SMART CLASSROOM ENERGY MANAGEMENT AND AUTOMATIC ATTENDANCE SYSTEM USING RFID TECHNOLOGY

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ABSTRACT

The increase of energy costs urged the need in minimizing the energy consumption. As significant amount of energy is used for lighting and air ventilation (air conditioning and fan) in educational buildings such as classrooms, improvements is needed to avoid energy waste for unoccupied classroom. The electrical energy will be controlled based on demand in order to save the energy costs. In addition, current practice for monitoring students' attendance by calling names or signing on paper have a few weaknesses such as time wasting and insecure. Hence this conventional method lead to inefficient record. RFID based attendance system is one of the solutions to solve the problem. This paper is about a concept of smart classroom energy efficient and automatic attendance system based on Radio Frequency Identification (RFID) configuration.

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CHAPTER 1

INTRODUCTION

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Smart classroom energy efficient and automatic attendance system is example of the problem solving due to electrical waste energy and inefficient conventional attendance monitoring. Energy management is mainly concerned with the one that relates to saving energy. Hence, it is the process of monitoring, controlling and conserving energy in a building. Thus, the importance of energy saving from the global needed that affects on energy prices.

Nowadays, there has been a great rise in demand for electrical energy in daily lives. Most of daily activities would involve the use of electrical devices which require use of electrical energy depend on types of devices and the operation frequency. For example fans, air conditioning and light require high electricity energy. Although consumers do not immediately recognize the connection between individual behaviorism and global environmental problems but it is clearly identifiable for an area where domestic energy consumption links together [1]. They highlighted that awareness related to consumer behavior and how it was connected to problem such as global warming. The majority of energy consumption takes place within the educational institution buildings [2]. Thus, a smart classroom energy management system was designed to reduce the usage of electricity in UiTM. Overall, this system is based on technology that automatically and systematically function. With this system, user can reduce the cost for electricity usage without involving man power which may lead to more inefficient output at the end.