

# **Design of an IoT system for environmental monitoring and smart irrigation control for small-scale farms using Raspberry Pi.**

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**Abstract:** In the context of agriculture increasingly demanding efficiency and savings, this topic focuses on designing an Internet of Things (IoT) system for environmental monitoring and smart irrigation control for small-scale farms. The research method combines theory with experimentation, using Raspberry Pi as the technical platform to deploy the IoT system. The objective of the topic is to create a practical application solution that helps farmers optimize cultivation processes, reduce costs, and improve production efficiency. Expected results will confirm the feasibility and potential for widespread application of IoT systems in the agricultural sector.

**Keywords:** IoT, Raspberry Pi, smart irrigation, small-scale farm, environmental monitoring