

# Integrated Home Automation System using ESP32, Rainmaker, Alexa, An D Google Assistant with Manual Switching

Borawake Prathmesh Jitendra<sup>1</sup>, Manchare Saurabh Sanjay<sup>2</sup>, Sabale Arti Revannath<sup>3</sup>,  
Jadhav Nikita Shivnath<sup>4</sup>, Prof. Kiran I. Mahale<sup>5</sup>

Department of Electronics & Telecommunication Engineering<sup>1,2,3,4,5</sup>

Vidya Niketan College of Engineering Centre, Bota, Sangamner, A.Nagar, MH

**Abstract:** *The Integrated Home Automation System combines the versatility of ESP32 microcontrollers, Rainmaker weather sensors, and popular voice assistants like Amazon Alexa and Google Assistant with manual switching options. This comprehensive solution enables users to remotely control and monitor household appliances while also managing environmental factors such as temperature, humidity, and light intensity via voice commands or a smartphone app. The system's modular architecture allows for easy customization and expansion to meet specific needs. Through thorough testing and assessment, the system demonstrates reliability, effectiveness, and user-friendliness. This research contributes to the advancement of smart home technologies by providing a flexible and cost-effective automation solution.*

**Keywords:** ESP32, Rainmaker, Alexa, Google Assistant, automation, modular