



SHRIDEVI HACKATHON 2024

TITLE PAGE

Problem Statement Title :

Student Innovation: Problems Faced by Farmers in Accessing Essential Farm Labours ,Service Providers and Information.

Team Name : **THE FARM UNITY**

Category : **Software**

Theme : **Agriculture, Food Tech & Rural Development**

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IDEA TITLE



Idea /Solution:

"The Farm Unity" is an innovative platform designed to address critical challenges faced by farmers in accessing essential labour , Service Providers and Information.

- ❖ Our **Automated IVR(Interactive Voice Response)** system empowers **all farmers, labourers, and service providers**, covering both **smartphone and basic keypad users**. This ensures universal access to essential agricultural services through **simple voice commands or keypad inputs**.
- ❖ **India's First Open Mobility Platform in Agriculture.** Inspired by urban mobility solutions, our platform revolutionizes agriculture by **connecting farmers directly with labour and services**. Features include real-time booking, transparent pricing, and direct connectivity, potentially **boosting agricultural productivity by over 27%**.
- ❖ Capability to **work efficiently** without any discrepancies.

Problem Statement:

- ❖ **Difficulty in Accessing Essential Farm Labour and Services.**
- ❖ A **significant shortage of skilled technicians** for specialized tasks in rural areas hampers effective farm operations.
- ❖ **Limited access to skilled technicians** results in underutilization of advanced farming equipment.
- ❖ The **agricultural labour and service market is fragmented**, requiring farmers to deal with multiple providers, **leading to disjointed experiences** and inefficiencies.

Unique Value Propositions :

- ❖ Optimized for **low-tech environments, leveraging IVR** for areas with limited connectivity.
- ❖ **100% accessibility** for farmers ,laborers and service providers.
 - A comprehensive user support program, including **multi-language training modules and Speech recognition**
- ❖ Farmers data is **end to end encrypted**.
- ❖ Dedicated **24*7** customers support.

IVR Development

Twilio Studio and Postman.

Testing & Deployment Tools:

Twilio Debugger and Postman.

Data Processing & Analytics:

Python, R, Power BI.

Data Science & Analytics:

SQL, Apache Spark.

Visualization Tools:

Power BI, Tableau

Web Portal Frontend Development :

HTML5, CSS3, React.js

Integration with IVR and Web Portal:

API Gateway, RESTful APIs

Business Intelligence (BI) BI Integration:

Microsoft Power BI, Google Data Studio

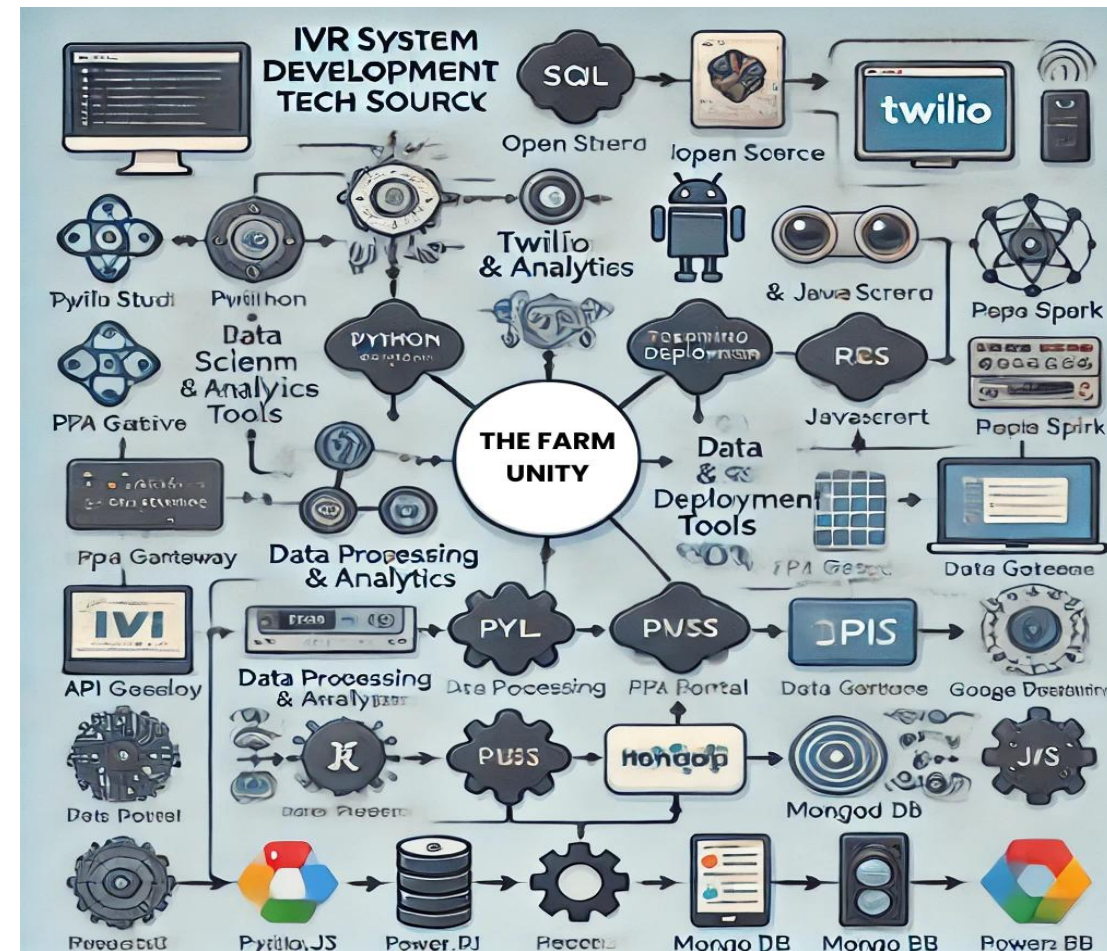
Web Portal Backend Development:

Node.js, Express.js, MongoDB

Platform Development:

React Native (mobile), MongoDB (database)

Process Flow Chart:





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FEATURES



Feasibility Analysis:

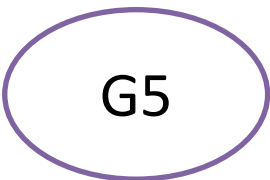
- ❖ **Technical Feasibility** : The integration of **IVR, AI, Data Analytics, and Business Intelligence (BI)** tools is based on well-established and scalable technologies, ensuring reliable implementation tailored to agricultural needs.
- ❖ **Operational Feasibility** : Our Idea was selected by **Cisco ThingQbator** and we are already working with them from past 8 months. Also access our Project in **Cisco ThingQbator**.
- ❖ <https://thingqbator.nasscomfoundation.org/home/project/all>

Challenges and Risks:

- ❖ **Language Issues** : Miscommunication or lack of understanding due to **language barriers** can lead to user frustration and low adoption rates.
- ❖ **Mobile Network and Connectivity Issues** : Rural areas in India often face **poor mobile network coverage and connectivity issues**.
- ❖ **Inadequate Infrastructure** : Poor infrastructure, including **inadequate roads, storage facilities, and market access**, severely impacts ability to store, transport, and sell their produce.

Strategies for Overcoming Challenges:

- ❖ A comprehensive user support program, including **multi-language training modules**, will be implemented to facilitate smooth adoption among diverse user groups.
- ❖ The **platform's IVR-based approach** ensures functionality without the need for internet access, directly addressing connectivity barriers in rural regions.
- ❖ **Launching pilot programs** in key agricultural regions will **allow for practical feedback** and iterative improvements, ensuring the platform meets **farmers' needs**.



IMPACT AND BENEFITS

Impacts :

❖ Social Impact:

Empowerment: Provides farmers with timely access to **labourers, and service providers** and **information**.

Community Welfare: Enhances the quality of life in all areas by supporting sustainable livelihoods.

❖ Economic Impact:

Increased Productivity: Boosts farm productivity and income through efficient labour and service access.

Cost Reduction: Lowers operational costs, making farming more financially sustainable..

❖ Environmental Impact:

Data-Driven Insights: Supports environmentally friendly farming methods through precise data analysis..

Benefits:

❖ Improved Access to Labour:

It utilizes **IVR and AI** to **connect farmers with necessary labourers**, even in remote areas and ensures timely completion of critical farming activities, leading to better crop outcomes and higher income.

❖ Cost Reduction:

Leverages **open mobility platforms and data analytics** to minimize transportation and labour costs.

❖ Empowerment of Farming Communities:

Provides **access to modern farming tools and practices** and Empowers farmers with data-driven insights to make **better agricultural and business decisions**, improving their livelihoods.