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Agro Smart Precision Farming Application for Sustainable Agriculture

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Abstract: *AGRO SMART Precision Farming Application is a cutting-edge agricultural tool designed to support farmers through intelligent, data-driven practices that improve productivity while preserving the environment. Its core mission is to help farmers optimize the use of pesticides and fertilizers by providing tailored insights based on accurate and localized data. At the heart of this platform is the integration of Soil Health Card (SHC) data, which provides detailed information on soil nutrients and quality. By analyzing this data, the application can suggest the appropriate type and quantity of fertilizer needed for specific crops, reducing waste and enhancing soil fertility over time. Additionally, the app utilizes real-time weather updates, enabling farmers to make better decisions regarding irrigation, sowing, and harvesting schedules. A standout feature of AGRO SMART is its incorporation of the Leaf Color Chart (LCC) method, a simple yet powerful tool for assessing the nitrogen levels in crops, especially rice. This method allows the app to offer precise fertilizer recommendations based on the current condition of the plants, helping maintain nutrient balance in the soil. Further boosting its capabilities, the app employs AI-powered image analysis to scan and interpret images of soil and crops. This feature enables early detection of nutrient deficiencies, pest infestations, and plant diseases, allowing timely interventions that can save crops and improve yield. This proactive approach helps farmers tackle issues before they agricultural ecosystems.escalate, minimizing losses. Whether it's advice on crop selection, pest control, or seasonal planning, the chatbot offers practical, localized support in multiple languages*

Keywords: AGRO SMART

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