ABSTRACT

THE IMPLEMENTATION OF WIRELESS SENSOR NETWORK FOR DETECTION OF TEMPERATURE, HUMIDITY AND AMMONIA GAS IN COWSHED

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This study aims to produce a temperature, humidity and ammonia gas detection device using a wireless sensor network system with nodeMCU. One of the cattle breeders in Pagar Alam City stated that there are no tools available to detect temperature, humidity and ammonia gas, which are used by cattle breeders, this will trigger the health of the cows which will result in a decrease in cow productivity. In terms of monitoring, it is still manual, farmers only look at the condition of the pen and cows without using any tools. The implementation of the Wireless Sensor Network allows farmers to monitor temperature, humidity and ammonia gas conditions through a tool installed in the pen which sends sensor data to the Blynk application which is connected to the tool, and can also regulate the condition of the cage to return to normal when the temperature, humidity and ammonia gas in the cage rise or fall. This research uses a system development method, namely using the Rapid Application Development (RAD) method which consists of Requirement Planning, Design and Implementation, then the system will be tested using the Black Box Testing method. The results of this research are the design of a temperature, humidity and ammonia gas detection device using wireless sensor network on one of the cattle breeders in Pagar Alam City.

Keywords: NodeMCU, Rapid Application Development (RAD), Black Box Testing.