Title:
Voice Controlled File Renamer using Python

Subject: User Interface Design

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1. AIM

The aim of this project is to design and implement a **Voice User Interface (VUI)** that allows users to rename files using voice commands. The system captures the user's voice through a microphone, converts it into text using speech recognition techniques, and performs file renaming operations using Python.

2. INTRODUCTION

A Voice User Interface (VUI) enables users to interact with a computer system using spoken commands instead of traditional input devices such as keyboard and mouse. With the advancement of speech recognition technologies, VUIs are increasingly being used in applications like virtual assistants, smart devices, and accessibility tools.

This project focuses on developing a simple VUI-based application that allows users to rename files by speaking the old and new file names. This improves usability, reduces manual effort, and provides hands-free interaction with the system.

3. OBJECTIVES

The main objectives of this project are:

- To understand the concept of Voice User Interface (VUI)
- To implement speech recognition using Python
- To convert voice input into text commands
- To perform file operations using the operating system
- To provide voice feedback to the user
- To improve accessibility and user experience

4. TOOLS AND TECHNOLOGIES USED

The following tools and technologies were used in this project:

Tool / Technology	Purpose
Python	Programming language

Tool / Technology	Purpose
VS Code	Development environment
SpeechRecognition	Converts speech to text
PyAudio	Captures microphone input
pyttsx3	Converts text to speech
OS Module	Renames files

5. SOURCE CODE

```
import speech_recognition as sr
import os
import pyttsx3
engine = pyttsx3.init()
def speak(text):
    print(text)
    engine.say(text)
    engine.runAndWait()
def listen():
    r = sr.Recognizer()
    with sr.Microphone() as source:
        print("Listening...")
        r.adjust_for_ambient_noise(source, duration=1)
        audio = r.listen(source)
    try:
        text = r.recognize_google(audio)
        return text.lower().strip()
    except sr.UnknownValueError:
        speak("I did not catch that. Please try again.")
        return listen()
# -------- MAIN PROGRAM --------
```

```
speak("Welcome to the Voice-Controlled File Renamer!")
speak("Say the name of the file you want to rename without dot txt")
old_name = listen()
if old_name:
    print("You said:", old_name)
    old_file = old_name + ".txt"
else:
    speak("Could not understand. Exiting.")
    exit()
speak("Say the new name for the file without dot txt")
new_name = listen()
if new_name:
    print("You said:", new_name)
    new_file = new_name + ".txt"
else:
    speak("Could not understand. Exiting.")
    exit()
try:
    os.rename(old_file, new_file)
    speak(f"File successfully renamed from {old_file} to {new_file}")
except FileNotFoundError:
    speak("File not found")
except:
    speak("An error occurred")
```

6. SAMPLE OUTPUT

Welcome to the Voice-Controlled File Renamer!
Say the name of the file you want to rename without dot txt
You said: old
Say the new name for the file without dot txt
You said: new
File successfully renamed from old.txt to new.txt

```
PS D:\UI,UX\UID ex3> & C:/Users/Asus/AppData/Local/Programs/Python/Python313/python.exe "d:/UI,UX/UID ex3
/main.py"
Welcome to the Voice-Controlled File Renamer!
Say the name of the file you want to rename without dot txt
Listening...
You said: old
Say the new name for the file without dot txt
Listening...
I did not catch that. Please try again.
Listening...
You said: new new
File successfully renamed from old.txt to new new.txt
PS D:\UI,UX\UID ex3>
```