

# الآية

قال الله تعالى:

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

سورة البقرة , الآية 23

## **ACKNOWLEDGEMENT**

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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**

Buildings of high stages 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 a BMS system using HVAC and fire alarm systems, 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 المرتفعة 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 وتصميم نظام ادارة المباني الذي يشتمل على نظام تدفئه والتهوية والتبريد بالاضافه الى نظام مكافحة الحريق. 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 | <u>Heating, Ventilation and Air Conditioning</u> |
| DDC  | Direct Digital Control                           |
| DX   | Direct Expansion                                 |
| LAN  | Local Area Network                               |

|       |  |
|-------|--|
| ASCII | American Standard Code Information Interchange |
| EMCS  | Excise Movement and Control System             |
| CCTV  | Closed Circuit of Television                   |
| BMCS  | Building Management and Control System         |
| MC    | Microcomputer                                  |
| VAV   | Variable Air Volume                            |
| AHU   | Air Handling Unit                              |