**FILE ORGANIZER WITH VOICE COMMAND PROMPT**

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**Summary**

The Project FILE ORGANIZER WITH VOICE COMMAND PROMPT is solely based on python module “Tkinter” for the Graphic User Interface (GUI) development along with several other modules for its functionality. The GUI of the program is simplified in every manner so that, even novice user can use it efficiently. The program runs on the latest version of **Python 3.8**. As every day we add lots of files to our computer systems and those files need to be organized in a perfect manner to retrieve them any time without any loss. Sometimes we need to arrange our files in a specified manner or in a branched manner and there comes a lot of hustle with it so we need a proper solution with this problem we need a proper way or program which can easily arrange our files in any manner we want with this file organizer this problem of file arranging can be easily overcome. In the program you have to just select a Directory to monitor and mark it as active for monitoring then you have to choose a parent directory with an appropriate folder inside it and then finally then you have to select the files to move and done. Your files will be moved and organized successfully if each selection made was correct. Once a parent and a folder are selected in the program it will always files to that only until the destination is changed. We can change the source directory anytime we want can carry out our file arranging process.

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**What is Python?**

Python is a widely used high-level, general-purpose, interpreted, dynamic programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code that would not be possible in other languages such as C++ and Java. Python’s simple, easy to learn syntax reduces the cost of program maintenance.

Python supports multiple programming paradigms, including object-oriented, imperative and functional programming or procedural styles. It features a dynamic type system and automatic memory management and has a large and comprehensive standard library.

Python interpreters are available for installation on many operating systems. Example - for Windows and Linux, OS X.

**Why Python?**

You may be wondering what all are the applications of Python. There are so many applications of Python, here are some of the them.  
 1. Web development – Web framework like Django and Flask are based on Python. They help you write server-side code which helps you manage database, write backend programming logic, mapping URLs etc.

2. Machine learning – There are many machine learning applications written in Python. Face recognition and Voice recognition in your phone is an example of machine learning.

3. Data Analysis – Data analysis and data visualisation in form of charts can also be developed using Python.

4. Scripting – Scripting is writing small programs to automate simple tasks such as sending automated response emails etc. Such type of applications can also be written in Python programming language.

5. Game development – Some cool games can be easily developed using python.

6. Embedded applications can also be developed in Python.

7. Desktop applications – You can develop desktop application in Python using library like Tkinter or QT. Just like this project which is based on Tkinter and is a desktop application.

**The File Organizer With Voice Command Prompt**

Introduction

The Program is made using python by keeping in the view about simplicity and its usage by any type of user. In every field of life we need things to be sorted and well organized in a way a user want them to and when it comes to Organizing files inside out computer, sometimes it prove to be literally difficult as opening one folder and copying its contents to another folder or inside folder of folder and it become very difficult to manage a huge bunch of files by opening folder again and again and that’s the point when it comes in mind that there should be a proper software or program to carry out this huge task for us in this situation out File Organizer With voice Command Prompt comes into play.

This program is developed using various python modules or libraries. It provides user an easier way to manage their files and set them according to their need whether its inside a single folder or inside some branch folders. User just need to follow simple steps and choose some directories as default for organizing their files. The File Organizer comes with a special feature of monitoring a directory selected by the user and it displays the name of file, entered, moved or deleted from a selected directory by which user can easily manage and organizing their files. It will be really easy to do so and the functions and operating of the program will be explained further.

Modules Used

1. Tkinter
   * 1. \* (Everything from Tkinter)
     2. FileDialog from Tkinter
     3. MessageBox from Tkinter
     4. Ttk from Tkinter
2. Os
3. Shutil
4. Watchdog
   * 1. Observer
     2. FileSystemEventHandler
5. Time
6. Pyttsx3

Modules Introduction

1. Tkinter (\*): The tkinter package or (Tk interface) is the standard python interface to the Tk GUI toolkit which comes with python. Tk is a free and open source, cross platform widget toolkit which provides us with a library of basic elements of GUI widgets available for many languages. Tkinter acts as an interface for creating GUI with the use of Tk. With both tkinter and Tk combined we can create beautiful GUIs for desktop application. The “ \* ” after the name tkinter means that we are importing everything from the tkinter package to our workspace so that we can use their features in creating our GUI.
2. FileDialog: The filedialog module comes with tkinter and it provides classes and factory functions for creating file or directory selections windows. There are various of file dialog present inside the FileDialog module of tkinter. Example: askopenfilenames, askdirectory and many more.
3. MessageBox: The messagebox module comes with python and provides different functions which can be used to display various types of messages in your program. Some of these messagebox are showinfo, showwarning, showerror, askquestion, askokcancel, askyesno, askretryignore.
4. Ttk: Ttk is the sub module of tkinter also known as (Themed Tk) and it contain identical widgets like tkinter along with some new widgets and the widgets in ttk module are more modern than Tk widgets and they can be styles in different ways.
5. Os: This module comes under python standard modules and provides a portable way of using operating system dependent functionality. We can easily read and write files using this module, we can easily manipulate the file path like we can join one or more different paths. This module basically provides functionality to interact with the operating system.
6. Shutil: This module provides a number of high-level operations on files and collection of files. We can operate on files easily without diving much into objects a lot. This module helps in the process of automating of copying and removing files or directories. It is basically a high-level version of Os module and contains some features which are not present in Os modules.
7. Observer: Observer comes under the watchdog module in python which can be used to monitor different directories and it can process the changes made in the directory, it can notify about the changes made in a directory. It basically works as eyes of a program to observe a directory for any changes and process the changes accordingly.
8. FileSystemEventHandler: FileSystemEventHandler comes under the watchdog module in python which is used to handle the events which are provided by the observer while monitoring a directory. When any change is detected in the directory by the observer it hands over the events to this module to handle the events according to the user.
9. Time: This module comes inside python and can be used to handle time related tasks in a program for example sleep function to add a gap of few seconds before the next function to be performed in the program.
10. Pyttsx3: This module comes with python and knows as python text to speech module. This module can be used to convert any text into speech and it contain 2 speakers one with male voice and other with female voice.

**Inside the Program and its Working**

The File Organizer is developed using the tkinter module along with the other modules listed above for its functionality. Tkinter module is used to create the GUI of the program along with all the widgets. Then comes the filedialog module which is used here for the selection of directories to monitor and directories to move or organize the files into. The module messagebox is used here to give system interrupts on the time something is going wrong in the program for example selection of directories or selection of files at that time the message boxes will guide the user to correct the mistake in selection. The ttk module is used to add some modern looks to the program by providing a progress bar.

In this program Os module works as a connector for joining paths of various directories and it is also used to create new directories during the runtime. The shutil module helps in organizing the files in the directories by moving them from one place to other. The observer and filesystemeventhandler works together with each other, the observer monitors a selected directory and check for changes inside it and it hands over the events to filesystemeventhandler which will then display the name and path of the file into the monitor of the program so that user can view the changes taking place in the directory.

The time module is used in the program to add a time gap between the functionality of different widgets and the pyttsx3 module is used to notify the user about various tasks which are being performed in the program.

The working of this program is literally very simple user just have to follow simple steps and the files will be organized in the required format.

First the user need to select a directory which he/she wants to monitor and then after making the directory selection the user need to click the mark as active button to start the monitor for monitoring the selected directory and if by mistake user selected a wrong directory it can be corrected by pressing the release directory button and reselecting the new directory,

After making the selections for monitoring the directory user is required to select a parent directory in which he/she wants to organize the files. After making the parent directory selection the user needs to provide whether he/she have an existing folder for placing the files inside the directory. In case of an existing folder the click in the existing folder button and specify the path for it and the complete path of the directory in which the files are to be organized will be visible. If the user go for the creation of a new folder he/she will be needed to provide a name for the new folder and booom.. the new folder is created and ready to go, in case of the new folder also the complete path will be visible to the user.

After making proper selection of the directories all the things are done and ready to go now, user just need to select the files by clicking the select button from the directory which is being monitored and done just click on the move button and the selected files will be moved to the selected path inside the parent directory and user will be notified by a voice prompt and text written in left corner of the program window. If at any time user want to change the monitoring directory it can be done by clicking the release directory button and selecting the new directory and marking it as active. User need not to change the parent directory even after he changes the monitoring directory.

**Procedure**

1. Select a directory from which files are to be taken for organizing
2. After Directory selection click on mark as active button to start the monitor.
3. Select a parent directory in which the files are to be organized
4. If an existing folder is available inside the parent directory the user can select it by clicking the exiting folder button. If a folder is not available, he/she can create one by pressing the new folder button and entering the name of the new folder and done.
5. Now user need to select the files which are to be organized from the monitored directory
6. After successful file selection just click on move button and done.
7. Files will be arranged successfully.

**Program Prerequisite**

Before running this program, user need to pay attention on some prerequisite which are necessary for this program

1. Please make sure you have installed all the packages/libraries/modules as mentioned:
   1. Tkinter
   2. Os
   3. Watchdog
   4. Shutil
   5. Pyttsx3
   6. Time
2. Please make sure you have copied the images of the prerequisite folder inside the directory where the file of the program is placed.
3. Link for the prerequisite folder: https://github.com/vibhujain2316/Python-Stuff

**Conclusion**

Tkinter gives us a simple and reliable way to create the GUI for the desktop applications which its simple widgets and tools. It provides powerful functionalities and concise syntax to help programmers deal with the GUI and other various functionalities for developing a fully functional desktop application. While developing this program I learnt a lot about different python modules and its functions. This program is really easy to work with and easy to understand it can be really very useful for daily use as files are needed to be organized the moment they are added in the system. It can be used by both teachers and students for their work this program will them to make file organizing really fun and easy just few click and you are good to go. In all ways this program can really be a good helping hand in their busy schedule to get their work done without much efforts.