TAB2XML

User Manual

Final Version

04/11/2021

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1. Introduction

This User Manual (UM) provides the information necessary for selected users to effectively use TAB2XML final release.

2. Overview

TAB2XML is a standalone desktop application designed to convert different formats of ASCII music tablatures to a popular music description file format called MusicXML. This software can convert different types of tablature (guitar, drums, and bass) into platform and instrument independent MusicXML.

TAB2XML provides an easy-to-use user interface compatible with most operating systems. Both file processing and direct text input methods are available to users. Translated MusicXML files are accessible through both the interface and the file output.

2.1 Conventions

The term ‘user’ is used throughout this document to refer to a person who requires and/or has acquired access to the TAB2XML.

The term ‘action’ is used throughout this document to refer to a mouse click on a menu or button, and typing in the text area while interacting with the graphic user interface of TAB2XML.

2.2 Cautions & Warnings

The current release of TAB2XML is only intended for the project manager, product owners, QA testers, and stakeholders. This application may not be distributed or referenced without the team’s consent.

3. Getting Started

3.1 Set-up Considerations

TAB2XML release 2.0 (TAB2XML) requires Java to be installed. To optimize your access to the TAB2XML:

1. Please download and install the newest version of Java at https://www.java.com/download.
2. Do not resize the application window. The resizable window has yet to be implemented in this release.

3.2 User Access Considerations

All users with download permission have full access to TAB2XML.

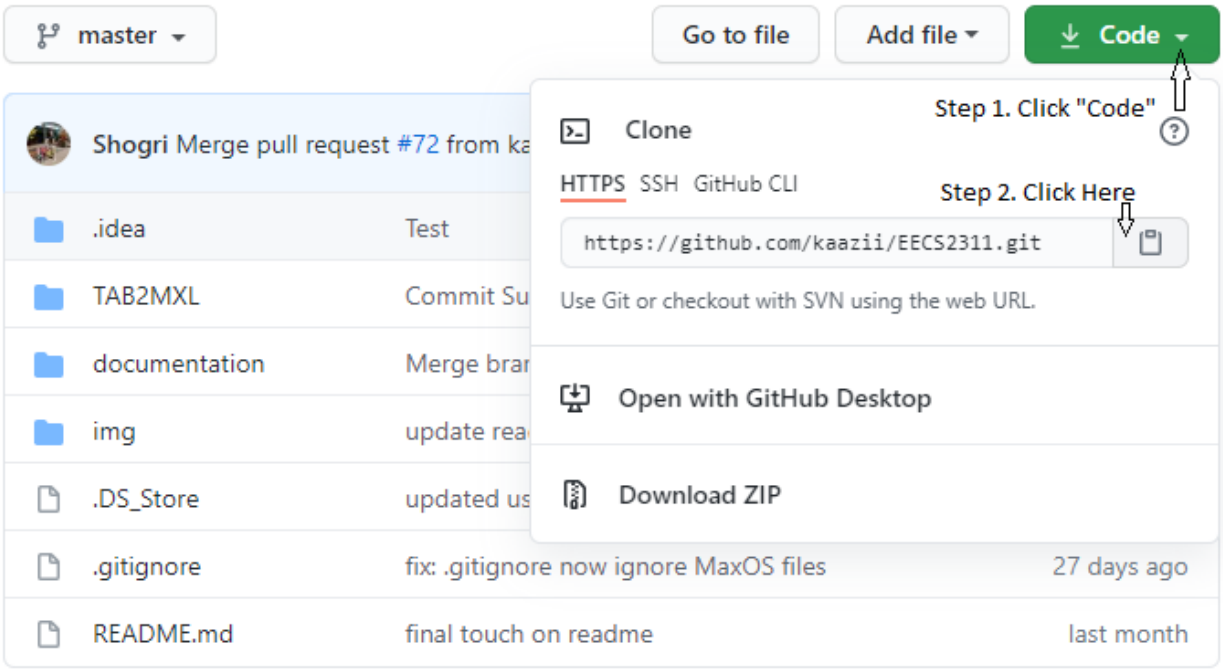
3.3 Accessing the Application

The user must have Eclipse, Gradle, and Java installed on their local computer. The step-by-step access guide is listed under our repository README.

3.4 Installation Guide

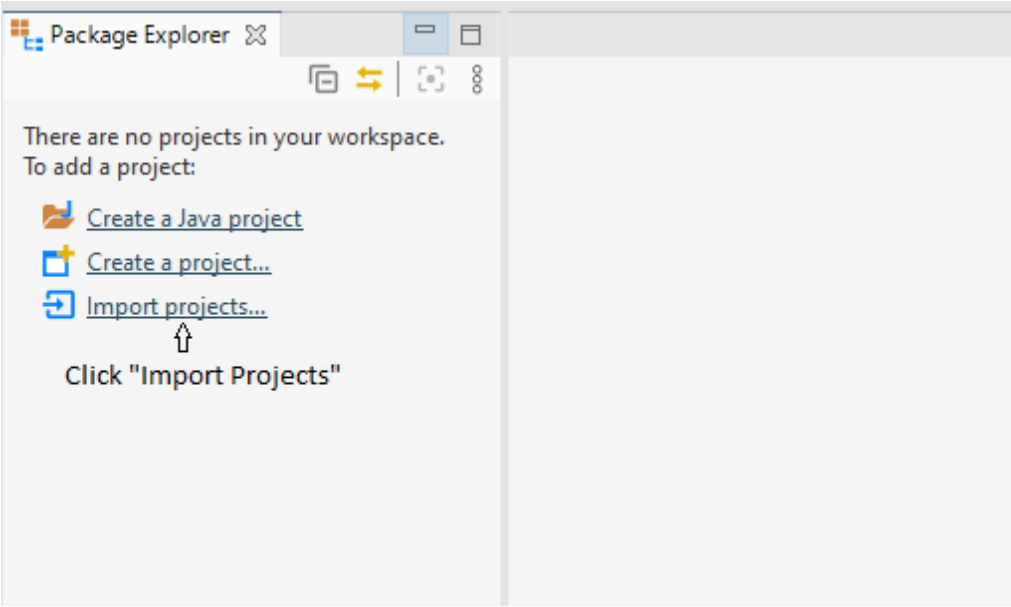
A video regarding installing and running the application has been posted in the README section of the project repository. To view the installation guide video, click here. Alternatively, you may follow these steps:

Figure 1 - Screenshot of the GitHub Repository



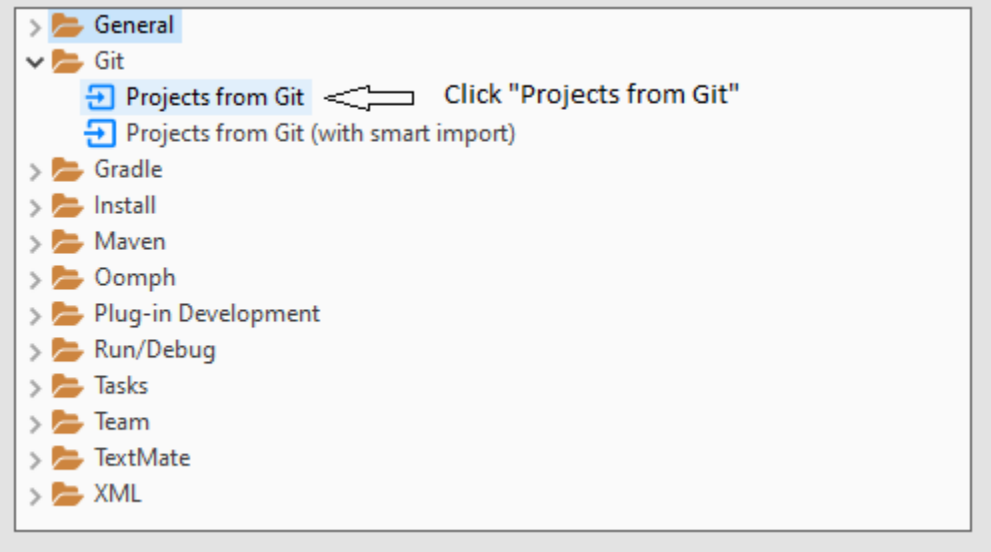
1. Please visit the project repository, and follow the instructions shown in Figure 1.

Figure 2 - Screenshot of the Eclipse package explorer



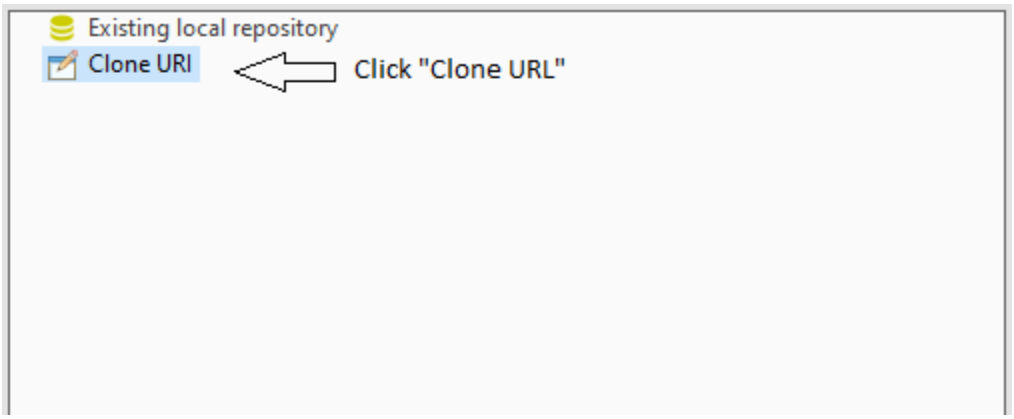
2. Go to the startup page on Eclipse IDE and click on “Import projects...” inside the Package Explorer located on the left panel of the screen as shown in Figure 2.

Figure 3 - Screenshot of the Git import



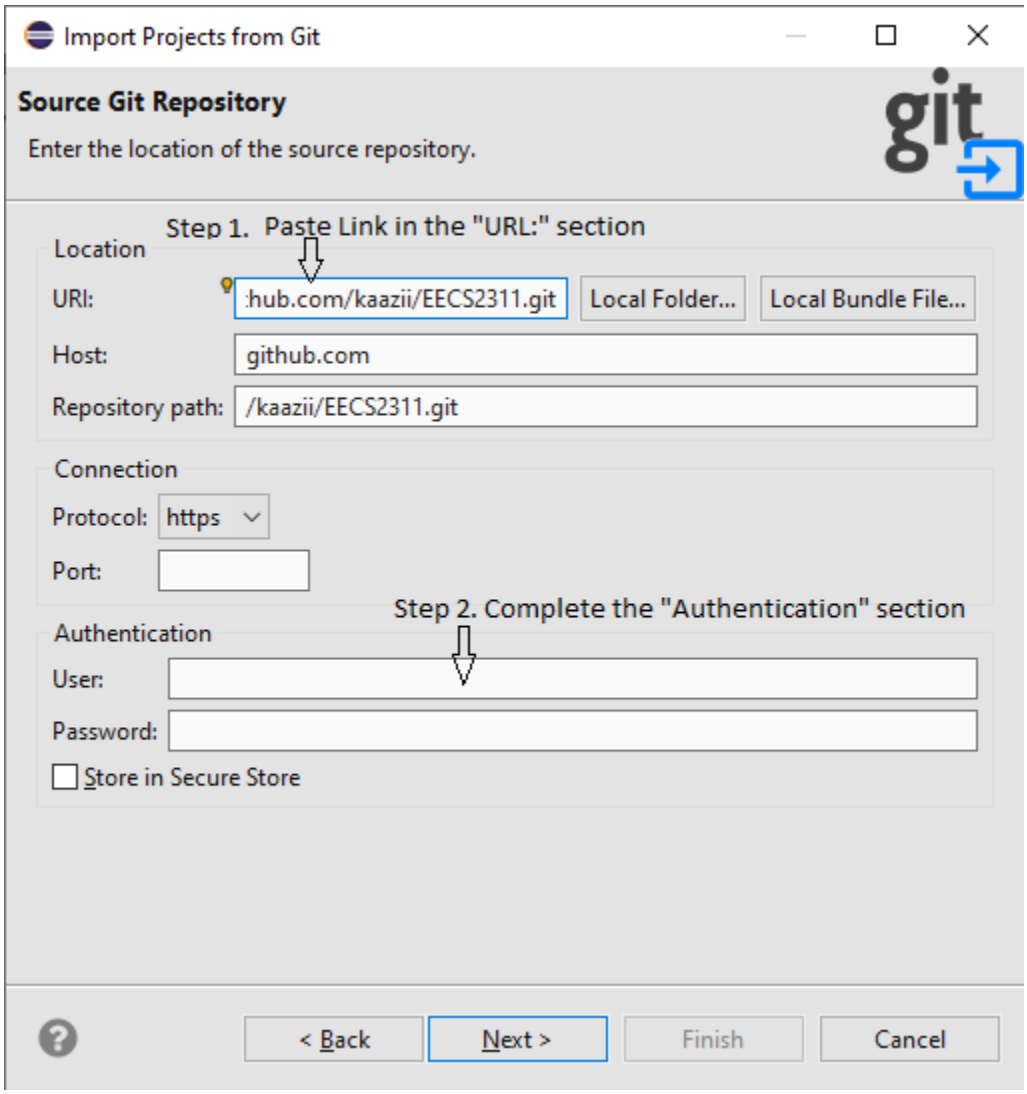
3. Click on the “Git” drop-down menu and select “Projects from Git” and click on the “Next” button as shown in Figure 3.

Figure 4 - Screenshot of the Clone URL option



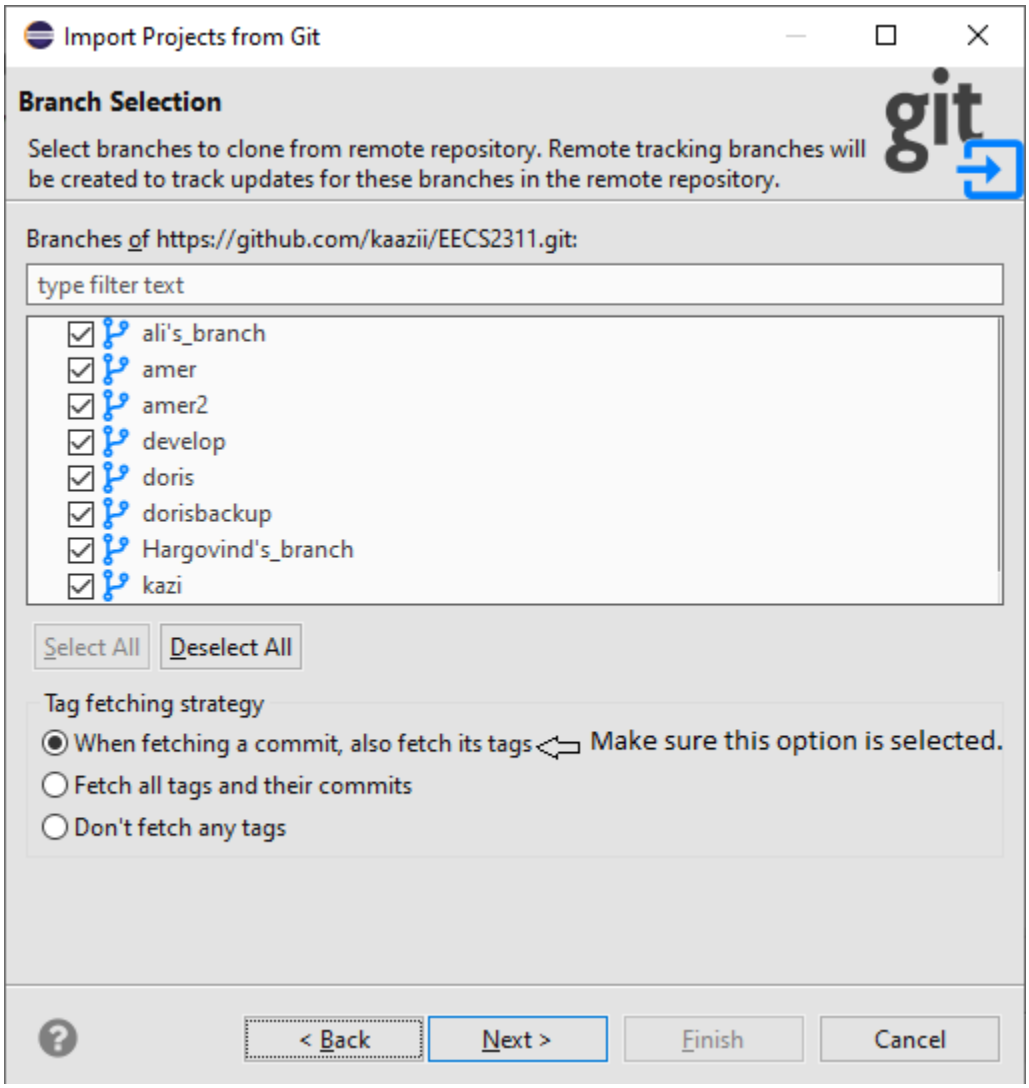
4. Click on “Clone URL” and click the “Next” button as shown in Figure 4.

Figure 5 - Screenshot of the Import Projects from Git Screen (1)



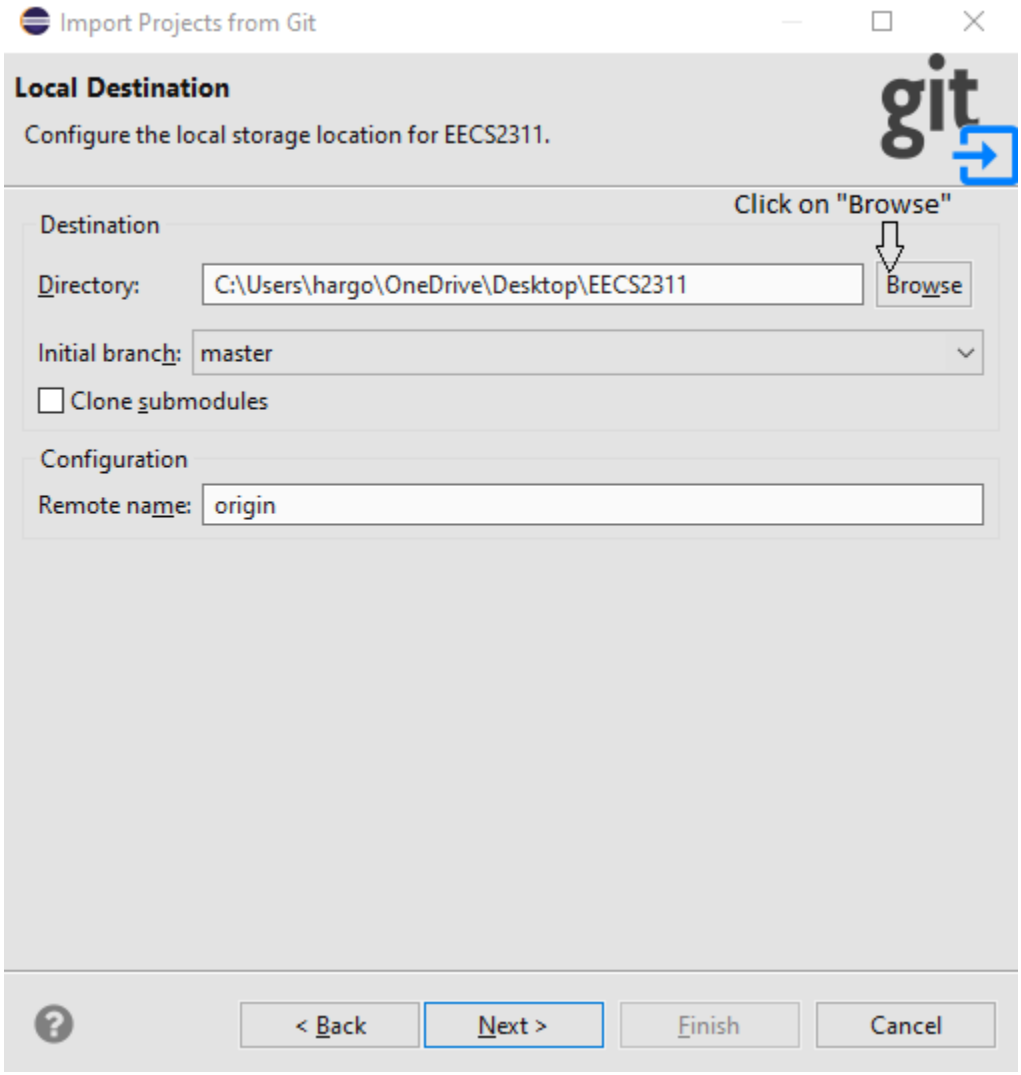
5. Now paste the copied URL inside the “URL:” subsection of “Location”. Next, enter your Github credentials inside the “Authentication” section and press the “Next” button as shown in Figure 5.

Figure 6 - Screenshot of the Import Projects from Git Screen (2)



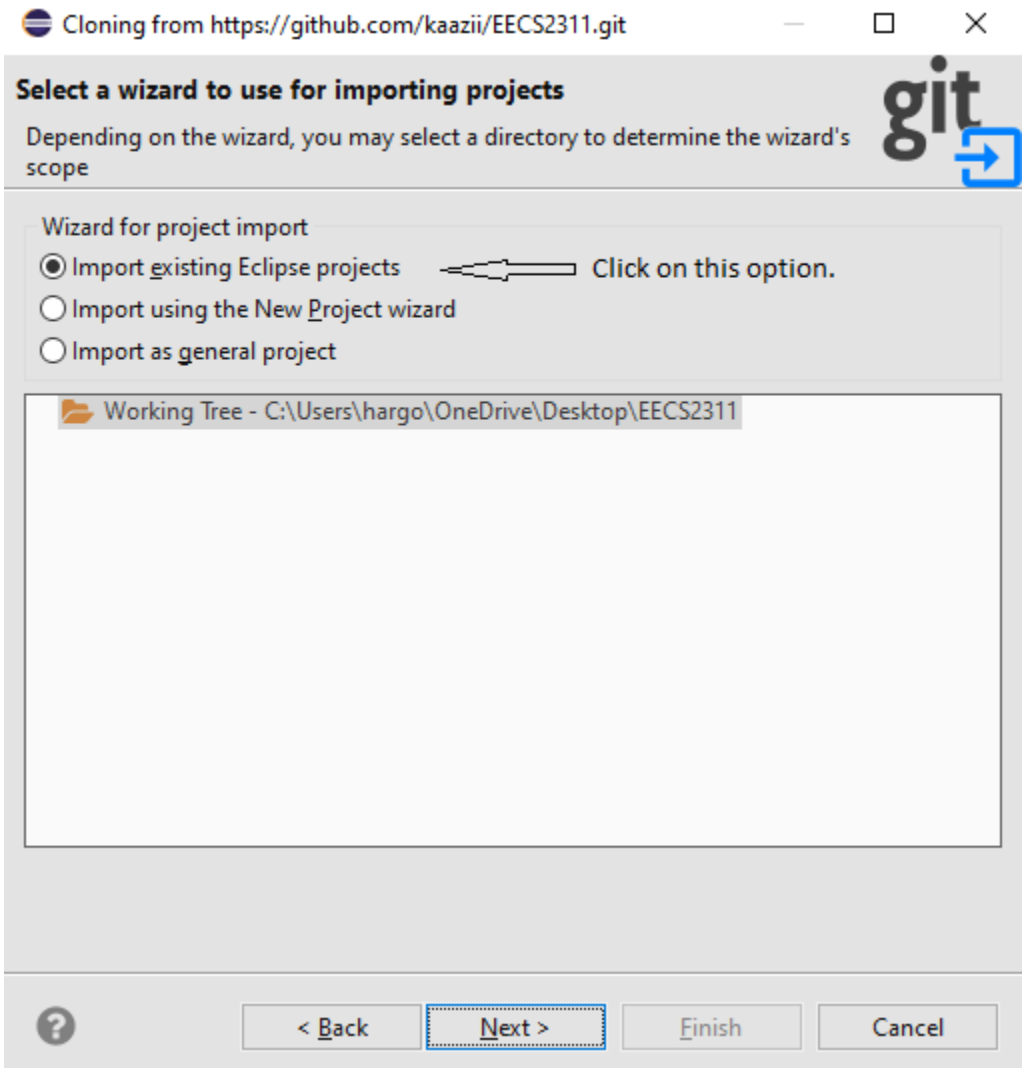
6. You can keep the default settings on the branch selection page and click the “Next” button as shown in Figure 6.

Figure 7 - Screenshot of the Import Projects from Git Screen (3)



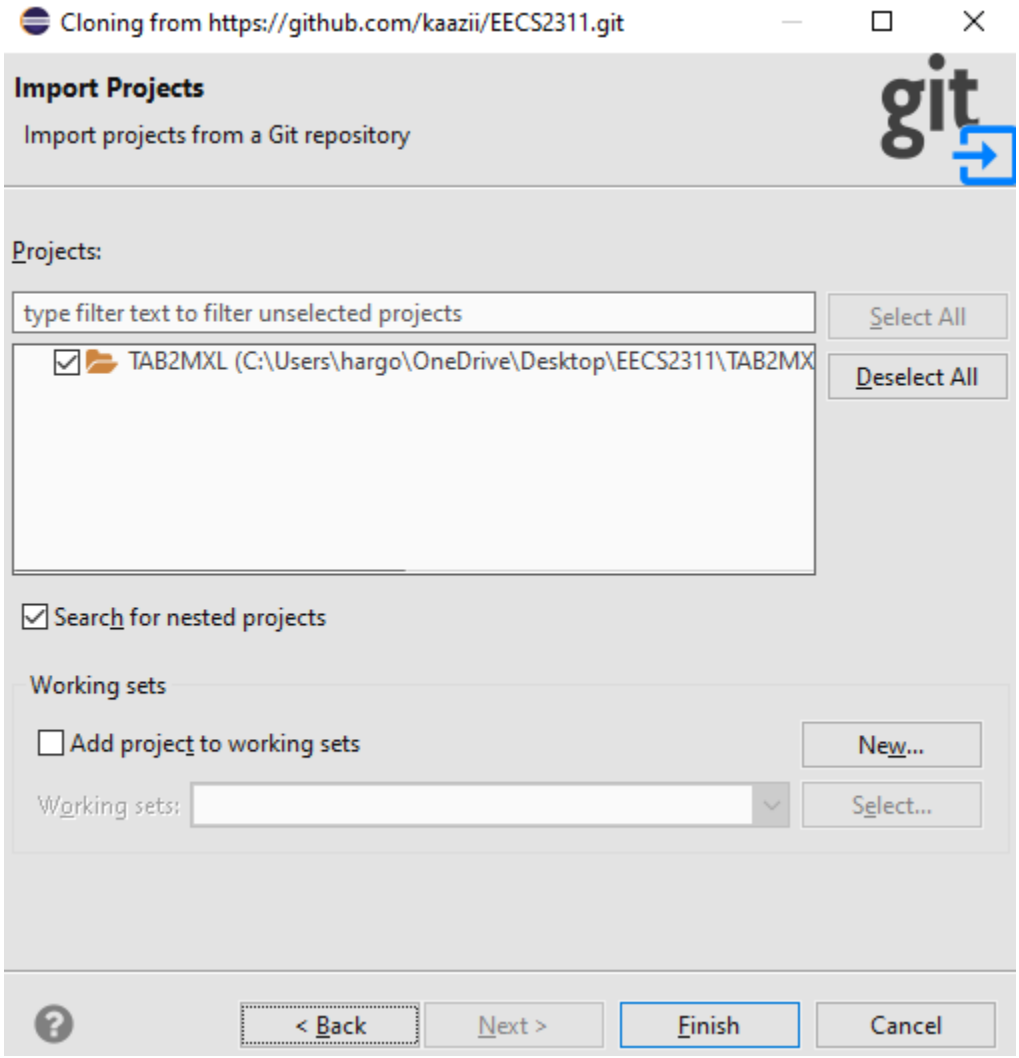
7. At the “Local Destination” screen, click on the “Browse” and choose the directory where you want to store all the project files. Once you are done, you can click the “Next” button and move to the next page as shown in Figure 7.

Figure 8 - Screenshot of the Import Projects from Git Screen (4)



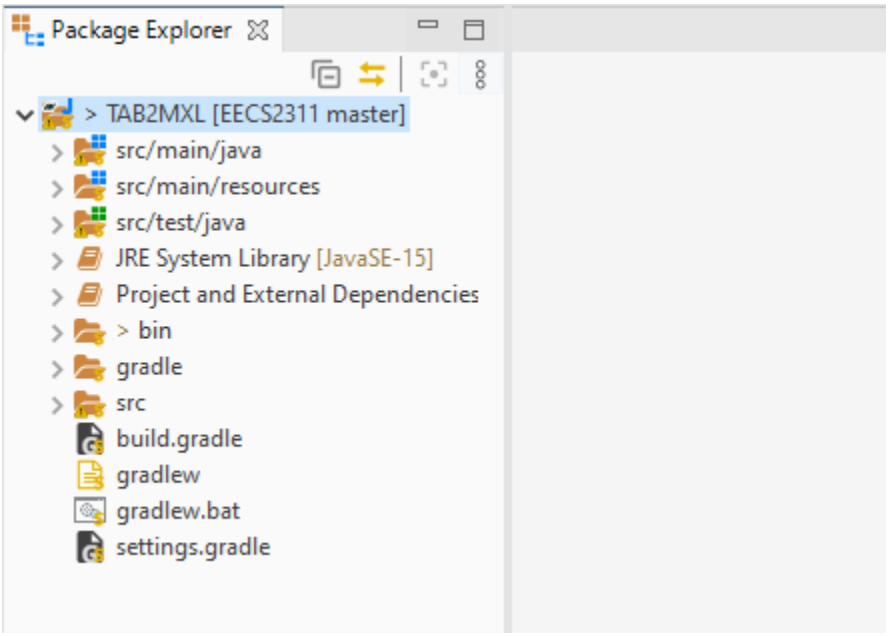
8. Once you reach the “Select a wizard to use for importing projects” page, you can keep the default settings and click the “Next” button as shown in Figure 8.

Figure 9 - Screenshot of the Import Projects from Git Screen (5)



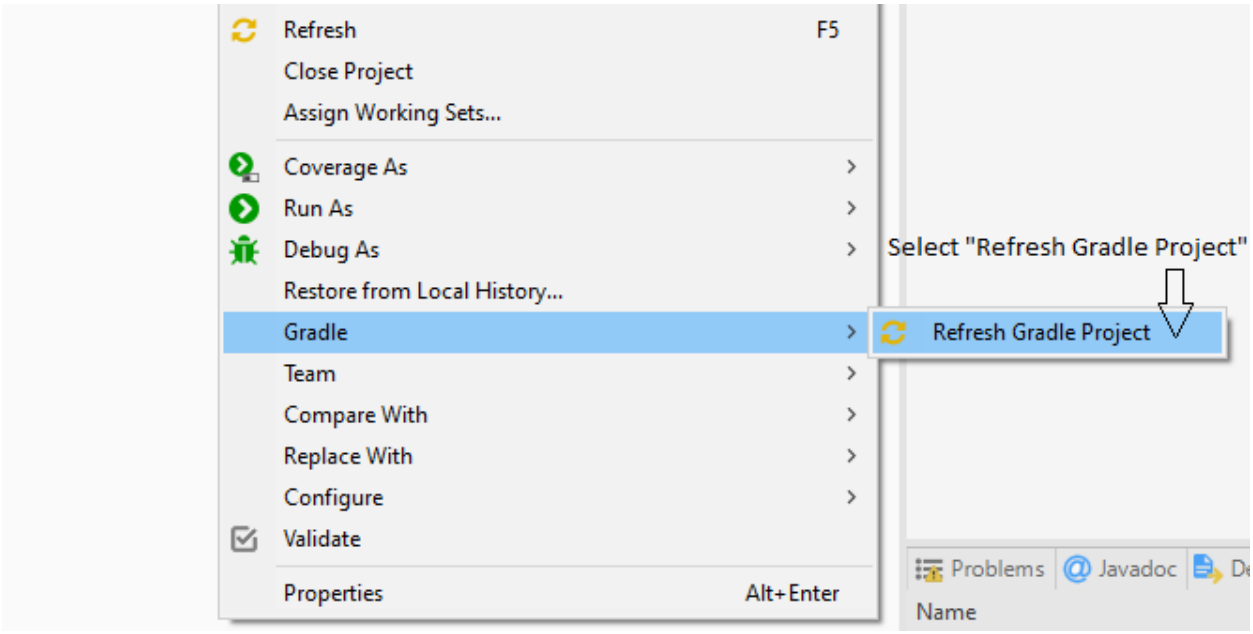
9. On the “Import Projects” page, you do not need to make any changes to the default settings and you can click on the “Finish” button as shown in Figure 9.

Figure 10 - Screenshot of the package explorer



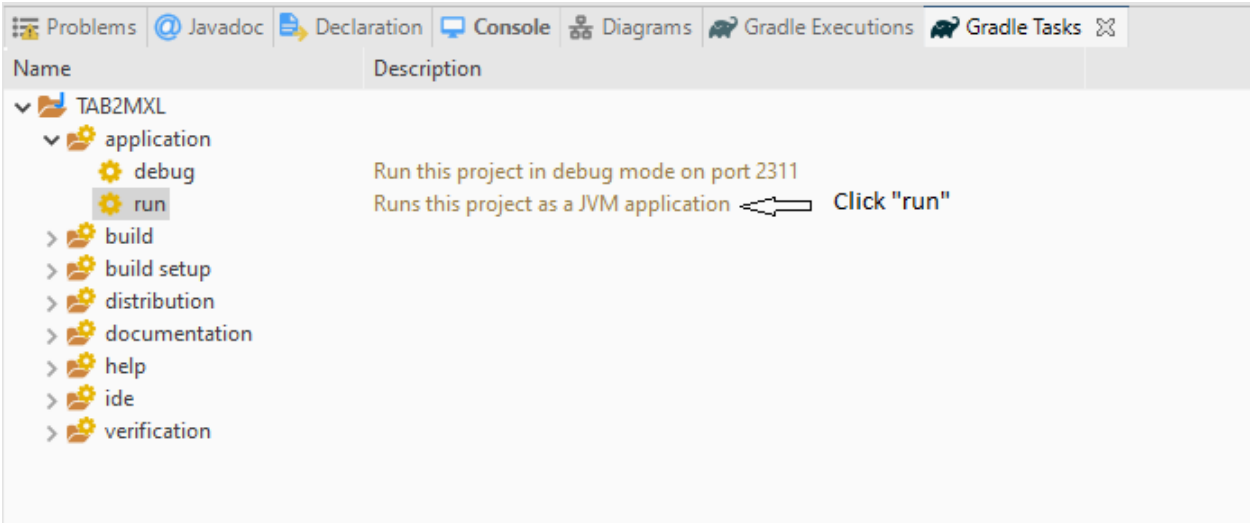
10. After completing step 9, you should see the contents of the project inside the Project Explorer tab on the left panel of Eclipse IDE as shown in Figure 10.

Figure 11 - Screenshot of the right-click menu



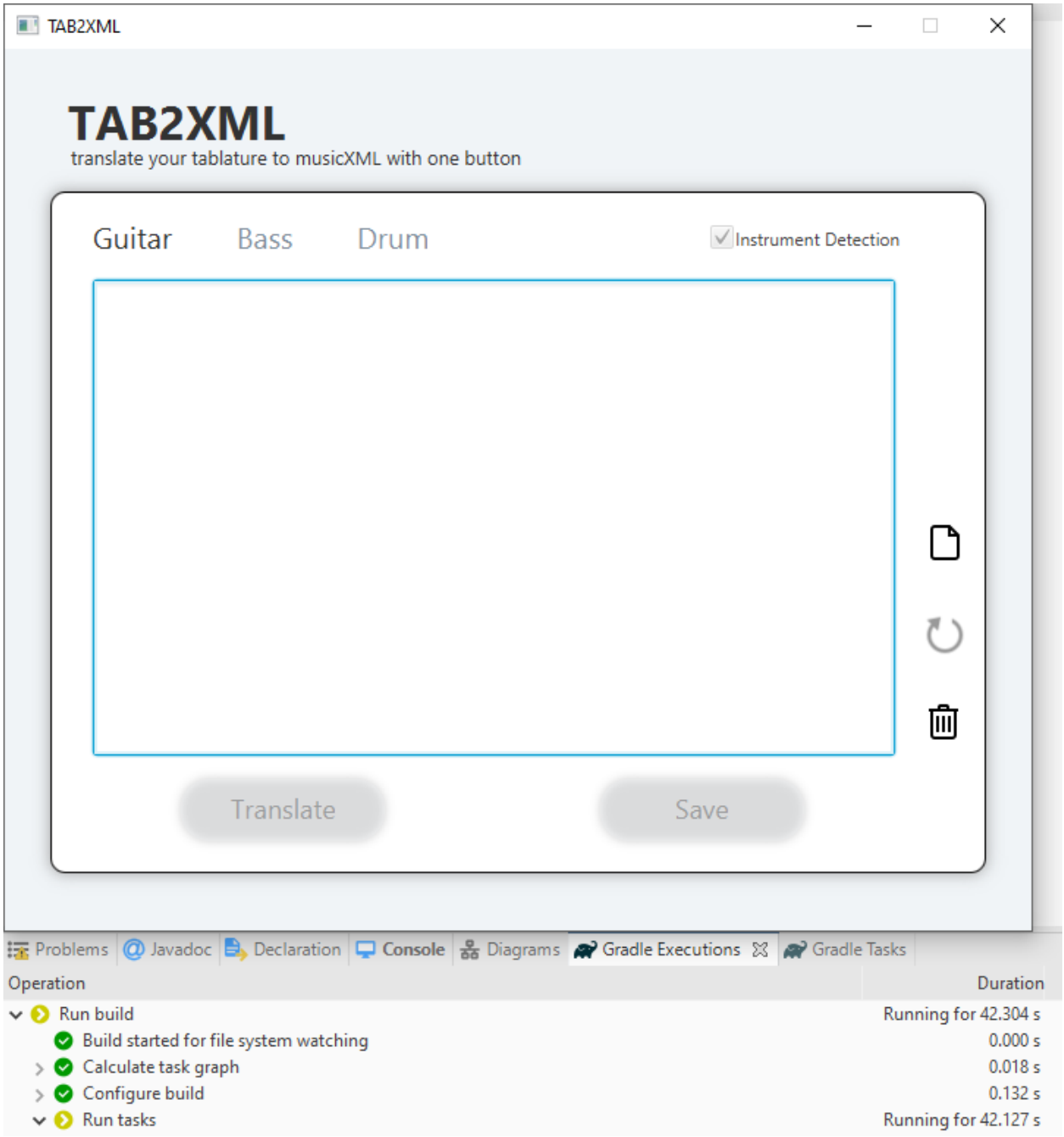
11. Proceed by right-clicking the TAB2XML folder inside the “Project Explorer” and selecting “Grade”>” Refresh Gradle Project” as shown in Figure 11.

Figure 12 - Screenshot of the Gradle Tasks



12. After the Gradle refresh is complete, you can head over to the Gradle Tasks tab at the bottom of the window and run the application by “TAB2XML”> “application” > “run” as shown in Figure 12. In case you do not see the “Gradle Tasks” menu, you can go to “Window”> “Show View”> “Other”>Select both ”Gradle Task” and ”Gradle Executions”> “Open. ’

Figure 13 - Screenshot of the Startup Screen



13. After the completion of step 12, you should be able to run the application as shown in Figure 13.

3.5 Usage Scenario

In this section, we will provide real-world examples of how people can interact with our TAB2XML application.

1. *Scenario 1: A successful conversion of Guitar ASCII tablature into MusicXML format.*

i. A user presses the “Upload a File” option.

ii. A pop-up window appears that lets the user upload their desired text file containing guitar tablature.

iii. The user clicks on “Translate” and the application verifies the type of instrument and checks for errors.

iii. After input validation is complete, the application presents “Translation Options”.

iv. The user enters the name of the “Composer”, and “Title” and selects the appropriate time signature.

v. After completing the translation options, a screen for tuning shows up. The user may adjust the tuning of their guitar tab or may use the default tuning.

vi. The application converts the tablature into MusicXML format and displays it to the user.

vii. The application displays the option of saving the converted tablature with a *.txt or *.musicxml extension.

viii. The user saves the converted tablature as a file on their system.

2. *Scenario 2: A successful conversion of Bass ASCII tablature into MusicXML format.*

i. A user pastes in the tablature into the text area in TAB2XML graphic interface.

ii. The user clicks on “Translate” and the application verifies the type of instrument and checks for errors.

iii. If the application fails to identify the instrument type, a warning pops up. The user may select “Bass” manually.

iv. After input validation is complete, the application presents “Translation Options”.

v. The user enters the name of the “Composer”, and “Title” and selects the appropriate time signature.

vi. After completing the translation options, a screen for tuning shows up. The user may adjust the tuning of their bass tab or may use the default tuning.

vii. The application converts the tablature into MusicXML format and displays it to the user.

viii. The application displays the option of saving the converted tablature with a *.txt or *.musicxml extension.

ix. The user saves the converted tablature as a file on their system.

3. *Scenario 2: A successful conversion of drum ASCII tablature into MusicXML format.*

i. A user pastes in the tablature into the text area in TAB2XML graphic interface.

ii. The user clicks on “Translate” and the application verifies the type of instrument and checks for errors.

iii. After input validation is complete, the application presents “Translation Options”.

iv. The user enters the name of the “Composer”, and “Title” and selects the appropriate time signature.

v. The application converts the tablature into MusicXML format and displays it to the user.

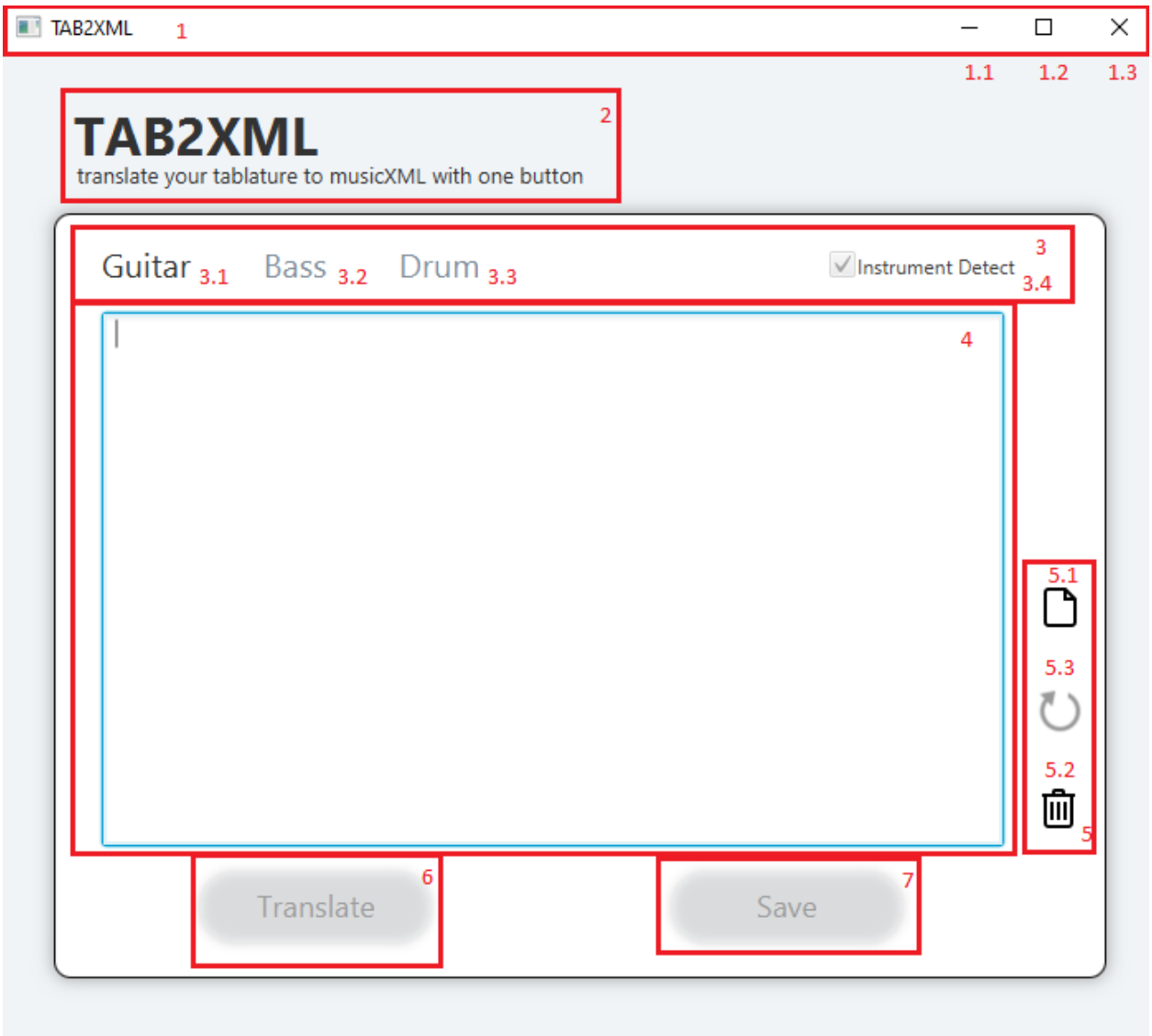
vi. The application displays the option of saving the converted tablature with a *.txt or *.musicxml extension.

vii. The user saves the converted tablature as a file on their system.

3.6 Application Organization & Navigation

1. Startup screen

Figure 14 - Screenshot of the startup screen



Section 1. System title bar

The system title bar is provided by the user's computer system. The figure above captures the system behaviour of macOS Big Slur. This section contains a title text "TAB2XML" and three system buttons:

Section 1.1. Close button: close the application
Section 1.2. Expand button: expand the application (currently not recommended)
Section 1.3. Minimize button: minimize the application

Section 2. Title: contains the title and a brief introduction of TAB2XML

Section 3. Instrument selection

This section details the instrument selected for MusicXML translation. Upon startup, Guitar is selected as default. The selected instrument will appear in a darker font, while unselected instruments remain in grey. Only one instrument can be selected.

Section 3.1. Guitar selected: on action, Guitar is selected as translation instrument
Section 3.2. Bass selected: on action, Bass is selected as translation instrument
Section 3.3. Drum selected: on action, Drum is selected as translation instrument
Section 3.4. Auto Detect: on selected, auto instrument detection will be activated and triggered after each text input and file upload. On unselected, no detection will be activated. Default selected.

Section 4. Text input: The user may use this section to paste in tablature text. The content of an uploaded file also appears in this section.

Section 5. Action menu

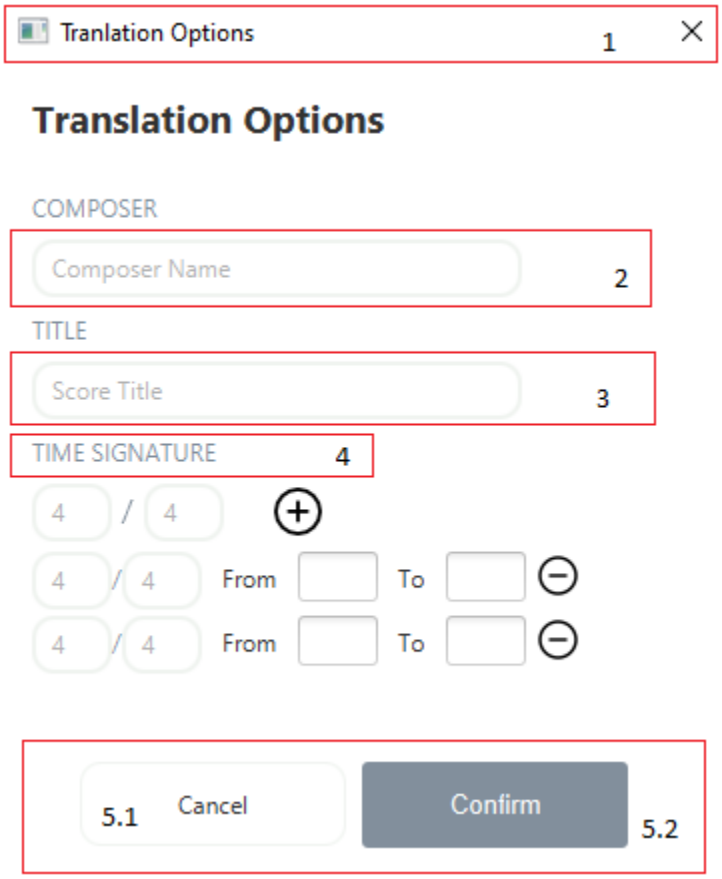
Section 5.1. File input: on action, a file selection screen allows the user to select a text file to be processed as input.
Section 5.2. Clear: on action, a clear alert screen (See 4) pops up. Disabled if no content.
Section 5.3. Restart: By default, the restart button is disabled until a translation has been performed. On action, a restart alert screen (See 5).

Section 6. Translation button: Disabled if no input content is present. On action, it triggers the translation process and an options screen (See 2) will pop up. Disabled if a translation process has

Section 7. Save button: Disabled if no input content is present. On action, it triggers the save process and a save option screen (See 3) will pop up.

2. Option screen

Figure 15 - Screenshot of the option screen



Section 1. System title bar

The system title bar is provided by the user's computer system. The figure above captures the system behaviour of Windows 10. This section contains the title text "Translation Options". The expand button is disabled.

Section 2. Composer Input: The name of the composer can be typed inside the text box.

Section 3. Title Input: The title of the options screen.

Section 4. Time signature selection: On action, 4 options are available for selection: 1/4, 2/4, 3/4, 4/4.

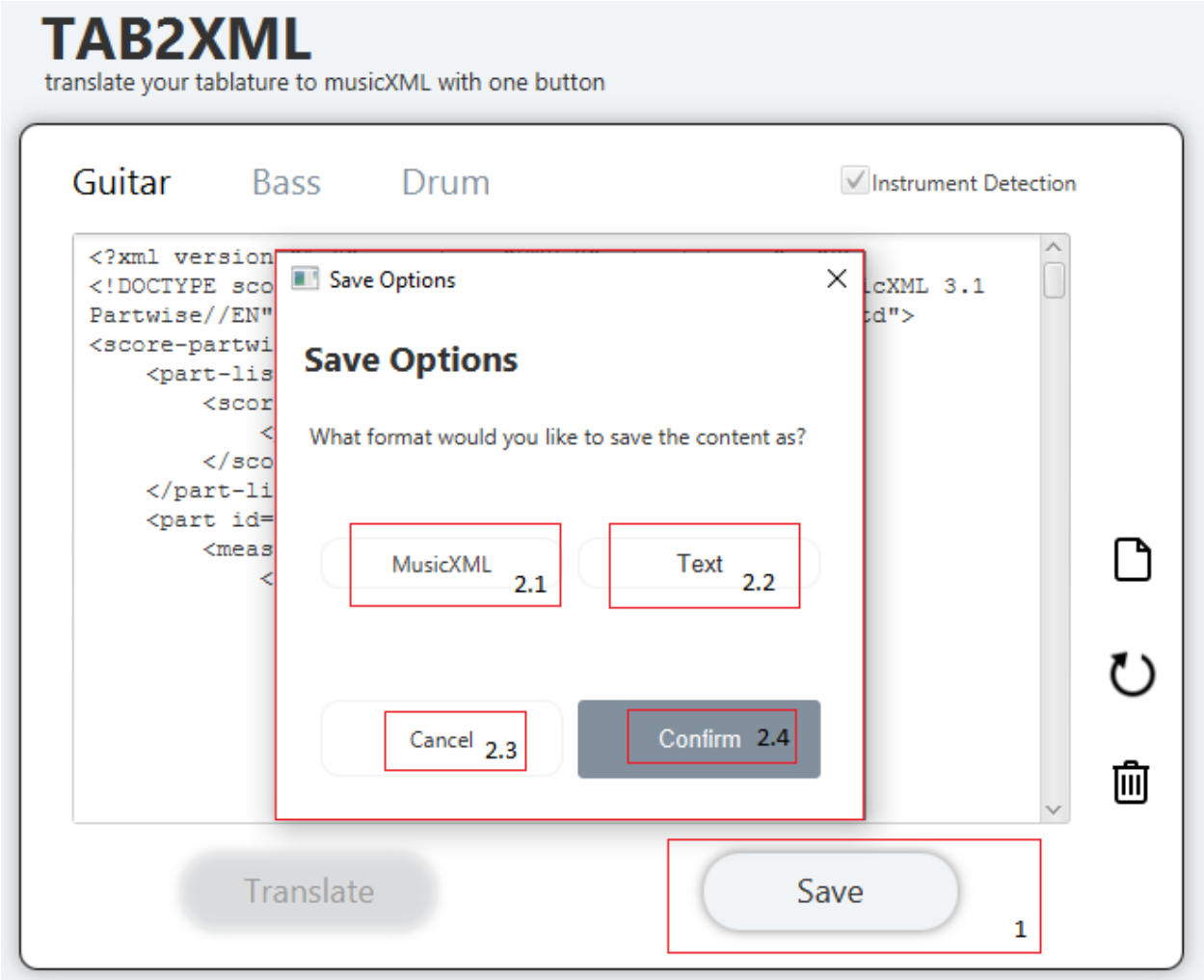
Section 5. Exit option

Section 5.1. Cancel: On action, the options screen will be exited. The translation process is aborted.

Section 5.2. Confirm: On action, the selected translation options will be saved, and the options screen is exited. The translation process will be executed.

3. Save Option Screen

Figure 16 - Screenshot of the save option screen



Section 1. Save format selection: The section provides users with two available file formats.

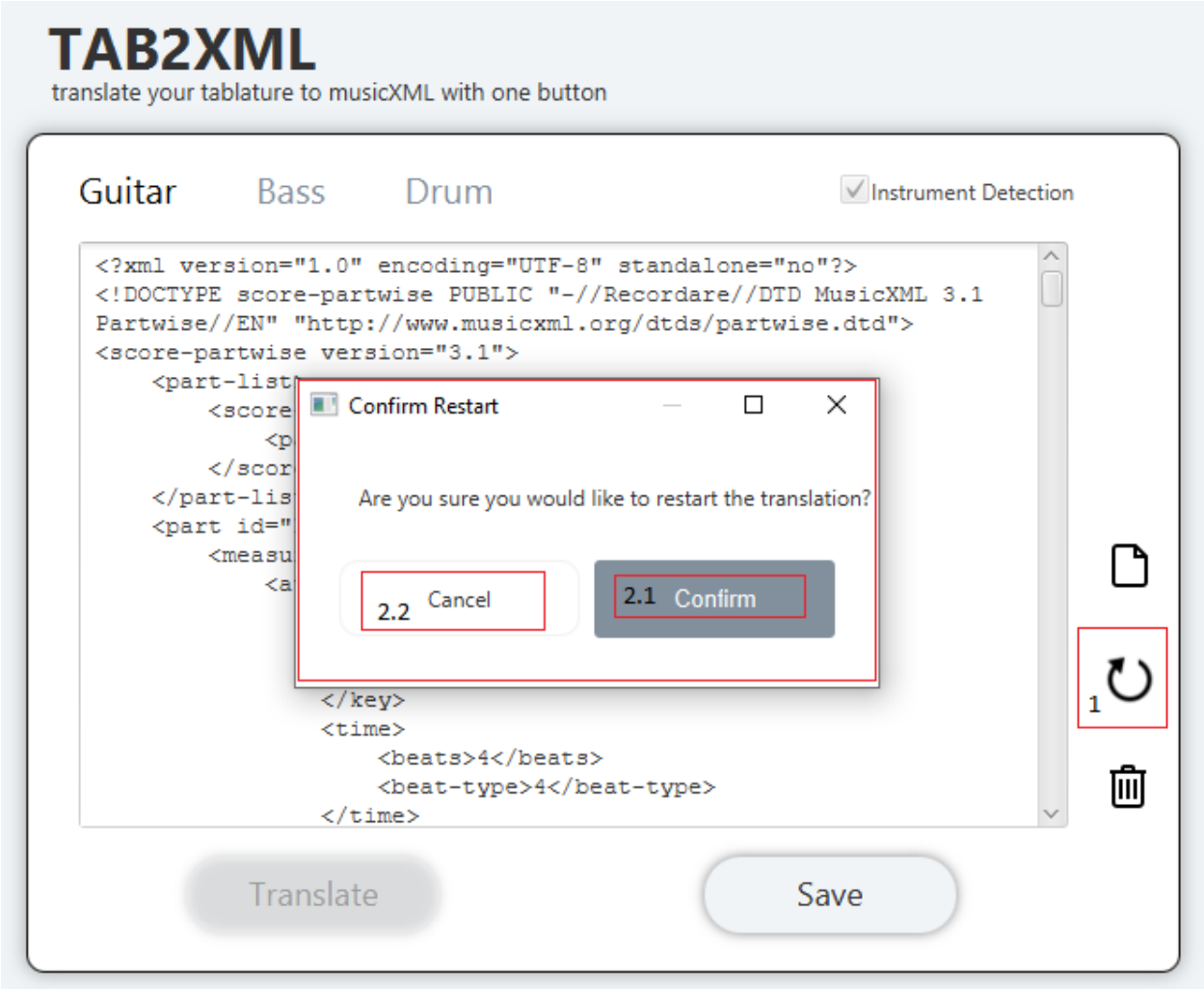
Section 2. Action Menu

Section 2.1. Text File: On action, the selected file format will be plain text.

Section 2.2. MusicXML: On action, the selected file format will be MusicXML.
Section 2.3. Cancel: on action, the process is cancelled. No file will be saved. The application returns to the translate screen (Section 1).
Section 2.4. Confirm: on action, a file chooser screen with the chosen file format will pop up. The user can save the display content as a file at their desired location.

4. Restart Alert Screen

Figure 17 - Screenshot of the restart alert screen



Section1. Warning text: Alerting the user that an unrecoverable action is about to take place.

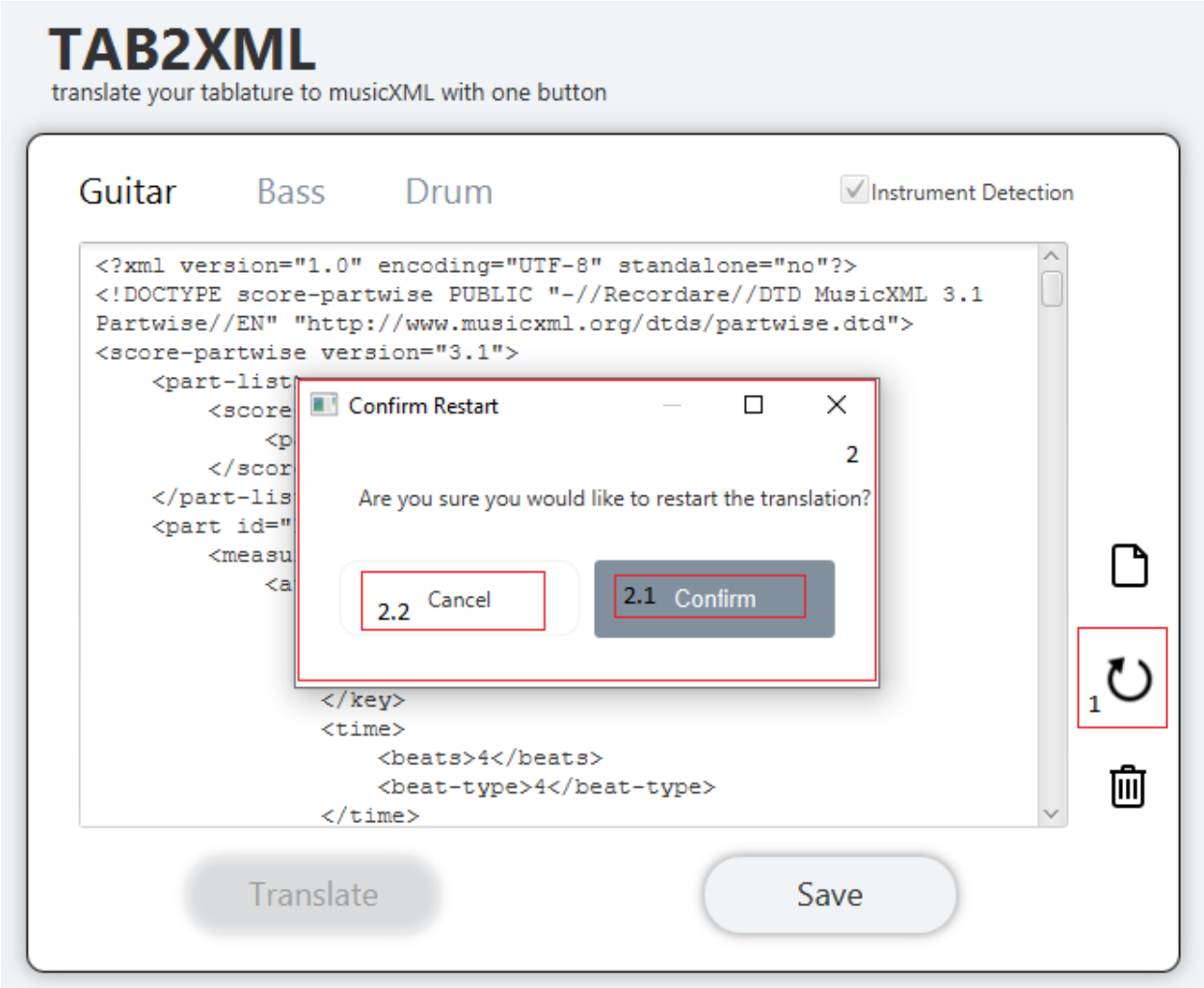
Section2. Action Menu

Section 2. 1 Cancel: on action, the process is cancelled. The content displayed on the translate screen (See 1) will be left unchanged.

Section 2. 2 Confirm: on action, the content under Section 1.4 is cleared. All unsaved changes will be lost.

5. Clear Alert Screen

Figure 18 - Screenshot of the clear alert screen



Section 1. Restart Translation Button: This button can be used to return to the main menu at any given moment during the conversion process.

Section 2. Action Menu

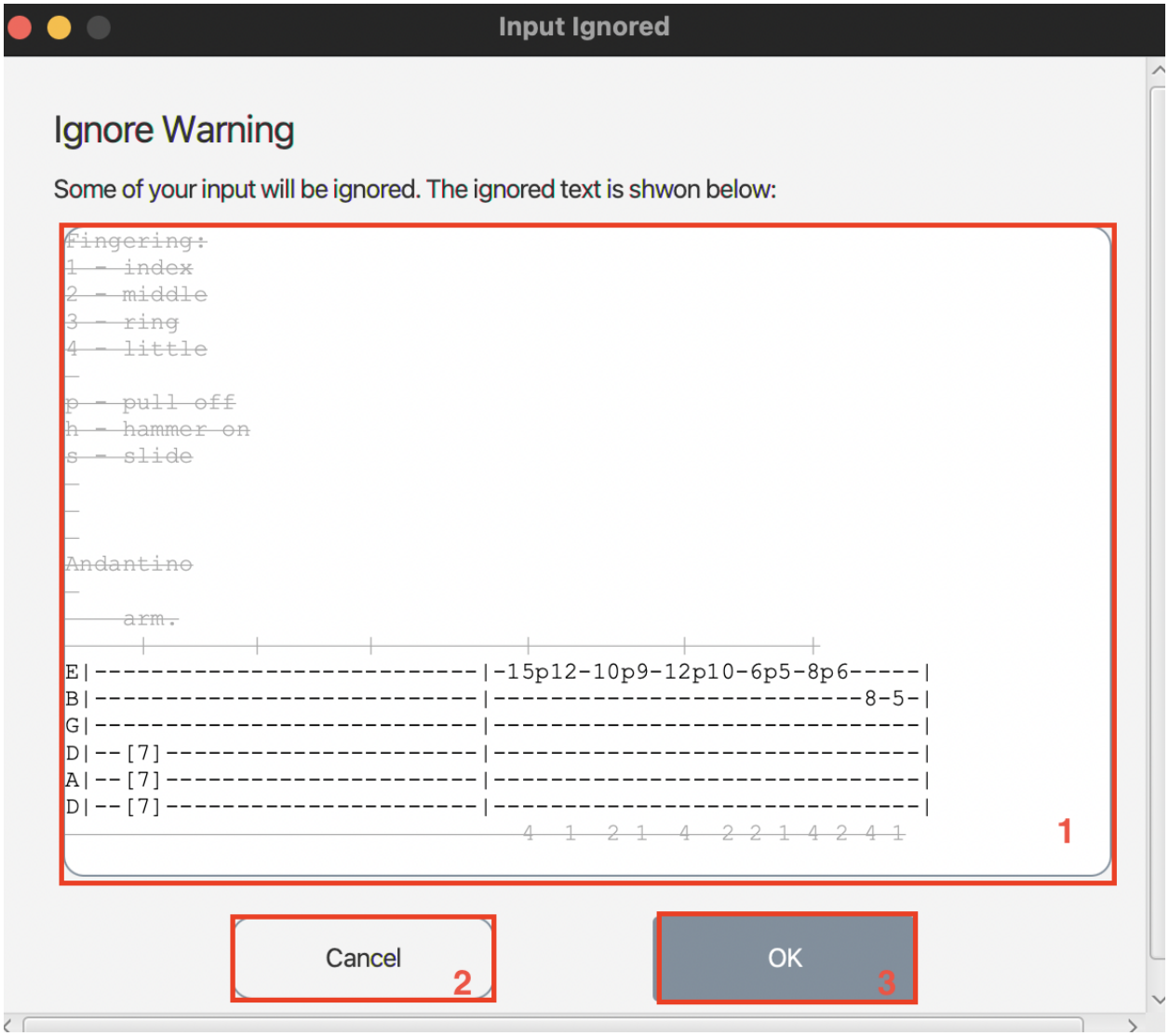
Section 2.1. Cancel: on action, the process is cancelled. The content displayed on the translate screen (See 1) will be left unchanged.

Section 2.2. Confirm: on action, the content under Section 1.4 is cleared. All unsaved changes will be lost.

6. Ignore Input Warning Screen

The input warning screen alerts the user when their input tablature is detected to contain invalid tablature elements.

Figure 19 - Screenshot of the clear alert screen



Section1. Ignored text display: This non-editable text area distinguishes between accepted input and invalid input. The accepted input is shown in black, while the ignored text is strikethrough and grey.

Section2. Cancel button: On action, the translation process is cancelled. The content displayed on the translate screen (See 1) will be left unchanged.

Section3. Ok Button: on action, the translation process continues. The invalidation screen (See 7), the translation option screen (See 2), and the tuning screen might appear (See 8).

7. Invalidation Screen

This screen shows up when the user's tablature input is determined to be invalid, or the tablature input has caused the system to throw an error.

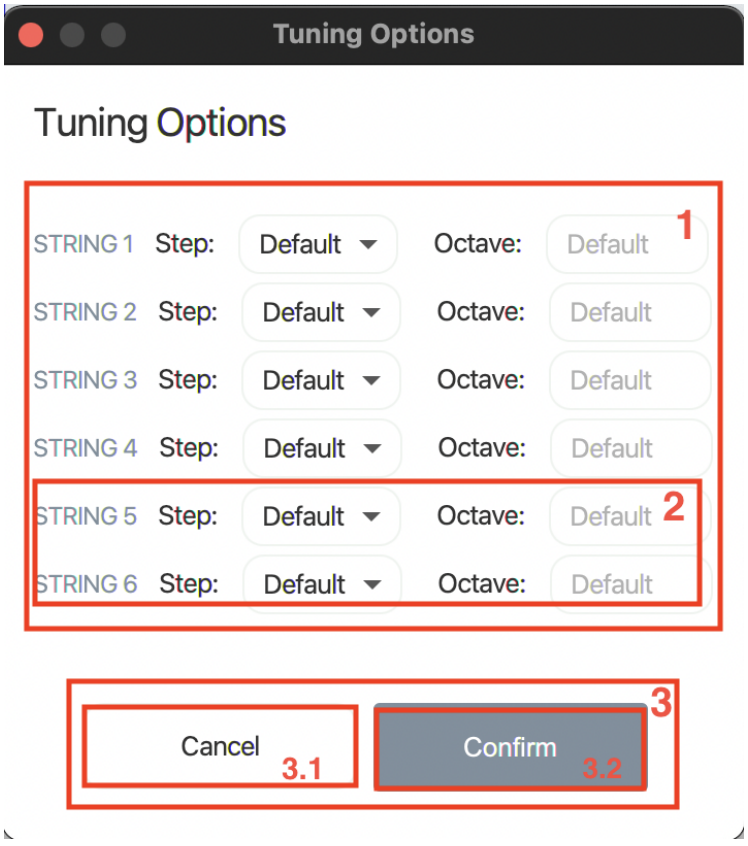
Figure 20 - Screenshot of the invalidation screen

Section 1. Ok button: On action, this window is closed. The translation process is cancelled. The translation screen with previous input (See 2) will appear.

8. Tuning Screen

This screen shows up when the selected instrument is either bass or guitar. The user can use this screen to adjust their tuning.

Figure 21 - Screenshot of the tuning screen



Section 1. Guitar Tuning Options: When the selected instrument is a guitar, all six entries in the section are enabled. The user can either use the drop-down to define the

steps for each string, the text field to define the octave, or keep the default tuning.

Section 2. Bass Tuning Options: When the selected instrument is bass, all four entries in Section 1 are enabled, and the two entries in Section 2 are disabled. The user can either use the drop-down to define the steps for each string, the text field to define the octave, or keep the default tuning.

Section 3. Buttons: Possible actions to the tuning screen.

Section 3.1. Cancel Button: On action, the translation process is cancelled. The content displayed on the translate screen (See 1) will be left unchanged.

Section 3.2. Confirm Button: On action, the translation process will proceed. If no error is caused by the tablature, the translated content will be displayed. If an error is thrown, the invalidation screen (See 7) will pop up.

3.7 Exiting the Application

On the Startup screen, click on the system close button (Section 1.1) to exit the application.

On the Options screen, click on cancel (Section 4.1), then click on the system close button (Section 1.1) to exit the application.

On the Save option screen, click on cancel (Section 2.3) to exit the screen. Then use the system close button (See 1 section 1.1) to exit the application.

On the Restart Alert Screen, click on cancel (Section 2.1) to exit the screen. Then use the system close button (See 1 section 1.1) to exit the application.

On the Clear Alert screen, click on cancel (Section 2.2) to exit the screen. Then use the system close button (See 1 section 1.1) to exit the application.

On the Ignore Input Warning screen, click on Cancel (Section 2) to exit the screen. Then use the system close button (See 1 section 1.1) to exit the application.

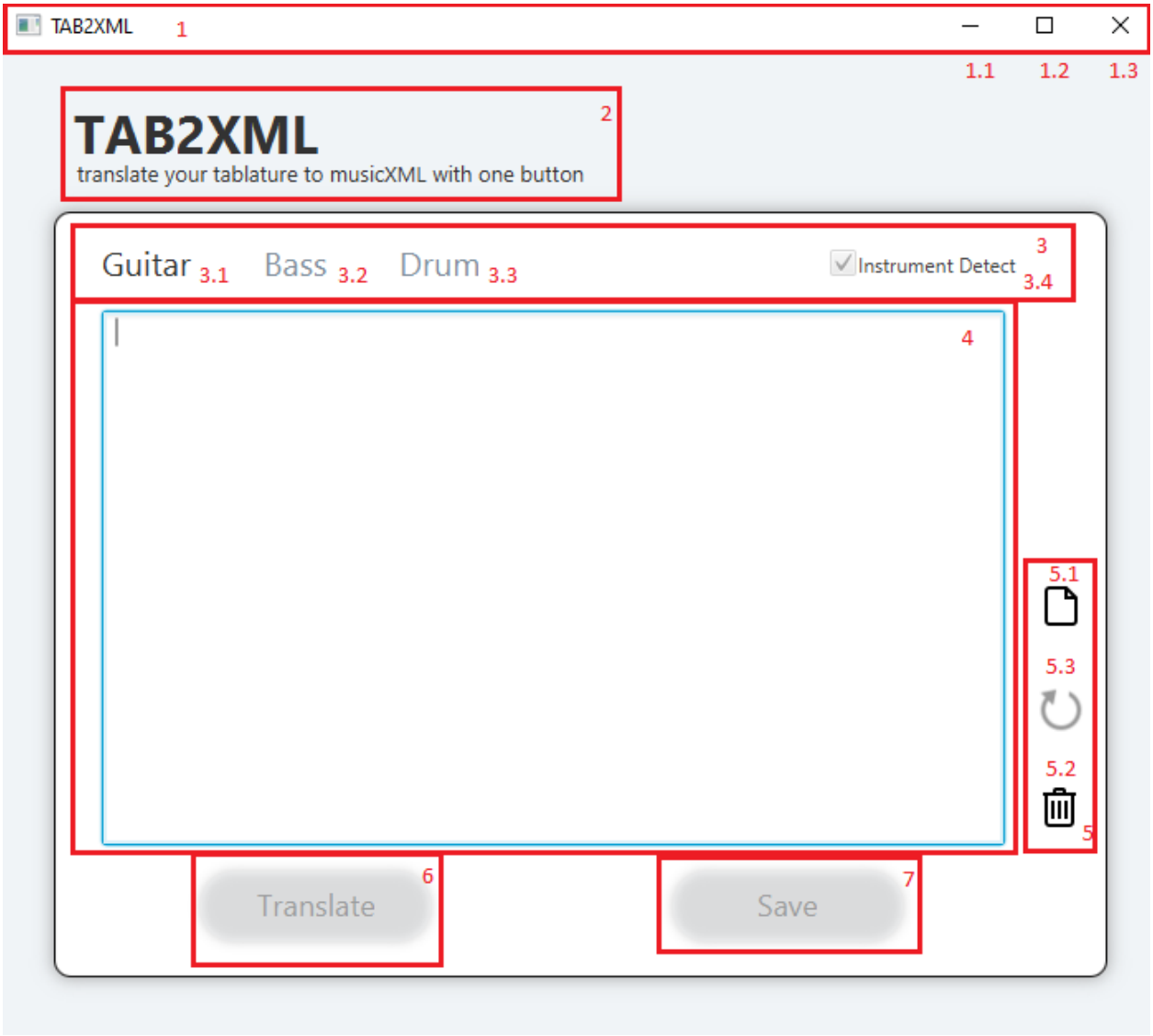
On the Invalidation screen, click on Ok (Section 1) to exit the screen. Then use the system close button (See 1 section 1.1) to exit the application.

On the Tuning screen, click on cancel (Section 3.1) to exit the screen. Then use the system close button (See 1 section 1.1) to exit the application.

4. Using the Application

The Startup screen all the necessary buttons that are required to successfully convert ASCII music tablatures to the MusicXML file format.

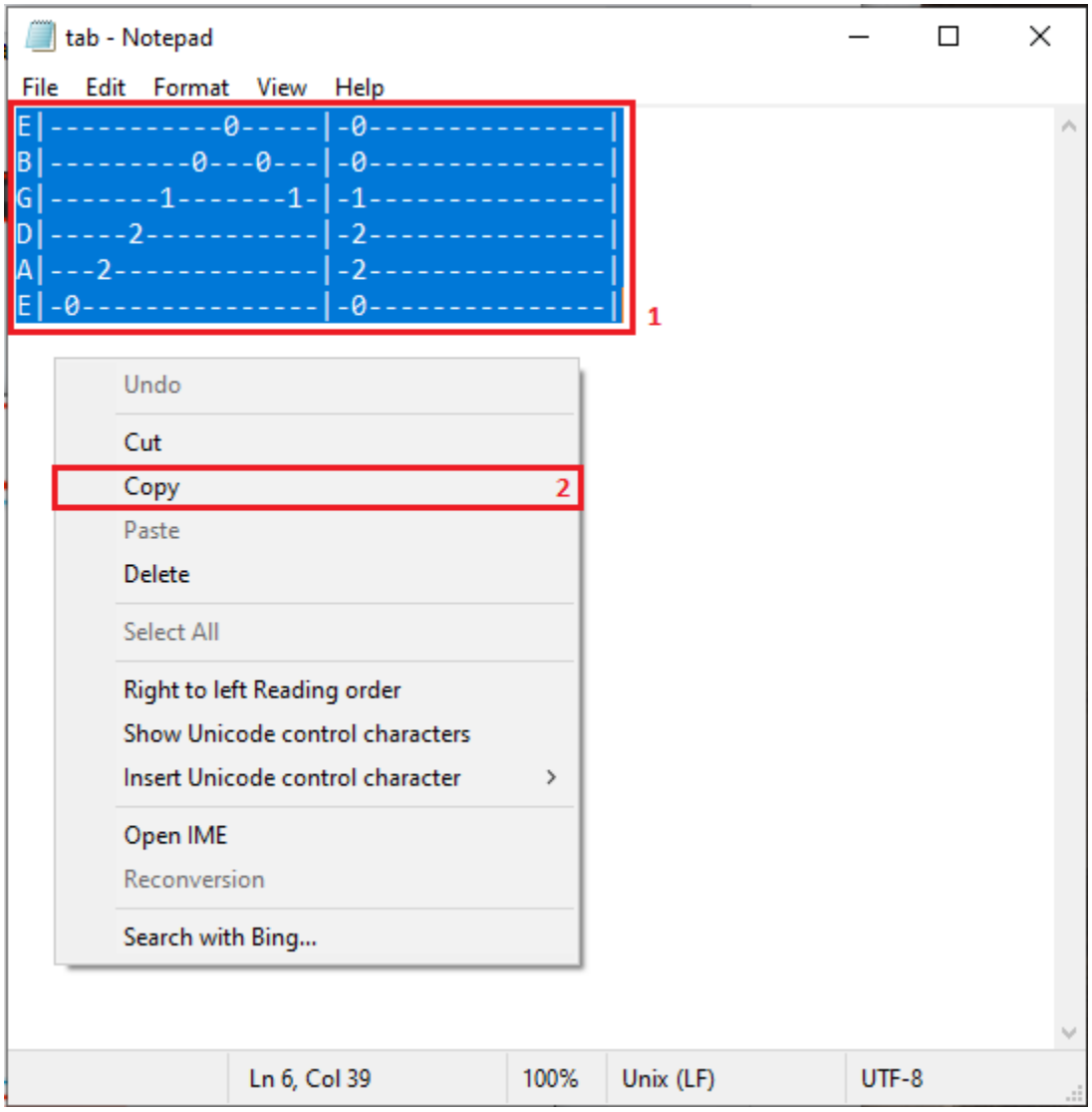
Figure 22 - Screenshot of the startup screen



4.1 Conversion using the in-built text editor

The user can copy the ASCII music tablatures directly from a text editor of his choosing (e.g., Notepad, Notepad++, or Atom) and paste the content directly in the Text Input(Section 4) of the application.

Figure 23 - Screenshot of Notepad containing a guitar ASCII music tablature



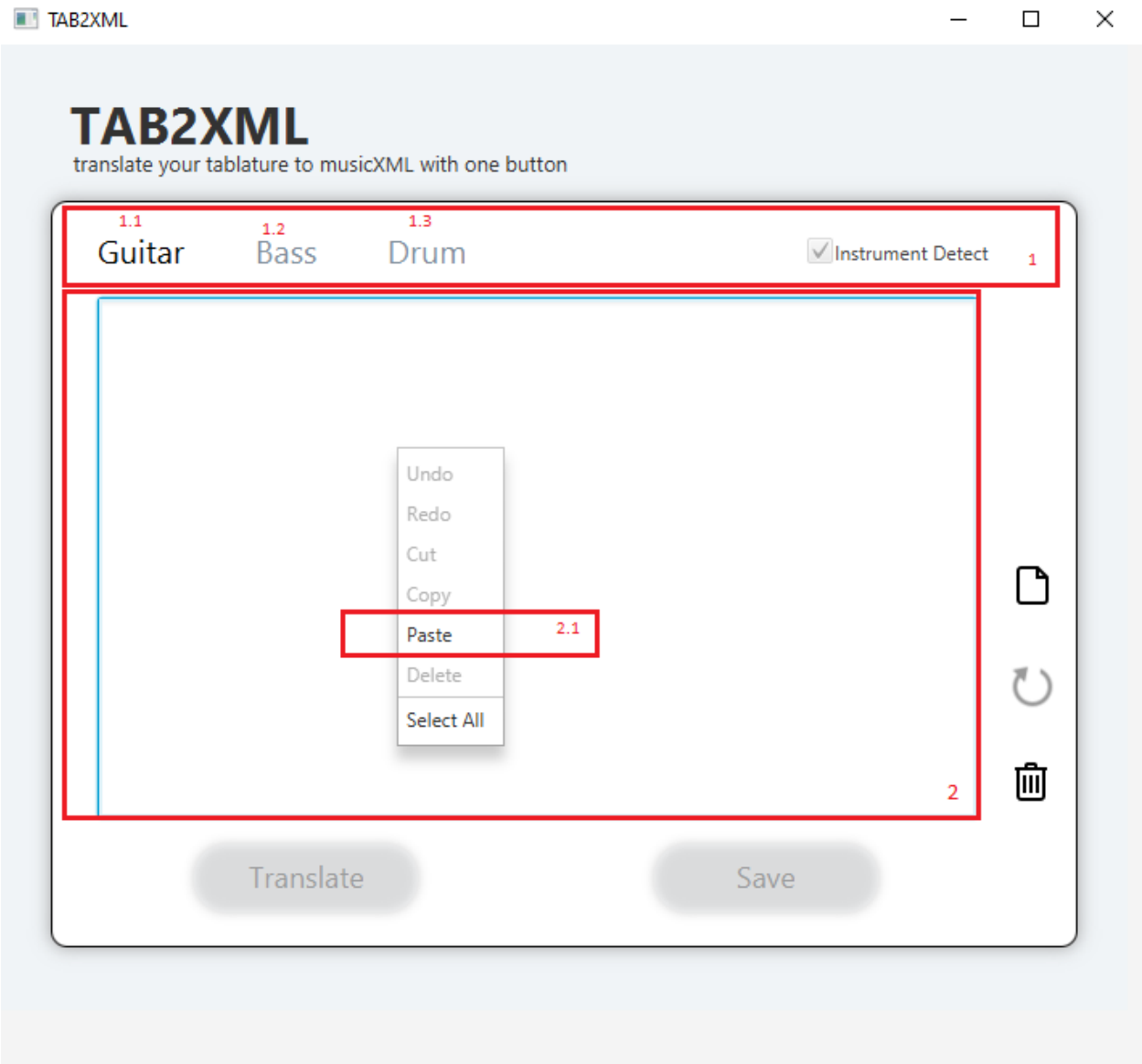
Step 1.

Open the ASCII music tablature using a text editor of your choosing (e.g., Notepad, Notepad++, or Atom). Figure 5 (Section 1) is an example of an ASCII music tablature opened with Notepad. Select the desired tablature using the right-click feature of your mouse or pressing Ctrl+A.

Step 2.

Right-click anywhere inside the notepad window and select the copy option as shown in Figure 5 (Section 2).

Figure 24 - Pasting the tablature



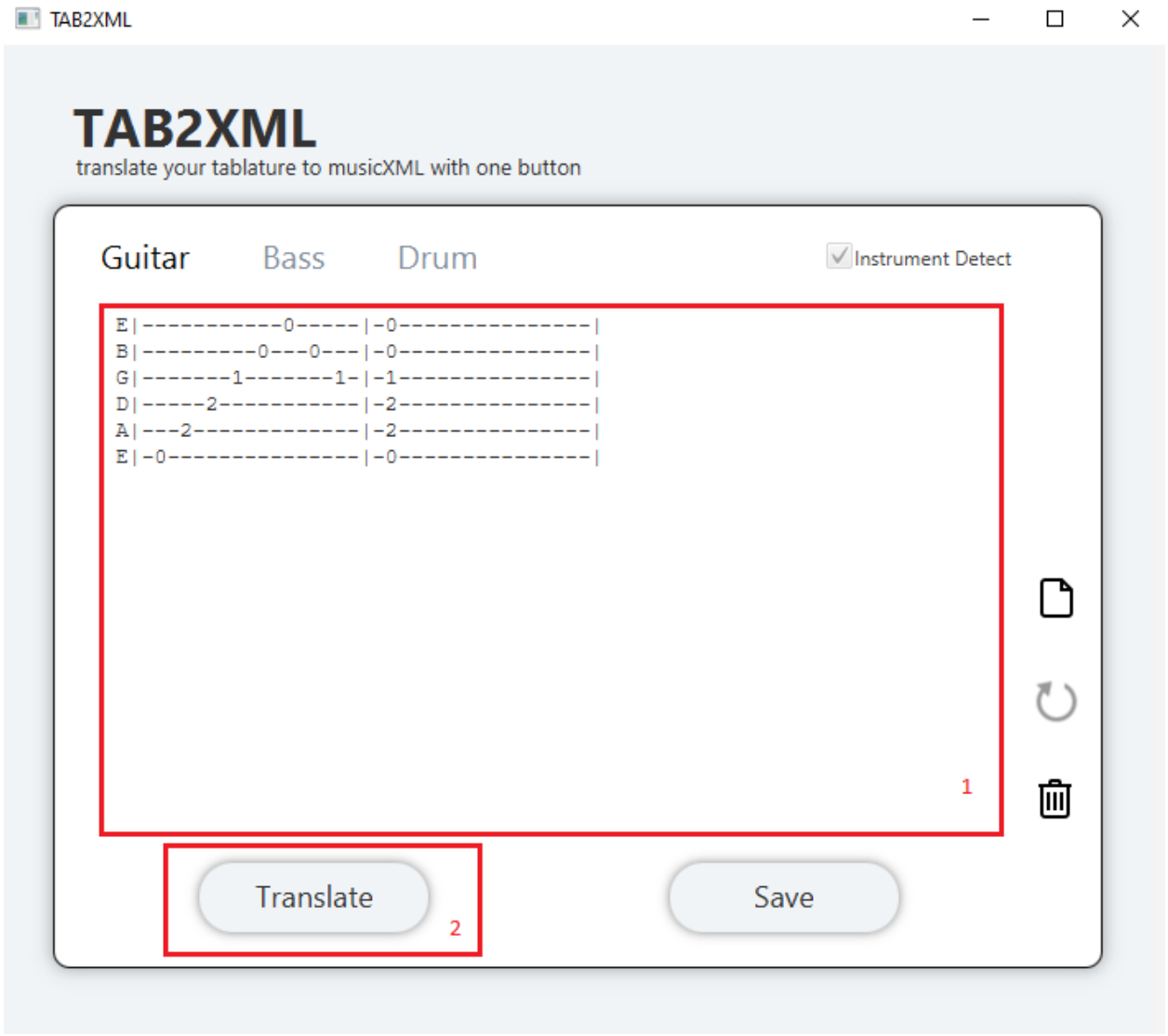
Step 3.

The application provides the user to manually choose the ASCII music tablature instrument as shown in Section 1 of Figure 6. Alternatively, we may use the Auto-Detect feature as shown in Section 1.4. For this example, we will select 'Section 1.1' as we are going to be converting guitar music tablature.

Step 4.

Right-click anywhere in the text area (Section 2) and select the option 'Paste' from the drop-down menu as shown in 'Section 2.1'. Alternatively, the shortcut Ctrl+V may be used as well.

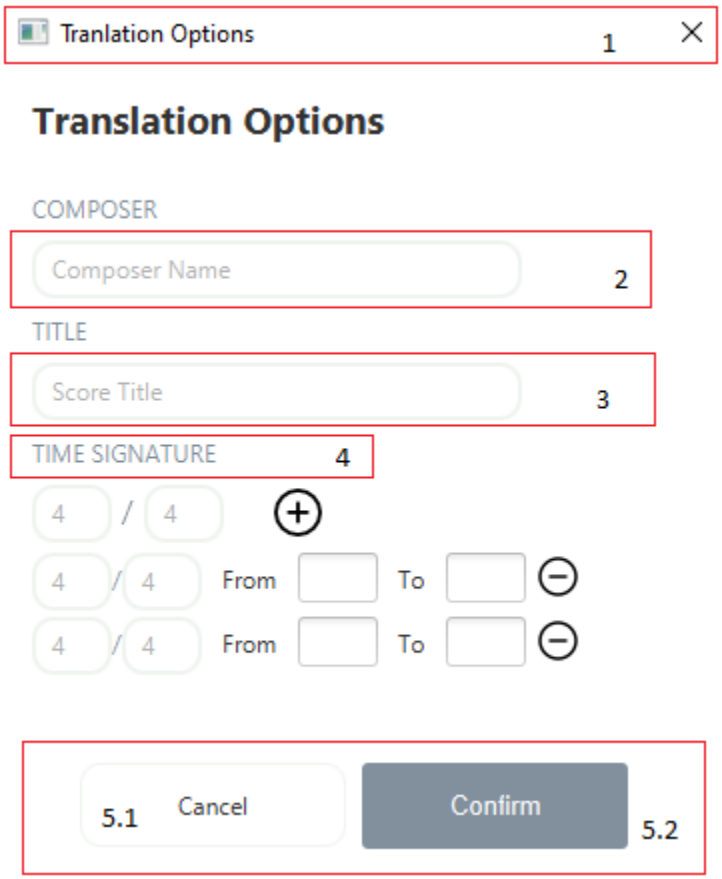
Figure 25 - Text Input containing the tablature



Step 5.

The text input window as shown in Figure 7 Section 1 should now contain the tablature. You may use the in-built text editor to make any desired last-minute changes to the tablature. After you are done with the changes, you may simply click on the 'Translate' button (Section 2) to start the conversion process.

Figure 26 - Translation pop-up window



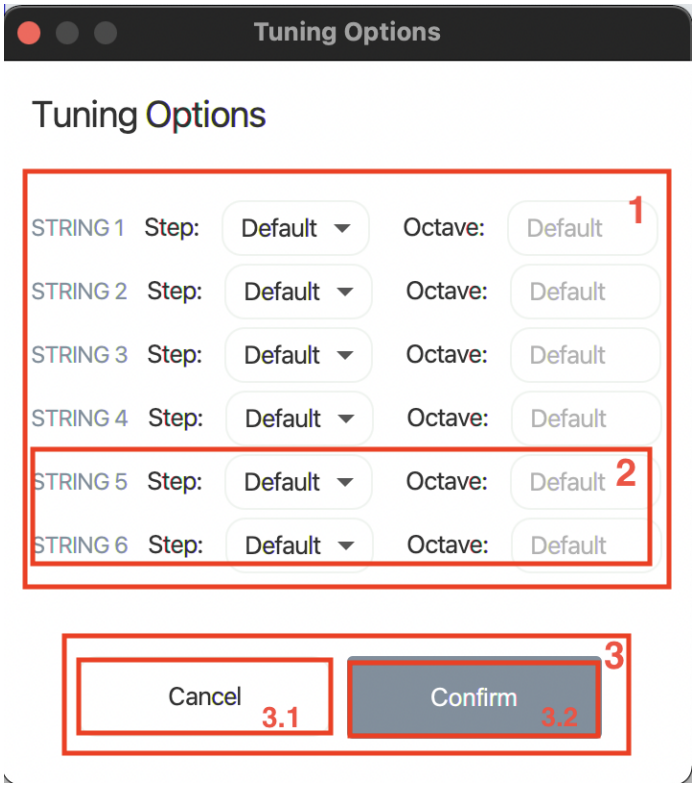
Step 6.

The 'Translation Options' should pop up as shown in Figure 8 after you press the 'Translate' button. The user will be able to pick the Time signature for the translation from the drop-down menu as shown in Section 1. The selected time signature should have a '✓' character in front of it as shown in Section 1.4 and should also be displayed under the 'BEATS' heading.

Step 7.

The user may now confirm his selection by pressing the 'Confirm' button as shown in Section 2. The user can also press the 'Cancel' button as shown in Section 3 if they wish to revert to Step 5.

Figure 27 - Tuning Options Window



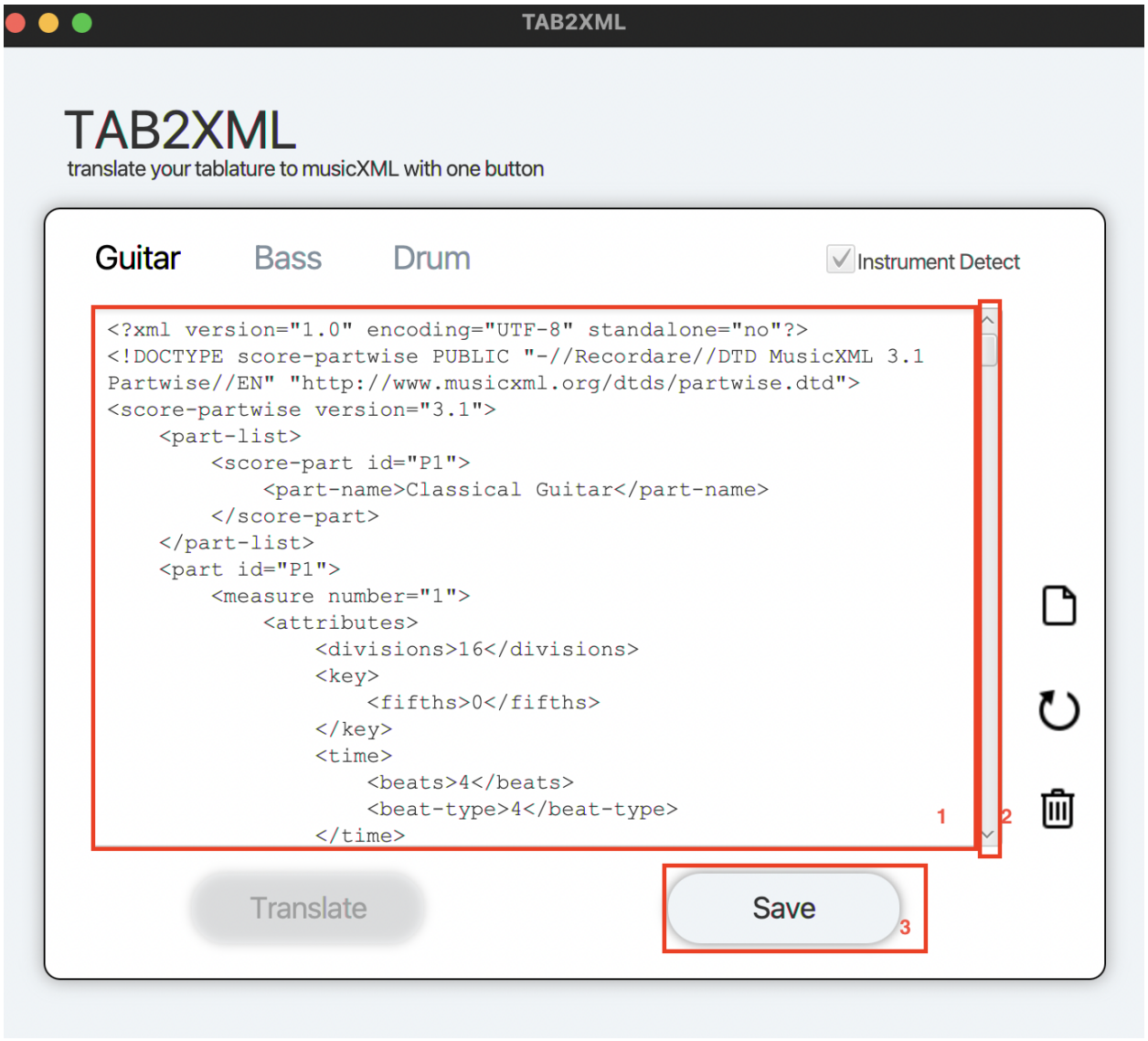
Step 8.

The Tuning Options should pop up after the user clicks “Confirm” in the previous step if the selected instrument is guitar or bass. The user may use the drop-down menu to select the step for a string, use the text field to define the starting octave for a string, or keep the default tuning.

Step 9.

The user may now confirm their selection by pressing the ‘Confirm’ button as shown in Section 2. The user can also press the ‘Cancel’ button as shown in Section 3 if they wish to revert back to Step 5.

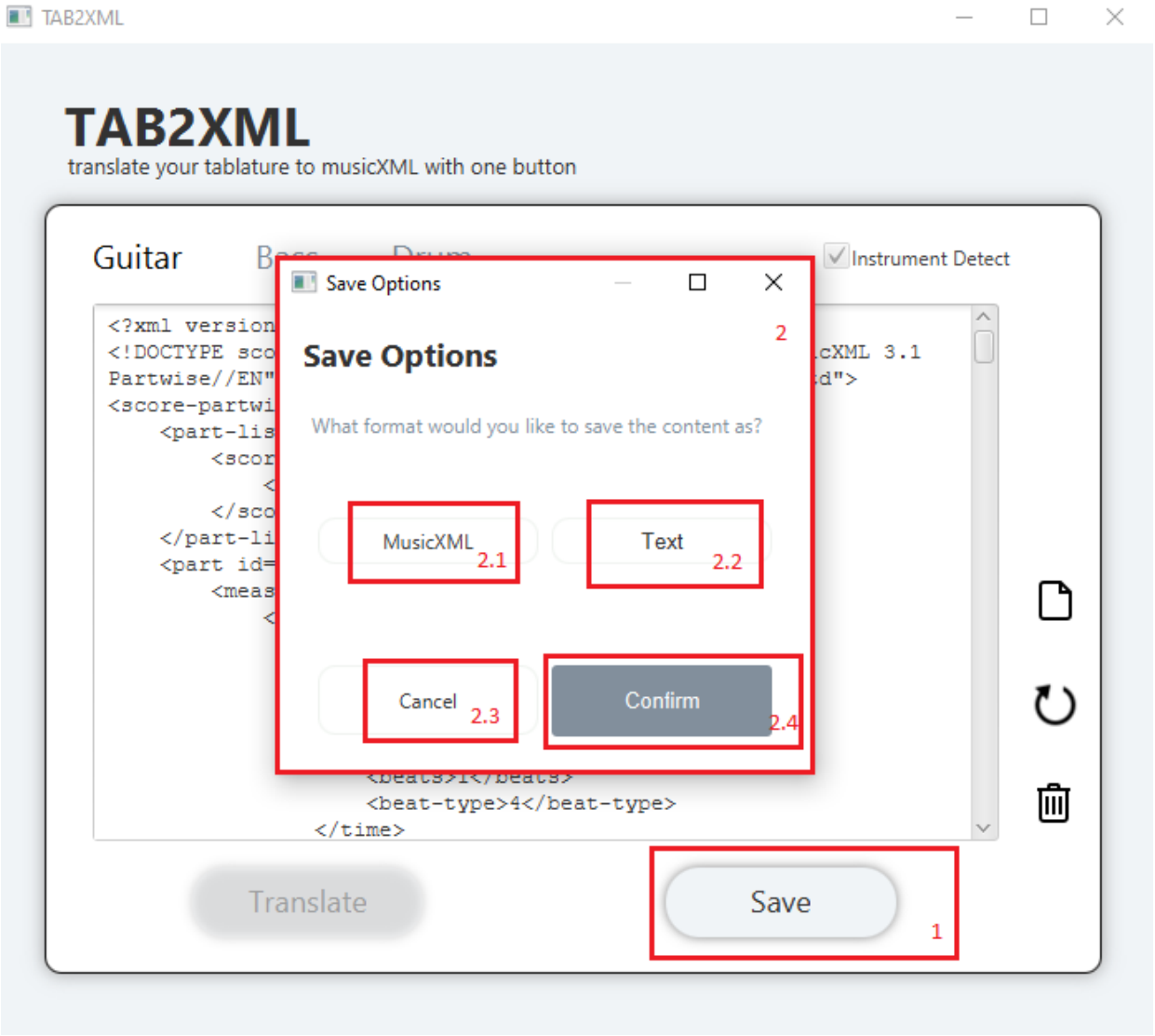
Figure 28 - Text Input containing the translation



Step 10.

The text input window as shown in Figure 9 Section 1 contains the desired contents of a MusicXML file. You may use the scroll bar to browse through the window as shown in Section 2. Once you are satisfied with the output, you may use the ‘Save’ button to extract the file with a *.musicxml extension as shown in Section3.

Figure 29 - Save the translated content



Step 11.

The Save button (See 1) on action loads the popup screen, select MusicXML (See 2.2), then click on Confirm. The user will be able to select the desired directory in the Save As pop-up window.

Figure 30 - Save As popup Window(1)

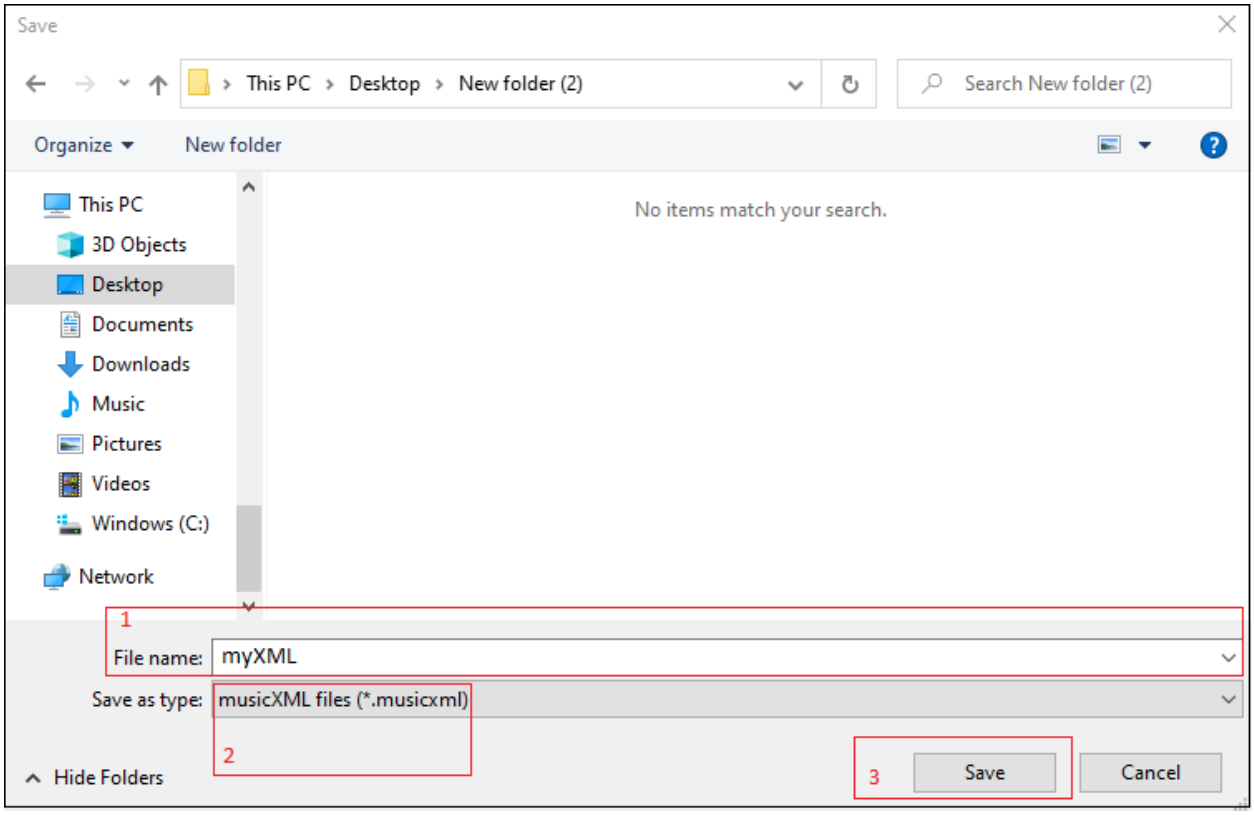
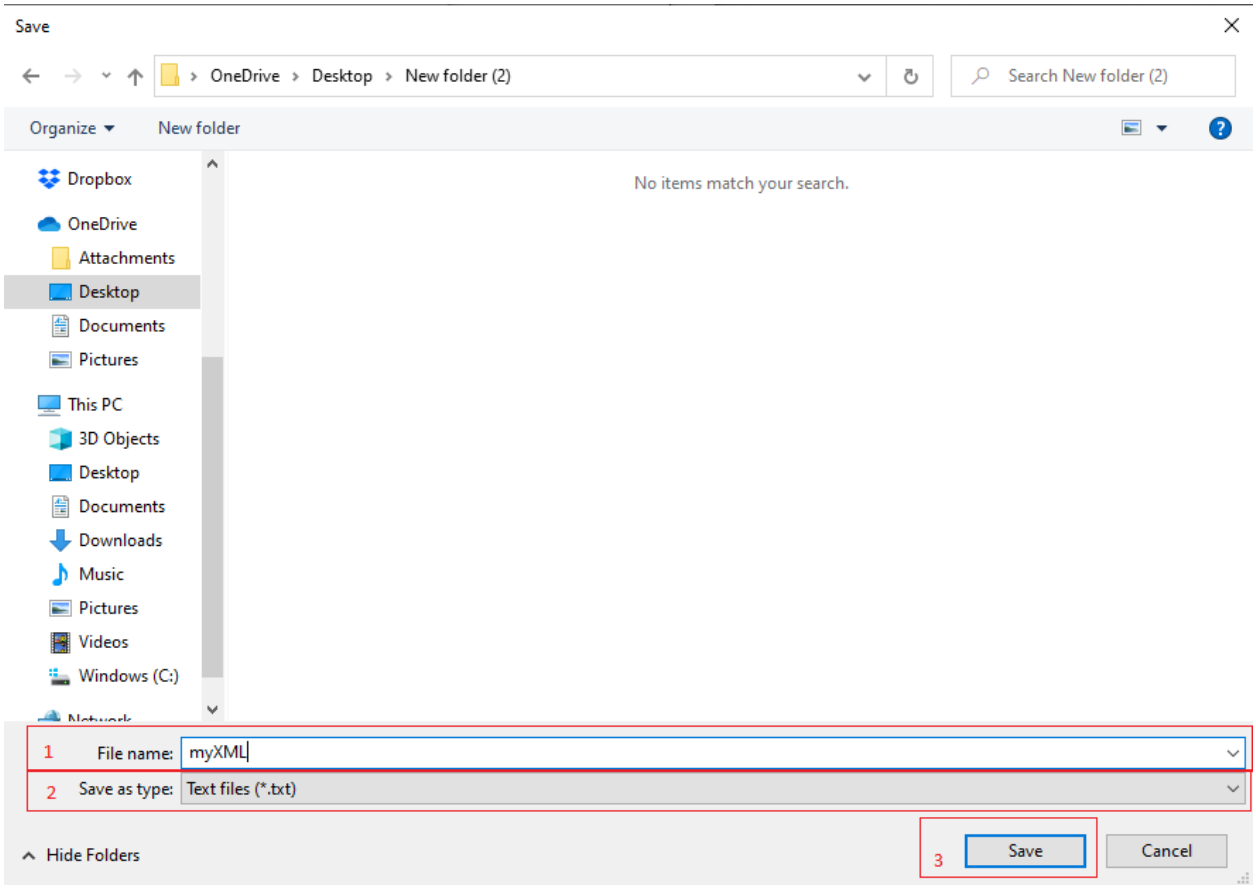


Figure 31 - Save As popup Window(2)



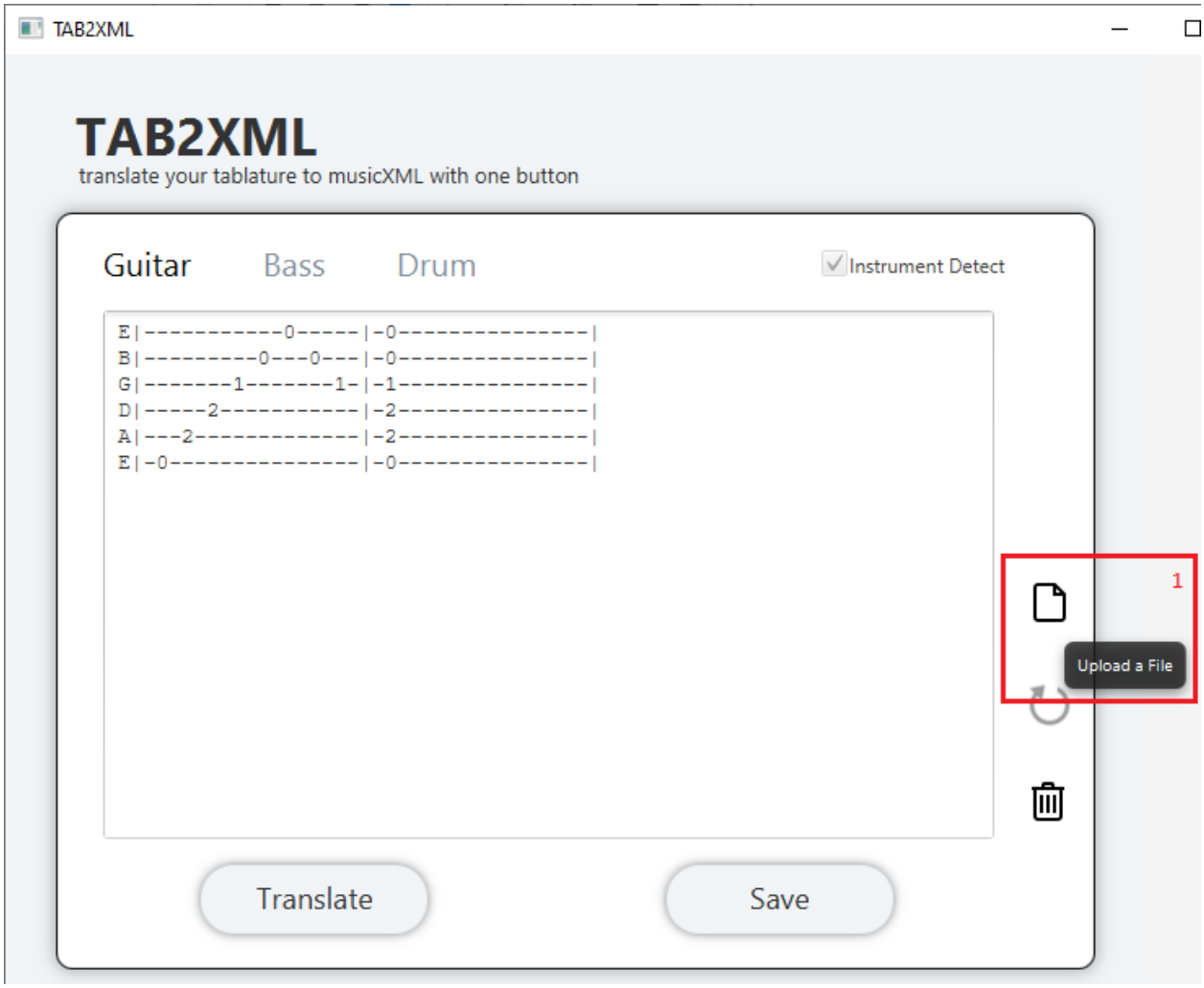
Step 12.

The Save as popup Window provides the user with the ability to save the file at his desired location. The default ‘Save As type’ should be selected to *.musicxml as shown in Figure 10 Section 2. The user may enter the desired name of the file in Section 1 of the popup window and press the ‘Save’ button (Section 3) to successfully save the MusicXML file.

4.2 Conversion using the Import feature

The user can also import an ASCII music tablature instead of copying and pasting it in the Text Input window of the application.

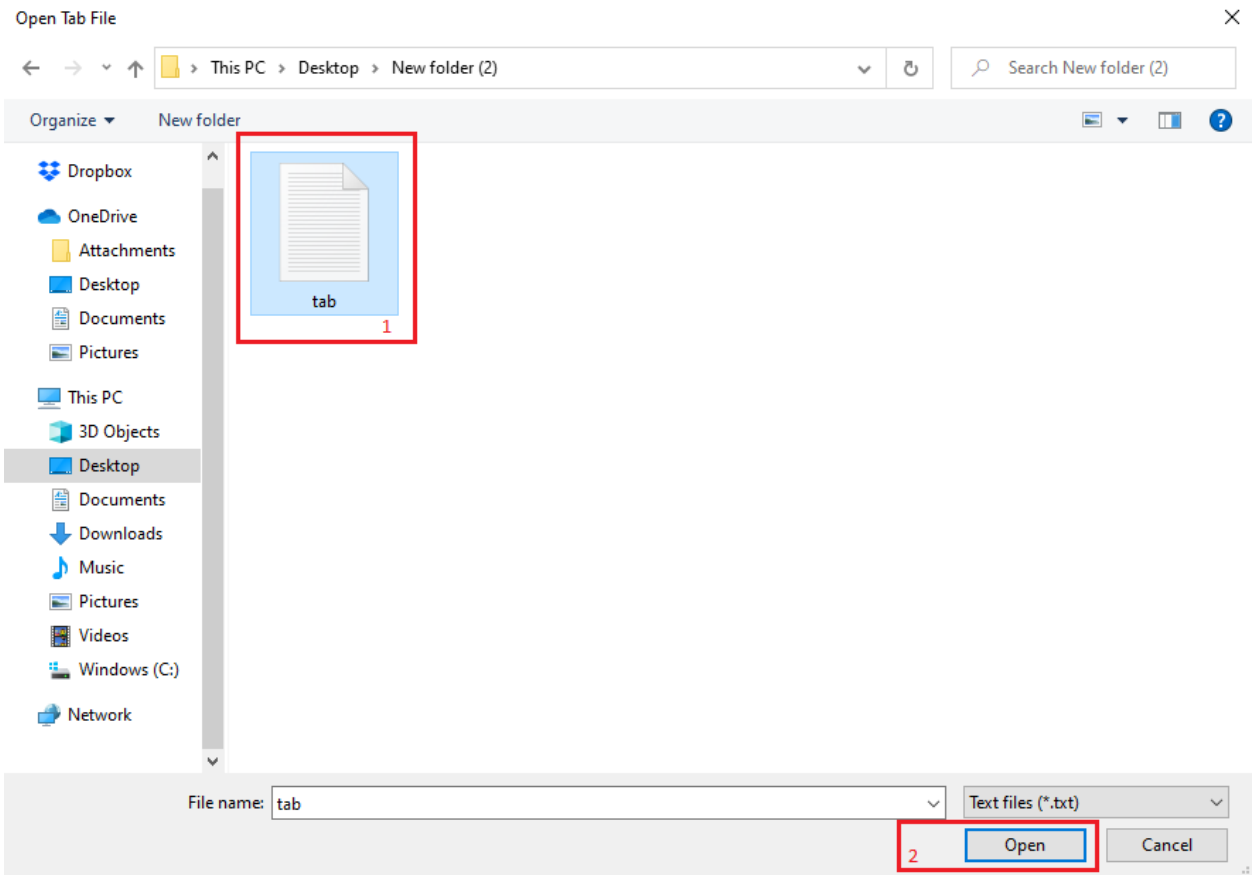
Figure 32 - Upload Feature



Step 1.

Open the TAB2XML application and select the ‘Upload a File’ option as shown in Figure 11 Section 1.

Figure 33 - Open popup window



Step 2.

Select the desired *.txt file from the ‘Open Tab File’ popup window as shown in Figure 12 Section 1. Once you are done selecting the file, press the ‘Open’ button at the bottom right of the window as shown in Section 2.

Step 3.

After reaching this stage, you may continue from Step 4 of Section 4.1 (Conversion using the in-built text editor) as they are identical.

5. Troubleshooting & Support

5.1 Error Messages

No error message has been implemented for the TAB2XML final release.

5.2 Special Considerations

All files uploaded to be processed must be in plain text (.txt) format.

TAB2XML only recognizes guitar, drum, and bass tablatures.

5.3 Support

Table 1 - Support Points of Contact

Contact	Organization	Phone	Email	Role	Responsibility
Ziqi Zhou	EECS 2311	8881234567	group13@gmail.com	Developer	Support for common software design failure and access difficulties