Training Kit for Detecting Humidity, Temperature, and Wind Speed Parameters in Smart Farming as a Source of Learning for Internet of Things (IoT)

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ABSTRACT

The main objective of this research is to design, implement, and test a monitoring system using IoT devices for the mentioned parameters in the seasonal crop agricultural field. Additionally, this study aims to integrate its findings into education by developing technology-based teaching materials that encompass modules, instructional media, and semester learning plans.
The research methodology employed is the Research and Development (R&D) approach, which encompasses the stages of Planning, Development, Testing, and Dissemination. This approach is implemented by referencing the steps of Borg & Gall, ADDIE, as well as risk management and testing.
The outcomes of this research include a prototype training kit for a humidity, temperature, and wind speed detection system that can be applied at the laboratory scale of Smart Farming, utilizing IoT technology. Furthermore, the output consists of publications in nationally accredited journals or international seminar proceedings, along with educational materials that possess potential for intellectual property rights.
This study also evaluates the Technology Readiness Level (TRL) of the resulting research product, with an expected attainment of TRL level 4, signifying the validation stage of components/subsystems within a laboratory environment.

Kata Kunci: *Humidity, Temperature, Wind Speed, Smart Farming, Internet of Things*