PROJECT TOPIC: Voice-based Virtual Assistant (NOVA)

Group No.: 31

Project Group Members:

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About the Project:

Nova: Your Python-powered Assistant

Nova is a versatile virtual assistant designed to enhance your daily life and streamline your tasks. Built with Python, it leverages libraries like pyttsx3, speech recognition, smtplib, pyautogui, web browser, Wikipedia, pywhatkit, requests, newsapi, clipboard, os, pyjokes, string, and random to offer a comprehensive set of functionalities.

Nova can send emails, play music, read text aloud, tell jokes, and handle basic communication and entertainment needs. It can also be your research companion, helping you find information on Google, stay informed with news updates, and get accurate weather forecasts. Additionally, Nova can enhance your productivity by generating secure passwords, effortlessly opening applications, and capturing screenshots.

With its intuitive interface and user-friendly design, Nova adapts to your preferences, whether you prefer voice commands or text input. Ultimately, Nova aims to be your reliable and efficient virtual companion, empowering you to achieve more.

Motivation:

***Scope*:** Nova is a Python-based virtual assistant designed to enhance daily life through communication, entertainment, research, productivity, and information retrieval.

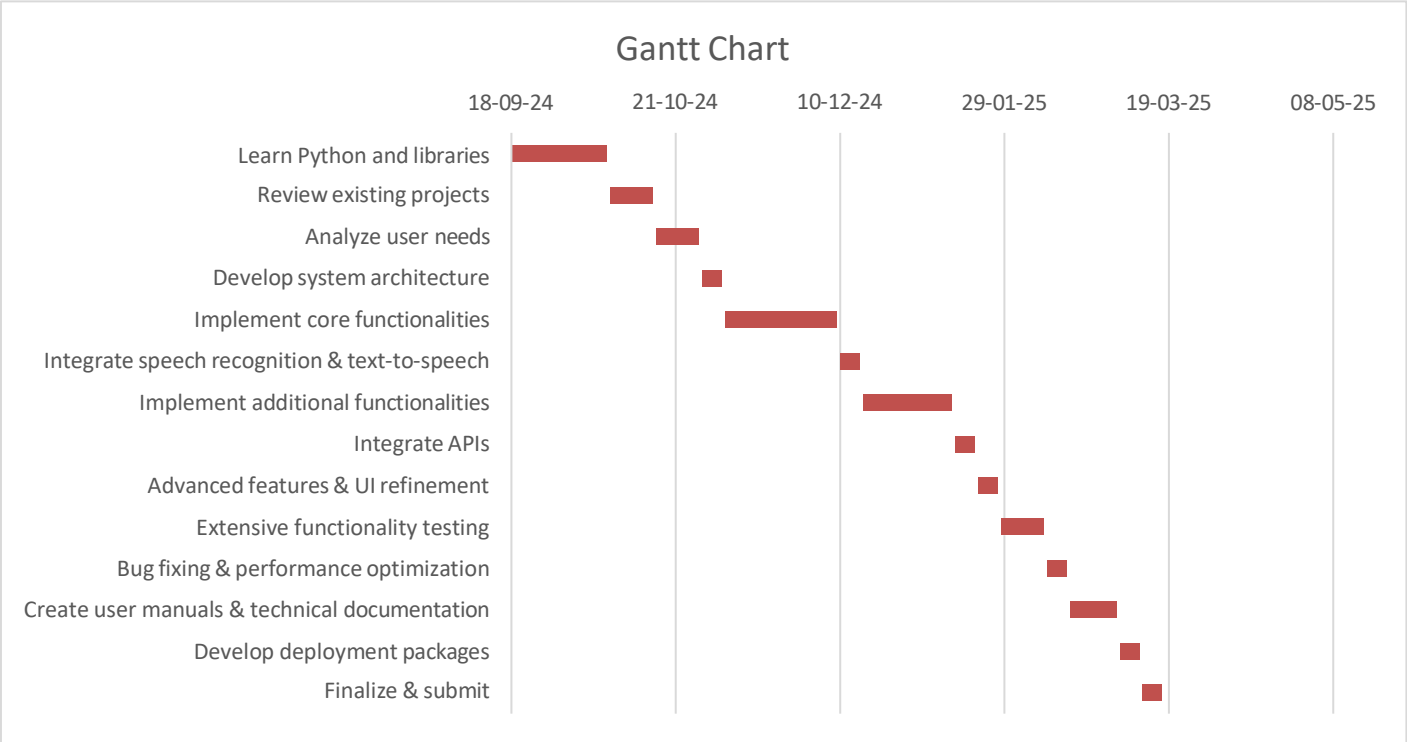
***Major Project Justification*:** Nova's complexity, encompassing various libraries and functionalities, aligns with the requirements of a major final year project.

Societal Benefit: Nova assists users with daily tasks, promoting time management, efficiency, and accessibility to information and entertainment.

Innovation: Nova integrates diverse features, offering a user-friendly virtual assistant experience with voice and text interaction options.

Overall: Nova's comprehensive features and societal impact make it a compelling major project with significant potential.

Project Planning:



Tools required:

- **Hardware Requirements:**
  - ***Processor:*** Minimum Intel Core i5 processor or equivalent Nvidia processor, preferably with multiple cores and hyperthreading for improved performance.
  - ***RAM:*** Minimum 8GB RAM, 16GB or more recommended for smooth operation and multitasking.
  - ***Storage:*** Minimum 512GB SSD for fast loading and operation.
  - ***Microphone:*** High-quality microphone for clear speech recognition.
  - ***Internet Connection:*** Stable internet connection for accessing APIs and online resources.
  - ***Optional:*** Graphics card with dedicated memory for improved multimedia performance.
- **Software Requirements:**
  - ***Operating System:*** Windows 10 or 11, macOS 12 Monterey or later, Linux Ubuntu 22.04 LTS or similar distributions.
  - ***Python:*** Python 3.8 or later with necessary libraries installed (e.g., NumPy, pandas, pyttsx3, speech recognition, etc.).
  - ***IDE or Text Editor:*** Integrated Development Environment (IDE) like PyCharm or Visual Studio Code or a text editor like Sublime Text for code development.
  - ***Additional Software:*** May need additional software depending on project functionalities, such as API access tools, web development tools, etc.

Signature of Project Supervisor: _____