

Design and construction of a residential electrical system connected via Zigbee network.

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Abstract: The study addresses the design and implementation of a residential electrical system using a Zigbee network, aiming to meet the requirements for efficient energy management and electrical safety in residential areas. The topic begins with the practical context of IoT technology development in the residential electrical field. The objective is to build an integrated system of sensors, control devices, and communication via a Zigbee network to optimize energy usage and enhance electrical safety in homes. The research method combines theory with experimentation, from analyzing existing technologies to implementing a trial system at a specific location. The expected outcome is to provide an effective technical solution for energy management and usage in households, while contributing to the development of IoT in the residential electrical field.

Keywords: Residential electrical system, Zigbee, IoT, Energy management, Electrical safety