

Requirement Document



MXLify

EECS 2311 - Group 9

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1. Introduction

1.1 Purpose:

This software is used to convert text tablature into a MusicXML file, which can then be used in professional-level music software.

1.2 Intended Audience:

This software is intended for any music enthusiasts who require their text tablature to be converted to MusicXML format.

1.3 Intended Use:

The user should be able to easily input their text tablature. They can edit their text tablature within the software. When they are ready a MusicXML file can be generated and saved. Lastly the user should be able to preview the MusicXML in a visual format.

2. Overall Description:

2.1 User Needs:

Normally the user would have to know how to read tablature or find the MusicXML file for the song that they want to play so that it is put in a format that they can understand, this software allows for them to have an intermediary to transition from tablature to a general music format that's easy to understand.

2.2 Assumptions:

- Users are aware of the tuning of their tablature, in case it is not a common tuning
- Tablature given is for either guitar, drums, or bass
- Tablature is in proper text format for guitar and bass

3. Requirements

3.1 Functional Requirements:

- Input text tablature via copy paste, drag & drop, and file directory
- Parse the tablature and convert to MusicXML format
- Save the MusicXML file
- Save and load the inputted tablature and all other metadata
- Edit tablature in a text area
- Set the song name
- Set the instrument (guitar, bass, or drum)
- Set the time signature otherwise it defaults to the time signature 4/4
- Set the tuning otherwise it defaults to the default instrument tuning

3.2 Non-Functional Requirements:

- Conversion takes less than 3 seconds to complete with reasonably sized inputs
- Set a custom time signature of individual measures
- Simplistic GUI that allows for a minimum of 3 actions to complete a conversion
- Warning and error system that notifies the user of any tablature formatting issues

3.3 External Interface Requirements:

- Simplistic GUI that is easy to navigate
- Visual consistency (Naming, styling, visuals, etc)
- Visual feedback (Button highlight on mouse over, success popups, etc)

4. Use cases:

4.1: Select Text Tablature File

Actor: Any user

Context of Use: The user selects a text tablature file to be used by the system

Success Scenario:

1. The user selects the tablature file to open
2. The system displays the text tablature

Extensions:

2. The system already has tablature in the system
 1. The system prompts the user to override the current tablature
 2. The system displays the new text tablature

4.2: Copy & Paste Text Tablature

Actor: Any user

Context of Use: The user copy and pastes text tablature into the system

Success Scenario:

1. The user copies text tablature
2. The user pastes into the system
3. The system displays the text tablature

4.3: Drag & Drop Text Tablature File

Actor: Any user

Context of Use: The user drag and drops a text tablature file into the system

Success Scenario:

1. The user drags and drops a text tablature file into the system
2. The system displays the text tablature

Extensions:

2. The system already has tablature in the system
 1. The system prompts the user to override the current tablature
 2. The system displays the new text tablature

4.4: Convert Tablature

Actor: Any user

Context of Use: The user selects a text file to be used by the software

Preconditions: The system has tablature inputted

Success Scenario:

1. The user selects the instrument
2. The user inputs the song title
3. The user inputs the time signature
4. The user clicks convert
5. The system prompts the user to select a save location
6. The system converts the tablature and saves a MusicXML file

Extensions:

5. The system detects an error with the tablature formatting
 1. The system displays an error message

4.5: Save Tablature & Metadata

Actor: Any user

Context of Use: The user saves the tablature and metadata to a save file

Preconditions: The system has tablature and metadata inputted

Success Scenario:

1. The user clicks save
2. The system prompts the user to select a save location
3. The system saves the tablature and metadata to a save file

4.6: Load Tablature & Metadata

Actor: Any user

Context of Use: The user loads a save file into the system

Preconditions: The user has a save file

Success Scenario:

1. The user selects the save file to load
2. The system displays the text tablature and metadata

Extensions:

2. The system already has tablature in the system
 1. The system prompts the user to override the current tablature
 2. The system displays the new text tablature and metadata

5. User Stories:

- As an amateur guitarist, I want to convert my text tablature into a MusicXML file so that I can use it with other music software
- As a Professional drummer, I want to be able to set custom measure time signatures so that I can convert my advanced music pieces
- As a Guitar student, I want to be notified when I have a tablature formatting issue, so that I can learn and fix my mistakes
- As a Music teacher, I want to copy and paste students tablature into the system, so that I can convert tablature without having to use text files
- As a Bass guitar enthusiast, I want to save my tablature and its metadata so that I can load it again later.
- As someone who has not played guitar before but has played piano, I want to be able to convert tablature that I cannot understand into a format that I can read, so that I am able to play the guitar.