Detailed Description of the Application Building Process

Contents

1.Introduction	1
2.Installing Required Package	1
3.Creating ExecutableFile(Exe)	1
4.Creating Installer	2

Introduction

Here we will be building a python application where original images and filtered images are shown. Then making an executable file(exe) from the python file. Later we will make an installer(set up program) which makes it runable in any computer from the exe file.

Installing Required Package

We will need to use some python package. That should be installed before we start working on building the project. Here a glimps of all the things we need to install.

1. Installing Pillow

We install Pillow 8.4.0 using pip3 install Pillow this command. The Python Imaging Library adds image processing capabilities to your Python interpreter. This library provides extensive file format support, an efficient internal representation, and fairly powerful image processing capabilities. The core image library is designed for fast access to data stored in a few basic pixel formats. It should provide a solid foundation for a general image processing tool.

2. Installing Pylnstaller

We install pyinstaller 5.2 using pip install pyinstaller this command. Pylnstaller bundles a Python application and all its dependencies into a single package. The user can run the packaged app without installing a Python interpreter or any modules. Pylnstaller supports Python 3.7 and newer, and correctly bundles many major Python packages such as numpy, matplotlib, PyQt, wxPython, and others.

3. Tkinter

Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Here we import Tkinter on our file to use it.

```
from tkinter import *
import tkinter as tk
```

4. Creating ExecutableFile(Exe)

To create an executable file from a python file we use these command

```
Microsoft Windows [Version 10.0.19044.1826]

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D:\Fourth Year First Semester\DIP Lab\Tkinter\New folder>pip install pyinstaller

Requirement already satisfied: pyinstaller in c:\users\user\appdata\local\programs\py

Requirement already satisfied: pyinstaller-hooks-contrib>=2021.4 in c:\users\user\app

Requirement already satisfied: altgraph in c:\users\user\appdata\local\programs\pytho

Requirement already satisfied: setuptools in c:\users\user\appdata\local\programs\pyt

Requirement already satisfied: pywin32-ctypes>=0.2.0 in c:\users\user\appdata\local\programs\pyt

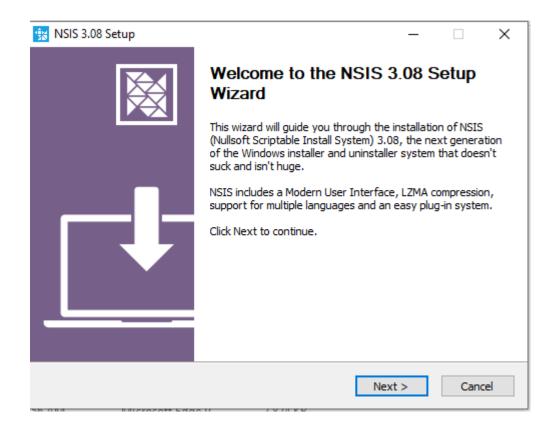
Requirement already satisfied: pefile>=2022.5.30 in c:\users\user\appdata\local\programs\python\

Requirement already satisfied: future in c:\users\user\appdata\local\programs\python\
```

```
D:\Fourth Year First Semester\DIP Lab\Tkinter\New folder>pyinstaller --onefile -w DIP_App.py
141 INFO: PyInstaller: 5.2
141 INFO: Python: 3.9.5
155 INFO: Platform: Windows-10-10.0.19044-SP0
156 INFO: Worde D:\Fourth Year First Semester\DIP Lab\Tkinter\New folder\DIP_App.spec
160 INFO: UPX is not available.
170 INFO: Extending PYHONPATH with paths
['D:\\Fourth Year First Semester\DIP Lab\Tkinter\New folder']
872 INFO: checking Analysis
873 INFO: Building Analysis because Analysis-00.toc is non existent
874 INFO: Initializing module dependency graph...
881 INFO: Caching module graph hooks...
956 INFO: Analyzing base_library.zip ...
5163 INFO: Processing pre-find module path hook distutils from 'C:\Users\User\AppData\Local\Programs\Python\Python39\line\1000 intializing module dependency graph...
18080 INFO: Caching module dependency graph...
18081 INFO: caching module dependency graph...
18080 INFO: Caching module dependency graph...
18090 INFO: Caching module dependency graph...
18090 INFO: Caching module dependency graph...
18090 INFO: Loading module dependency graph...
18090 INFO: Loading
```

5. Creating Installer from Exe

Last step but not the least, we make the installer file from the executable file. Here, **NSIS** software are used to make the installer. Firstly we download the software application.



Then use it making installer.

