# TABLE OF CONTENTS

**ABSTRACT**  
I

**ACKNOWLEDGEMENT**  
II

**TABLE OF CONTENTS**  
III

**LIST OF FIGURES**  
VIII

**LIST OF TABLES**  
X

## 1.0 INTRODUCTION

1.1 Introduction of the Project  
1.2 Problem Statements  
1.3 Mission  
1.4 Objectives  
1.5 Project Scope  
1.6 Expected Outcomes  
1.7 Report  

## 2.0 LITERATURE REVIEW

2.1 Interactive Features Through Internet  
  2.1.1 HTML (Hypertext Markup Language)  
  2.1.2 Cascading Style Sheets (CSS)  
  2.1.3 Dynamic HTML  
    2.1.3.1 Data Binding  
    2.1.3.2 Fonts  
  2.1.4 Differences Between Netscape and Microsoft Version  
    Of CSS and Dynamic HTML  
  2.1.5 Common Gateway Interface (CGI)  
  2.1.6 Hypertext Transfer Protocol  

2.2 Web Application Development  
2.3 Database Server  
2.4 Database Management System (DBMS)  
2.5 Data Access Interface Paradigm  
  2.5.1 ODBC Data Source Administrator  
2.6 Client/Server Development  
2.7 Case Studies  
  2.7.1 Case Study 1  
  2.7.2 Case Study 2  
  2.7.3 Case Study 3  
  2.7.4 Case Study 4  
  2.7.5 Case Study 5  
  2.7.6 Case Study 6
2.8 Database Consideration
   2.8.1 Microsoft Access
   2.8.2 Conclusion of The Database Consideration
2.9 System Application Development Tools Consideration
   2.9.1 Microsoft Visual Basic 6.0
   2.9.2 Visual C++
   2.9.3 Active Server Pages (ASP)
   2.9.4 Microsoft Personal Web Server
   2.9.5 Microsoft Visual InterDev 6.0
   2.9.6 Conclusion of Development Tools Consideration
2.10 Scripting Languages Consideration
2.11 Browser Consideration

3.0 SYSTEM ANALYSIS
   3.1 Methodology
   3.2 Project Schedule
   3.3 Requirements Analysis
      3.3.1 Functional Requirements
         3.3.1.1 Students & Administrators Login Function
         3.3.1.2 Change Password Function
         3.3.1.3 Payment Calculating Function
         3.3.1.4 Data Transaction
         3.3.1.5 Data Queries
      3.3.2 Non-Functional Requirements
         3.3.2.1 User Interface
         3.3.2.2 Storage Capacity
         3.3.2.3 Easy to Use and Understand
         3.3.2.4 Reliable
         3.3.2.5 Robust
   3.4 Run-Time Requirements
      3.4.1 Window 95/98/2000/ME
   3.5 Data Flow Diagram

4.0 SYSTEM DESIGN
   4.1 Detail Design
      4.1.1 Architectural Design
      4.1.2 System Architecture
         4.1.2.1 Data Architecture
         4.1.2.2 Application Architecture
            a) Main page module
            b) Student login module
            c) Student change password module
            d) Student’s personal information list module
            e) Course selections module
            f) Course selected module
g) Fees payment module  55
h) Timetable module  55
i) Administrator login module  55
j) Administrator change password module  55
k) View students' information module  56
l) Edit menu module  56
m) Edit students' information module  56
n) Edit administrators' information module  56
o) Edit registration fee and exam fee module  57
p) Edit MIT course information module  57
q) Edit MSE course information module  57
r) Edit MCS course information module  57
s) Edit MLIS course information module  57
t) Edit PHD course information module  57
u) Students access list module  58
v) Administrators access list module  58
w) Course registration reports module  58

4.1.3 Database Design  58
   4.1.3.1 E-R Model  58
   4.1.3.2 Data Dictionary  60

4.1.4 User Interface Design  64
   4.1.4.1 Principles of Interface Design  65
   4.1.4.2 Main Page Design  67
   4.1.4.3 Course Registration Pages Design  68
   4.1.4.4 Time Table Design  76
   4.1.4.5 Administrators Pages Design  77

5.0 SYSTEM TESTING AND IMPLEMENTATION  97
5.1 Testing Strategies  97
   5.1.1 Unit Testing  98
   5.1.2 Module Testing  99
   5.1.3 System Testing  100

5.2 System Testing  100
   5.2.1 Main page module testing  101
   5.2.2 Student login module testing  101
   5.2.3 Student change password module testing  102
   5.2.4 Student's personal information list module testing  102
   5.2.5 Course selections module testing  102
   5.2.6 Course selected module testing  102
   5.2.7 Fees payment module testing  103
   5.2.8 Timetable module testing  103
   5.2.9 Administrator login module testing  103
5.2.10 Administrator change password module testing
5.2.11 View students' information module testing
5.2.12 Edit menu module testing
5.2.13 Edit students' information module testing
5.2.14 Edit administrators' information module testing
5.2.15 Edit registration fee and exam fee module testing
5.2.16 Edit MIT course information module testing
5.2.17 Edit MSE course information module testing
5.2.18 Edit MCS course information module testing
5.2.19 Edit MLIS course information module testing
5.2.20 Edit PHD course information module testing
5.2.21 Students access list module
5.2.22 Administrators access list module
5.2.23 Course registration reports module

5.3 System Implementation

5.3.1 Online Postgraduate Course Registration and Payment System Main Page
5.3.2 Course Registration
  5.3.2.1 Change Password
  5.3.2.2 Student Login
  5.3.2.3 Student Personal Information
  5.3.2.4 Course Selections
  5.3.2.5 Selected Course(s)
  5.3.2.6 Payment
5.3.3 Time Table
5.3.4 Administrator Login
  5.3.4.1 Change Password
  5.3.4.2 Administrator Login
  5.3.4.3 View Student's Record
  5.3.4.4 Edit Menu
    5.3.4.4.1 Edit Students' Information
    5.3.4.4.2 Edit Administrators' Information
    5.3.4.4.3 Edit Registration Fee and Examination Fee
    5.3.4.4.4 Edit MIT Course Info/ Edit MSE Course Info/ Edit MCS Course Info/ Edit MLIS Course Info/ Edit PHD Course Info
5.3.4.5 Students Access List
5.3.4.6 Administrators Access List
5.3.4.7 Course Registration Report
6.0 SYSTEM EVALUATIONS AND CONCLUSIONS

6.1 Strengths
   6.1.1 Simple and Easy to Maintain
   6.1.2 Low Cost of Ownership
   6.1.3 High Level of Upgrade
   6.1.4 Navigation of the System

6.2 Limitations
   6.2.1 Stability
   6.2.2 Low Recoverability of Stored Data
   6.2.3 Manual Backup of Database
   6.2.4 Storage Capability
   6.2.5 Interface Design
   6.2.6 Security

6.3 Future Enhancements to Upgrade the Quality of the System
   6.3.1 Security Features
   6.3.2 Designing and Deploying Web-Enabled Applications:
       A Changing Architecture for Changing Needs
   6.3.3 Good Quality of Performance Database Server
   6.3.4 Stable Web Server
   6.3.5 Implement Firewall
   6.3.6 Cisco

6.4 Conclusion

GLOSSARY

REFERENCES
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When accessing database information from a Web browser, the Web Server acts as the client to the database server</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>Prototyping Method</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>Context Level Diagram For An Online Postgraduate Course Registration and Payment System</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>Diagram 0 For An Online Postgraduate Course Registration And Payment System</td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>Diagram 0 (Continue)</td>
<td>49</td>
</tr>
<tr>
<td>6</td>
<td>E-R Diagram for Online Postgraduate Course Registration And Payment System</td>
<td>59</td>
</tr>
<tr>
<td>7</td>
<td>Main Page Design</td>
<td>67</td>
</tr>
<tr>
<td>8</td>
<td>Student Login Page Design</td>
<td>68</td>
</tr>
<tr>
<td>9</td>
<td>Change Password Page Design</td>
<td>69</td>
</tr>
<tr>
<td>10</td>
<td>Successful Login Page Design</td>
<td>70</td>
</tr>
<tr>
<td>11</td>
<td>Student Personal Information List Page Design</td>
<td>71</td>
</tr>
<tr>
<td>12</td>
<td>Course Selections Page Design</td>
<td>72</td>
</tr>
<tr>
<td>13</td>
<td>(Continue from Figure 12)</td>
<td>73</td>
</tr>
<tr>
<td>14</td>
<td>Selected Course(s) Page Design</td>
<td>74</td>
</tr>
<tr>
<td>15</td>
<td>Payment Page Design</td>
<td>75</td>
</tr>
<tr>
<td>16</td>
<td>Timetable Selections Page Design</td>
<td>76</td>
</tr>
<tr>
<td>17</td>
<td>MCS Time Table Page Design</td>
<td>77</td>
</tr>
<tr>
<td>18</td>
<td>Administrator Login Page Design</td>
<td>78</td>
</tr>
<tr>
<td>19</td>
<td>Successful Login Page Design</td>
<td>79</td>
</tr>
<tr>
<td>20</td>
<td>View Student’ Record Page Design</td>
<td>80</td>
</tr>
<tr>
<td>21</td>
<td>Student’s Record Page Design</td>
<td>81</td>
</tr>
<tr>
<td>22</td>
<td>Edit Menu Page Design</td>
<td>82</td>
</tr>
<tr>
<td>23</td>
<td>Edit Student’s Record Page Design</td>
<td>83</td>
</tr>
<tr>
<td>24</td>
<td>Student’s Record Page Design</td>
<td>84</td>
</tr>
<tr>
<td>25</td>
<td>Add New Student Page Design</td>
<td>85</td>
</tr>
<tr>
<td>26</td>
<td>Edit Administrators’ Records Page Design</td>
<td>86</td>
</tr>
<tr>
<td>27</td>
<td>Edit/Update Record Page Design</td>
<td>87</td>
</tr>
<tr>
<td>28</td>
<td>Edit Registration Fee and Examination Fee Page Design</td>
<td>88</td>
</tr>
<tr>
<td>29</td>
<td>Edit MIT Course Page Design</td>
<td>89</td>
</tr>
<tr>
<td>30</td>
<td>(Continue from Figure 29)</td>
<td>90</td>
</tr>
<tr>
<td>31</td>
<td>Update Course Information Page Design</td>
<td>91</td>
</tr>
<tr>
<td>32</td>
<td>Students’ Login Time</td>
<td>92</td>
</tr>
<tr>
<td>33</td>
<td>Administrators’ Login Time</td>
<td>93</td>
</tr>
<tr>
<td>34</td>
<td>Course Registration Report for FSKTM</td>
<td>94</td>
</tr>
<tr>
<td>35</td>
<td>Report for MCS</td>
<td>95</td>
</tr>
<tr>
<td>36</td>
<td>Students that Register Course WRGA6302</td>
<td>96</td>
</tr>
</tbody>
</table>
Figure 37: Online Postgraduate Course Registration and Payment

System Main Page

Figure 38: Student Login

Figure 39: Change Password

Figure 40: Password Successfully Changed

Figure 41: Student Login Page

Figure 42: Successful Login

Figure 43: Student Personal Information List

Figure 44: Course Selections

Figure 45: (Continue from Figure 44)

Figure 46: Selected Course(s)

Figure 47: Payment Information

Figure 48: Time Table

Figure 49: Time Table for Master of Computer Science

Figure 50: Administrator Login

Figure 51: Administrator Login

Figure 52: Successful Login

Figure 53: View Student’s Record

Figure 54: Student’s Record

Figure 55: Edit Menu

Figure 56: Edit Student’s Record

Figure 57: Student’s Record

Figure 58: Add New Student

Figure 59: Administrators’ Records

Figure 60: Edit/Update Record

Figure 61: Edit Registration Fee and Examination Fee

Figure 62: Edit MIT Course

Figure 63: (Continue from Figure 62)

Figure 64: Edit Course Information

Figure 65: Students Login Time

Figure 66: Administrators Login Time

Figure 67: Course Registration Report for FSKTM

Figure 68: Report for MCS

Figure 69: Students that Register Course WRGA6302

Figure 70 The evolution of Web architecture to support the basic needs
    Of a Web-enabled application
LIST OF TABLES

Table 1 Project Schedule 40
Table 2 UM Administrators Information 60
Table 3 FSKTM Postgraduate Students Information 61
Table 4 Courses Particulars 61
Table 5 Course(s) Selected Information and Payment Information 62
Table 6 Registration Fee & Examination Fee Per Credit Hour 63
Table 7 Students' Login Time 63
Table 8 Administrators' Login Time 64