

USER INTERFACE DESIGN

Roll.No: 240701005

Name: Abenanthan P

EXPERIMENT 3

Develop and compare CLI, GUI, and Voice User Interfaces (VUI) for the same task and assess user satisfaction.

1.COMMAND LINE INTERFACE:

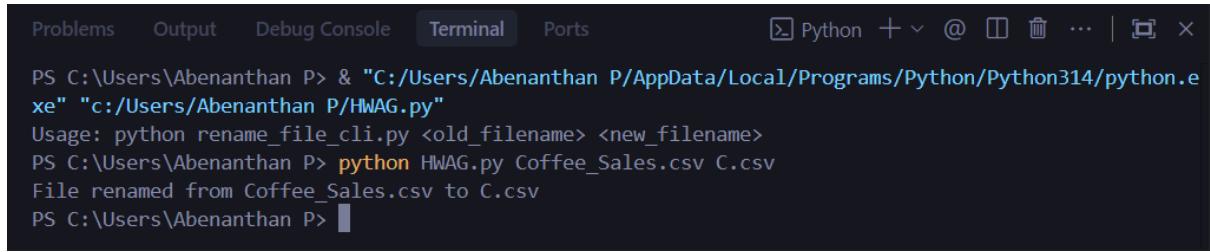
Python Code:

```
import os
import sys

def rename_file(old_name, new_name):
    try:
        os.rename(old_name, new_name)
        print(f"File renamed from {old_name} to {new_name}")
    except FileNotFoundError:
        print(f"Error: {old_name} not found.")
    except Exception as e:
        print(f"An error occurred: {e}")

if __name__ == "__main__":
    if len(sys.argv) != 3:
        print("Usage: python rename_file_cli.py <old_filename>
<new_filename>")
    else:
        rename_file(sys.argv[1], sys.argv[2])
```

Output:



```
PS C:\Users\Abenanthan P> & "C:/Users/Abenanthan P/AppData/Local/Programs/Python/Python314/python.exe" "c:/Users/Abenanthan P/HWAG.py"
Usage: python rename_file_cli.py <old_filename> <new_filename>
PS C:\Users\Abenanthan P> python HWAG.py Coffee_Sales.csv C.csv
File renamed from Coffee_Sales.csv to C.csv
PS C:\Users\Abenanthan P>
```

2.GRAPHICAL LINE INTERFACE:

Python Code:

```
import tkinter as tk

from tkinter import messagebox
import os

def rename_file():
    old_name = old_filename_entry.get().strip()
    new_name = new_filename_entry.get().strip()
    if not old_name or not new_name:
        messagebox.showwarning("Warning", "Please enter both filenames!")
        return
    if not os.path.exists(old_name):
        messagebox.showerror("Error", f"File '{old_name}' not found.")
        return
    if os.path.exists(new_name):
        if not messagebox.askyesno("Warning", f"'{new_name}' already exists.\nOverwrite?"):
            return
    try:
        os.rename(old_name, new_name)
```

```
    messagebox.showinfo("Success", f"File renamed from '{old_name}' to  
'{new_name}'")
```

```
except Exception as e:
```

```
    messagebox.showerror("Error", f"An error occurred: {e}")
```

```
root = tk.Tk()
```

```
root.title("File Renamer")
```

```
root.geometry("400x150")
```

```
root.resizable(False, False)
```

```
tk.Label(root, text="Old Filename:", font=("Arial", 10)).grid(row=0, column=0,  
padx=10, pady=5, sticky="w")
```

```
tk.Label(root, text=" New Filename:", font=("Arial", 10)).grid(row=1,  
column=0, padx=10, pady=5, sticky="w")
```

```
old_filename_entry = tk.Entry(root, width=40)
```

```
old_filename_entry.grid(row=0, column=1, padx=10, pady=5)
```

```
new_filename_entry = tk.Entry(root, width=40)
```

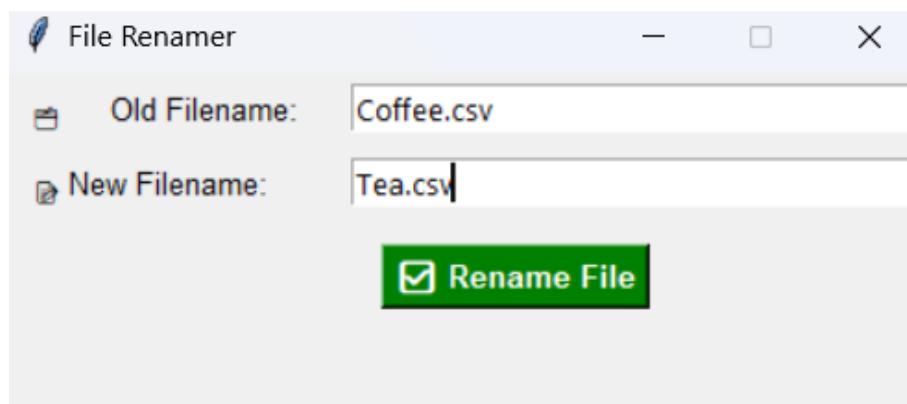
```
new_filename_entry.grid(row=1, column=1, padx=10, pady=5)
```

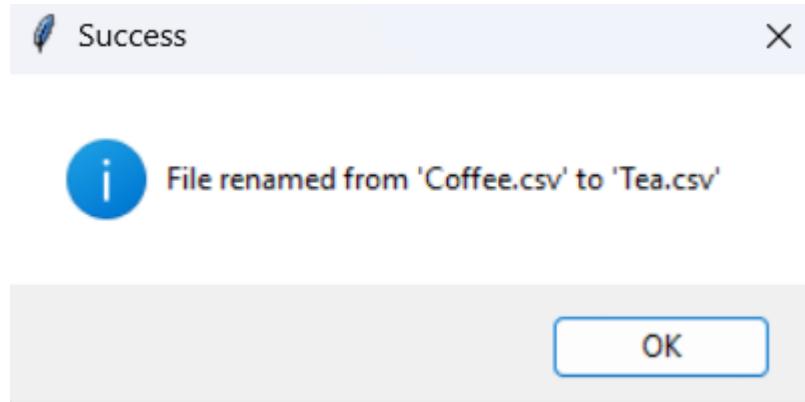
```
rename_button = tk.Button(root, text=" Rename File", bg="green", fg="white",  
font=("Arial", 10, "bold"), command=rename_file)
```

```
rename_button.grid(row=2, column=0, columnspan=2, pady=10)
```

```
root.mainloop()
```

Output:





3.VOICE USER INTERFACE:

Python Code:

```
import speech_recognition as sr
import os

def rename_file_from_voice_command(command):
    try:
        words = command.lower().split(" ")
        if "rename" in words and "to" in words:
            rename_index = words.index("rename")
            to_index = words.index("to")
            old_name = words[rename_index + 1]
            new_name = words[to_index + 1]
            if not os.path.exists(old_name):
                print(f"Error: File '{old_name}' not found.")
            return
        os.rename(old_name, new_name)
        print(f" File renamed from '{old_name}' to '{new_name}'")
    except Exception as e:
        print(f"Error: {e}")
```

```

def listen_for_command():

    recognizer = sr.Recognizer()

    mic = sr.Microphone()

    print(" Listening for command to rename a file...")

    with mic as source:

        recognizer.adjust_for_ambient_noise(source)

        audio = recognizer.listen(source)

    try:

        command = recognizer.recognize_google(audio)

        print(f" Command received: {command}")

        rename_file_from_voice_command(command)

    except sr.UnknownValueError:

        print("Sorry, I couldn't understand the command.")

    except sr.RequestError as e:

        print(f" Could not request results from Google Speech Recognition
service; {e}")
    
```



```

if __name__ == "__main__":
    listen_for_command()

```

Output:

```

PS C:\Users\Abenanthan P> & "C:/Users/Abenanthan P/AppData/Local/Microsoft/WindowsApps/python3.13.exe" "c:/Users/Abenanthan P/UID_EX3_C3.py"
➤ Listening for command to rename a file...
✖ Sorry, I couldn't understand the command.
PS C:\Users\Abenanthan P> []

```

```

PS C:\Users\Abenanthan P> & "C:/Users/Abenanthan P/AppData/Local/Microsoft/WindowsApps/python3.13.e
xe" "c:/Users/Abenanthan P/UID_EX3_C3.py"
➤ Listening for command to rename a file...
✖ Command received: rename sample.csv to demo.com csv
✓ File renamed from 'sample.csv' to 'demo.com'
PS C:\Users\Abenanthan P> []

```

3.USER SATISFACTION COMPARISON:

Python Code:

```
def survey():

    print("Rate your satisfaction with the following interfaces (1-5):")

    try:

        cli = int(input("CLI (1-5): "))

        gui = int(input("GUI (1-5): "))

        vui = int(input("VUI (1-5): "))

        if not (1 <= cli <= 5 and 1 <= gui <= 5 and 1 <= vui <= 5):

            print("Please enter ratings between 1 and 5 only.")

            return

        # Display the ratings

        print("\nYour satisfaction ratings:")

        print(f"CLI: {cli}")

        print(f"GUI: {gui}")

        print(f"VUI: {vui}")

        avg_satisfaction = (cli + gui + vui) / 3

        print(f"\nAverage Satisfaction Score: {avg_satisfaction:.2f}")

    except ValueError:

        print("Invalid input! Please enter numbers between 1 and 5.")

if __name__ == "__main__":

    survey()
```

Output:

```
PS C:\Users\Abenanthan P> & "C:/Users/Abenanthan P/AppData/Local/Microsoft/WindowsApps/python3.13.exe" "c:/Users/Abenanthan P/UID_EX3_C4.py"
Rate your satisfaction with the following interfaces (1-5):
CLI (1-5): 4
GUI (1-5): 5
VUI (1-5): 3

Your satisfaction ratings:
CLI: 4
GUI: 5
VUI: 3

Average Satisfaction Score: 4.00
PS C:\Users\Abenanthan P>
```

RESULT:

Thus , the Command Line Interface , Graphical User Interface , Voice Command Interface and User Satisfactory scores to rename a file is created and implemented successfully.