DESIGN OF AN INTERNET OF THINGS BASED COFFEE BEAN ROASTER TOOLS USING ESP32 MICROCONTROLLER

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ABSTRACT

Indonesia is known as one of the largest coffee bean producing countries in the world with a diversity of flavors. Processing of coffee beans is what determines whether the quality of coffee is good or bad, both in terms of taste and texture. The taste and aroma of coffee drinks are formed from the roasting process. This research aims to create a coffee bean roaster based on the internet of things, so that the system will run automatically to control the temperature and time according to what has been input. The system can be controlled from a smartphone or laptop browser. This coffee bean roaster is equipped with a type K thermocouple sensor as a temperature sensor on the heating tube. There are 3 menu options that can be entered for maturity level, namely light roast, medium roast and dark roast. From the research that has been carried out, the results of the accuracy of temperature sensor readings with type K thermocouples are 96.2%, so it can be concluded that the temperature sensor has good accuracy and the test results of the Android-based Internet of Things (IoT) system that has been designed can work well. This is proven by the results of testing the function of each feature on the user interface reaching 100%.

Keywords*: Coffee Bean Roasters, Internet of Things, K type Thermocouple*