# File Organizer - Project Report & Documentation

## 1. Project Overview

The File Organizer is a Python-based application designed to automatically sort and organize files in a specified directory. The application provides two sorting methods:  
- Sort by Type: Moves files into subfolders based on their extensions (e.g., images, documents, videos, etc.).  
- Sort by Date: Organizes files into folders based on their last modified date.  
  
The project was developed with a Graphical User Interface (GUI) using Tkinter, making it user-friendly and efficient for general use.

## 2. Features

- Automatically sorts files based on type or date.  
- Supports common file categories (Images, Documents, Videos, Music, Archives, Code, etc.).  
- Creates necessary subfolders dynamically.  
- Simple GUI interface for easy file selection and sorting.  
- Packaged as a standalone .exe using PyInstaller.

## 3. Technologies Used

- Programming Language: Python  
- Libraries:  
 - os & shutil for file operations  
 - datetime for date-based sorting  
 - tkinter for GUI development  
 - pyinstaller for packaging into an executable file

## 4. How It Works

1. The user runs the application (file\_organizer.exe).  
2. A GUI window appears, prompting the user to select a folder.  
3. The user chooses between Sort by Type or Sort by Date.  
4. The program scans the folder, classifies files, and moves them into appropriate subfolders.  
5. A success message is displayed once the sorting is complete.

## 5. Installation & Execution

A. Running from Source

1. Install dependencies (if not already installed):

* pip install tk

2. Run the script:

* python file\_organizer.py

B. Running the Executable (.exe)

1. Double-click file\_organizer.exe to launch the application.

2. Follow the on-screen prompts.

C. Creating the Executable

To package the script into an .exe file:

* pyinstaller --onefile --windowed file\_organizer.py

The executable will be found in the dist/ folder.

## 6. Testing & Validation

|  |  |  |
| --- | --- | --- |
| Test Scenario | Input | Expected Output |
| Valid directory, Sort by Type | Folder with mixed files | Files organized into type-based folders |
| Valid directory, Sort by Date | Folder with mixed files | Files organized into date-based folders |
| Empty directory | No files | No changes, success message displayed |
| Invalid directory | Non-existent path | Error message displayed |

## 7. Conclusion

The File Organizer simplifies file management by automating the sorting process. With its easy-to-use GUI, it is a practical tool for users who frequently deal with unorganized files. The project was successfully completed and tested, confirming its reliability and efficiency.