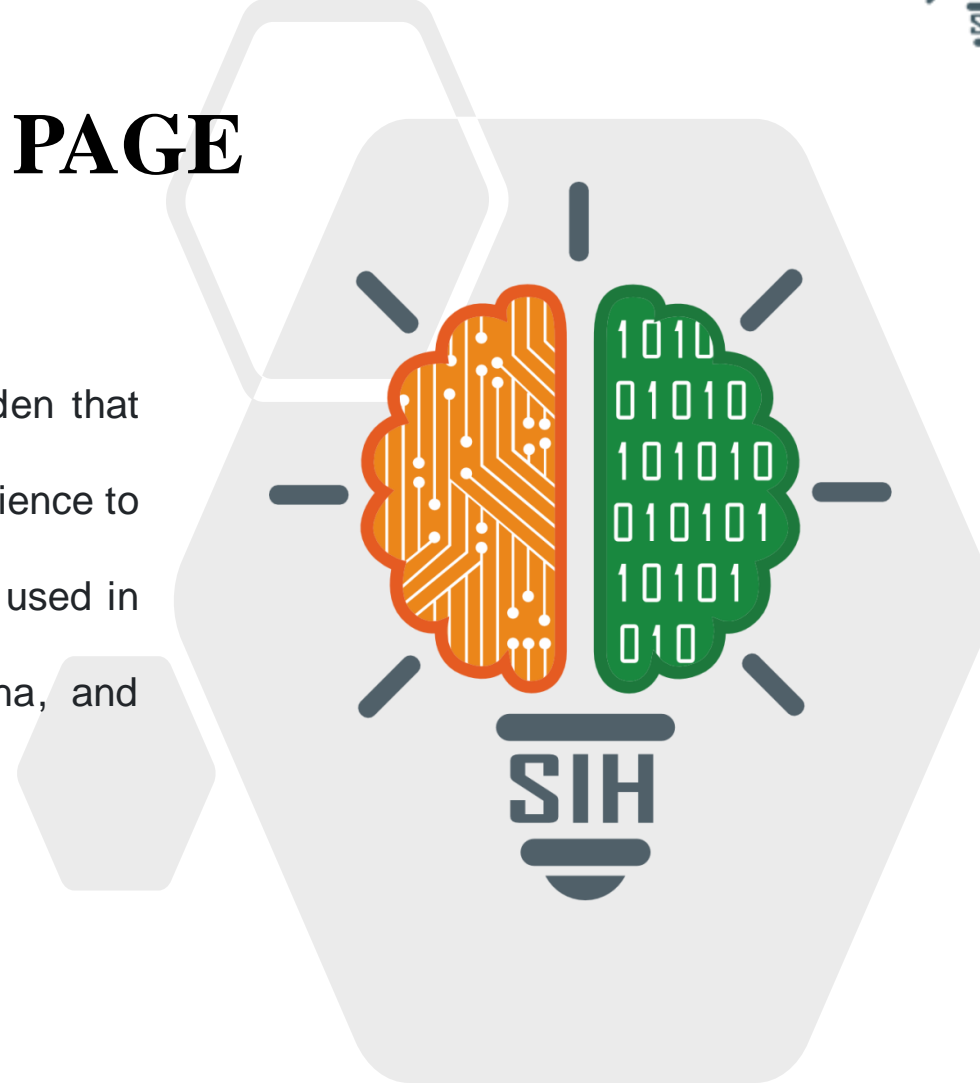


SMART INDIA HACKATHON 2024



TITLE PAGE

- **Problem Statement ID** – SIH 1555
- **Problem Statement Title-** Create a Virtual Herbal Garden that provides an interactive, educational, and immersive experience to users, showcasing the diverse range of medicinal plants used in AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy)
- **Theme-** MedTech / BioTech / HealthTech
- **PS Category-** Software
- **Team ID-** 36757
- **Team Name (Registered on portal)** : CODE STORMERS



IDEA TITLE

❖ IDEA / SOLUTION :

- Digital Platform:** Brings medicinal plant knowledge into a virtual space.
- Virtual 3D Environment:** Allows users to interact with plants in a 3D setting.
- Wide Range of Plants:** Explore a diverse collection of medicinal plants.
- Realistic 3D Models:** Each plant is shown as a detailed 3D model.
- Interactive Features:** Models can be rotated, zoomed, and viewed from various angles.
- Enhanced Learning:** Interactive 3D models improve understanding of plant structures and anatomy.
- Search and Filter:** Find plants easily by medicinal use, region, or type.
- User Interaction:** Bookmark plants, take notes, and share on social media.

Click here to view the
sample of Application



[Sample model](#)

❖ HOW IT ADDRESSES THE PROBLEM:

- Accessible:** Makes medicinal plant knowledge available online to everyone.
- Engaging:** Interactive 3D models enhance learning beyond static text.
- Targeted Learning:** Advanced search and filters aid focused research.
- Immersive:** Virtual tours and multimedia create a dynamic learning experience.

❖ INNOVATION AND UNIQUENESS :

This platform uniquely combines traditional knowledge with modern technology, offering a rich, interactive experience. It's a pioneering tool for the AYUSH sector, preserving and adapting herbal knowledge for future generations through innovative, user-friendly features.

DESIGN:

- Front-End:** Use React.js , HTML/CSS, and Three.js for UI and 3D models. Design with Figma or Adobe XD.
- 3D Models:** Create and optimize with Blender .

DEVELOPMENT:

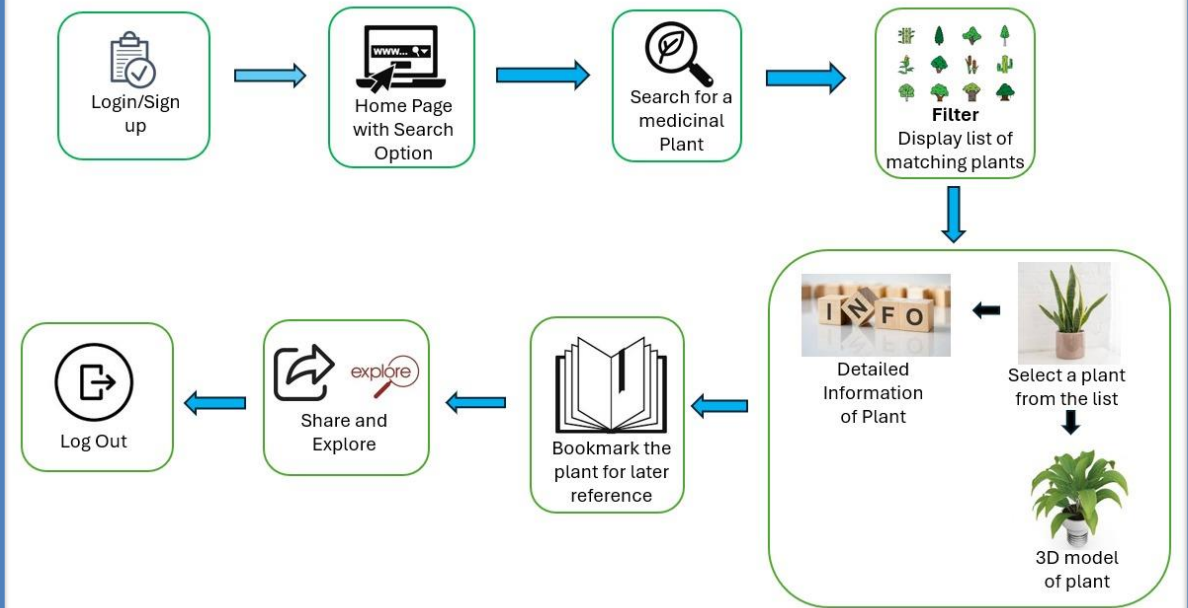
- Back-End:** Set up Node.js (Express). Use MongoDB for the database.
- Front-End:** Build responsive UI, integrate 3D models, and add multimedia content.
- Search & Filter:** Implement advanced search and filtering.

TESTING:

- Conduct unit, integration, and user acceptance testing.

DEPLOYMENT:

- Deploy on AWS or Azure with CI/CD for scalability and updates.

❖ PROCESS FLOW ARCHITECTURE:

FEASIBILITY AND VIABILITY

❖ FEASIBILITY OVERVIEW :

- Technical:** Advanced 3D tools and content management available.
- Operational:** Scalable cloud infrastructure and efficient content tools.
- Financial:** High initial investment; potential revenue from subscriptions.
- Market:** Strong interest in herbal medicine; appeals to a wide audience.

❖ CHALLENGES AND RISKS

- Technical:** Risk of developing high-quality 3D models and ensuring performance across various devices.
- Operational:** Challenge of managing cloud costs and keeping content current.
- Financial:** Risk of high initial investment and difficulty in finding effective monetization strategies.
- Market:** Challenge of differentiating from competitors and securing user adoption.

❖ STRATEGIES TO OVERCOME CHALLENGES:

- Technical:** Utilize open-source 3D modeling tools and libraries; optimize platform performance through efficient coding practices.
- Operational:** Manage cloud costs; update content with a robust CMS.
- Financial:** Seek funding; explore diverse revenue models.
- Market:** Differentiate from competitors; use targeted marketing STRA

❖ POTENTIAL IMPACT:

The Virtual Herbal Garden is like an online garden where you can see and learn about medicinal plants in 3D. You can look at the plants from all sides, learn their names, how they help with health, and how to grow them, all in an easy and interactive way.

❖ BENEFITS:

- Lets you explore plants in 3D, making learning more fun and interactive.
- Helps you understand plant structures better.
- Gives easy access to information about plant names, uses, and how to grow them.
- Useful for lessons on medicinal plants.
- Allows for virtual research and data collection.
- Protects the environment by reducing the need to pick real plants.
- Helps keep traditional plant knowledge alive.

❖ REFERENCE:

- **Evidence-Based Validation of Herbal Medicine** (Elsevier)

[Link to Book](#)

This book by Pulok K. Mukherjee offers comprehensive methodologies for evaluating herbal medicines and their medicinal properties. It is useful for understanding the scientific basis behind traditional plant usage, which can be incorporated into your Virtual Herbal Garden platform.

- **Herbal Medicine: Biomolecular and Clinical Aspects** (ScienceDirect)

[Link to Article](#)

This resource covers a range of medicinal plants, their therapeutic properties, and how they are utilized in different traditional practices. It's a valuable source for learning about the medicinal uses of plants in the AYUSH sector.

- **Traditional Herbal Remedies for Primary Health Care** (Elsevier)

[Link to Article](#)

This article provides insights into the use of herbal remedies in primary healthcare and how they contribute to preventive and therapeutic medicine. It can be referenced when designing your educational content on medicinal plants.