

Agritech AI Government Scheme Discovery Platform

MVP Prototype Development Guide

1. Objective

Build a Minimum Viable Product (MVP) that helps farmers discover government schemes based on their profile using AI-based recommendation logic.

2. MVP Core Features

- Farmer Profile Creation (state, land size, income, crop)
- Scheme Database (10–20 government schemes)
- Recommendation Engine (eligibility + scoring logic)
- Explainable AI (show eligibility reasons)
- Recommendation UI
- Basic chatbot (optional)
- Document upload (optional)

3. System Architecture

Frontend: React.js

Backend: Firebase (Firestore)

Database: Scheme JSON or Firestore

Recommendation Engine: JavaScript or Python

Hosting: Vercel

4. Database Schema

User Profile:

- name
- state
- land_size
- crop
- income

Scheme:

- name
- eligibility_conditions

- benefit_amount
- supported_states

5. Recommendation Algorithm

- Step 1: Load user profile
- Step 2: Compare profile with scheme eligibility
- Step 3: Assign eligibility score
- Step 4: Sort schemes by score
- Step 5: Return top schemes with explanation

6. Frontend Components

- Profile Form
- Recommendation Page
- Scheme Detail Modal
- Chatbot Interface (optional)

7. Backend Components

- Profile storage
- Scheme storage
- Recommendation API
- Application tracking

8. Development Timeline

- Day 1: Create scheme dataset
- Day 2: Build profile form
- Day 3: Implement recommendation logic
- Day 4: Display recommendations
- Day 5: Integrate backend

9. Future Enhancements

- Machine Learning recommendation model
- OCR document verification
- Voice assistant
- Multilingual support

10. Portfolio Value

This project demonstrates:

- AI recommendation systems
- Full-stack development
- Real-world problem solving
- Government tech innovation