Simple English-Thai Lexicon

Software deployment plan

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1. System Requirements

- ***Python:***
  - Python 3.8 - 3.12. (Note that Python 3.10.0 is unsupportable)

- ***Windows:***
  - Windows 8 or newer.
- ***Linux:***
  - GNU libc based distributions on architectures x86_64, aarch64, i686, ppc64le, s390x.
  - musl libc based distributions on architectures x86_64, aarch64.
  - ldd: Console application to print the shared libraries required by each program or shared library. This typically can be found in the distribution-package glibc or libc-bin.
  - objdump: Console application to display information from object files. This typically can be found in the distribution-package binutils.
  - objcopy: Console application to copy and translate object files. This typically can be found in the distribution-package binutils, too.
  - Raspberry Pi users on armv5-armv7 should add piwheels as an extra index url then pip install pyinstaller as usual.

2. Deployment Strategy Summary
The deployment method is fairly simple. The file can be downloaded directly from Google Drive, which can then be opened to run the program. This is a standalone application and does not require any additional setup wizards or external packages.

3. Installation Package Contents

3.1 Required source or compiled files
- Converting the Python file to an executable file by using pyinstaller, we have to include the database baseline version file in the application

3.2 Required third-party components
- This program requires the usage of SQLite databases to store the vocabulary words and their translations. Additionally, the GUI is made up of PyQt5, which is a Python library.

3.3 Required graphical assets, configuration, and other non-program files
- The only non-program files are the .db files and.sqlite files containing data, and also the resources_icon.qrc which manages the GUI icons.

3.4 Documentation files to be provided
- User Guide: README.md file

3.5 Development files and components that must be excluded
- All files in the "Documents" folder

4. Additional Code Required for Deployment

- Pyinstaller converts to .exe and linux files and uses Python script to print out database files from .exe to the Home directory.

- Use Python script to check whether that database file exists or not, if it does not exist the program will print out the database baseline version from the executable file to the Home directory.

5. Deployment Tasks

1. Review the code and make sure that it doesn't have any problems occurring in the code.

2. Ensure that all the necessary libraries are installed before testing the code.

3. Run the code for the getting.exe file on the Windows operating system.

4. Run the code via other operating systems to ensure that the user is getting the executable file.

5. Test the software by using the test cases that we are provided to ensure that the software is working properly (All of the functions and features are working as it's following the expectation and objectives).

6. Delete any temporary files during the deployment process to clear the unnecessary files and allocate the memory.

6. Deployment Test Plan

- **Test Case 1:** When the app opens on any OS, the program can run properly!
- **Test Case 2:** The output message that the program can connect to DB will be informed in the console.
- **Test Case 3:** When click the buttons on the navbar, the page changes.
- **Test Case 4:** If you type a word that is included in DB, should give the translation.
- **Test Case 5:** If you enter a word, should show all definitions and synonyms.
- **Test Case 6:** If you enter a word that isn't included in DB, the add word button should appear.
- **Test Case 7:** After you add a word, the dialogue pops up.
- **Test Case 8:** If you add an English word that is already in the DB, the dialogue pops up.
- **Test Case 9:** After you add a word, the word should appear on the .db file.
- **Test Case 10:** After you delete a word, the dialogue pops up.
- **Test Case 11:** After you get the translation of the word, that word appears in history.
- **Test Case 12:** When you clear the data, the data will clear from the DB.
- **Test Case 13:** When modifying a word, the program will store new data in DB after adding a new translation.
- **Test Case 14:** If the word is existing, the program will show an existing word.
- **Test Case 15:** When adding more Thai definitions, the program will store it in DB.
- **Test Case 16:** If the Thai definitions exist, the program will show an existing definition.
- **Test Case 17:** When adding more English, the program will store it in DB.
- **Test Case 18:** When you add an English word that already exists, the program will show an existing English Word (added already).
- **Test Case 19:** When deleting the English word, the program will delete the word from the DB.
- **Test Case 20:** When clicked favorite, that English word will be stored in the DB.
- **Test Case 21:** When deleting a favorite word, the data will clear from the DB.
- **Test Case 22:** When deleting the DB, the program generates a new DB file.