Home Automation System Using ESP32 and Android App for Wireless Control

Tanisha Gosalia, Tanish Vora, Bhakti Kasare, Vedika Khurasane, Santosh Rokade
Department of Electronics and Telecommunication
Shri Bhagubhai Mafatlal Polytechnic and College of Engineering Mumbai, India

Abstract: *According to the 2011 Census, India was home to an estimated 104 million older adults (aged 60 and above) and 26.8 million individuals with disabilities. The UN Population Fund and HelpAge India projections suggest this elderly population could grow to 173 million by 2026. Many in these demographics, particularly those living alone, may need support with everyday tasks, such as managing home appliances. Additionally, younger adults with demanding schedules increasingly value a seamless, low-effort home environment. This Home Automation System (HAS) presents an approach to let users control household devices through a Mobile App, minimizing human involvement and effort by developing smart control firmware for home devices. Through the mobile application connected to an ESP32 microcontroller via the home's Wi-Fi, users can control the lights, fans, and windows, as well as monitor the temperature and humidity within the house. Advancements in IoT technology have revolutionized home automation, offering a cost-effective and dependable solution that enhances user convenience while significantly lowering energy consumption.*

Keywords: Home Automation System (HAS), Mobile App, ESP32, Wi-Fi, Internet of Things (IoT)

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-27976

ISSN
2581-9429
IJARSCT

501