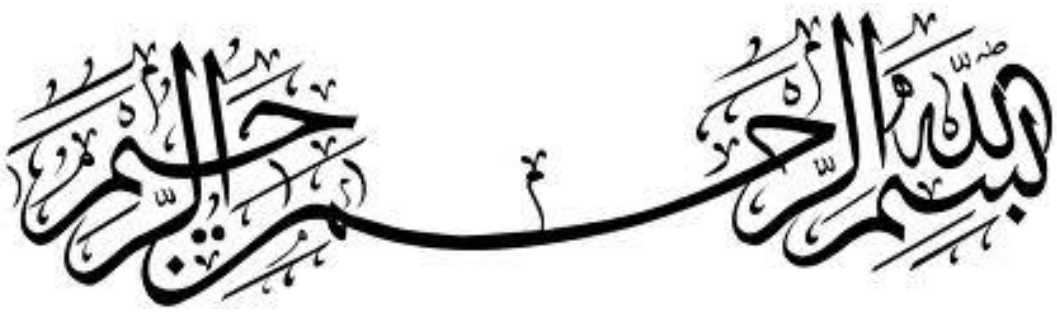
الآيــة



قَالَ تَعَالَىٰ:

﴿ إِنَّ فِي خَلْقِ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ وَٱخْتِلَٰفِ ٱلَّيْلِ وَٱلنَّهَارِ لَءَايَٰتٍ
لِّأُو۟لِى ٱلْأَلْبَٰبِ ﴿١٩٠﴾ ٱلَّذِينَ يَذْكُرُونَ ٱللَّهَ قِيَٰمًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ
وَيَتَفَكَّرُونَ فِي خَلْقِ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَٰذَا بَٰطِلًا
سُبْحَٰنَكَ فَقِنَا عَذَابَ ٱلنَّارِ ﴿١٩١﴾ ﴾

صــدق الله العظيم

سورة آل عمران: الآيات (١٩٠ ــ ١٩١)

Dedication

To my mother…With warmth and faith

To my father…With love and respect

To my friends…whom me cherish their friendship

To my special people…who mean so much to me

To all my teachers …in whom I believe so much

Acknowledgement

First of all, I would like to grate my supervisor Ust. Abdalla Salih Ali who always offered support and ideas to make this thesis a success.

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Abstract

Power saving is a reduction in the amount of energy consumed in a process or system or by an organization or society, through economy and rational use. Power consumption become one of the problems in Sudan due to the high rate of KW that vary in price depending on the usage, in universities and educational institutes the consumption of power become a problem due to the high power usage daily within the working hours or on the break time, that affect the overall budget.

The aim of the thesis is to reduce power consumption by designing and implementing power monitoring and control circuit to reduce the power consumption in lecture room. The circuit uses wireless link between the class room and the power mains, while the Radio Frequency Identification (RFID) tag of the lecture is identified. Passive RFID module was used to detect the RFID tag and transmit it to the receiver in order to switch ON/OFF the class room appliances and start counting to the end of the lecture time in order to switch off.

مستخلص

توفير الطاقة هو تخفيض كمية الطاقة المستهلكة في عملية أو نظام على يد المنظمة أو المجتمع من خلال الأقتصاد وترشيد الأستخدام. أستهلاك الطاقة الكهربائية أصبحت واحدة من المشاكل في السودان بسبب أرتفاع معدل الكيلوواط التي تختلف في الأسعار اعتماداً علي الأستخدام. كما في الجامعات و المعاهد العليا بسبب أستهلاك الطاقة العالية يوميا في قاعات الدراسة التي تعمل عادة طوال اليوم. لذلك توثر علي الميزانية العامة وتسبب هدر للطاقة الكهربائية.

يهدف هذا البحث لتقليل من أستهلاك الطاقة الكهربائية عن طريق تصميم وتنفيذ دائرة تحكم لمراقبتها وللحد من أستهلاك الطاقة في قاعات المحاضرة .أستخدمت الموجات الراديوية كوصلة لاسلكية بين قاعات المحاضرة ومصدر التيار الكهربائي الرئيسي، ويتم تحديدها عن طريق الرقاقات الراديوية (البطاقة السلبية) التي تعمل كمفتاح للتيار الكهربائي في قاعة المحاضرة لأيقاف وتشغيل الأجهزة الكهربائية لتستند الي أوقات المحاضرات.

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