

Sudan University of Science and Technology

Collage of Engineering

Electrical Engineering

**BUILDING MANAGEMENT SYSTEM USING
INTERNET OF THINGS (IOT)**

نظام إدارة المباني باستخدام انترنت الاشياء

**A Project Submitted in Partial Fulfilment for the Requirements of
the Degree of B.Sc. (Honor) in Electrical Engineering (Control)**

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الآية

قال الله تعالى :

{ قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ }

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DEDICATION

To my beloved mother and father who supported me,
To my brothers and sisters,
To my friends and study partners
To everyone who make a positive effect on me.

ABSTRACT

Modern building such as hotels, banks, hospitals and large companies contains lights, lifting air-conditioning, fire alarm systems and security systems. To control these applications a building management system accomplishes to satisfy the requirements of these above mentioned applications.

The main objectives of this research is the Simulate and control BMS system using internet of things technology , The objective of a BMS is to centralize and simplify the monitoring, operation, and management of buildings. This is done to achieve more efficient building operation at reduced labor and energy costs and provide a safe and more comfortable working environment for building occupants.

المستخلص

المباني الحديثة مثل الفنادق والبنوك والمستشفيات والشركات الكبيرة، التي تحتوي على إضاءة، مصاعد، تكييف، أنظمة مكافحة الحرائق وأنظمة الحماية. للتحكم في هذه التطبيقات المذكورة، تم تطبيق نظام إدارة المباني لتلبية الإحتياجات المطلوبة أعلاه.

الاهداف الاساسية لهذا البحث هي محاكاة والتحكم وتصميم نظام ادارة المباني بإستخدام إنترنت الأشياء . نظام ادارة المباني هو نظام يتمركز في عرض والتحكم في المبنى ويستخدم ايضا في الحصول على كفاءه عمل واداء بالاضافة لتقليل العمالة والحفاظ على الطاقة والحصول على بيئة عمل اكثر امان وراحة.

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LIST OF ABBREVIATIONS

BMS	Building Management System
HVAC	Heating, Ventilation and Air Conditioning
IOT	Internet Of Things
AHU	Air Handling Unit

