User Manual

MXLify

EECS 2311 - Group 9

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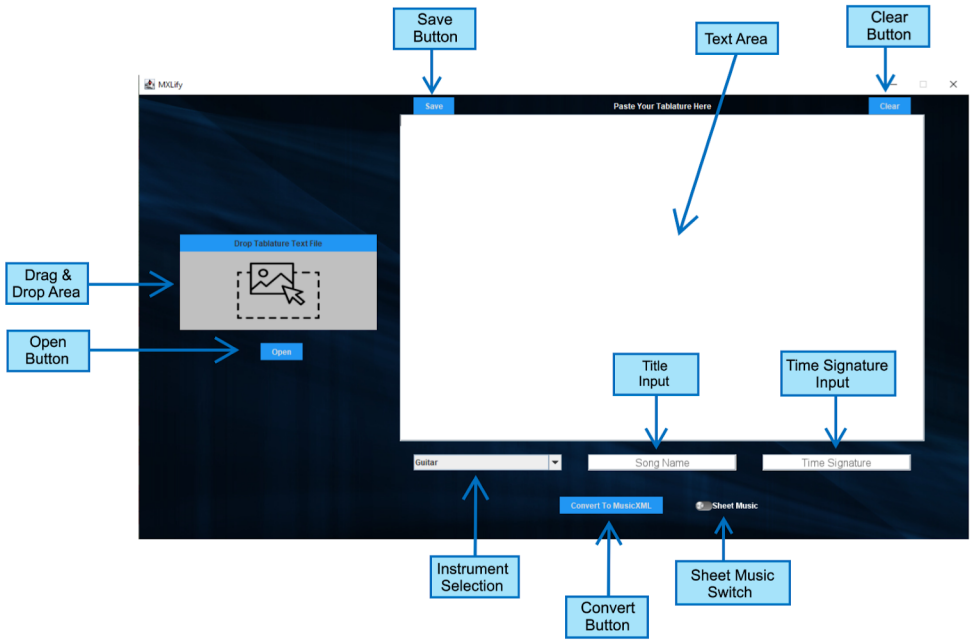
1. Application Interface



Drag & Drop Area: Drag and drop your tablature text file to upload

Text Area: Copy and paste your text tablature to upload

Open Button: Opens the file explorer to select your text file to upload

Instrument Selection: Select which instrument your tablature is for: Guitar, Drums, or Bass

Title Input: Input the name of the song

Time Signature Input: Input the time signature for the song (In the form beat/beat-type, e.g 4/4)

Convert Button: To convert your uploaded tablature to MusicXML

Save Button: To save your text tabulate and metadata to a ".mxlify" file

Clear Button: To clear the text area

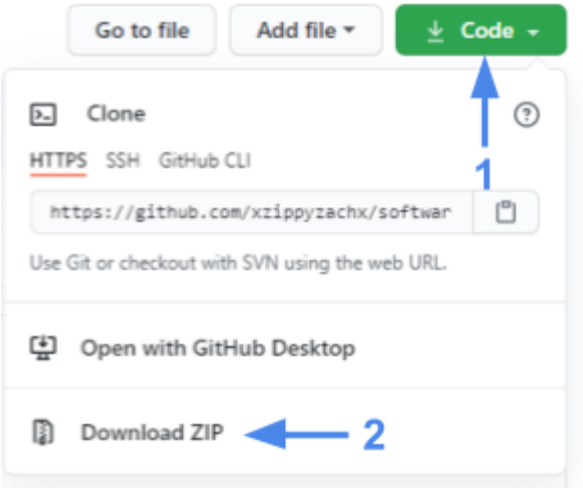
Sheet Music Switch: To toggle whether a visual sheet music file should be generated

2. Install Instructions

2.1 Download:

Download the projects master branch from github (Link).

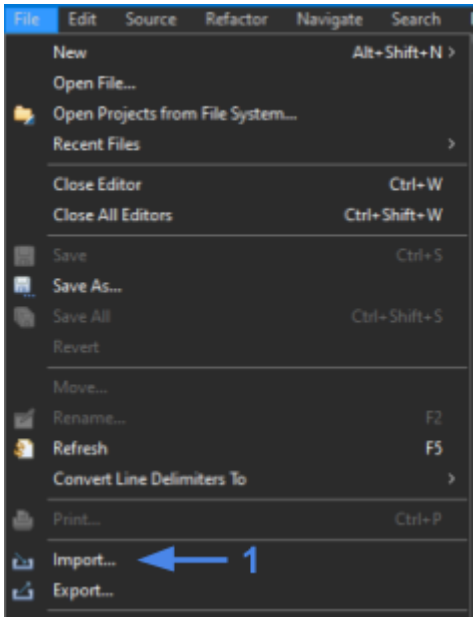
Select download zip in the code dropdown.

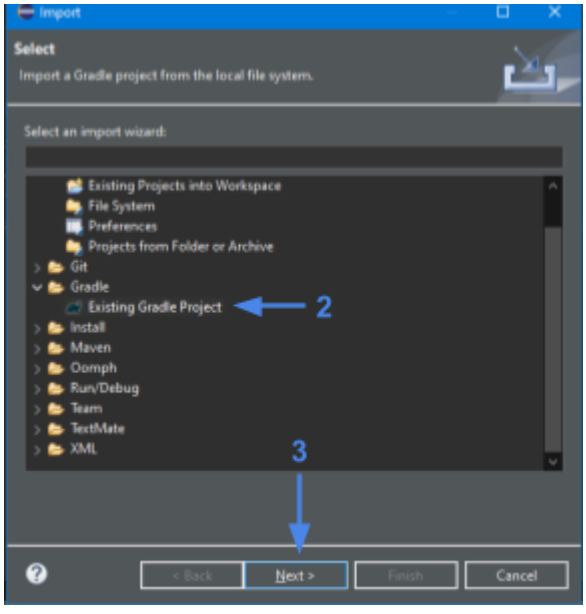


2.2 Eclipse Install:

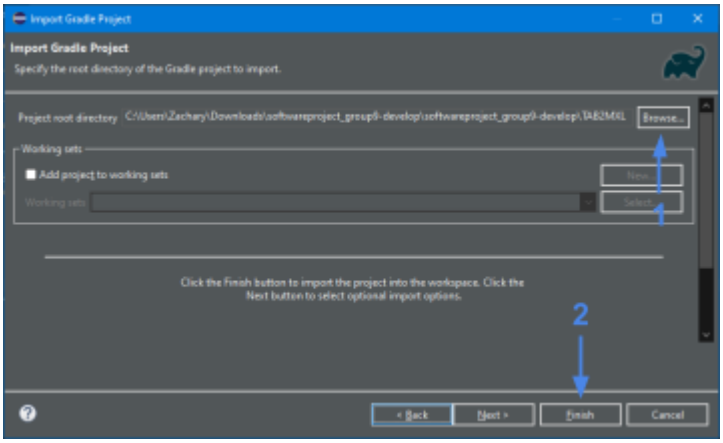
Unzip the downloaded file to a location of your choosing.

In eclipse, navigate to File > Import > Existing Gradle Project. Then click next.

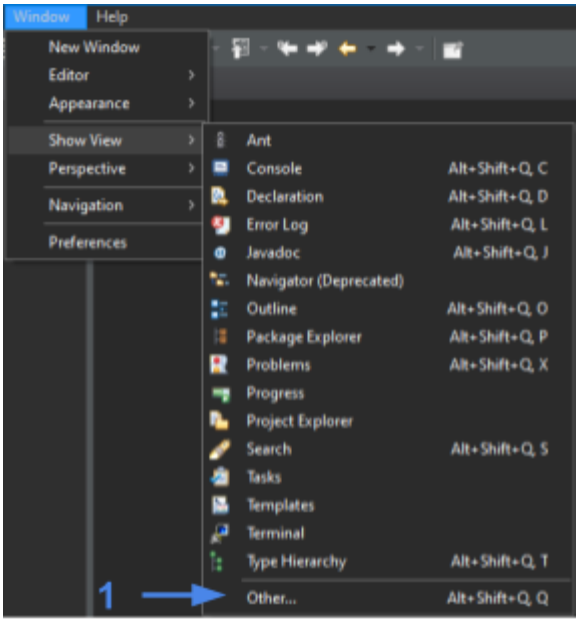


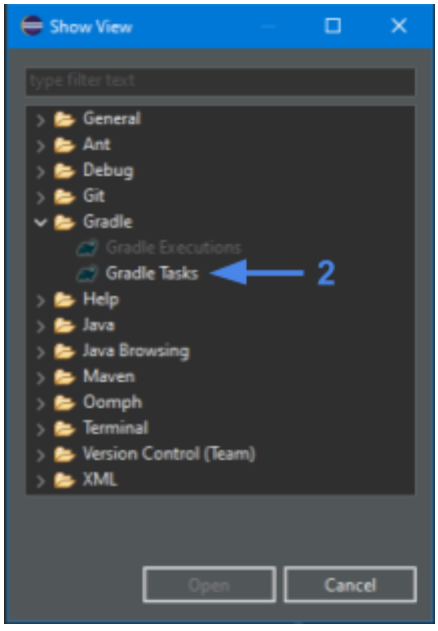


Use browse to select the TAB2MXL folder from the unzipped project file. Then click finish.

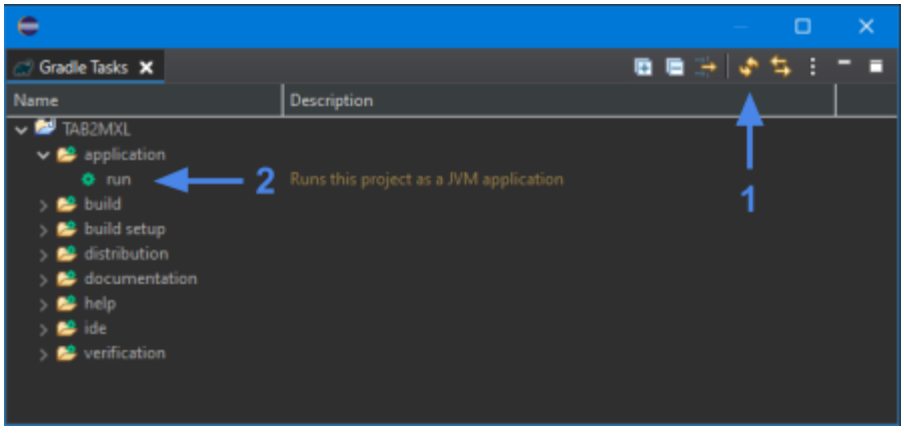


Navigate to Window > Show View > Other > Gradle > Gradle Tasks





In gradle tasks, refresh the tasks. Then navigate to TAB2MXL > Application > run. Finally double click the run to start the software.



3. Usage Instructions

3.1 Input Text Tablature:

There are three possible methods to input text tablature.

Method A: Using the open button an open file menu will appear. Select the text file you wish to input. The contents of the file will then populate the text area.

Method B: Drag the file you wish to input into the drag & drop area. The contents of the file will then populate the text area.

Method C: Copy and paste your text into the text area. The contents of your clipboard will then populate the text area.

3.2 Edit Tablature:

Using the text area you can modify/add to your text tablature. Make sure the tablature follows the supported formats. The text area can be cleared using the clear button. Holding alt while drag selecting the text area will allow box selection/highlighting of the text tablature.

3.3 Customize Tunings:

Within the text area you can modify/add letters at the start of the tablature representing the string tunes. Make sure the letters are one of the supported tunes.

3.4 Customize MusicXML Settings:

Using the instrument selection drop-down you can select what instrument the tablature is.

Using the title input you can input the song name of the tablature.

Using the time signature input you can input the time signature of the tablature. Inputting just a number will set the beat to that value and the beat type to the default value of 4. Inputting a number followed by a slash “/” and another number will set the beat and beat type to the number values respectively.

3.5 Save/load tablature & metadata:

Use the save button to save the tablature in the text area and the metadata in the instrument selection, title input, and time signature input fields to a “.mxlify” file. You can then use the open button to select the “.mxlify” file you wish to load. The saved tablature and metadata will then be loaded into the application.

3.6 Convert to MusicXML:

Use the convert button to convert your text tablature to a MusicXML file. Ensure that your text tablature is in a supported format before converting. If you're prompted with an error when attempting to convert, look at the troubleshooting section for possible solutions. If you want to preview your tablature in the standard music sheet format. Toggle the sheet music switch to also generate a visual representation of your tablature.

4. Common Usage Scenarios

4.1 Your First Conversion:

For your first conversion start by inputting your text tablature. Your text tablature should now appear in the text area. Select the proper instrument via the instrument selection dropdown. Input the song name via the title input field. Input the time signature via the time signature input field. Lastly, select the convert to MusicXML button to convert and save the MusicXML file.

4.2 Modifying Text Tablature:

Inferring that your text tablature has already been added to the text area. You can modify your text tablature in the text area as defined in the edit tablature section. When you're finished your modifications you can then customize the MusicXML settings and then select the convert to MusicXML button to convert and save the MusicXML file.

4.3 Changing The Time Signature:

After selecting the tablature you want to create the MusicXML format for, in time signature input field you input the time signature you want for your tablature (in the format beat/beat-type). If the time signature is not in the right format, then the default time signature '4/4' will be used.

5. Supported Formats

5.1 Defining Measures:

The start of a measure is defined by a straight vertical line made up of "|" characters in the text area. The last measure may also end with this.

5.2 Defining Notes:

Notes are defined by a number on the strings that represents the fret. Refer to defining note durations to understand how these numbers should be placed.

5.3 Defining Hammer On:

A hammer-on is a technique performed on a stringed instrument by sharply bringing a fretting-hand finger down on to the fingerboard behind a fret, causing a note to sound.
In tablature a hammer on is represented by a fret followed by an h and another another fret that is higher than the first fret.

Eg: 3h6, 9h10, 10h14

Hammer ons can be chained together to create longer hammer ons

Eg: 3h6h10, 10h14h15h16

The durations of all notes in a hammer on are equal to the duration of the last note in the hammer on.

5.4 Defining Harmonics:

Harmonics are defined by [n], where n is a number. These are found in the tablature where you would find frets. The number in the brackets indicates what fret the string should be played. Harmonics utilizes the technique of lightly holding down the string to make isolated overtones.

5.5 Defining Tuning:

Tuning is defined by the letters at the beginning of the tablature, and if the tuning is not specified, a default tuning(e, B, G, D, A, E) will be set. The supported tunes are E, B, G, D, A, C, F, F#, C#, G#, A#, and D#.
{Note: When you indicate your tuning and you have two notes that are the same but one has a lower octave, indicate the one with lower octave with lowercase}

Ex 1:

```
B|-0-------|
D|---3-1-3-|
E|----------|
A|----------|
F|----------|
D|----------|
```

Ex 2:

```
e|-0-------|
a|---3-1-3-|
G|----------|
D|----------|
A|----------|
E|----------|
```

Ex 3:

```
C|-0-------|
B|---3-1-3-|
D|----------|
A|----------|
F|----------|
E|----------|
```

5.6 Defining Octaves:

Just as you can define the tuning, you can also define the octaves for the set tuning by typing the tuning-octave number for the string after the string name e.g.(E1, A#5, B3, etc.). Also remember to put the higher octave on the string you want with the higher octave if you have two strings with the same name e.g.(b3, B5, e5, E8).
{Note: The octave numbers should range from 0 to 9}.

Ex 1:

```
e5|--------0-----|
B4|-----------3--|
G2|--------------|
D5|-----2--0--2--|
A2|--3--------0--|
E8|--------3-----|
```

Ex 2:

```
b3|--------0-----|
F2|-----------3--|
G3|--------------|
D2|-----2--0--2--|
A3|--3--------0--|
B5|--------3-----|
```

5.7 Defining Note Durations:

Whole notes take N beats 

Half notes take N/2 beats 

Quarter notes take N/4 beats 

Eighth notes take N/8 beats 

Sixteenth notes take N/16 beats 

These are the standard note durations you will most likely encounter when converting tablature to MusicXML format. In the text area the duration is indicated by “-” characters. How durations are defined can be best explained through examples.

Ex 1:

```
|-0-0-0---|
|---------|
|---------|
|---------|
|---------|
|---------|
```

This is a measure that uses a 4/4 time signature, there are 2 notes that have one dash on their left and on their right, these notes last N/4 beats. The final note has 3 dashes on the right side indicating it lasts longer. Knowing this we can say that this note is a half note which sums the number of beats to 4, satisfying the time signature.

Ex 2:

```
|-0-------|
|---3-1-3-|
|---------|
|---------|
|---------|
|---------|
```

Like the previous example this measure uses a 4/4 time signature. There are 4 beats in this measure and all of which have a dash on their left and on their right. Knowing that this measure can only have 4 beats and all the beats are the same duration we can say that these are all quarter notes.

Ex 3:

```
|-----3---|
|-3-------|
|---------|
|---------|
|---------|
|---------|
```

This example there are only 2 notes in the measure and both notes have 3 dashes on one side and one on the other, knowing that there are only 4 beats in the measure, we can say that both of these are half notes.

6. Troubleshooting

6.1 Empty Text area:

This indicates that no tablature has been provided to the software. This can be resolved by either uploading your tablature, copying and pasting your tablature into the text field or dragging your tablature into the specified field. Refer to the input text tablature section for more information.

6.2 Tune/Octave Not Recognized:

This indicates that the tuning/octaves are not supported. This can be resolved by changing the tune/octave to a supported tune listed in the defining tuning section and defining octaves section.

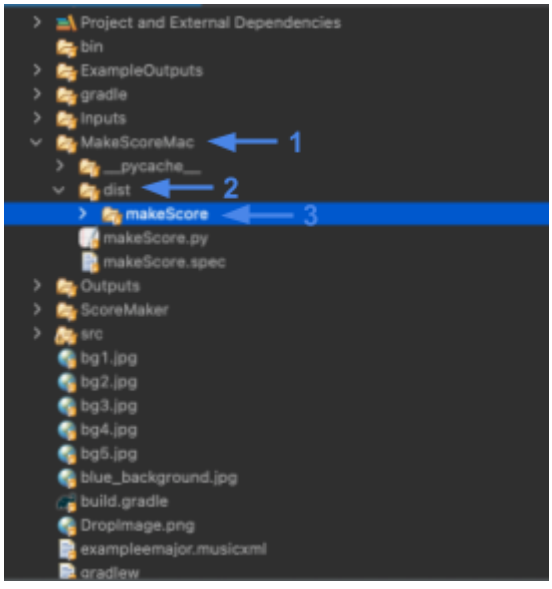
6.3 Wrong Formatting:

This indicates that the formatting of the text tablature in the text area is wrong. This can be resolved by editing the tablature to follow the proper formatting indicated in the supported formats section.

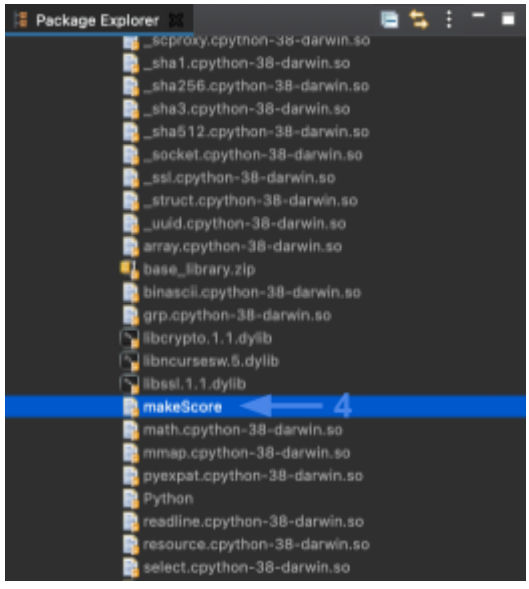
6.4 MacOS Sheet Music Permissions:

Due to the strict security measures on MacOS there are some steps we might need to complete first to give the application the appropriate permissions in order to convert your tablature to sheet music. Windows users can ignore the following steps.

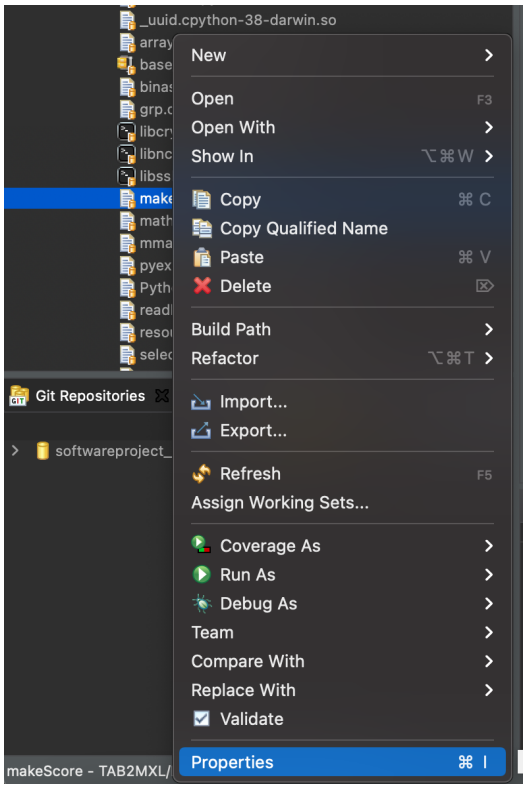
In the TAB2XML folder navigate to the MakeScoreMac/dist/makeScore Folder



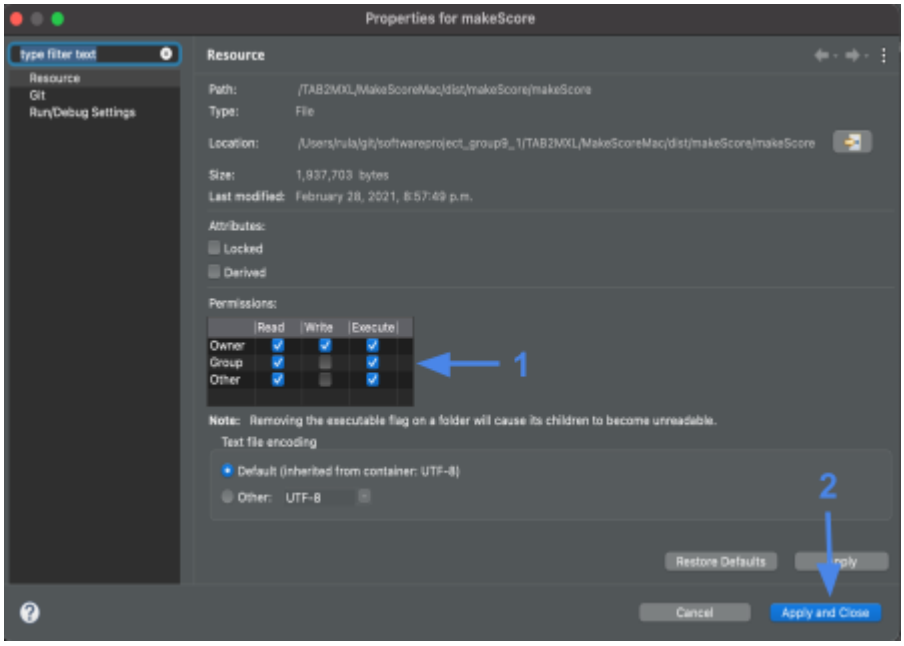
Once in that directory find the file called makeScore and right click



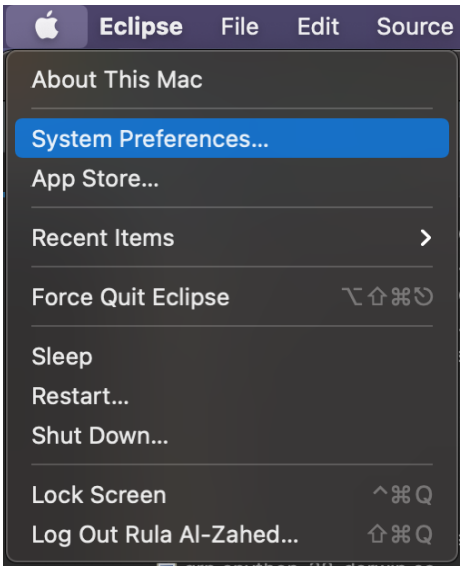
Look for the Properties option and left click



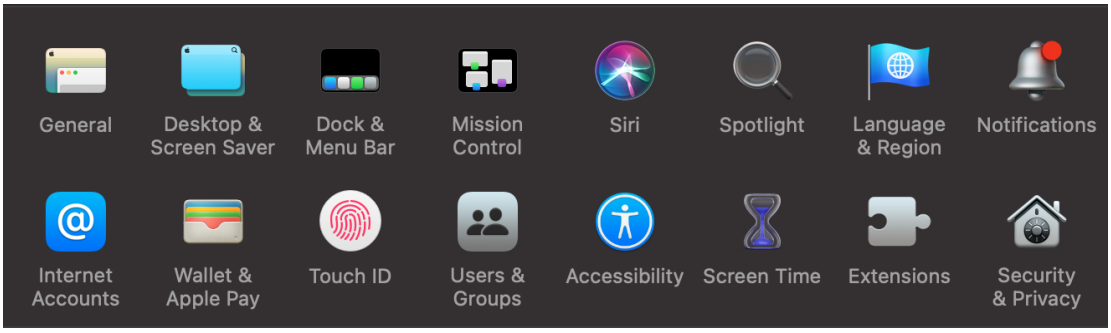
Make sure the Execute checkboxes are selected for Owner, Group and Other. This allows the application MakeScore to be executed from Eclipse. Then click Apply and Close



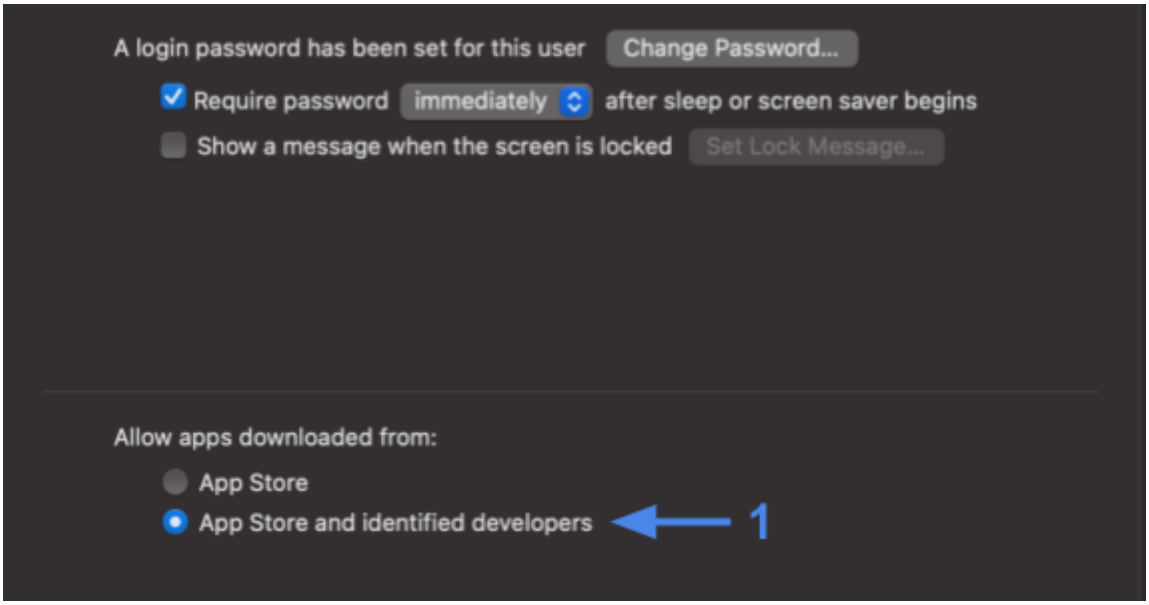
Click on the Apple icon on the top left of the screen and click on **System Preferences**



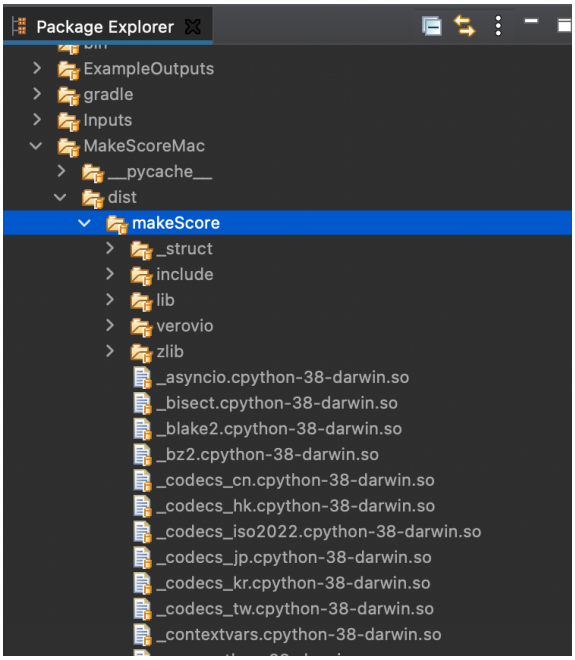
Navigate to and click on **Security and Privacy**



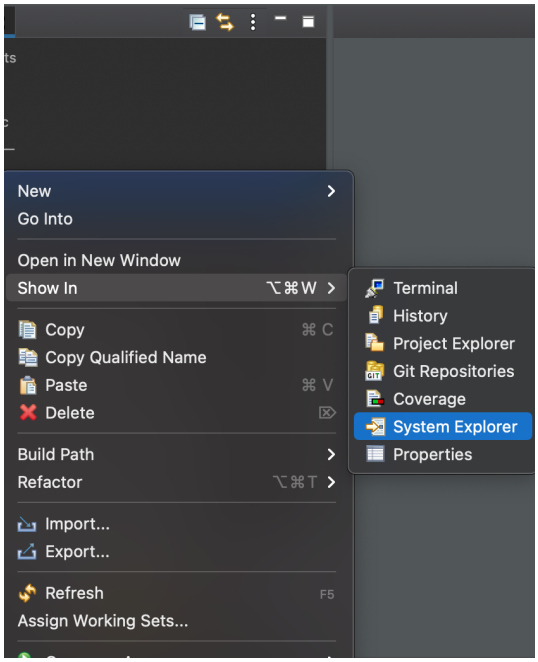
In the **General Tab** the checkbox for “App Store and identified developers” is checked



Back in Eclipse navigate back to the MakeScoreMac/dist/makeScore directory

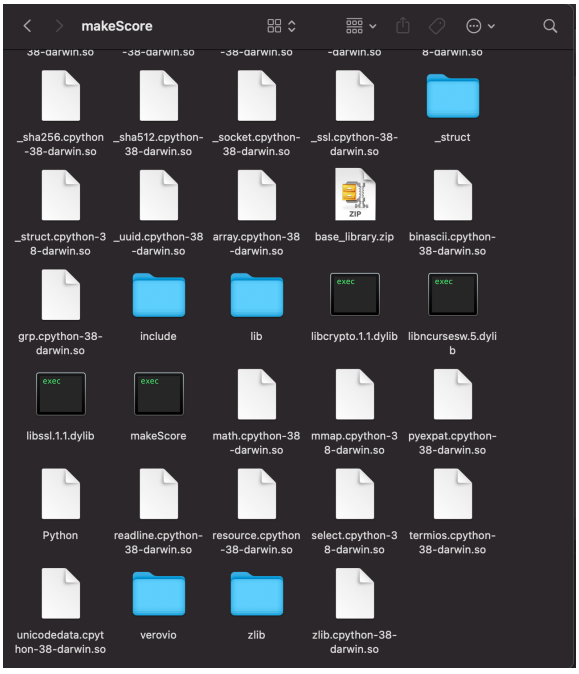


Right click on the directory and under **show in** click on **System Explorer**

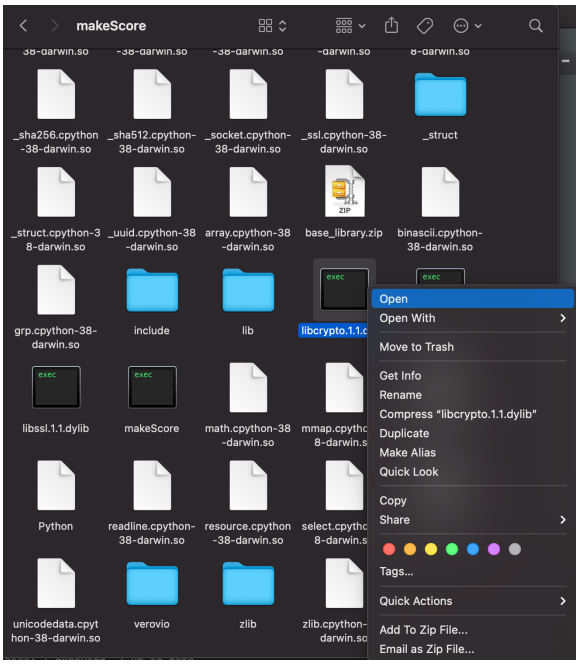


Once the folder is open in finder window scroll down until you locate the following files:

- libcrypto.1.1.dylib
- libncursesw.dylib
- libssl.1.1.dylib
- makeScore



Control + Right Click on each of those files and select open, this grants the application the permission to run on your computer (Control + Right click saves the preferences so you only need to do this once).



If there are any other notifications about unidentified developers head to the **General tab** in **Security and Privacy** and manually allow the application permission to run.

Now the Tablature to sheet music conversion should work error free.
If any other issues occur please contact me at yasseralzahed@gmail.com