File Converter Documentation

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May 26, 2023

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1 What is File Converter?

Tired of using sketchy, poorly working websites to convert your files? File Convertor is a simple command-line python script used to convert almost any image file into a JPEG or a .docx document into a .pdf document. It currently supports Windows and Linux.

2 Installing Python and Required Libraries

Python is the programming language used for this script. To run it, you will need Python installed on your system. The process to install Python depends on your operating system. The details to install Python on the currently supported operating systems (Windows and Linux) are below.

2.1 Installing Python on Windows

Installing Python on Windows is a bit more involved than Linux. We are following the steps provided by Digital Ocean [1].

Step 1: Downloading the Python Installer

1. Head to the official Python download page for Windows.
2. Click the link for the latest version and download the executable (.exe) file.

Step 2: Run the Installer

1. Double click the executable
2. Select the **Install launcher for all users** checkbox. This enables all users of the computer to use the Python Launcher Application.
3. Select the **Add python.exe to PATH** checkbox. This enables users to launch Python from the command line (very important).
4. If this is your first time using Python and you are just getting started, we recommend clicking the **Install Now** option and skip to Step 4. To install other optional or advanced features, click **Customize Installation** and continue.
5. If you want to look at the optional features you can, if not click **Next**.
6. Make sure that the **Add Python to environment variables** option is checked. Choose the other items that suit you .
7. Click **Install**. A confirmation message will display when the installation is complete.

Step 3: Verify the Python Installation

1. Go to **Start** and search for *cmd*. Open **Command Prompt**.
2. Enter the following command in the window. A version number should be output. If not, try the installation process again or visit the website included for more information.

```
python --version
```

2.2 Installing Python on Linux

The installation of Python on Linux somewhat varies depending on the distro you are running. We have information regarding installation on Ubuntu (and related distros) and Fedora. For more niche distros, refer to your distro's wiki page for installation instructions (likely to be similar).

2.2.1 Installing on Ubuntu:

Installing on Ubuntu and related distros required the following command in the terminal:

```
$ sudo apt-get update
$ sudo apt-get install python3
```

2.2.2 Installing on Fedora:

Installing on Fedora requires the following command in the terminal:

```
$ sudo dnf install python3
```

2.3 Installing Libraries

There are few external libraries this script relies on. They are listed below:

1. **PIL** - Image manipulation library
2. **docx2pdf** - Allows for the conversion from .docx to .pdf
3. **pillow-heif** - Additional library for manipulating .heif images (default file type for images taken on an iPhone)

The installation process is pretty straightforward. Open up a terminal or command prompt and run these commands.

```
$ pip install Pillow
$ pip install docx2pdf
$ pip install pillow-heif
```

After running these commands, the supporting libraries should be installed on your system.

3 Downloading File Converter

Currently, there is no working executable file that allows plug and play. You can download the script and supporting images from the GitHub repository. You will also need to make sure the external libraries this script depends on can be accessed by the script. A simpler solution to this is being worked on but is currently not ready.

4 Running File Converter

In your terminal or in your IDE of choice, go to the directory in which the script is stored. You can do this by using the 'cd' command followed by the name of the subsequent directories. When you are in the correct directory, run this command:

```
1   $ python3 FileConverter.py
```

5 Code Breakdown

5.1 Function: convert_ to_ jpg()

This function provides functionality for converting images to JPEG. Linux and Windows have different file directory conventions and thus the function first checks which operating system is currently being used. Next it opens the file dialog window where the user can then choose which file to convert. If an error occurs, it is caught and the GUI tells the user that the conversion was unsuccessful. Otherwise, the GUI informs the user that the conversion was successful and where they can find the new image.

5.2 Function: convert_ to_ pdf()

This function provides functionality for converting Microsoft Word (.docx) files to PDF. On Windows, it makes use of Microsoft Word in the background and thus needs an up-to-date version installed on the user's computer. On Linux, it makes use of LibreOffice in the background and thus will need an up-to-date version installed on the user's computer. When the function is called, it first determines which operating system is being used due to differences in how file directories are named between operating systems. Next it opens the file dialog window where the user can then choose which file to convert. If an error occurs, it is caught and the GUI tells the user that the conversion was unsuccessful. Otherwise, the GUI informs the user that the conversion was successful and where they can find the new PDF file.

6 Contributing

This project was originally intended to be a simple tool for me to use. However, I thought it would be best to share my tool with anyone who wants to use it and I would love to see it continue to grow. If you would like to contribute whether that be in the form of code, money, words of inspiration, or criticisms, I would wholeheartedly appreciate it. Please feel free to reach out to me. My contact information is provided on my GitHub profile.

References

[1] Meghna Gangwar. “How to Install Python on Windows 10”. In: *DigitalOcean* (Feb. 2023). URL: https://www.digitalocean.com/community/tutorials/install-python-windows-10.