ACROPOLIS INSTITUTE OF TECHNOLOGY AND RESEARCH

Department of IT, CSE (DS), CSE (IoT)

Synopsis

On

Command-X

1. Introduction

1.1 Overview

Command-X is a simple project aimed at simplifying daily life by using artificial intelligence to perform routine tasks. This project focuses on developing a basic AI bot that listens to voice commands and automates several daily life tasks such as performing Google searches, controlling applications, managing music, setting alarms, and handling basic calculations. By integrating voice recognition and task automation, Command-X will enhance productivity and user convenience.

1.2 Purpose

The primary objective of Command-X is to create an AI-powered assistant capable of:

- Listening to voice commands.

- Performing Google searches.

- Controlling system applications such as music players and clocks.

- Executing basic mathematical operations.

- Opening applications based on verbal input.

2. Literature Survey
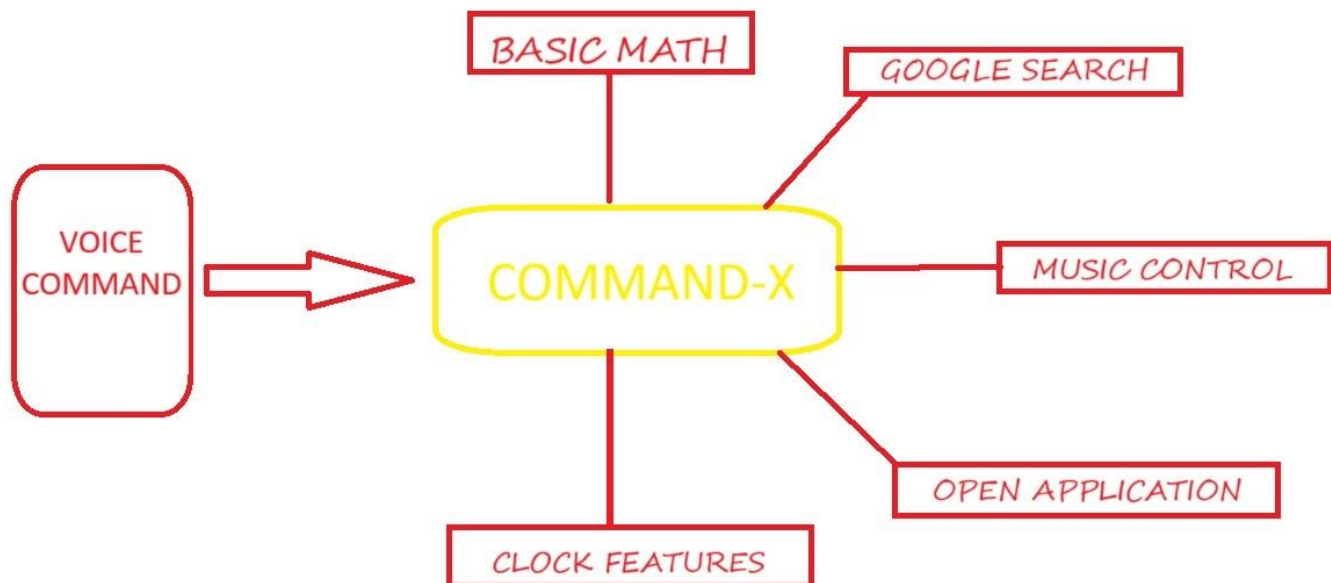
2.1 Existing Problem

In current systems, task automation is often limited to text-based commands or touch-based interactions. Users need to manually interact with their systems for tasks like searching the web, managing music, and performing calculations. The lack of seamless voice-commanded interaction limits the hands-free convenience for users, especially in multitasking scenarios.

2.2 Proposed Solution

There are several existing AI assistants, such as Google Assistant, Siri, and Cortana, that address this problem to some extent. However, these systems often have limitations regarding customization, extensibility, and integration with non-native applications.

3. Theoretical Analysis

3.1 Block Diagram

3.2 Hardware/Software Designing

Hardware Requirements:

- Microphone (for voice input).

- Ram greater than or equal about 4gb.

- At least 2 Gb free Storage.

- Processor better than or 1ntel i3.

Software Requirements:

- Python programming language.
- Libraries: Speech Recognition, Pyttsx3 (text-to-speech), Py Audio, OS

- Google Search API (or web scraping tools for search functionality).

4. Applications

The Command-X bot can be applied in various scenarios such as:

- **Home Automation:** Controlling smart devices via voice commands.

- **Office Automation:** Opening applications, performing searches, and scheduling tasks without manual input.

- **Educational Settings:** Assisting students in solving basic math problems and accessing information quickly.

- **Healthcare:** Assisting individuals with limited mobility to control applications hands-free.

- **Multitasking Situations:** Improving productivity by allowing users to perform tasks without leaving their current activities.

REFERENCES

[1] Google Speech Recognition Documentation

[2] Python Pyttsx3 Library Documentation

[3] Google Search API Documentation

[4] Py Audio Library Documentation

[5] Existing AI Assistant Systems: A Comparative Study

Guided By:

Prof. **ANKITA AGGARWAL** (**0827IT221059**)

Group Members:

Harshvardhan Sharma

Anshul Choudhary (**0827IT221025**)

Ishaan Verma (**0827IT221066**)

Anshuman Sharma (**0827IT221026**)