AgroAI

Problem Statement

Every urban dweller or small-scale plant owner often lacks proper knowledge, time, and expert support to care for their plants. This would result in poor plant health, premature deaths, a lack of guidance and loss of motivation in home gardening. While some apps offer generalised advice, they don't provide timely, personalised guidance, especially in plants maturing stages and early signs of disease or distress. AgroAI fills the gap by providing AI-driven, real-time, and related plant care help that's simple, accessible, and tailored to individual plant needs.

Target Audience

- Balcony or terrace gardeners
- Students and eco-club participants
- Small-scale vegetable growers in cities

Relevance of Problem

Recently, there's been a visible growth in urban gardening due to environmental awareness, health focus, and the joy of gardening. However, most people hesitate to ever try due to a lack of plant knowledge, shaky online tips, and upset over dying plants. AgroAI fills this gap with a Gen-AI-based assistant that makes plant care intelligent, interactive, and highly effective even for beginners. This not only provides plant health outcomes but also promotes green living and mental wellness in cities.

Gen-AI Use Case

AgroAI utilises Generative AI in multiple impactful ways:

Dynamic Tips Generator: Based on the plant type, weather forecast, and season, the app offers tailored care instructions.

Disease Detection for Plants: Users take a picture of a sick plant. Our AI vision model identifies diseases and gives a step-by-step recovery plan.

AI Gardening Chatbot: A conversational AI (trained on plant science) provides instant answers to user questions in a simple language.

Multi-language Support: AgroAI can translate tips and suggestions into a lot of local languages, increasing its usability across different regions.

Solution Framework / Workflow

User Input: Plant image, care query, location & weather access

AI Analysis Layer:

Vision AI model scans for diseases, nutrient issues, or growth problems

LLM (chatbot) responds with accurate, situation-based advice

Weather + season data helps schedule watering and care tasks

Backend Engine: Syncs with plant database, AI models, and local nursery APIs

Output to User: Interactive plant care dashboard showing alerts, tasks, and suggestions

Expected Impact

- 40–60% increase in plant survival rate for users
- Improved mental wellness from sustained gardening
- Reduced chemical misuse with organic care guidance
- Supporting beginner growers with learning
- Grows city green spaces and local nature lovers