

Design and Implementation of IoT-Based Automation System for Smart Home

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Abstract— Home Automation System (HAS) gains popularity due to communication technology advancement. Smart home is one of the Internet of Things (IoT) applications that facilitates the control of home appliances over the Internet using automation system. This paper proposes a low-cost Wi-Fi based automation system for Smart Home (SH) in order to monitor and control home appliances remotely using Android-based application. An Arduino Mega microcontroller provided with Wi-Fi module is utilized to build the automation system. In addition, several sensors are used to monitor the temperature, humidity and motion in home. A relay board is exploited to connect the HAS with home under controlled appliances. The proposed automation system, can easily and efficiently control the electrical appliances via Wi-Fi and Virtuino mobile application.

Keywords— HAS; Smart Home; IoT; Arduino; Virtuino