

ABSTRACT

In recent years, the agriculture sector has been grappling with the challenges of climate change, water scarcity, and increasing pressure to enhance productivity. To address these issues, the development of a Smart Irrigation Management System (SIMS) has become imperative. Our project aims to design, develop, and implement a SIMS that leverages cutting-edge technology to optimize irrigation practices, reduce water wastage, and improve crop yields, all while promoting sustainable agricultural practices.

The Smart Irrigation Management System proposed in this project encompasses a network of IoT sensors strategically placed throughout the agricultural field. These sensors collect real-time data on soil moisture levels, weather conditions, and crop water requirements. The data is transmitted to a central control system that utilizes advanced machine learning algorithms to analyse and process the information. Based on this analysis, the system provides precise irrigation schedules and controls the irrigation infrastructure accordingly, ensuring that crops receive the right amount of water at the right time.

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