# Virtual Assistant - README

## Project Overview

This project is a Python-based Virtual Assistant application utilizing CustomTkinter for its graphical user interface. It integrates voice recognition, text-to-speech capabilities, and dynamic functionalities like web browsing, weather updates, and Wikipedia search.

## Features

- Voice recognition and text-to-speech functionalities.  
- Dynamic website opening with support for multiple domain extensions.  
- Weather updates using the OpenWeatherMap API.  
- Wikipedia search for information retrieval.  
- GUI with theme customization and real-time interaction.

## Installation

1. Clone the repository.  
2. Install required Python packages using:  
 `pip install -r requirements.txt`  
3. Run the application using:  
 `python virtual\_assistant.py`

## Usage

1. Start the application.  
2. Interact with the assistant using voice commands like:  
 - 'Open Google'  
 - 'What is the weather in Chennai?'  
 - 'Tell me about Python programming.'  
3. Use the GUI to switch themes or exit the application.

## Enhancements

- Added support for multiple domain extensions.  
- Improved error handling and user feedback.  
- Integrated Wikipedia for answering user queries.  
- Theme customization using CustomTkinter.  
- Enhanced speech recognition accuracy.

## Challenges Identified

- Handling ambiguous user commands effectively.  
- Ensuring reliable voice recognition in noisy environments.  
- Managing API response times for real-time interaction.