الآية

قال تعالي :-

بسم الله الرحمن الرحيم

إِنَّ الَّــذِينَ آمَنُــواْ وَعَمِلُــواْ الصَّــالِحَاتِ يَهْدِيهِمْ رَبُّهُمْ بِإِيمَانِهِمْ تَجْرِي مِن تَحْتِهِـمُ الأَنْهَارُ فِي جَنَّاتِ النَّعِيم {9}دَعْوَاهُمْ فِيهَا سُبْحَانَكَ اللَّهُمَّ وَتَحِيَّتُهُمْ فِيهَا سَــلاَمٌ وَآخِــرُ دَعْــوَاهُمْ أَنِ الْحَمْــدُ لِلّــهِ رَبِّ الْعَالَمِينَ {10}.

صدق الله العظيم

سورة يونس

Dedication

Dedicated to

My father

My mother

My brothers

My sister

My family, friends, teachers

To whom I always respect &love

Acknowledgement

IN THE NAME OF ALLA, MOST GRACIOUS, MOST MERCIFUL

I would like to express my gratitude to all the people who have contributed to the work. First of all, I would like to thank my supervisor Prof. Saad daoud for all the assistance and most of all, for the inspiring subject of the thesis.

Special thanks to my parents, my family for their unlimited patience without limitations.

ABSTRACT

Modbus protocol is the most popular industrial protocol being used today, for good reasons. It is simple, inexpensive, universal and easy to use. Even though MODBUS has been around since the past century (nearly 30 years) almost all major industrial instrumentation and automation equipment vendors continue to support it in new products.

In this thesis, the Design and analysis of a Modbus controller on a base of Microcontroller has been discussed, including the design of the Master by mean of software on PC, and the Slave by means of hardware which includes ATmega 16 as the main part.

The main objective of this thesis is to illustrate the basic structure of Modbus controllers and how they will communicate through Modbus Protocol. The system is designed to facilitate data transmission between devices to enable different control procedures and data exchange.

مستخلص

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