DEDICATION

I DEDICATE THIS WORK TO:

- My parents IBRAHIM & FATIMA who introduced me to the joy of reading from birth, enabling such study to take place today.
- To all those who directed me to the way studying and put me on the right study tract.
- To those who told me about their experiences & experiments.

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ABSTRACT

Major concepts of the computer buses were explained in this research. Features and characteristics for each type of these computer buses besides their development along with different computer generations were discussed. A comparison between the different buses was done.

An elaborated study of PCI local bus was implemented, where the main characteristics and features of PCI Bus were identified in details of pins layout also configuring and addressing methods of PCI Bus.

There is a scientific circuit which simulate the card inserting inside the Bus. A program using the C language read the EPROM (Card ROM) which includes the card information.

تجريد

هذا البحث يقدم شرح مؤجز لمعظم أنواع النواقل المستخدمة في الحاسب موضحاَ خصائص ومميزات كل نوع وتطورها مع أجيال الحاسب مع عقد مقارنة بين أهمها. وتناول الناقل المحلي ال PCI بشي من التفصيل حيث يتم التعرف من خلاله على مميزات وخصائص الناقل مع تفصيل لكل المداخل والمخارج مع التطرق لكيفية العنونة والتهيئة والإعداد .

وصممت دائرة عملية هي تحاكي وضع كارت من النوع PCI يتم التعرف عليه من خلال برنامج كتب بلغة ال C وذلك عبر قراءة ذاكرة ال EPROM الموجودة داخل الكارت في عملية محاكة لما يحدث في عملية Plug & Play .

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Abbreviation

ANSI	American National Standards Institute
ASIC	Application-specific integrated circuit
AT	Advanced Technology
BIOS	Basic Input Output System
BMIC	Bus Master Interface Chip
CD-ROM	Compact Disk - Read Only Memory
CPU	Central Processing Unit
DAC	Dual Address Cycles
DB-25	D-suBminiature-25
DIP	Dual in-line Package
DMA	Direct Memory Access
DRAM	Dynamic Random Access Memory
DWORD	Double WORD
EEPROM	Electrically Erasable Programmable Read Only Memory
EIDE	Enhanced Integrated Drive Electronics
EISA	Extended Industry Standard Architecture
EPROM	Erasable Programmable Read Only Memory
FIFO	First In First Out
GPIB	General Purpose Interface Bus
I/O	Input
IC	Integrated Circuit
ID	Identification
IDE	Integrated Drive Electronics
IEEE	Institute of Electrical and Electronics Engineers
IRQ	interrupt ReQuest
ISA	Industry Standard Architecture
LAN	Local Area Network
LPT	Line Print Terminal
LSB	Least Significant Byte
MCA	Micro Channel Architecture
MTTR	Mean Time To Repair
OEM	Original Equipment Manufacturer
OTPROM	One Time Programmable Read Only Memory
PC	Personal Computer
PCI	Peripheral Component Interconnect
PCI SIG	PCI Special Interest Group
PCI-X	Peripheral Component Interconnect-eXtended
PROM	Programmable Read Only Memory
RAID	Redundant Array of Inexpensive Disks
RISC	Reduced Instruction Set Computer
ROM	Read Only Memory
SCSI	Small Computer Systems Interface
SPP	Standard Parallel Port
SVGA	Super Video Graphics Array
TTL	Transistor–transistor logic

USB	Universal Serial Bus
UV	Ultra Violet
VESA	Video Electronics Standards Association
VGA	Video Graphics Array
VL	VESA Local bus
XT	eXtended Technology