

Control the Temperature of an Electric Iron Using Fuzzy Logic Technique

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The paper presents a fuzzy logic control technique which gives a major contribution to solve the problems those are categorized as difficult to solve with conventional control techniques. In addition, the fuzzy logic control technique delivers solutions faster than the conventional system. Temperature controlling is a very important task in many fields such as food preparation, cloths preparation, incubators, refrigerators systems that are used in experiments. As the outcome of the study, a fuzzy logic based-temperature control system was developed which is more appropriate for an electric iron. The system consist of a microcontroller, temperature sensor, a user interface circuit, display interface circuit and an output interface circuit. Fuzzy logic technique was implemented to achieve a controlled temperature output function. The temperature was measured with respect to time for the system comprised of the fuzzy logic based- temperature control system using the LM35 sensor. It was observed that, the time consumed to reach the stable temperature, which is defined according to a preferred set of values, was heavily depending upon the temperature value to be achieved itself. The same LM35 temperature sensor was used to obtain the final output of observable temperature. According to the results, the entire system was capable of achieving the stable value for the set temperatures. It can be concluded that, the achievement is because of using a fuzzy logic based-temperature control system for an electric iron.

Keywords: Electric iron, Fuzzy logic, Temperature control, Temperature sensor, microcontroller