



AIUB DSpace Publication Details

Title: Design and Implementation of an IoT-based Home Automation System

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Published Conference Name: ICCA 2022

Type of Publication: Conference

Volume: _____ **Issue** _____

Publisher: ACM

Publication Date: 11-Aug-2022

ISSN: _____

DOI: _____

URL: <http://dspace.aiub.edu:8080/jspui/handle/123456789/883>

Other Related Info.: 1-8



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Abstract:

Home automation system has grown in popularity in recent years as technology has made day-to-day life easier. Almost everything has been auto-mated and digitalized. This paper has developed an automated system that inter-connects different sensors such as passive infrared (PIR), smoke, gas, and flame, and different onboard sources such as camera, many different home appliances, or user commands. The main focus of this work is to control appliances remotely through the internet of things (IoT). Different sensors and sources provide signals to the ATmega2560 microcontroller. After processing, signals are sent to control various connected devices and appliances through relays. Finally, the devices are being controlled through the Blynk app, which is an IoT-based mobile app. The proposed home automation system incorporates face detection system, keypad security system, and doctor calling feature.