A

**Project Synopsis**

On

**Eve - Intelligent Voice Assistant**

Submitted during 3rd semester in partial fulfilment of the requirements for the award of degree of

**Master of Computer Applications**

by

**Himanshi Giri (23001602028)**

**Aastha (23001602003)**

Under supervision of

**Ms. Maanvi**



**Department of Computer Applications**

**J.C. Bose University of Science & Technology, YMCA**

**Faridabad – 121006**

**May 2024**

**TABLE OF CONTENTS**

**Chapter 1: Introduction**

* 1. Overview of the Project
  2. Objectives

1.3 Technologies Used

**Chapter 2: Proposed Methodology**

2.1 Input Handling

* 1. Processing
  2. Response Generation

2.4 Data Persistence

**Chapter 3: Applications and scope**

3.1 Applications

3.2 Scope for Expansion

**Chapter 1: Introduction**

* 1. **Overview of the Project**

This project, **"Eve - Intelligent Voice Assistant"**, is an innovative voice assistant designed to streamline daily tasks, enhance productivity, and provide a seamless interaction between users and technology. It leverages advanced speech recognition, text-to-speech conversion, and automation techniques to execute commands, fetch information, and interact with the user.

The assistant acts as a central hub for various tasks such as accessing weather updates, managing passwords, doing calculations, opening several applications, searching on google , doing some utility functions and even cracking jokes. With a secure password-protected access mechanism, it ensures user privacy and personalization.

"Eve" integrates several Python libraries to create a multi-functional tool capable of responding to voice commands and providing intuitive and dynamic feedback.

* 1. **Objectives**

The primary objectives of the project are:

1. To develop a highly interactive and intelligent personal assistant capable of automating routine tasks.
2. To integrate voice-based input and output for a hands-free and user-friendly experience.
3. To provide real-time information like weather updates, news, and internet speed.
4. To automate system-level tasks like opening applications, managing media playback, and taking screenshots.
5. To ensure security and personalization through password-protected access.

**1.3 Technologies Used**

**Programming Language:** Python

**Core Libraries and APIs:**

1. **pyttsx3**: Text-to-speech conversion for generating responses.
2. **SpeechRecognition**: For recognizing and processing voice input.
3. **BeautifulSoup**: For web scraping to fetch live data (e.g., weather, cricket scores).
4. **PyAutoGUI**: For simulating mouse and keyboard actions to control applications.
5. **Requests**: For making HTTP requests to retrieve data from the web.
6. **Speedtest**: To measure internet speed.
7. **PyJokes**: For generating humorous jokes.

**Tools and Utilities:**

* Python’s built-in libraries for file handling, system operations, and scheduling.
* External Python modules for specific functionalities like notifications and translations.

**Chapter 2: Proposed Methodology**

The assistant follows a modular approach to process the input command:

1. **Command Analysis**: It identifies keywords (e.g., "weather," "shutdown," "joke") to determine the intended action.
2. **Routing**: The command is routed to the respective module or function for execution.
3. **Error Handling**: In case of unclear input, the assistant prompts the user to repeat the command.

For example:

* A command like "Check the weather in Delhi" triggers the weather module, which scrapes Google for real-time weather data.
* A command like "Play a video" triggers the media control module using PyAutoGUI.

**2.3 Response Generation**

Once the command is processed, the assistant generates a suitable response:

1. **Text-to-Speech Conversion**: The response is vocalized using pyttsx3.
2. **Dynamic Data Retrieval**: Data such as weather or scores is fetched in real-time and formatted before being spoken.

**2.4 Data Persistence**

The project incorporates basic data persistence mechanisms:

* **Password Management**: Passwords are securely stored in a local file (password.txt). Users can update passwords through voice or text commands.
* **Transient Data**: Data like weather updates and scores are retrieved in real-time and are not stored

**Chapter 3: Applications and Scope**

1. **Applications**:

 **Home Automation**

* Control media playback (play, pause, mute, etc.).
* Capture photos or screenshots on demand.
* Manage system tasks like shutdown and restart.

 **Information Retrieval**

* Fetch live weather updates, news .
* Perform quick calculations and Google or YouTube searches.

 **Personal Productivity**

* Automate mundane tasks such as opening or closing applications.
* Check internet speed to troubleshoot connectivity issues.

 **Entertainment**

* Provide light-hearted jokes for stress relief.
* Enable easy access to music and videos on YouTube.

 **Security and Privacy**

* Password-protected access ensures that the system is secure and personalized.

1. **Scope for Expansion**:

 **Integration with IoT**

* Connect with smart home devices to control lights, appliances, and more.

 **Enhanced Natural Language Processing (NLP)**

* Improve conversational abilities with context-aware responses and sentiment analysis.

 **Graphical User Interface (GUI)**

* Add a GUI to make the assistant more accessible and user-friendly for non-technical users.

 **Cloud-based Data Storage**

* Store user preferences and settings on the cloud for better scalability and accessibility across devices.

 **Multilingual Support**

* Expand the assistant's capabilities to recognize and respond in multiple languages.

 **Advanced Features**

* Integrate machine learning to predict user preferences and provide personalized assistance.
* Add calendar and reminder features for better task management.

**CONSENT LETTER FOR PROJECT**

Respected Sir,

We Himanshi Giri Roll No **23001602028 and Aastha** Roll no **23001602003** student of Master of Computer Applications want to pursue my project (during 3rd semester) of my Masters programme under the supervision of Ms. Maanvi ­­­­­­­. The title of the Project is :- **Eve - Intelligent Voice Assistant**.

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature of Student**

I hereby give my consent to Himanshi and Aastha to pursue their Project under my supervision for the above stated project.

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature of Mentor**