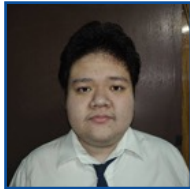


Optimizing Room Security and Resource Management through RFID-Based Lighting Systems



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This research focuses on the application of RFID technology to enhance security in restricted access rooms. In such environments, only authorized personnel are permitted entry, and RFID is typically used to verify these individuals' credentials. To further improve security and functionality, this research explores the development of an RFID-based system that not only controls access but also automates lighting within the secure room. The RFID system is designed to automatically turn lights on when an authorized individual enters and off when the room is vacant. The research findings demonstrate a 100% success rate in controlling the lights based on authorized entry. Additionally, user satisfaction surveys indicate a high level of approval, with most users reporting a positive experience with the system. This integration of RFID for both access control and environmental management significantly enhances the security and efficiency of the controlled space.

Biography:

Asst. Prof. Dr. Wirote Jongchanachawat received his B.Sc. (Solid State Electronics) from King Mongkut's Institute of Technology Ladkrabang in 1994, B.Eng. from South-East Asia University from 2014, MBA. from National Institute of Development Administration in 1999, M.Eng. from King Mongkut's Institute of Technology Ladkrabang in 2000 and D.Eng. from King Mongkut's Institute of Technology Ladkrabang from 2009. He had more than 20 years in information system and management from many company. He is an assistant professor in Faculty of Engineering and Industrial Technology, Phetchaburi Rajabhat University, Thailand since 2022. His main research interests are analog circuit design, management information system (MIS), Operation Management, technology management, Big Data, IoT and automation.

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Ms. Roongpraew Wiwatkamolwat is currently studying in junior high school (Grade11) at Ekamai International School, Bangkok. The main research areas of interest are computer engineering and AI. Roongpraew is particularly interested in developing innovative algorithms and software solutions that can enhance human-computer interactions. This includes exploring machine learning techniques, neural networks, and data analysis to create intelligent systems that can solve real-world problems efficiently. Additionally, Roongpraew is fascinated by the potential of AI to revolutionize various industries, from healthcare to finance, and aims to contribute to advancements in these fields. (pennyroongpraew@gmail.com)