

## TITLE PAGE

- **Problem Statement ID** -1555
- **Problem Statement Title-** **Virtual Herbal Garden** - An interactive and Educational Experience Showcasing AYUSH Medicinal Plants (**Mobile Platform**).
- **Theme-** Medtech/Biotech/Healthcare
- **PS Category-** Software
- **Team ID-** 16538
- **Team Name (Registered on portal)** - ALT + F4\_team



## Problem Statement

**Virtual Herbal Garden:** An interactive and Educational Experience Showcasing AYUSH Medicinal Plants

## Idea

An **Interactive** and **Educational** Virtual Herbal Garden that showcases a diverse range of medicinal plants used in AYUSH practices. The platform will feature realistic **3D models**, detailed **plant information**, and **multimedia content**, offering an **immersive experience** for users.

## How it addresses the problem

This platform offers users to **explore, learn,** and **engage** with **wide variety** of medicinal plants used in AYUSH, enhancing their **understanding** and **appreciation** of **traditional medicine**.

## Differentiators

- Combines interactive 3D models with multimedia content for engagement.
- Advanced Search and filtering capabilities to enhance user navigation.
- **Virtual tours** focused on specific health themes provide targeted learning.

## Innovations

- Immersive 3D Exploration.
- Multimedia Integration.
- Advanced Search & Filtering.
- Guided Virtual Tours.

01

02

03

04

## Objectives

- Engaging & User Friendly platform.
- Immersive Educational experience.
- Promote Awareness and understanding of AYUSH Medicinal practices.

## Uniqueness

- Chatbot Integration.
- Interactive tutorial.
- AR/VR Interaction
- Social Integration.
- Plant growth assistant.
- Cultural & Historical plant info
- Discover nearby Stores
- Knowledge Quizzes.

# PROJECT PROTOTYPE



# TECHNICAL APPROACH

## Technologies Used

### ML Frameworks

- Tensorflow lite
- Pytorch

### Back End

- Django
- Node.js
- Express.js

### Front End

- React Native

### API

- ❖ GraphQL
- ❖ Restful API

### Plant Identification API's

- ❖ Plant.id
- ❖ Clarifai
- ❖ Google Cloud Vision API

### Firebase Authentication

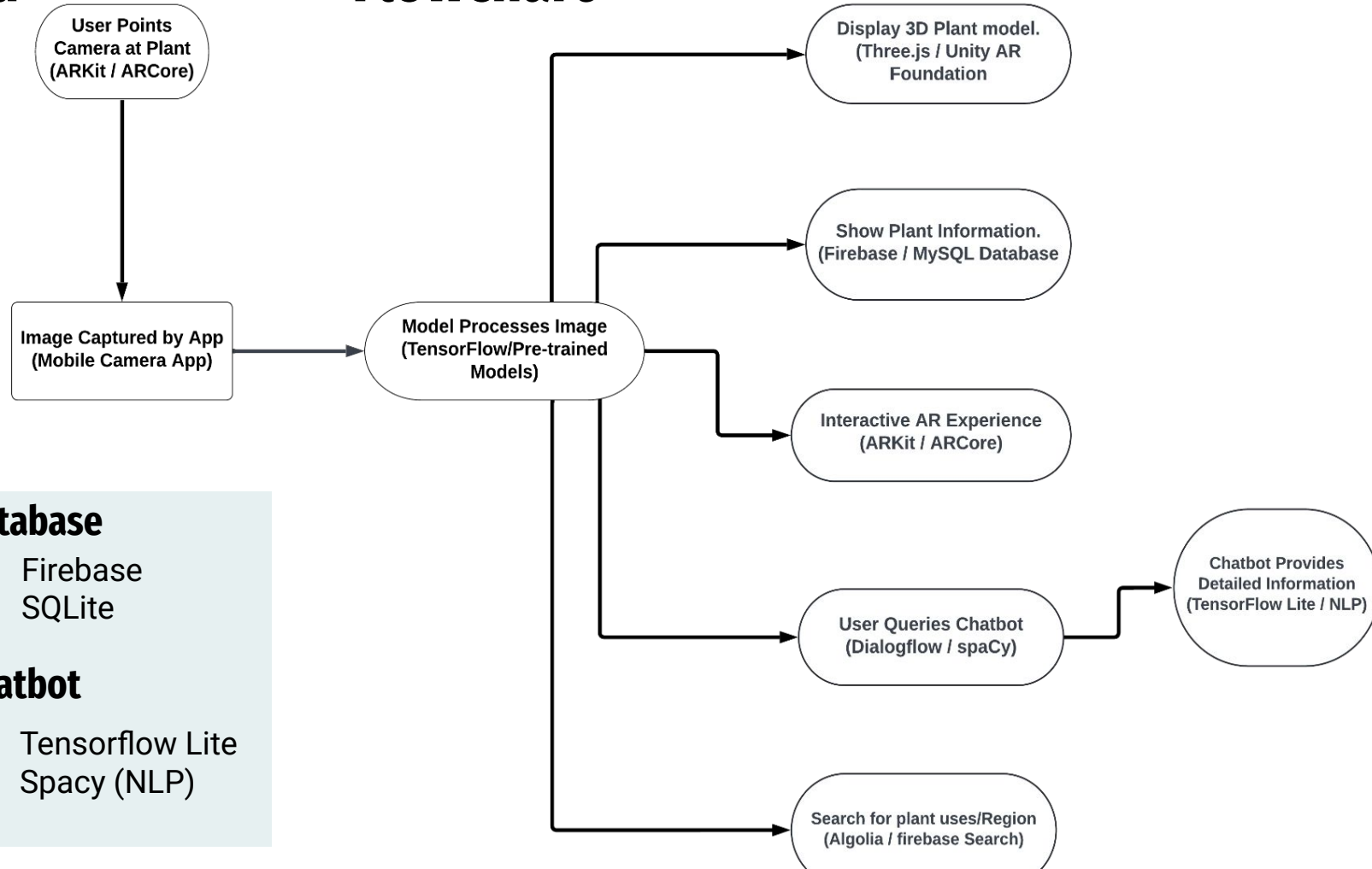
### Database

- ❖ Firebase
- ❖ SQLite

### Chatbot

- ❖ Tensorflow Lite
- ❖ Spacy (NLP)

## Flowchart



## Feasibility of Solution

- **Technical:** Tech stack, integration.
- **Economic:** Costs, monetization, ROI.
- **Operational:** Timeline, Maintenance, Risk management.
- **Market:** Audience, Competitor analysis, feedback.
- **Social:** Impact, Sustainability.

## Challenges & Risks

- **Technical:** Graphics performance, plant behaviour algorithms.
- **Development:** Scope creep, integration issues, maintenance.
- **Design:** Balancing realism vs performance.
- **User Experience:** Accessibility, User engagement.
- **Data/Privacy:** Data Security, Server management.

## Strategies for overcoming

- **Planning:** Define objectives, research market, allocate resources.
- **Development:** Concept design, 3D modeling, Engine selection, UI/UX.
- **Testing:** Internal, beta, feedback integration..
- **Launch:** Marketing, app store optimization, release plan.
- **Post-Launch:** Support, community engagement, updates, expansion.

## Potential Impact

- 1 Bridges Knowledge gaps.
- 2 Fosters Cultural Connection
- 3 Drives interest in Herbal Medicine
- 4 Encourages Digital Literacy

## Benefits of Solution

- Enhanced Learning Experience.
- Promotes Awareness of Traditional Medicine.
- Accessible Knowledge Resource.
- Encourages Sustainable Practices.
- Supports Health and Wellness Education.

## References

- <https://ayush.gov.in/alldomains.html#MedPlnt>
- Chowdhury, A., "Deep Learning-Based Plant Identification: A Survey of the Literature", Journal of Plant Biology, 2020.
- Brown, K., "Augmented Reality in Education: Enhancing Learning with 3D Models", Educational Technology Journal, 2021.