

# Introduction of Computer Systems and Applications

Asadullah Shah

Imad Fakhri Taha Alshaikhli



**IIUM PRESS**  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

# INTRODUCTION OF COMPUTER SYSTEMS AND APPLICATIONS

---

## Editors

Asadullah Shah

Imad Fakhri Taha Alshaikhli



IIUM Press

Published by:  
IIUM Press  
International Islamic University Malaysia

First Edition, 2011  
©IIUM Press, IIUM

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Bibliography p.  
Includes Index  
ISBN

ISBN: 978-967-418-085-0

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM  
(Malaysian Scholarly Publishing Council)

Printed by :  
**IIUM PRINTING SDN. BHD.**  
No. 1, Jalan Industri Batu Caves 1/3  
Taman Perindustrian Batu Caves  
Batu Caves Centre Point  
68100 Batu Caves  
Selangor Darul Ehsan

# CONTENTS

---

<b>DEDICATION .....</b>	<i>iii</i>
<b>PREFACE .....</b>	<i>viii</i>
<b>ACKNOWLEDGEMENT .....</b>	<i>ix</i>
<b>1. INTERNAL STRUCTURE OF COMPUTER SYSTEMS</b>	
<i>Asadullah Shah, Zeeshan Bhatti and Imad Fakhri Taha Alshaikhli.....</i>	<i>1</i>
<b>2. INTERFACES AND PROTOCOLS</b>	
<i>Asadullah Shah, Zeeshan Bhatti and Imad Fakhri Taha Alshaikhli.....</i>	<i>9</i>
<b>3. FIRMWARE PROGRAM</b>	
<i>Asadullah Shah, Zeeshan Bhatti and Imad Fakhri Taha Alshaikhli.....</i>	<i>17</i>
<b>4. GRAPHICAL USER INTERFACES</b>	
<i>Asadullah Shah, Zeeshan Bhatti and Imad Fakhri Taha Alshaikhli.....</i>	<i>23</i>
<b>5. SHORT CUT AND HARD DRIVE</b>	
<i>Asadullah Shah, Zeeshan Bhatti and Imad Fakhri Taha Alshaikhli.....</i>	<i>31</i>
<b>6. WINDOWS EXPLORER</b>	
<i>Asadullah Shah, Muniba Shaikh and Imad Fakhri Taha Alshaikhli.....</i>	<i>39</i>
<b>7. FOLDER AND DIRECTORY</b>	
<i>Asadullah Shah, Muniba Shaikh and Imad Fakhri Taha Alshaikhli.....</i>	<i>47</i>

<b>8. FOLDER OPERATIONS</b>	
<i>Asadullah Shah, Muniba Shaikh and Imad Fakhri Taha Alshaikhli.....</i>	55
<b>9. CONTROL PANEL AND SCREEN SAVERS</b>	
<i>Asadullah Shah, Muniba Shaikh and Imad Fakhri Taha Alshaikhli.....</i>	65
<b>10. HARDWARE CONFIGURATION</b>	
<i>Asadullah Shah, Muniba Shaikh and Imad Fakhri Taha Alshaikhli.....</i>	73
<b>11. BASIC OPERATING SYSTEM SETTING</b>	
<i>Asadullah Shah, Asadullah Shaikh and Imad Fakhri Taha Alshaikhli...</i>	81
<b>12. WINDOWS INSTALLATION</b>	
<i>Asadullah Shah, Asadullah Shaikh and Imad Fakhri Taha Alshaikhli...</i>	87
<b>13. NETWORK SECURITY SETTING</b>	
<i>Asadullah Shah, Asadullah Shaikh and Imad Fakhri Taha Alshaikhli...</i>	99
<b>14. TASK SCHEDULING</b>	
<i>Asadullah Shah, Asadullah Shaikh and Imad Fakhri Taha Alshaikhli...</i>	107
<b>15. BASIC STORAGE MANAGEMENT</b>	
<i>Asadullah Shah, Asadullah Shaikh and Imad Fakhri Taha Alshaikhli...</i>	113
<b>16. LOGICAL DRIVE</b>	
<i>Asadullah Shah, Kamran Khowaja and Imad Fakhri Taha Alshaikhli...</i>	119
<b>17. STORAGE MANAGEMENT</b>	
<i>Asadullah Shah, Kamran Khowaja and Imad Fakhri Taha Alshaikhli...</i>	127

<b>18. BASIC DISK MANAGEMENT</b>	
<i>Asadullah Shah, Kamran Khowaja and Imad Fakhri Taha Alshaikhli...</i>	135
<b>19. DISK MANAGEMENT</b>	
<i>Asadullah Shah, Kamran Khowaja and Imad Fakhri Taha Alshaikhli...</i>	141
<b>20. CASCADE STYLE SHEETS</b>	
<i>Asadullah Shah, Kamran Khowaja and Imad Fakhri Taha Alshaikhli...</i>	147
<b>21. IMAGE EDITING</b>	
<i>Asadullah Shah, Zoya Shah and Imad Fakhri Taha Alshaikhli.....</i>	157
<b>22. IMAGE EFFECTS</b>	
<i>Asadullah Shah, Zoya Shah and Imad Fakhri Taha Alshaikhli.....</i>	165
<b>23. IMAGE TOOL FUNCTION</b>	
<i>Asadullah Shah, Zoya Shah and Imad Fakhri Taha Alshaikhli.....</i>	173
<b>24. IMAGE CLONE 1</b>	
<i>Asadullah Shah, Zoya Shah and Imad Fakhri Taha Alshaikhli.....</i>	181
<b>25. IMAGE CLONE 2</b>	
<i>Asadullah Shah, Zoya Shah and Imad Fakhri Taha Alshaikhli.....</i>	193
<b>26. IMAGE AND SPECIAL EFFECTS</b>	
<i>Asadullah Shah, Faisal Shah and Imad Fakhri Taha Alshaikhli.....</i>	199
<b>27. BASIC TEXT EFFECTS</b>	
<i>Asadullah Shah, Faisal Shah and Imad Fakhri Taha Alshaikhli.....</i>	205

<b>28. TEXT ANIMATION</b>	
<i>Asadullah Shah, Faisal Shah and Imad Fakhri Taha Alshaikhli.....</i>	213
<b>29. TEXT EFFECTS</b>	
<i>Asadullah Shah, Faisal Shah and Imad Fakhri Taha Alshaikhli.....</i>	221
<b>30. IMAGE FILTERING</b>	
<i>Asadullah Shah, Faisal Shah and Imad Fakhri Taha Alshaikhli.....</i>	227
<b>31. IMAGE QUALITY IMPROVEMENT</b>	
<i>Asadullah Shah, Faisal Shah and Imad Fakhri Taha Alshaikhli.....</i>	233

# 3. FIRMWARE PROGRAM

---

Asadullah Shah, Zeeshan Bhatti and Imad Fakhri Taha Alshaikhli  
Department of Computer Science, Faculty of Information and  
Communication Technology, International Islamic University Malaysia,  
Malaysia

## Abstract

The Basic input output systems is the firmware program of a small size and placed permanently in the Read Only Memory commonly known as ROM. The ROM is a small storage that initial routines permanently needed to start a computer system after initial booting process. The Operating system takes over the control and monitors each and every activity in the system. Without ROM a computer operating systems (a systems program) will not be able to start operations and take over the control of all the operations of the systems. In this chapter students will be learning BIOS related functions and operations.

## 3.1 Introduction

Software in computer system is divided into 2 categories, Application Software and System Software. Systems software is those which are utilize in the computer system and users cannot use them for their own purposes. Read Only Memory (ROM) is a very small storages permanently saving basic input output system (BIOS) software routine in order to initialize a computer system and soon after the control is transfer to the Operating System which is a bigger system software without which user will be able to run any application on that system.