Abstract

Smart Farm is an agricultural application that uses machine learning and cloud computing technology to improve efficiency in the farming process. Technological advancement and sustainable agriculture are two essential aspects of supporting global food security. This research investigates the implementation of App Engine and Cloud Storage in developing REST API in Smart Farm applications. By utilizing cloud computing technology, such as App Engine, and cloud storage, such as Cloud Storage, we can create efficient solutions to monitor and manage agriculture better. This research implements an App Engine and Cloud Storage to develop a REST API that allows Smart Farm application users to access data and control farming devices efficiently. The authors designed, developed, and tested this system to ensure optimal performance and reliability in agricultural data collection and distribution. This method has several significant advantages. First, App Engine allows for easy scalability, ensuring the system can handle increased data demand without disruption. Secondly, Cloud Storage provides secure and scalable storage for agricultural data, which can be accessed from anywhere. This provides easy and quick access to critical data for farmers. Moreover, the use of cloud technology also reduces infrastructure and maintenance costs. The developed system integrates the App Engine and Cloud Storage with the Smart Farm application. The App Engine is a processing engine that receives user requests via the REST API, processes the required data, and provides appropriate responses. Like image data, farm data is stored and managed on Cloud Storage. Users can access this data through the Smart Farm app or other devices, enabling better farming monitoring and decision-making.

Keywords: REST API, App Engine, Cloud Storage, Smart Farm, black box.