Vivekanand Education Society's
Institute of Technology
(Autonomous Institute Affiliated to University of Mumbai, Approved by AICTE & Recognised by Govt. of Maharashtra)
NAAC accredited with 'A' grade

MPL Project

Title of the Project:
GardenGlimpse : Plant-Care App

Domain: App Development (Flutter)

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Introduction

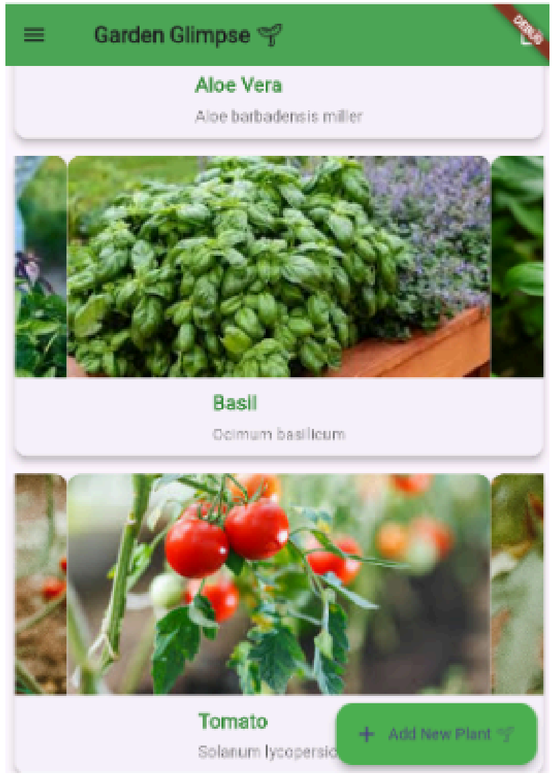
- GardenGlimpse is an innovative mobile application designed to revolutionize plant care through the integration of Artificial Intelligence, Cloud Technology, and User-Centered Design.
- With growing interest in sustainable living and indoor gardening, GardenGlimpse addresses the challenges of personalized plant care using real-time data, AI-powered analysis, and automated reminders.
- Our mission is to bridge the gap between plant science and digital convenience, enabling users to monitor, analyze, and enhance plant health from the palm of their hand.
- Developed using Flutter and Firebase, the app is optimized for scalability, performance, and seamless cross-platform compatibility.

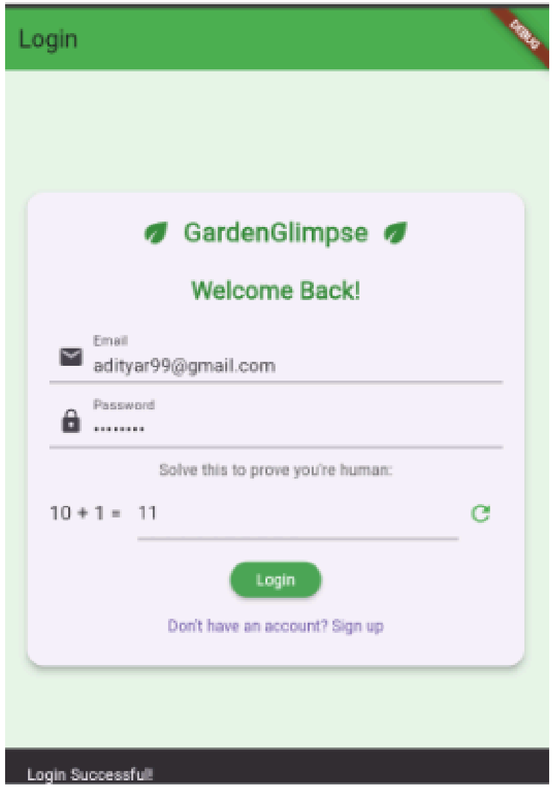
Problem Statement

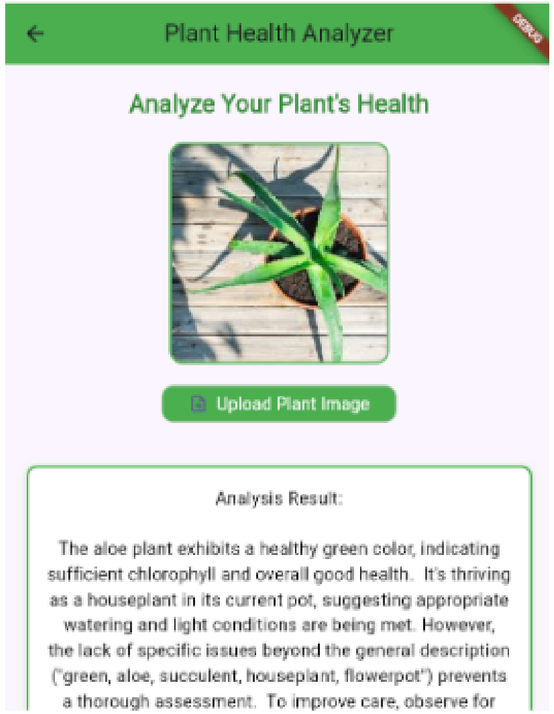
- Plant care requires consistent attention to watering, sunlight, soil health, and climate factors—which many users struggle to manage.
- Lack of expertise often leads to improper care, affecting plant health and lifespan.
- Existing solutions are either too generic, not interactive, or lack AI-driven insights and community support.
- There's a need for a comprehensive, intelligent, and user-friendly system that provides personalized plant care guidance and fosters engagement among plant enthusiasts.

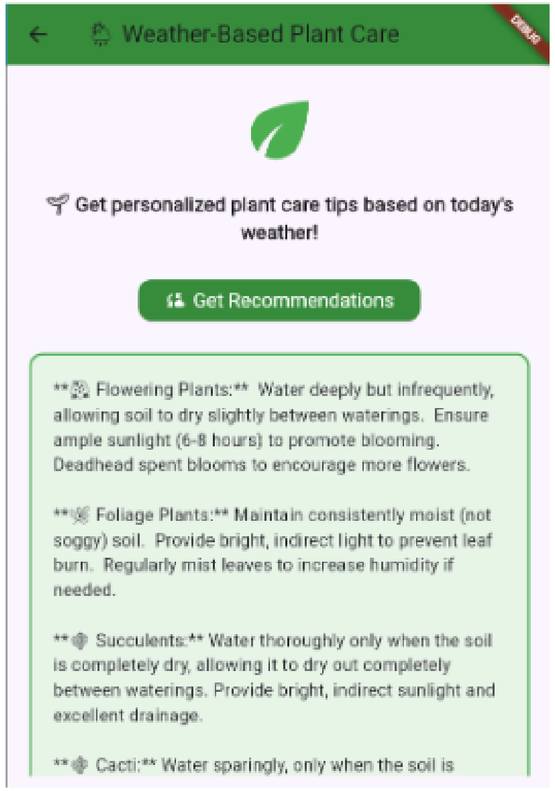
🌿 Solution

- **AI-Powered Health Analyzer**: Upload plant images to receive instant insights on plant health using advanced image analysis.
- **Personalized Reminders**: Smart scheduling for watering, sunlight exposure, pruning, and soil changes, tailored to each plant’s needs.
- **Dynamic Environmental Recommendations**: Real-time weather-based care suggestions using integrated climate data.
- **Community Forum**: Interactive space for users to share tips, ask questions, and learn from fellow plant enthusiasts.
- **Beautiful, Intuitive Interface**: Visually rich UI with image carousels, feature grids, and alerts—built for both functionality and user delight.


Garden Glimpse
Aloe Vera
Aloe barbadensis miller
Basil
Ocimum basilicum
Tomato
Solanum lycopersic
Add New Plant


Login
GardenGlimpse
Welcome Back!
Email
adityar99@gmail.com
Password
Solve this to prove you're human:
10 + 1 = 11
Login
Don't have an account? Sign up
Login Successful!


Plant Health Analyzer
Analyze Your Plant's Health
Upload Plant Image
Analysis Result:
The aloe plant exhibits a healthy green color, indicating sufficient chlorophyll and overall good health. It's thriving as a houseplant in its current pot, suggesting appropriate watering and light conditions are being met. However, the lack of specific issues beyond the general description ("green, aloe, succulent, houseplant, flowerpot") prevents a thorough assessment. To improve care, observe for


Weather-Based Plant Care
Get personalized plant care tips based on today's weather!
Get Recommendations
Flowering Plants: Water deeply but infrequently, allowing soil to dry slightly between waterings. Ensure ample sunlight (6-8 hours) to promote blooming. Deadhead spent blooms to encourage more flowers.
Foliage Plants: Maintain consistently moist (not soggy) soil. Provide bright, indirect light to prevent leaf burn. Regularly mist leaves to increase humidity if needed.
Succulents: Water thoroughly only when the soil is completely dry, allowing it to dry out completely between waterings. Provide bright, indirect sunlight and excellent drainage.
Cacti: Water sparingly, only when the soil is

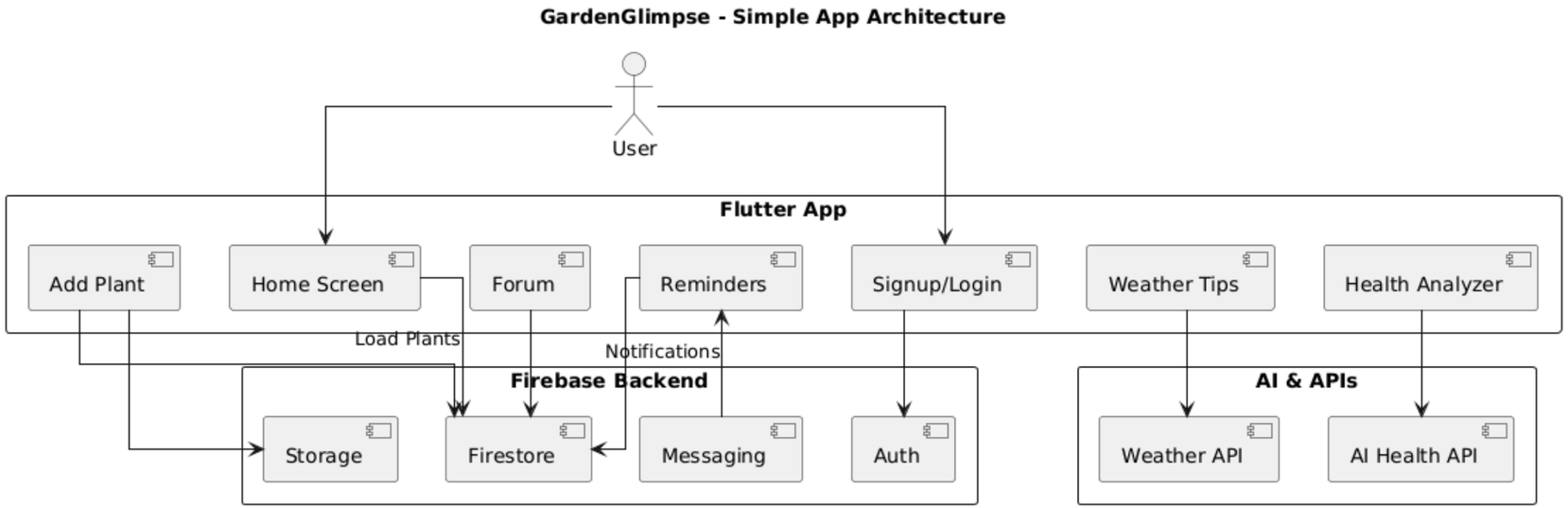
Features

- **AI-Powered Health Analyzer:** Upload plant images and receive instant health diagnostics using advanced AI models.
- **Smart Reminder System:** Schedule care tasks like watering, pruning, and soil change with timely push notifications.
- **Weather-Responsive Care Suggestions:** Get personalized plant care tips based on real-time temperature and sunlight conditions.
- **Community Forum:** Engage with fellow plant lovers to share tips, solutions, and experiences in an interactive space.
- **Dynamic Plant Catalog:** Maintain a digital log of your plants with detailed profiles and an image carousel for visual tracking.
- **Aesthetic and Intuitive UI:** Enjoy a beautifully styled interface designed for seamless navigation and delightful user experience.

Design and Architecture

Architecture Overview

- Frontend (Flutter)
  - Authentication Screens
  - Home Screen with my plants
  - AI powered health analyzer screen
  - Forum screen
  - Reminders Page
  - Weather recommendations screen
- Backend (Firebase)
  - Firebase Authentication
  - Firestore Collections:
    - users
    - plants
    - reminders
    - blogs



Future Scope

- Advanced Disease Detection using Deep Learning Models.
- Augmented Reality (AR) for Real-time Plant Scanning.
- Integration with Smart Irrigation Systems.
- Voice-based Plant Care Assistant using AI.
- In-app Marketplace for Seeds & Tools.
- Gamification for Plant Growth & Care Routines.

Conclusion

In conclusion, GardenGlimpse revolutionizes plant care by merging advanced AI with intuitive design, making plant maintenance smarter and more accessible. With personalized health analysis, adaptive care reminders, and community engagement, the app fosters a seamless and sustainable plant care experience. Its scalable architecture ensures robust performance across platforms, while a user-friendly interface enhances overall satisfaction. GardenGlimpse is the future of personalized plant care, combining innovation and nature in perfect harmony.