Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation: Ministry Of AYUSH

PS Code: 1347

Problem Statement Title: A software that suggests drugs and formulations for a disease/pharmacological property based on the Ayurvedic classical books/Repositories.

Team Name: DevRishi

Team Leader Name: Atharva Deopujari

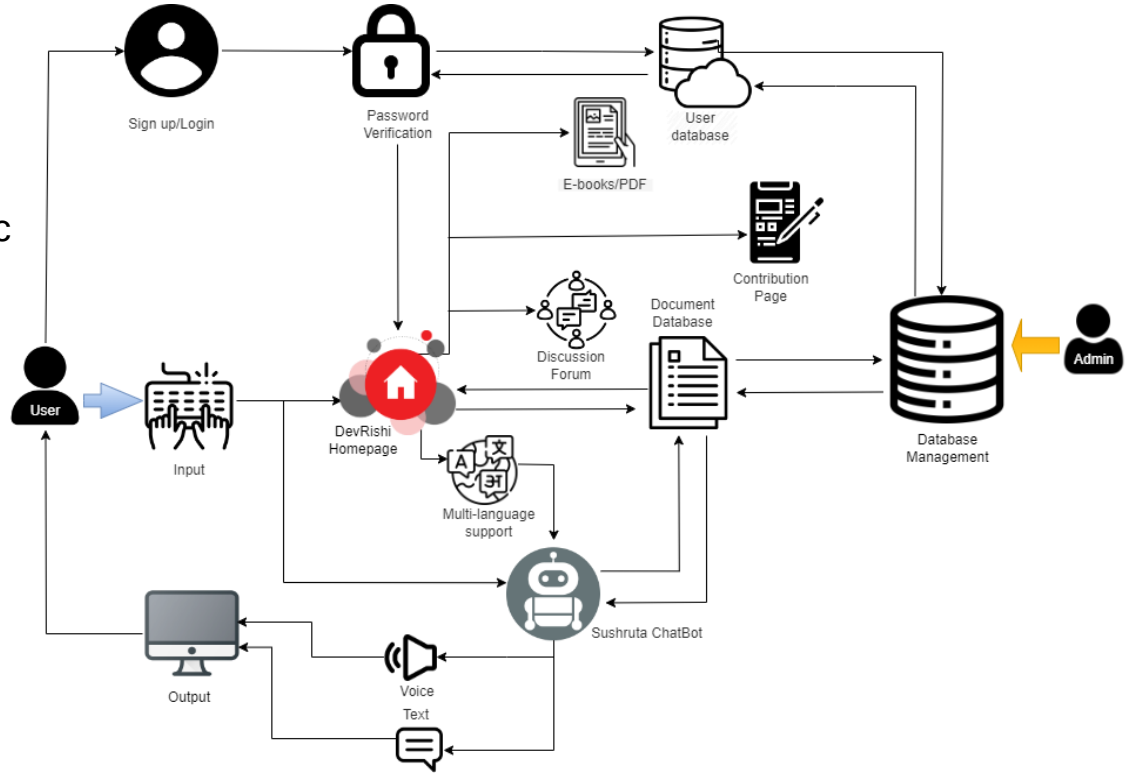
Institute Code (AISHE):

Institute Name: Indian Institute of Information Technology, Nagpur

Theme Name: MedTech / BioTech / HealthTech

Idea/Approach Details

We are looking for a solution by creating a web and app system that suggests drugs and formulations for a disease based on the Ayurvedic classical books. It will help the common people, practitioners and students to access the Ayurvedic knowledge of herbs, minerals and formulations from its 150 diverse texts. Prototype will work as follows:



- The user will use the **Sushruta chat-bot** to access the knowledge about Ayurveda. This chat-bot will suggest the **drug** and **dosage** and **formulations** using **Artificial Intelligence(AI)** and **Machine Learning(ML)** when the user mentions theirs symptoms to this chat-bot by its huge **database** on **Ayurvedic texts**.
- We have complete control over data by which we monitor the information that is fed into our chat-bot and to check whether this data aligns with our **ethical and quality standards**.
- Sushruta will also take **speech input** by which people from rural could also get to know about the Ayurvedic cure about their medicine.
- This Sushruta chat-bot will be integrated to the primary website **DevRishi**. This website will contain the information about each medicines in Ayurveda till date **divided** into its **sub sections**.
- This website will also contain a **contribution page** where the students and doctors will share information gathered by them on their specific domains on our website.
- This website will contain **E-books and pdf links** of some important books used by the students and also some online tutorials
- This website will also provide **multilingual support** to its users, this will turn the whole page to the language the user wants.
- Later, patients can use **Augmented Reality(AR)** and **Virtual Reality(VR)** to interact with Ayurvedic practitioners alongside the chatbot for valuable feedback.
- The website will **not only** act as a platform for gaining knowledge but also a platform for all **like minded individuals** to **interact** with each other through **Discussion Forums.**

Describe your Technology stack here:

Flutter, Dialogflow, HTML, CSS, php, Android Studio, OpenCV, python, React, JS, MySQL, node.js, Bootstrap, WordPress, android, mongoDB, Keras, Kotlin, NumPy, AI

Idea/Approach Details

Describe your Use Cases here

- Visit DevRishi's website, ask your health questions easily, and our **AI chatbot** will give you personalized Ayurvedic advice based on your needs and **Ayurvedic knowledge.** It will also offer specific suggestions for Ayurvedic recipes to enhance your **balanced diet** and well-being but also provides recommendations for **specific ailments**.
- **DevRishi** prescribe **medicines** and its **formulations** backed by reliable Ayurvedic data, guided by AI and trained datasets. This ensures prescriptions are based on trusted Ayurvedic knowledge.
- Easily **create an account**, enabling them to seamlessly **resume** their **studies** from where they left off. All their valuable data is securely saved under their account name.
- A **dedicated page** for **practitioners** and **students** to generously share their knowledge, contributing to the **collective knowledge** that enriches our website and also increase the database.
- Access vast repository of **Ayurvedic literature**, **Research papers**, and **Educational materials**.
- This web app will provide essential information about Ayurvedic medicines, **categorizing** them into specific sections for the convenience of students and practitioners.
- Website will be integrated with a user-friendly **search bar**, designed to enhance your **travel experience** on our website.
- After Sushruta suggests the drug to the user, it will also give the necessary drug details to the user like price, nearby shop via **GPS system**.

Describe your Dependencies / Show stopper here

- By selecting their preferred language, this feature transforms the website to cater to the user's linguistic preferences based on APIs like **DeepL** and **Google Cloud Translation**.
- Implement security best practices to protect user data, including **encryption**, **data validation**, and protection against common web application vulnerabilities like SQL injection and **Cross-Site Scripting (XSS).**
- At basic stage the chatbot depends on **OpenAi API key** to function Later with help of proper resources, dataset and faster cpu model can be trained using resources from **Hugging Face.**
- **NLP** facilitates multilingual conversations in AI chatbots by enabling them to understand and respond in various languages, breaking down language barriers for global users.
- Through an **Automation System** the model tracks the user location and can give address of nearest Medical store to buy the prescribed Ayurvedic Medicines.
- To build an Ayurveda web-app for **students** and **practitioners**, use **Node.js** for development, **MySQL** for data storage, and **OAuth** for user authentication, **WebSocket** for real-time communication, monitor performance and user activity, and make content delivery faster with **CDNs**.

Business Strategies-

- **Freemium Model:** The chatbot offers free basics to attract users and monetizes premium features like personalized health plans and consultations.
- **Affiliate Marketing:** By partnering with Ayurvedic product suppliers, the chatbot recommends herbal products and earns income through affiliate marketing.
- **Data-driven Insights**: The chatbot anonymizes and aggregates user data, with consent, to identify health trends. This data can be sold to research institutions, Ayurvedic product firms, or pharmaceutical companies for natural remedy development.

Team Member Details

Team Leader Name: **Atharva Deopujari**

Branch: Btech, Stream: ECE, Year: II

Team Member 1 Name: **Vansh Bhavsar**

Branch: Btech, Stream: ECE, Year: II

Team Member 2 Name: **Kirtan Bhavsar**

Branch: Btech, Stream: ECE, Year: II

Team Member 3 Name: **Vipin Mishra**

Branch: Btech, Stream: ECE, Year: II

Team Member 4 Name: **Kushagra Srivastav**

Branch: Btech, Stream: CSE, Year: II

Team Member 5 Name: **Akshaya Mudragada**

Branch: Btech, Stream: CSE, Year: II

Team Mentor 1 Name: **Dr.Aatish Daryapurkar**

Category: Academic, Expertise: Effective problem-solving strategies, Nanoscience and Nanotechnology ,Domain Experience (in years): 10

Team Mentor 2 Name: **Dr.Amol Bhopale**

Category: Academic, Expertise: NLP and Machine Learning ,Domain Experience (in years): 12