



VOICE BOT

DEVELOPMENT AND IMPLEMENTATION

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Introduction

- **Objective:** To create a general-purpose voice bot capable of handling diverse queries.
- **Scope:**
 - Real-time interaction using voice and text.
 - Multi-functional capabilities: Wikipedia searches, jokes, date/time, and opening websites.
 - Easy-to-use interface with voice and text input.

What is a Voice Bots?

A voice bot is a smart assistant that interacts with people using spoken language, like having a conversation. It combines these technologies to work:

- **Speech Recognition (STT):** Turns your spoken words into text.
- **Language Understanding (NLP):** Figures out what you mean.
- **Speech Generation (TTS):** Responds by speaking back to you.

Why Voice Bots?

- Increasing demand for hands-free digital assistants.
- Enhancing accessibility and user experience.
- Bridging the gap between human language and machine responses.

Features

- **Voice & Text Input:** Flexible interaction options.
- **Wikipedia Integration:** Simplified search for essential topics.
- **Entertainment:** Light-hearted jokes for user engagement.
- **Time & Date Queries:** Immediate responses.
- **Web Navigation:** Direct access to Google, YouTube.

Workflow

➤ Input:

- Voice recorded via microphone or typed text.

➤ Processing:

- Speech-to-text conversion.
- Query analysis using NLP.

➤ Response Generation:

- Query handling using Wikipedia API, datetime, etc.
- Text-to-speech conversion for output.

➤ Output:

- Audio and text-based responses.

Technologies Used

- **Programming Language:** Python
- **Libraries/Tools**
 - Streamlit (UI)
 - SpeechRecognition (Speech-to-Text)
 - gTTS (Google Text-to-Speech)
 - Wikipedia - For fetching information from Wikipedia.
 - NLTK (Natural Language Processing)
 - **Pyjokes** - For generating jokes.
 - **Datetime** - For handling date and time queries

Challenges

- Balancing simplicity and functionality.
- Handling ambiguous or broad queries.
- Accurate transcription of speech input.
- Managing errors in Wikipedia searches.

Demo & Visuals

This demo section includes links to the project and its resources, a video showcasing the system in action, and a detailed flowchart that explains how the voice bot functions..

GitHub Repository: [link to project repo](#)

Deployed Project: [link to app](#)

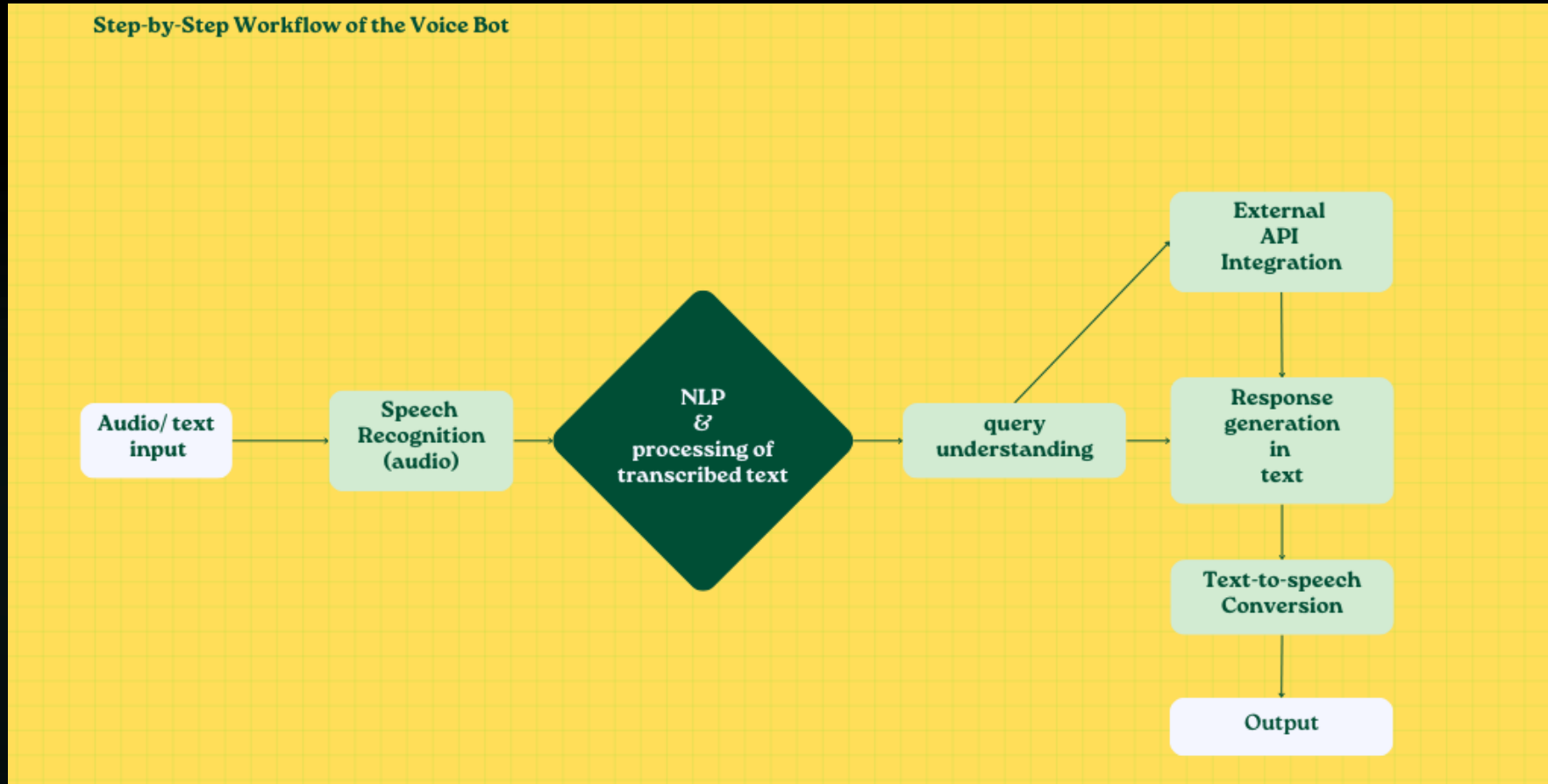
Video

A short demonstration showing the system in action.

The image is a screenshot of a mobile application interface for a 'VOICE BOT'. The app has a dark theme. At the top right, there are icons for 'Share', a star, a pencil, a refresh, and a menu. Below the header, a message says 'Let's Chat! I'm Here to Help.' The main title 'VOICE BOT' is centered in large white letters. There are two input areas: a voice recording area on the left with a microphone icon and a timer showing '00:01', and a text input area on the right with the placeholder 'Or, type your query here!'. Below these is a 'Run Bot' button. A message 'Audio Recorded.' is displayed above a red error banner that reads 'Error: Unable to transcribe the audio. Please try again'. Below the error banner, it says 'No transcribed text to process.' and there is an 'Exit' button. At the bottom center is a 'Clear' button. On the left side, there is a 'User Guide' section with a 'How to Use:' heading. It contains two numbered sections: '1. Start Chatting:' with two steps (record audio, click 'Run Bot') and '2. Voice Commands Examples:' with three examples (Greet, Ask for Time or Date, Search Wikipedia).

Flow Chart

Outline the key steps of your project or system.



Conclusion

- Voice bot demonstrates the potential of conversational AI in simplifying tasks.
- A valuable learning experience in NLP, APIs, and user interface design.
- Opens up opportunities for further innovations in voice technology.

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