Braille Converter - User Guide

1. Introduction

- The application can be used to convert the files into braille(in pef or text format) from following file formats:
  - EPUB
  - HTML(.html, .xhtml, .htm)
  - TEXT
- The application uses the Calibre plugin to format the text into PEF.
- While converting into text file, there is also an option to convert the file into ascii braille.
- An epub file containing more than one language can also be converted into braille by using more than one tables, which is explained in Features.
- The application is accessible with screen readers like NVDA, Windows Narrator etc.

2. How to install and run

Install

i. Install Calibre-2 32-bit.

ii. Install Calibre plugin
   - Go to directory: .\dist\calibre-pef-plugin-master
   - Double click on the file: install.bat
   - The output will show on cmd.
   - If the last line is 'Plugin updated: PEF Output (1, 0, 0)', then the installation is successful. Otherwise, there is some error.

Run

- Click 'BrailleConverter.exe in 'dist' directory.

3. Features

A. File conversion

Steps to be followed:-

- Select the path of the file from the directory tree structure(file can be html or epub)
- For ascii-braille output in txt format, check the box
- Check the box corresponding to pef to convert the file into pef format. Select the maximum number of characters in a line and the max number of lines in a page. The default values are already set, which can be changed.

- Select the translation tables to be used. The default is ‘UEBC-g2.ctb’, which is the standard format for grade-2 braille, specified by UEB. If more than one table is chosen, the one which was selected first, will be given preference.
- If the text contains two languages for example Hindi and English then more than one table can be selected to translate into Braille respectively.
- The conversion will start once you click **Convert** the button below.

Points to consider:-

- The standard table for Grade1 braille in English is ‘UEBC-g2.ctb’ and for uncontracted braille is ‘UEBC-g1.utb’. If no table is chosen, the default table is 'UEBC-g2.ctb'.
- If the file is too large, the app may show not responding. In that case, look at the terminal to know about the progress.
- Select the paper width (no. of columns per page) and length (no. of rows per page) carefully, so that it fits in the available page for embossing. Try to keep some margin.
- For a file which contains multiple languages, the user has to select the tables accordingly. The default table may not work.
- While converting the files, some intermediate files are formed which are automatically removed at the end if the conversion is successful. If the conversion is unsuccessful, the files or folders need to be removed manually.
- Once the conversion starts, the convert button will be disabled, until the whole file gets converted. The process can be terminated from the **cmd** window.

B. Add braille translation tables

- Click on the button Add Translation Table, then give the path of the file.
- Translation tables should be in the correct format as specified by liblouis. The extension of the file should be one of the following - ctb, utb, dic, cti, dis, uti
- The pre-existing translation tables are contained in the directory “./dist/liblouis/tables”. So, the tables can also be added and deleted directly from there. It is recommended that tables from only this directory to be used, almost all generally required tables are present in this directory.
- If conversion is not successful, see the 2nd last line of the terminal. If it shows the following error:
  Runtime error : can't translate : tables['TABLE_NAME'], inbuf ...
  Then, the format of the table is incorrect.

4. Viewing the pef file

- There are some softwares which are available on the official website www.pef-format.org. These can be used to view and emboss the pef file.
- For embossing, some of the properties may need to be changed, e.g. – font size.

- If the size of the page is still not sufficient for embossing, the user should create another pef file with the modified number of rows and columns.

5. Limitations

- The characters which contains some special characters, can't be converted. Those characters are replaced by the braille translation of the character '*'.
- Only simple text can be converted to braille. The files which contain complex mathematical equations, chemical equations etc. also can't be translated correctly.
- As the epub and html files are converted into pef, some formatting in the file may be lost, e.g. – bullet points, bold or italics etc. Also, the spaces between the lines and paragraphs may increase, but it will never decrease.
- The pef does not support images, as it can't be represented by braille dots. It needs some tactile graphics, which is currently not supported in pef format.

6. Scope for further development

- Add support for non-text entities e.g. – complex mathematical equations, chemical equations, etc.
- Add translation tables for regional languages, which are other than English and Hindi
- Add support to display the data in tabular format with rows and columns.