Profile Overview

- **Theme – Tech-Enabled AYUSH Learning**

- **Problem Statement Title –** *Virtual Herbal Garde Immersive AYUSH Learning*

- **Team ID** – 32417634

- **Team Name** - CODEXPLO

Virtual Herbal Garden

Enhancing AYUSH Education through Immersive Learning

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Idea/Solution

Implementation of an **Virtual Herbal Garden** that connects real-world plant with a digital platform accessible on **web and mobile**, blending **technology** with **traditional** insights.

- **Virtual garden** based on different theme.

- **Multimedia Integration**: High-quality images, videos, and audio descriptions.

- **AR Mode**: Interact with medicinal plants in augmented reality.

- **Community Section**: Share and discuss plant insights with others

- **Interactive Quizzes**: quizzes related to plant knowledge.

Problem Addressed

- **Virtual Platform**: Overcomes the limitations of physical gardens, making medicinal plant knowledge easily accessible to everyone.

- **Immersive Experience** features like AR, game modes, and **multimedia** make learning more **engaging** and **memorable.**

Unique Selling Points

- **Augmented Reality** (AR) Mode: virtual plants in real spaces.
- **Game Mode:** Combines interactive animations, detailed plant anatomy.
- **Realistic 3D** Models with **PBR** textures and **advanced rendering.**

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Technology

3D integration: Unity, Blender and Substance Painter for PBR textures and realistic models.

Mobile Application Development: Flutter framework for ensuring cross-platform compatibility. **AR Foundation -** ARCore, ARKit for AR intregration

Web App Development:

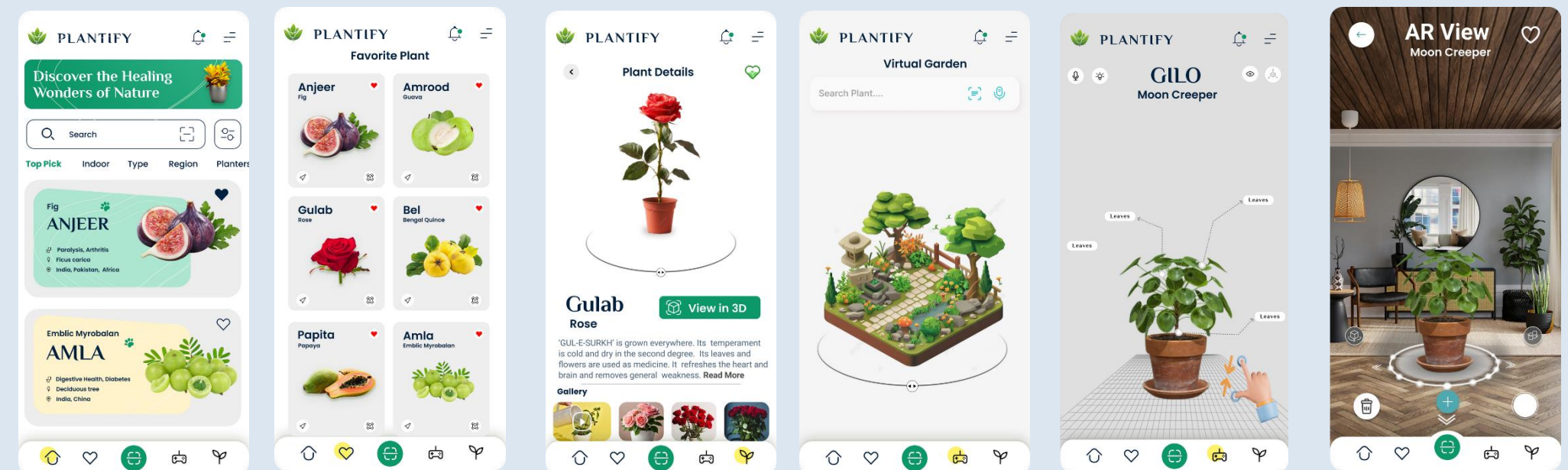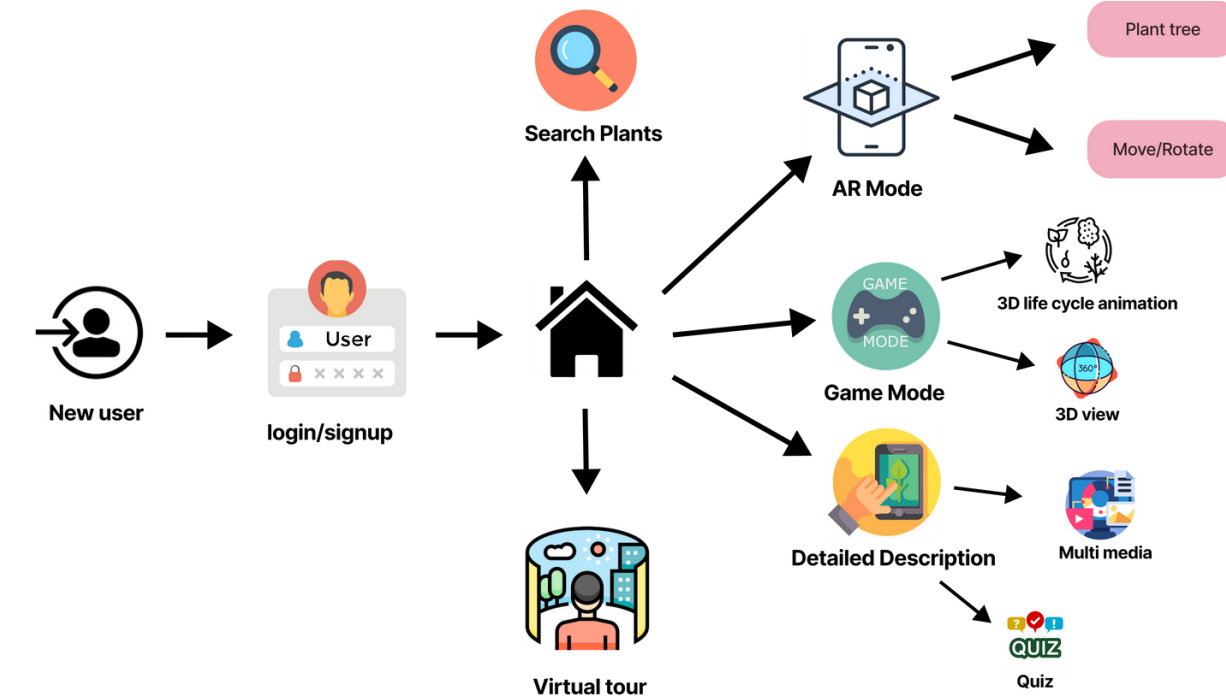**Frontend -** Three.js To handle 3D rendering of plants, React, Tailwind CSS
Backend: Node.js, MongoDB, GraphQL

Cloud & Deployment:

AWS - For hosting, storage (for 3D assets),

Firebase: For real-time data handling.

Product Status: 50% of the product is completed, and further development is ongoing.

FEASIBILITY AND VIABILITY

Feasibility Analysis

- Use of Unity AR Foundation, and Blender for 3D models can make it **technically feasible** .

- Initial costs, development team salary costs are offset by improved efficiency and **reduced manual labor**

- Strong interest from the **AYUSH** sector, **educational** institutions,   and digital **health platforms**

Potential Challenges and Risks

- complexity of 3D models and interactive features.

- Managing a growing database and multimedia content efficiently

- Ensuring up-to-date and reliable plant information.

Ways to Overcome Challenges

- Using reliable development tools such as **Flutter, Unity Blender** and **Substance Painter.**

- Use   of **cloud storage**, CDgrowth.

- Collaboration   with   **experts**Ns, and **optimized databases** for efficient **for   accurate   content** and implementing regular updates to stay current.

IMPACT AND BENEFITS

Impact

- **Accessible Information**: Makes medicinal plant knowledge available online for everyone.

- **Immersive Learning**: Enhances understanding with 3D models and virtual tours.

- **Promotes Traditional Knowledge**: Spreads awareness of herbal practices.

- **Supports Practitioners**: Provides quick references for AYUSH professionals.

Benefits

- **Health Benefits**: Provides valuable information on medicinal plants for personal wellness.

- **Cultural Preservation:** Safeguards and shares traditional herbal knowledge.

- **Social Benefits:** Fosters a learning community around traditional herbal knowledge.

- **Environmental Benefits**: Promotes eco-friendly cultivation practices.

REFERENCES
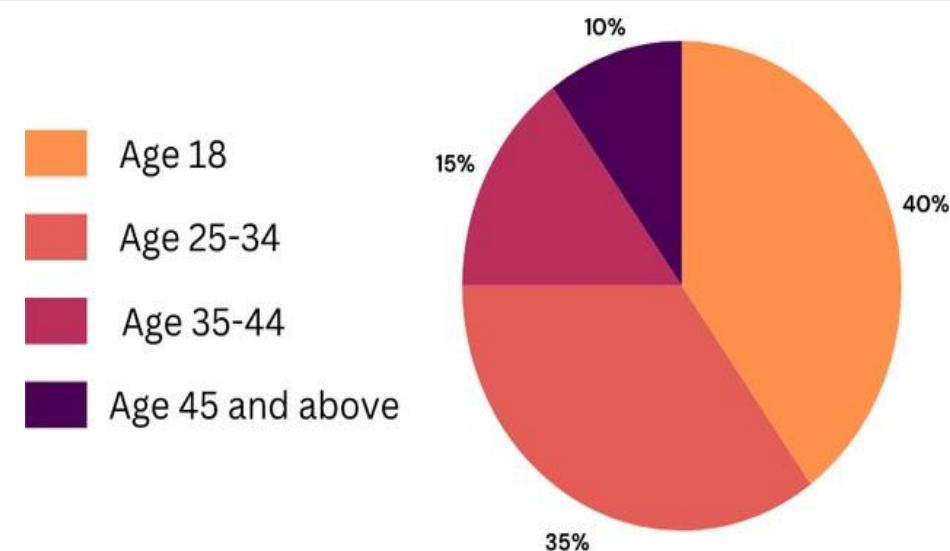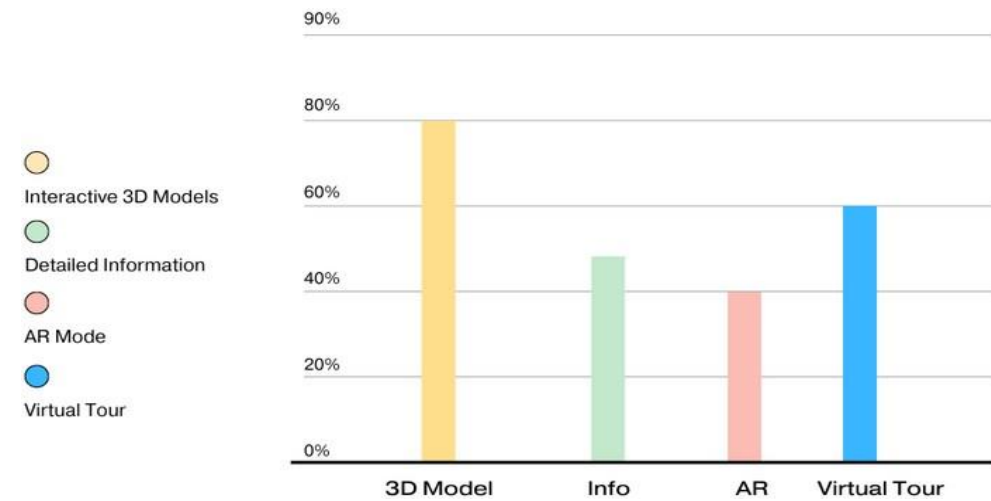
References

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  Suwandi, A. (2023). Virtual garden: Development and student's perceptions13(1):208

❑ AYUSH Ministry's Promotion of Herbal Cultivation in the
  country

❑ EEE Xplore Digital Library. (2021) Analysis of Multiple Classifiers for Herbal Plant
  Recognition

❑ AYUSH Ministry's annual reports 2014-2024

❑ EEE Xplore Digital Library.(2022) Real-Time 3D Tracking and Reconstruction on Mobile
  Phones

❑ EEE Xplore Digital Library.(2022) A Systematic Review of Multimedia Resources to
  Support Teaching and Learning in Virtual Environments

IMPORTANT INSTRUCTIONS

Please ensure below pointers are met while submitting the Idea PPT:

1. Kindly keep the maximum slides limit up to six (7). (Including the title slide)
2. Try to avoid paragraphs and post your idea in points /diagrams / Infographics /pictures
3. Keep your explanation precise and easy to understand.
4. Idea should be unique and novel.
5. You can only use provided template for making the PPT without changing the idea details pointers (mentioned in previous slides).
6. You need to save the file in PDF and upload the same on portal. No PPT, Word Doc or any other format will be supported.

Note - You can delete this slide (Important Pointers) when you upload the details of your idea.