WEB-IT-UP!

AgriGuide: Revolutionizing Agriculture

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- **Roll no - 25020**
- **Title – Agri Guide: Revolutionizing Agriculture**
- **Theme- Agriculture**
- **PS Category- Software**

IDEA / APPROACH

- A digital platform designed to assist farmers in optimizing their agricultural practices.
- Focuses on data-driven insights to improve crop yields and market prices.
- To empower farmers with information and tools.
- To enhance crop yield through best practices and innovation techniques.
- To ensure farmer receive fair price of what they produce.

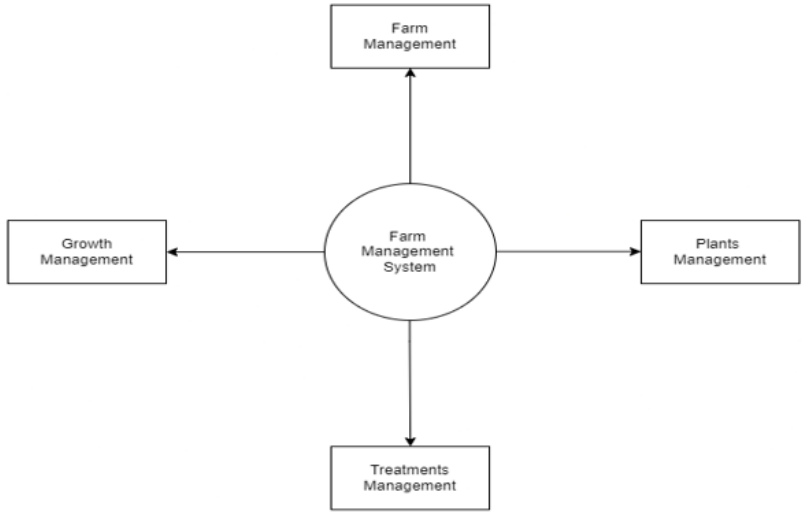


Figure 1: Zero Level DFD

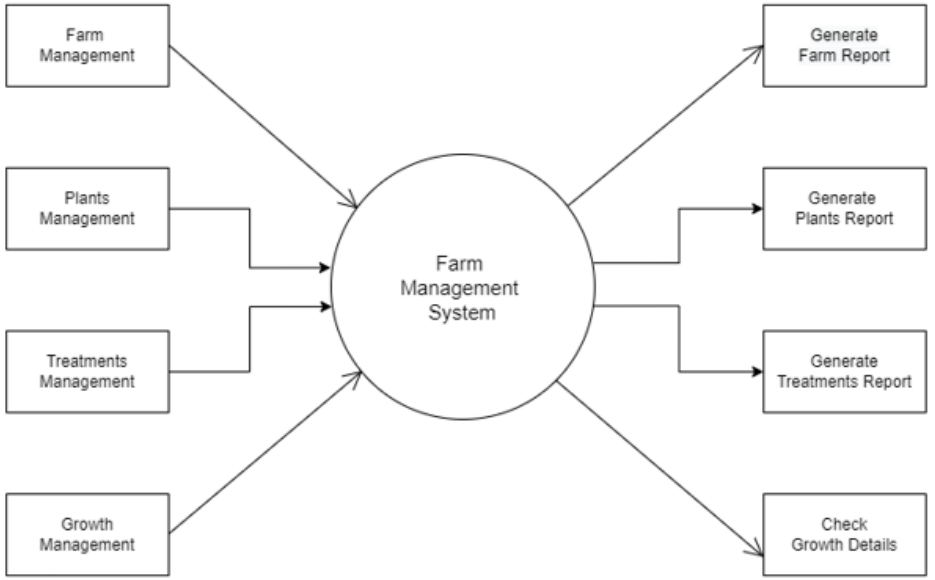


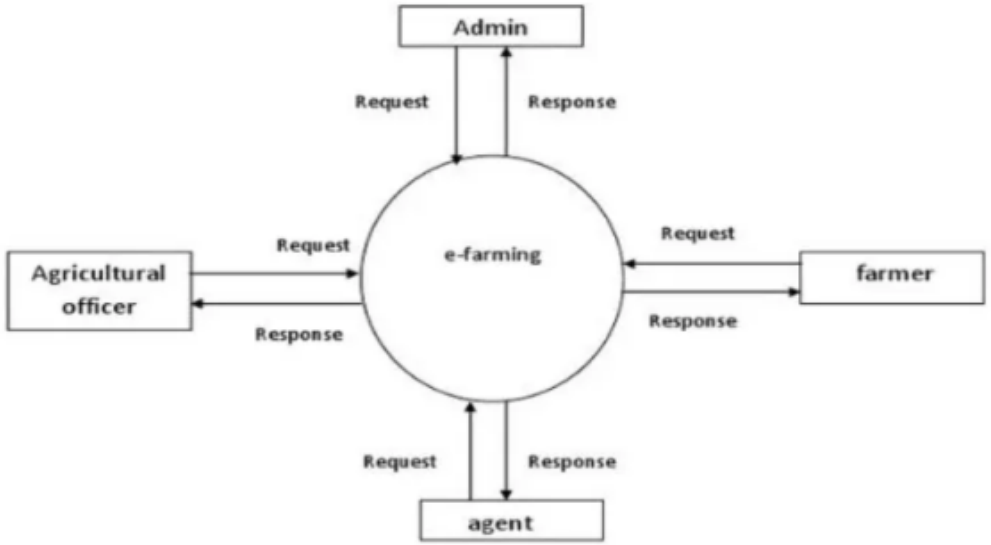
Figure 2: One Level DFD

INNOVATION

- We offer **real-time data like weather forecast, live selling prices, pesticides information.**
- Guidance on crop rotation, pest management, and sustainable farming techniques.
- **Notifications** are sent for the all the upcoming updates.
- **Receive alerts** when weather is going to be abnormal.
- **Detailed reports** are accessible to **authorized personnel**.
- Our interface is **smooth and reliable**.

Technologies Stack:

Frontend: React.js for Responsive and interactive web interface
Tailwind CSS: for consistent & modern UI/UX
Backend: Django (Python)
Postgre SQL: Primary Relational Database
Redis: Caching Frequently Accessed Data
RFID barcode / QR code Scanners



Hackathon Timeline (36 hours)

1. **Hrs 1-2: Kick-off & Problem Understanding:**
   - Understanding the problem statement

2. **Hrs 3-6: Planning & Setup:**
   - starting with model & REST API's to improve Functionality

3. **Hrs 7-15: Software Development :**
   - Implementation of website features with react & Django

4. **Hrs 16-19: Testing & Debugging:**
   - Fixing bugs; ensuring stability.

5. **Hrs 20-26: Iterative Development & Optimization:**
   - Refining based on feedback; optimising.

6. **Hrs 27-30: Final Testing & Validation:**
   - Testing thoroughly; validation.

7. **Hrs 31-34: Presentation Prep:**
   - Preparing Detailed Explanation.

8. **Hrs 35-36: Submission & Final Demo:**
   - Submission and prototype.

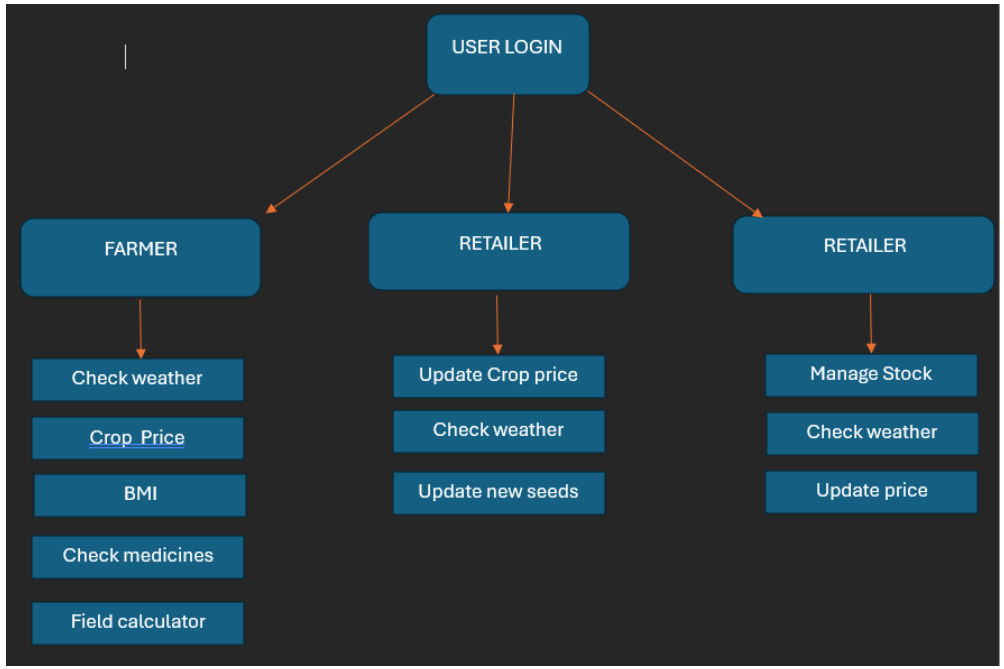
Your Team Name

FEASIBILITY AND VIABILITY

SMART INDIA HACKATHON 2024

➢ IDEA / APPROACH

1. User can be Farmer, pharmacist and retailer.
2. **Farmer:** Farmer can check weather updates, live crop prices, check for instore availability of pesticides and herbicides, BMI, Health checkup, Field calculator, farmers can lent harvesting tools, sell their preowned Equipments.
3. **Retailer:** Retailer can update the crop prices on daily basis which will broadcast to all farmers and help him in his business expansion and he can also check live weather updates.
4. **Pharmacist:** Pharmacist can manage their medical stock on our portal so all the farmers can check the instore availability and match prices of medicines .



IMPACT AND BENEFITS

SMART INDIA HACKATHON 2024

- ***Benefits of the solution (social, economic, environmental, etc.)***

1. Increased Productivity and Profitability: Tailored recommendations boost crop yields and income.
2. Resource Optimization: Efficient water and fertilizer usage reduces costs and waste.
3. Sustainable Farming Practices: Promotes eco-friendly techniques to enhance soil health.
4. Market Intelligence: Real-time price trends and demand forecasts optimize sales timing.
5. Education and Skill Development: Online resources improve farmers' agricultural knowledge.
6. Risk Mitigation: Weather alerts and pest management prepare farmers for challenges.
7. Community Building: Connects farmers for collaboration and resource sharing.
8. Access to Funding and Resources: Information on grants and partnerships enhances support.

RESEARCH AND REFERENCES

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- https://javascript.info/document
- https://react.dev/
- https://docs.djangoproject.com/en/5.1/
- https://dev.mysql.com/doc/