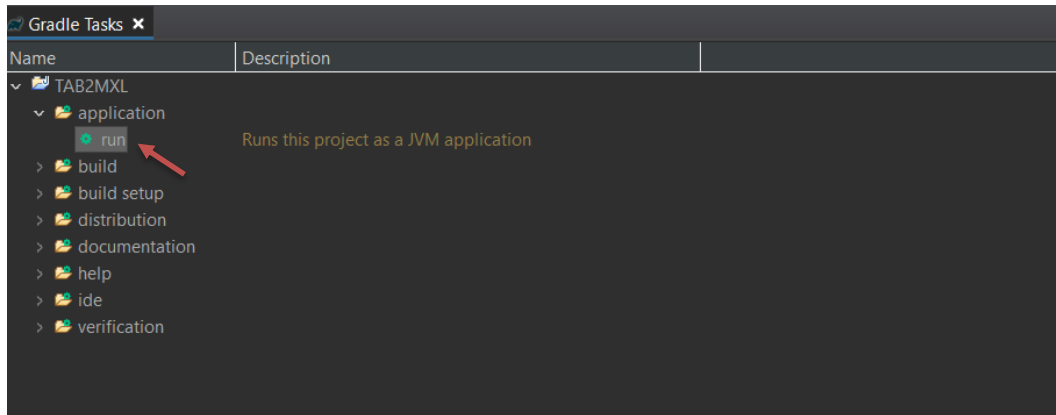
9. From the Eclipse toolbar, click Window -> Show View -> Other. This will open a Show View window.



10. In the Show View window, click Gradle -> Gradle Task, then click Open. This will create a Gradle Task tab.



11. In the Gradle Task tab, click the drop-down icons for TAB2MXL -> application, then double-click run. The TAB2MXL program window will open. The following section provides instructions for how to use the program.



3.0 Creating MusicXML Files with TAB2MXL

👉 STEP 1. Start the TAB2MXL Program

To begin the conversion process in TAB2MXL, click Start. All other features, except the Help button, will be disabled until the start button has been clicked. Clicking start will enable the Select File button.

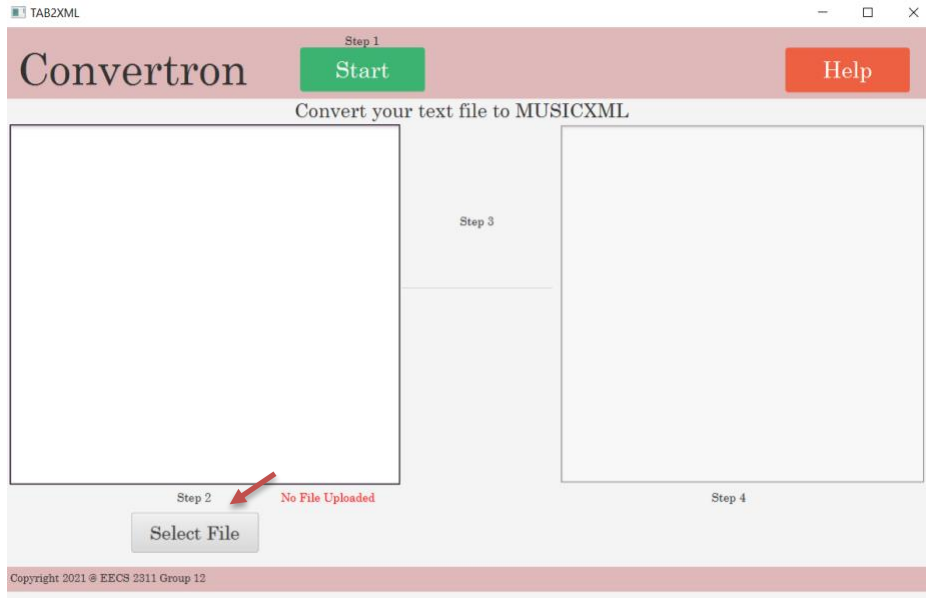


👉 STEP 2. Select an Input Text Tablature File

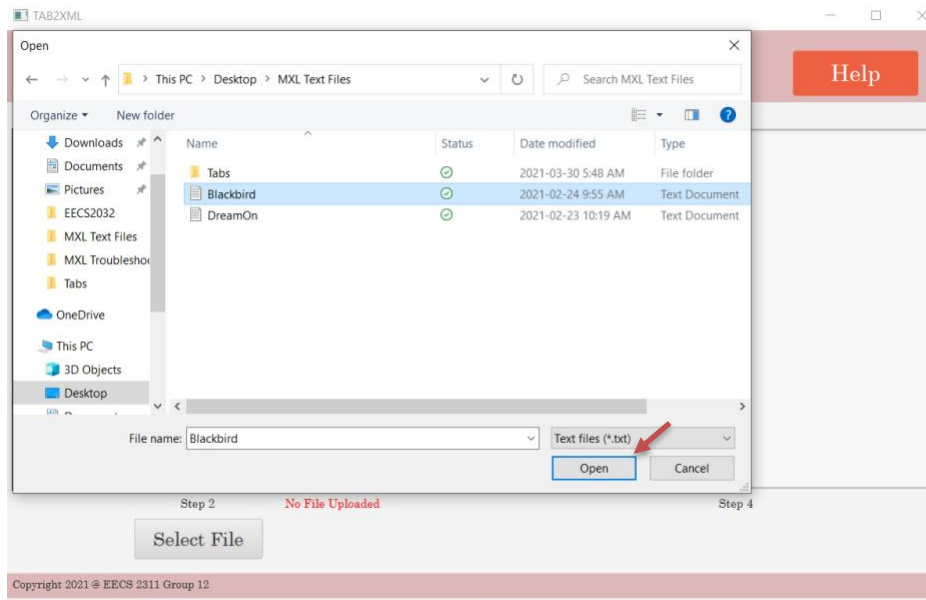
There are multiple ways to select an input text tablature file. You make use a file browser by clicking Select File, drag and drop the file directly into the left window, or copy and paste your text into the left window. Please note that TAB2MXL will only except .txt format files.

Method 1: Using the Select Button

Clicking Select will open a file browser window. This will open a file browser window.

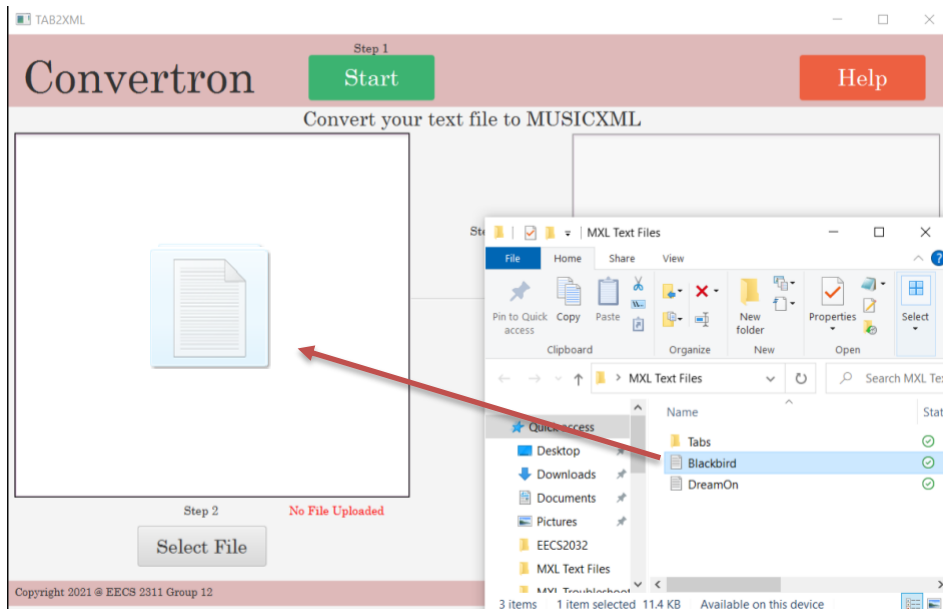


Navigate your files using the file browser, select your input file and click open.



Method 2: Drag and Drop

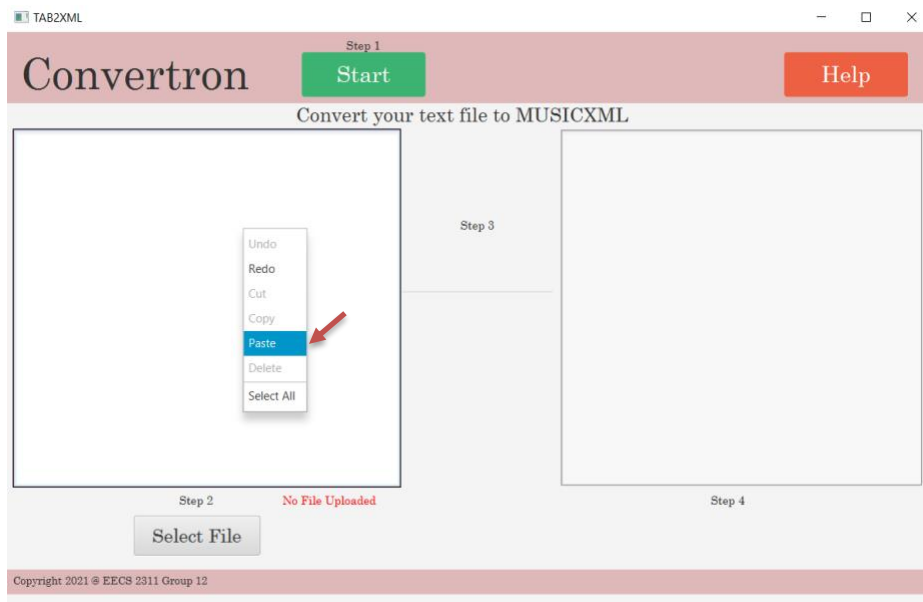
Open the folder containing your input file on your computer. Drag and drop the input file onto the left window.



Method 3: Copy and Paste

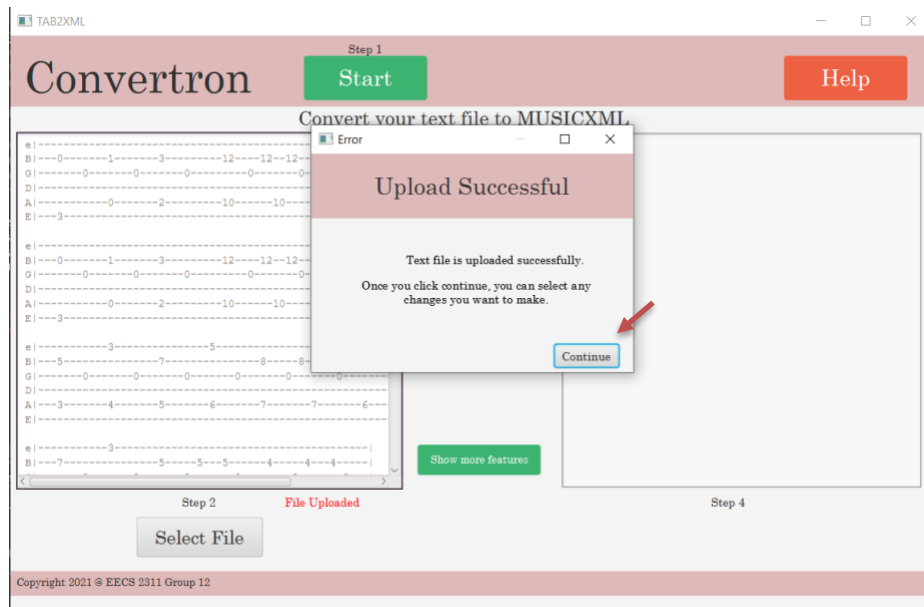
Copy your desired text tablature onto your desktop clipboard. Right click on the left text window and click Paste.

You can as well type into the window and type the designated input to get it converted.

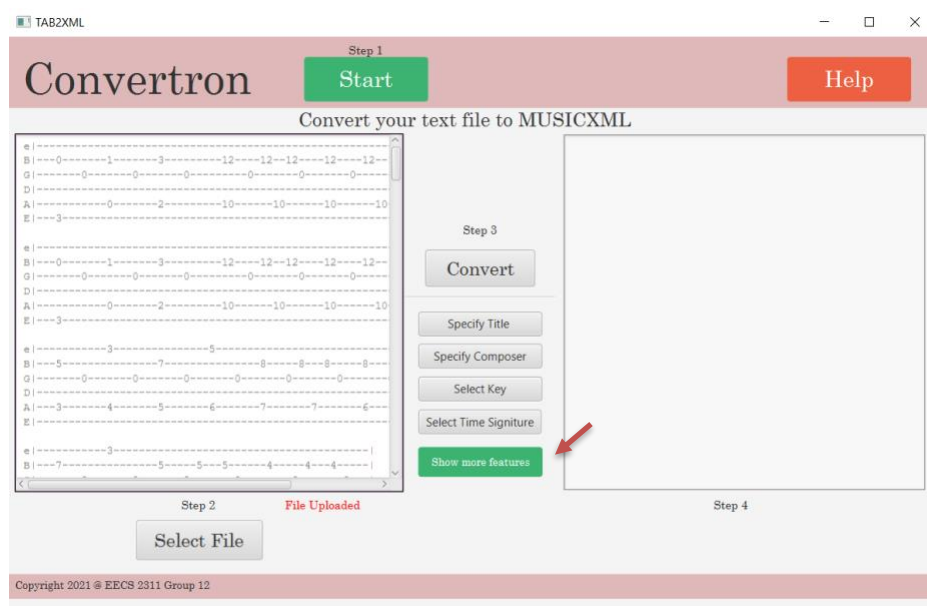


👉 STEP 3. Customize the Output MusicXML File

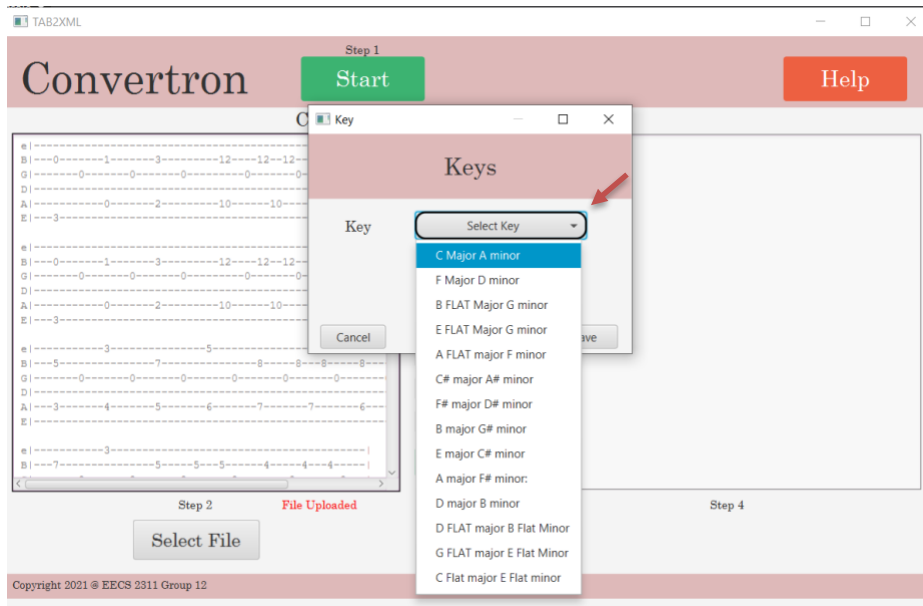
You can make edits directly to the text tablature before conversion in the left text window. There is an option to save your edited text file; you may overwrite the original file or save it as a new file. Successful file upload will be indicated by a message window.



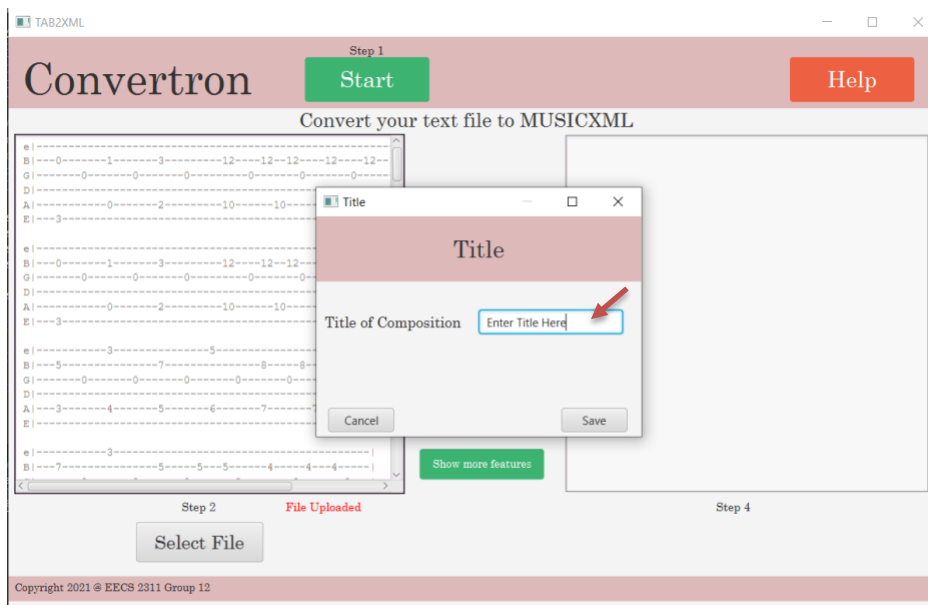
In addition to text edits, you're able to change the title, composer, key and time signature of the output MusicXML file using the respective feature buttons located between the two text windows, which become enabled once a file has been uploaded successfully.



The key and time signature can be edited by selecting from a drop-down menu. If you do not enter this information, the default key will be C major, A minor and the default time signature will be 4/4.

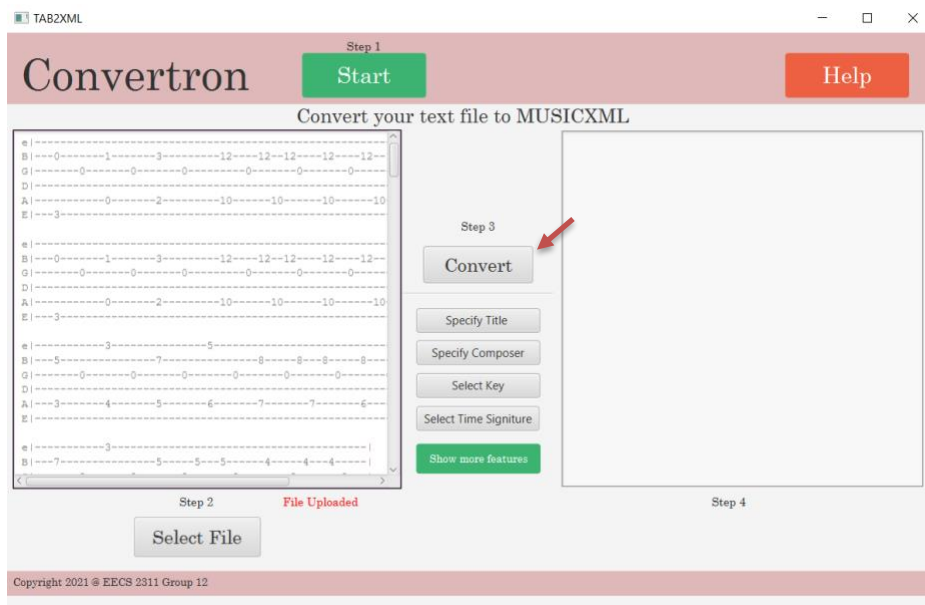


The title and composer can be edited by entering your preferred title and composer into the provided text field. If you do not enter this information, the default title will be the name of the input text file.

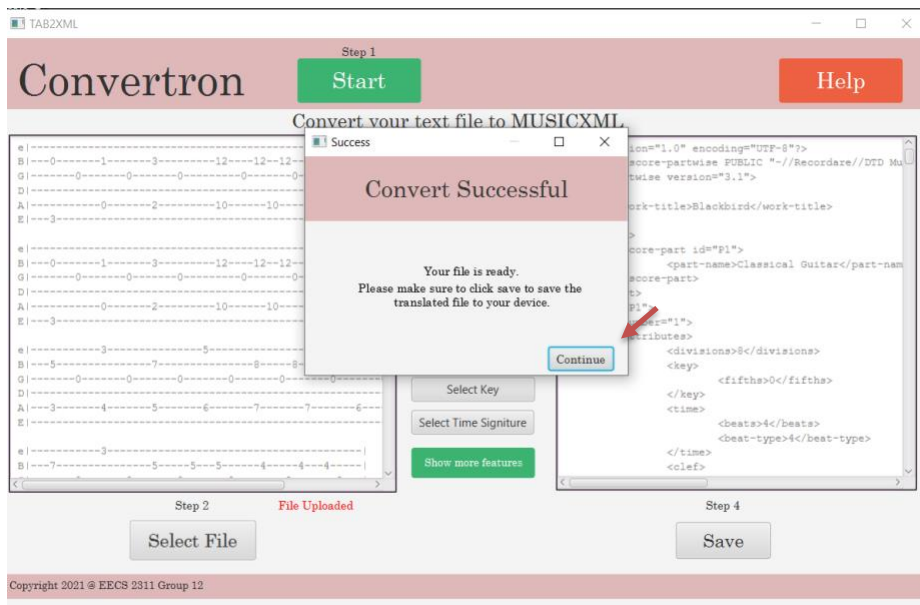


👉 STEP 4. Convert the Input Text File and Save the Output MusicXML File

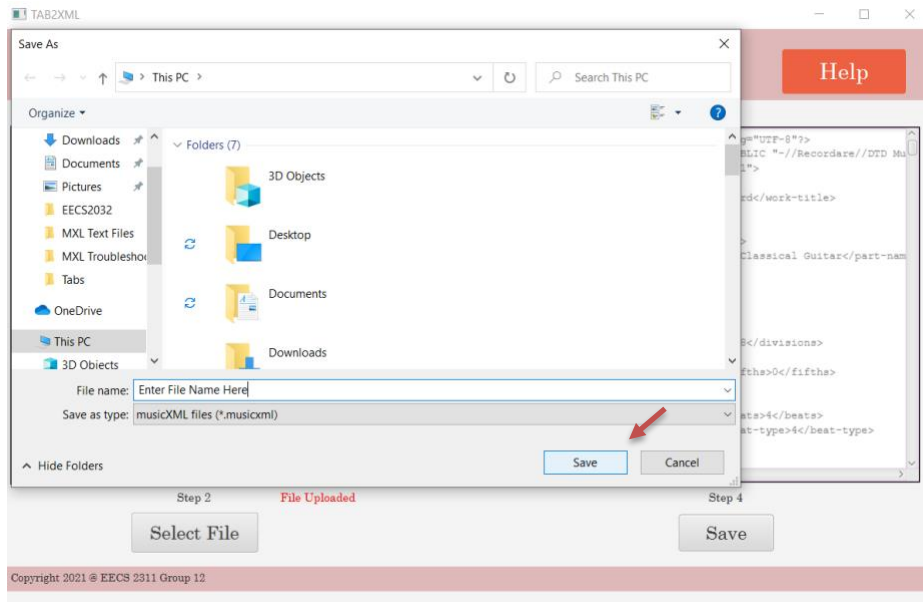
Next, click Convert to begin the conversion process.



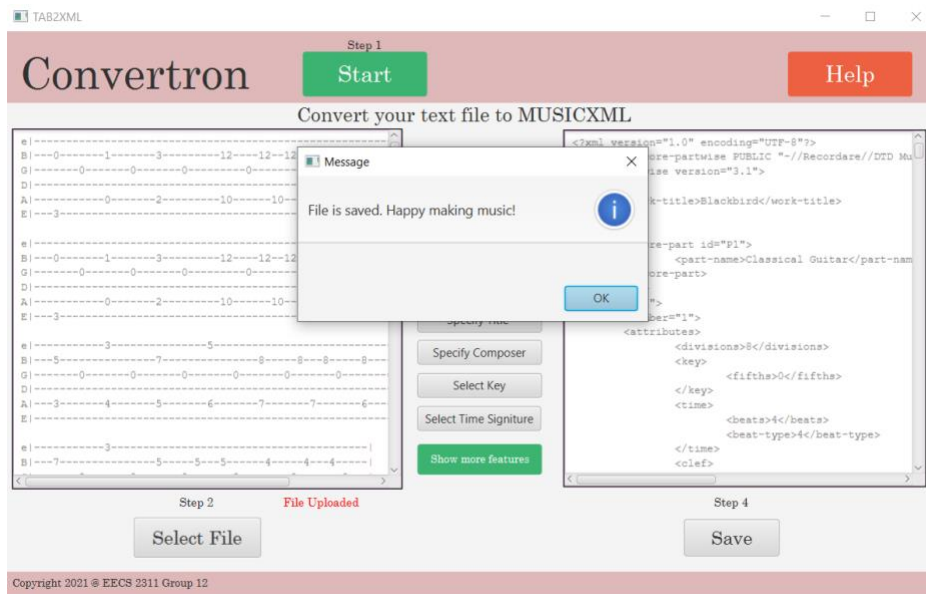
Successful conversion will be indicated by a message window.



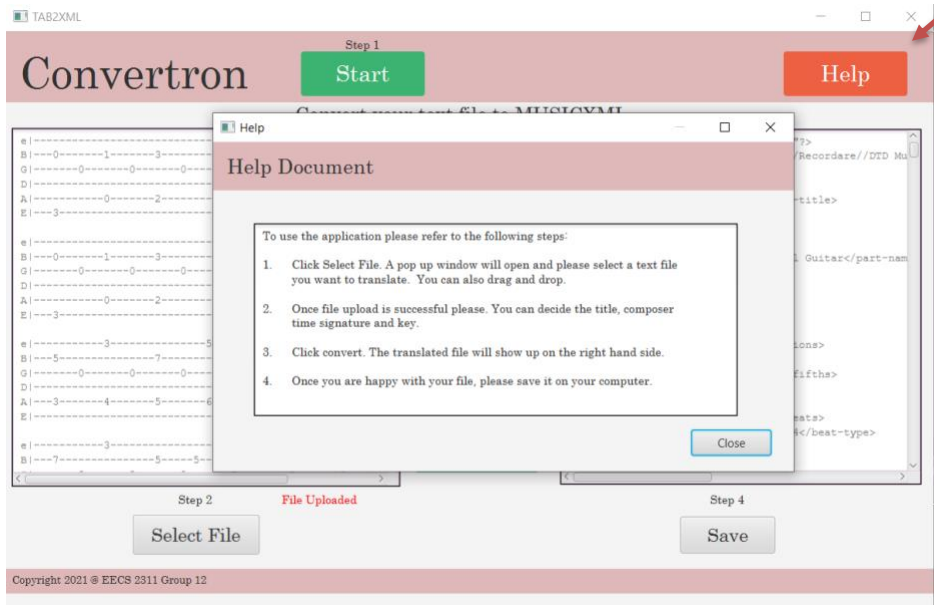
Finally, clicking Save will open a file browser window. Navigate your files to select where the output MusicXML file should be saved, name your file and click Save.



Successfully saving the MusicXML file will be indicated by a message window. Clicking the Start button again will clear both text windows and allow you to begin the conversion process again with a new input file.



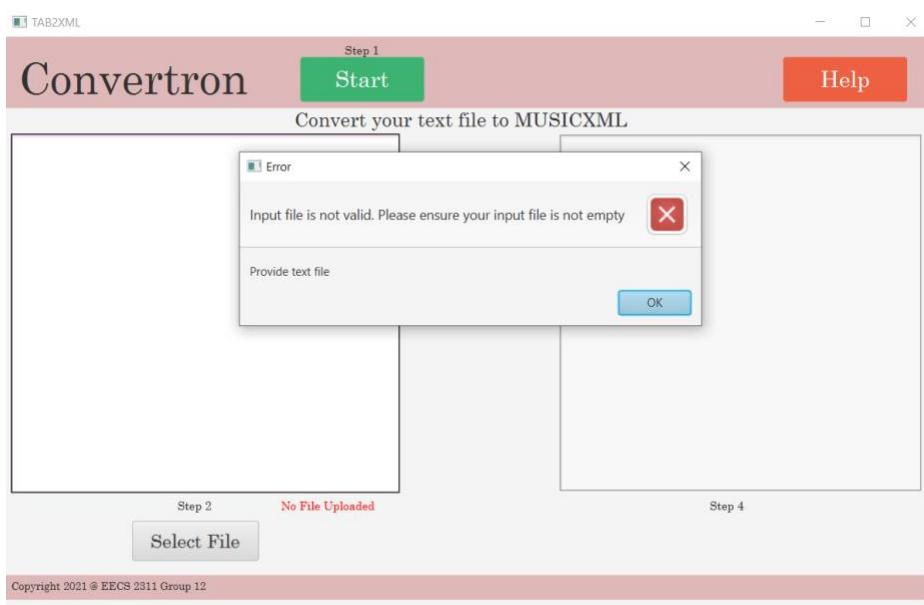
If further instructions are required, the user can click the Help button located in the top right corner of the screen. Clicking the Help button will open a window containing detailed instructions to clarify the conversion procedure.



Lastly to notice, the program will detect instruments, and the title. Therefore, displaying it to the user to see.

4.0 Troubleshooting

If your input text file is empty, you will be alerted with an error message window.



If your input text file contains notation that is not recognized by the TAB2MXL program, your output MusicXML may not look exactly as expected. Text tablature notation and meaning may vary from tab to tab, but TAB2MXL will only accept conventional tablature notations for each instrument. These limitations are outlined in the User Restrictions section. If the input file

contains unexpected notation, TAB2MXL will complete the conversion, but will alert the user to preview the MusicXML file for accuracy because unexpected notation was detected.

If the user is not satisfied with the output MusicXML file, there is an option to directly edit the text tablature for a given measure or a given range of measure. There is also an option to change the time signature for a given measure, or a given range of measures.

If there are major issues with the formatting of the input text tablature. The program will produce an error message window asking the user to edit the input the text file and try again.

5.0 User Restrictions

The program will not accommodate customized notation within the lines of the staff beyond the following for guitar and bass tablature:

- Hammer on: h
- Pull of: p
- Slide: s, /, \
- Bend: b
- Reverse: r

A muted strum notated by "x" will be replaced with 0 and interpreted by the program as an open string. Other tab notation, such as vibrato and harmonics, are not supported by MusicXML for the TAB clef and cannot be represented in the output MusicXML file.

Drum tablature will produce the following standard 8 drum pieces (Hi-hat will occupy 2 staff lines). The drum piece abbreviations at the beginning of each measure in the text tablature input file must match the abbreviations listed below:

- Bass Drum: B or Bd
- Snare Drum: SN
- Hi Tom: T1
- Low Tom: T2
- Floor Tom: FT
- Hi-Hat: HH
- Hi-Hat with Foot: Hf
- Crash Cymbal: CC
- Ride Cymbal: Rd

The program will not accommodate customized notation within the lines of the staff beyond the following for drum tablature:

- Accent (Drum): O
- Flam (Drum): f
- Drag (Drum): d
- Roll (Drum): b
- Strike (Cymbal): x
- Hit hard or loose hi-hat (Cymbal): X

- Open hi-hat (Cymbal): o

6.0 Usage Scenarios

6.1 Usage Scenario Example 1

The user is a guitar player who wants to edit their favorite guitar solo in MuseScore but they only have the text tab on a website. They copy the text tab from the website and paste it into a text file (*.txt). The user opens TAB2MXL and clicks the start button. They then click the select file button and select their text file. Then the user clicks the convert button and then clicks on continue. They click the save button and save their converted MusicXML file. They open their MusicXML file using MuseScore and can now edit whatever they want.

6.2 Usage Scenario Example 2

The user wants to create a MusicXML file from the tablature they composed. However, they composed it in a text file. The user opens TAB2MXL and clicks the start button. They then click the select file button and select their text file. The user realizes that there are some mistakes in their text tab. They edit their text tab within TAB2MXL by using the left panel. After they finish making changes, they click on show more features and they specify the title, composer, key, and time signature. Then the user clicks the convert button and then clicks on continue. They realize again that they made another mistake and edit their input again. They click on convert a second time to update the output. They click the save button and save their MusicXML file.

6.3 Usage Scenario Example 3

The user uploads a text file containing a tablature that has errors in the measure. If the errors are minor the software system will ignore it and proceed to translating the tablature to a MusicXML file. This is a scenario describing a minor error handling.

The user uploads a text file containing a tablature with no guitar tuning. The user interface will recognize this problem as a major issue and will not translate the tablature to a MusicXML file.

7.0 Glossary

Eclipse: A software integrated development environment consisting of a source code editor, build automation tools and a debugger used in aid of the completion of the code written and used in computer programming.

Java: The programming language used to create the TAB2MXL software.

MusicXML: A standard open format for exchanging digital sheet music. It was designed from the ground up for sharing sheet music files between applications, and for archiving sheet music files for use in the future. More than 180 applications include MusicXML support.

Tablature: A configuration of musical notation.

TAB2MXL: A software system that will translate an input instrumental text tablature file to a MusicXML file.

8.0 Contact Information

If you have any questions or if you require further assistance for troubleshooting an issue, please email us at customerservice@tab2mxl.com.

If you have any suggestions for improving TAB2MXL, you can reach out to our software developers:

Sara Araibi: sara012@my.yorku.ca

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Savneet Gill: Sgill94@my.yorku.ca

Kaneez Fatima: kaneez24@my.yorku.ca

Nishiket Singh: Nishiket@my.yorku.ca