THE WEB-BASED SECONDARY SCHOOLS EXCESS TEXTBOOK-ON-LOAN DATABASE MANAGEMENT SYSTEM (eXcessToLDatabase)

NG SIAT CHIN

This project is submitted in partial fulfillment of the requirements for the degree of Bachelor of Education with Honours (Information Technology)

Faculty of Computer Science and Information Technology
UNIVERSITI MALAYSIA SARAWAK
2005
ACKNOWLEDGEMENTS

A heartiest word of thanks to be conveyed to everyone who has contributed to the ultimate completion and success of this project.

Huge thanks to my dedicated and enthusiastic supervisor, Ms. Chai Soo See who has been all this while very patient in giving me her help and guidance. Above all, she has lifted my morale to become more independent and confident in confronting whatsoever problems arose during the course of completing my project as well as the report.

A big thank you to all my friends who have lent me their hands be it by giving their technical advice in problem-solving or in the words of motivation.

Thanks to all lecturers who have input me with invaluable know-how to be applied in, but not limited to, this project. Thank you to all faculty staff who are ever patient to take the trouble to attain to my enquiries for help.

Special thanks to my family members who have put up my absence and exhibited their peak degree of tolerance and support. Without whom, I shall not be as I am today.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>DECLARATION</th>
<th>ii</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LISTS OF TABLES</td>
<td>xii</td>
</tr>
<tr>
<td>LISTS OF FIGURES</td>
<td>xiii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>xviii</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>xix</td>
</tr>
</tbody>
</table>

## CHAPTER 1: AN OVERVIEW

1.1 Introduction                                                             1  
1.2 Problem Statement                                                        2  
1.3 Project Purpose and Objectives                                            3  
   1.3.1 To fully tap the Web-based system’s efficiency in information dissemination  4  
   1.3.2 To produce an organized and efficient textbook data management system      4  
   1.3.3 To allow instant references on available excess textbooks in other schools 4  
   1.3.4 To provide a channel for suggestions in promoting the system’s efficiency  4  

[Demo (Visit http://www.pdfsplitmerger.com)]
1.4 Project Scope

1.4.1 Project Deliverables and Boundaries

1.4.2 System Target Users

1.4.3 System Limitation

1.5 Research Significance

1.5.1 Tangible Benefits

1.5.2 Intangible Benefits

1.6 Outline of Project Report

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

2.2 The Importance of the Web in Information Delivery

2.3 Reviewing of Existing Systems

2.3.1 The Computer-based Textbook-on-Loan System

   Model (Sistem SPBT Berkomputer)

   2.3.1.1 The System Functionality

2.3.2 The Existing Excess Textbooks Reallocation System

   2.3.2.1 The System Functionality

2.3.3 New York City Department of Education (NYC DoE)

   Office of Purchasing Management: Excess Textbooks

   2.3.3.1 The System Functionality

2.3.4 Santa Rosa Textbook Depository and Surplus

   Property Warehouse

   2.3.4.1 The System Functionality
2.3.5 Summary on the Various Systems’ Features and Functionality

2.4 Reviews on the Web Technologies

2.4.1 Client-side Service Layer

2.4.1.1 HyperText Markup Language (HTML)

2.4.1.2 JavaScript

2.4.1.3 Java Applets

2.4.2 Server-side Service Layer

2.4.2.1 Common Gateway Interface (CGI)

2.4.2.2 Practical Extraction and Report Language (Perl)

2.4.2.3 Personal Home Page Tools (PHP)

2.4.2.4 Active Server Pages (ASP)

2.4.2.5 Java Servlets and JavaServer Pages (JSP)

2.4.3 Comparison of Web Servers

2.5 Data-side Service Layer

2.6 Result Analysis and Conclusions

CHAPTER 3: SYSTEM DEVELOPMENT METHODOLOGY

3.1 Introduction

3.2 System Development Life Cycle (Waterfall Model)

3.2.1 Requirements Analysis and definition Phase

3.2.1.1 Observation and Interviewing

3.2.1.2 Questionnaires

3.2.1.3 Literature Review
3.2.2 System Design 38
3.2.3 System Implementation 39
3.2.4 Integration and System Testing 40
3.2.5 Operation and Maintenance 41

3.3 Conclusions 41

CHAPTER 4: SYSTEM REQUIREMENTS AND ANALYSIS 42

4.1 Introduction 42
4.2 Requirements Analysis Definition 42
  4.2.1 Feasibility Study 42
  4.2.2 Determining Information Requirements 43
    4.2.2.1 End-users’ Requirements 43
    4.2.2.2 System’s Functional Requirements 46
    4.2.2.3 Hardware Requirements 49
    4.2.2.3 Technology/Software Requirements 49
4.3 Conclusions 50

CHAPTER 5: SYSTEM DESIGN 51

5.1 Introduction 51
5.2 Block Diagram/Repository Model 51
5.3 Data Flow Diagrams (DFDs) 52
  5.3.1 Context Diagram 53
  5.3.2 Level 0 Diagram 54
  5.3.3 Level 1 Diagrams 55
CHAPTER 6: SYSTEM IMPLEMENTATION

6.1 Introduction 70

6.2 Installation of Apache/MySQL/PHP on the Windows platform (WAMP) 70

6.3 The Web-based System Modules
   6.3.1 ‘User Login’ Module 71
   6.3.2 ‘Homepage’ Module 73
   6.3.3 ‘Textbook Advertisement’ Module 75
      6.3.3.1 Step 1 of 2 75
      6.3.3.2 Step 2 of 2 77
   6.3.4 ‘Textbook Search’ Module 81
   6.3.5 ‘Textbook Request’ Module 84
      6.3.5.1 Step 1 of 2 84
6.4 The eXcessToLDatabase myAdmin Modules

6.4.1 ‘Admin Login’ Module

6.4.2 ‘Homepage’ Module

6.4.3 ‘Textbook Advertisement Table Maintenance’ Module
   6.4.3.1 Step 1 of 2
   6.4.3.2 Step 2 of 2

6.4.4 ‘Textbook Request Table Maintenance’ Module
   6.4.4.1 Textbook Request Update
      a. Step 1 of 2
      b. Step 2 of 2

6.4.5 ‘Textbook/School/Textbook Officer Tables Maintenance’ Module
   6.4.5.1 Add Textbook Officer Record
   6.4.5.2 Update Textbook Officer Record
      a. Step 1 of 2
      b. Step 2 of 2
   6.4.5.3 Delete Textbook Officer Record
      a. Step 1 of 2
      b. Step 2 of 2

6.5 Conclusions

CHAPTER 7: SYSTEM TESTING AND EVALUATION

7.1 Introduction
7.2 Unit Testing
7.3 System Testing
7.4 Acceptance Testing

7.4.1 General Website Design Evaluation

7.4.1.1 Ease of Navigation

7.4.1.2 Ease of Accessibility

7.4.1.3 Good Information Design

7.4.2 Task-Centered Evaluation

7.4.2.1 Textbook Advertisement

7.4.2.2 Textbook Search

7.4.2.3 Textbook Request

7.4.3 Users’ Comments and Recommendations

7.5 System Limitations

7.5.1 Human Resource Constraint

7.5.2 Experience Constraint

7.5.3 Lack of Customization Features

7.6 Conclusions

CHAPTER 8: CONCLUSIONS AND FUTURE WORK

8.1 Introduction

8.2 Achievements

8.2.1 Achievement of Project Objectives

8.2.2 Fulfillment of End-Users’ Requirements

8.3 Future Work

8.3.1 Multiple Textbook Titles Advertisement or Request

8.3.2 Discussion Board
8.3.3 Customized Features Add-On

8.3.4 System Network Extension

8.4 Conclusions

REFERENCES

APPENDICES

Appendix A: A Survey on the Secondary School Excess

Textbook-on-Loan Information Management

Appendix B: Data Flow Level 2 Diagrams

Appendix C: Screen Design

Appendix D: Unit Testing

Appendix E: System Testing

Appendix F: Heuristic Evaluation Sheet
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1.1</td>
<td>Project Report Outline</td>
<td>7</td>
</tr>
<tr>
<td>Table 2.1</td>
<td>The Various Systems’ Features and Functionality: A Comparison</td>
<td>19</td>
</tr>
<tr>
<td>Table 2.2</td>
<td>The Web Servers: A Comparison</td>
<td>29</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Hardware Specification</td>
<td>49</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Technology/Software Specification</td>
<td>49</td>
</tr>
<tr>
<td>Table 5.1</td>
<td>Data Flows of \textit{eXcessToLDatabase}</td>
<td>62</td>
</tr>
<tr>
<td>Table 5.2</td>
<td>Data Stores of \textit{eXcessToLDatabase}</td>
<td>67</td>
</tr>
<tr>
<td>Table 7.1</td>
<td>Conformance to Ease of Navigation Principle of \textit{eXcessToLDatabase}</td>
<td>109</td>
</tr>
<tr>
<td>Table 7.2</td>
<td>Conformance to Ease of Accessibility Principle of \textit{eXcessToLDatabase}</td>
<td>109</td>
</tr>
<tr>
<td>Table 7.3</td>
<td>Conformance to Good Information Design Principle of \textit{eXcessToLDatabase}</td>
<td>110</td>
</tr>
<tr>
<td>Table 7.4</td>
<td>Textbook Advertisement Task’s Usability of \textit{eXcessToLDatabase}</td>
<td>111</td>
</tr>
<tr>
<td>Table 7.5</td>
<td>Textbook Search Task’s Usability of \textit{eXcessToLDatabase}</td>
<td>112</td>
</tr>
<tr>
<td>Table 7.6</td>
<td>Textbook Request Task’s Usability of \textit{eXcessToLDatabase}</td>
<td>113</td>
</tr>
<tr>
<td>Table 8.1</td>
<td>Achievement of Project Objectives</td>
<td>117</td>
</tr>
<tr>
<td>Table 8.2</td>
<td>Fulfillment of End-Users’ Requirements</td>
<td>118</td>
</tr>
<tr>
<td>Table D.1</td>
<td>Database Unit Testing</td>
<td>141</td>
</tr>
<tr>
<td>Table D.2</td>
<td>\textit{eXcessToLDatabase} Modules’ Unit Testing</td>
<td>142</td>
</tr>
<tr>
<td>Table D.3</td>
<td>\textit{eXcessToLDatabase myAdmin} Modules’ Unit Testing</td>
<td>144</td>
</tr>
<tr>
<td>Table E.1</td>
<td>\textit{eXcessToLDatabase} System Testing</td>
<td>147</td>
</tr>
<tr>
<td>Table E.2</td>
<td>\textit{eXcessToLDatabase myAdmin} System Testing</td>
<td>148</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Main Menu of the System</td>
<td>10</td>
</tr>
<tr>
<td>2.2</td>
<td>School Inventory Form</td>
<td>15</td>
</tr>
<tr>
<td>2.3</td>
<td>Excess Textbook List</td>
<td>15</td>
</tr>
<tr>
<td>2.4</td>
<td>Request for Pickup Form</td>
<td>17</td>
</tr>
<tr>
<td>2.5</td>
<td>Surplus Inventory List</td>
<td>18</td>
</tr>
<tr>
<td>2.6</td>
<td>Textbook Request Form</td>
<td>18</td>
</tr>
<tr>
<td>3.1</td>
<td>System development Life Cycle (Waterfall Model)</td>
<td>35</td>
</tr>
<tr>
<td>4.1</td>
<td>A Survey: Rating on the Existing Manual Excess Textbook Data Management System</td>
<td>44</td>
</tr>
<tr>
<td>4.2</td>
<td>A Survey: The Need To Upgrade the Existing Manual Excess Textbook Data Management System</td>
<td>44</td>
</tr>
<tr>
<td>4.3</td>
<td>A Survey: Web-based System Is the Best Solution for Data Management</td>
<td>45</td>
</tr>
<tr>
<td>4.4</td>
<td>System’s Functionalities (for end-users) of eXcessToLDatabase</td>
<td>47</td>
</tr>
<tr>
<td>4.5</td>
<td>System’s Functionalities (for administrator) of eXcessToLDatabase</td>
<td>48</td>
</tr>
<tr>
<td>5.1</td>
<td>Block Diagram/Repository Model of eXcessToLDatabase</td>
<td>52</td>
</tr>
<tr>
<td>5.2</td>
<td>Context Diagram of eXcessToLDatabase</td>
<td>53</td>
</tr>
<tr>
<td>5.3</td>
<td>Level 0 Diagram of eXcessToLDatabase</td>
<td>54</td>
</tr>
<tr>
<td>5.4</td>
<td>Advertise Excess Textbook Process of eXcessToLDatabase</td>
<td>55</td>
</tr>
<tr>
<td>5.5</td>
<td>Locate Desired Textbook Process of eXcessToLDatabase</td>
<td>56</td>
</tr>
<tr>
<td>5.6</td>
<td>Make Request for Textbook Process of eXcessToLDatabase</td>
<td>57</td>
</tr>
<tr>
<td>5.7</td>
<td>Transfer Textbook Process of eXcessToLDatabase</td>
<td>58</td>
</tr>
</tbody>
</table>
Figure 5.8  *Update Textbook Record Process of eXcessToLDatabase* 58
Figure 5.9  *Entity Relationship Diagram of eXcessToLDatabase* 60
Figure 6.1  *User Login Page of eXcessToLDatabase* 71
Figure 6.2  *Field Entry Reminders* 72
Figure 6.3  *Username and Password Entry Error Alert Pop-Up Messages* 72
Figure 6.4  *Automatic Selection of Error* 73
Figure 6.5  *Homepage of eXcessToLDatabase* 74
Figure 6.6  *Advertise Textbook (Step 1) Page of eXcessToLDatabase* 76
Figure 6.7  *Class Level Selection Pop-Up Message* 76
Figure 6.8  *Textbook Information Pop-Up Message* 77
Figure 6.9  *Book Code Selection Reminder Pop-Up Message* 77
Figure 6.10  *Advertised Textbook (Step 2) Page of eXcessToLDatabase* 79
Figure 6.11  *Quantity Entry Error Alert Pop-Up Messages* 79
Figure 6.12  *Advertised Textbook Details Page of eXcessToLDatabase* 80
Figure 6.13  *Advertised Textbook Details Page of eXcessToLDatabase* 81

(Print version)

Figure 6.14  *Textbook Search Page of eXcessToLDatabase* 82
Figure 6.15  *Search by Class Level Result Page of eXcessToLDatabase* 83
Figure 6.16  *Search by Textbook Code Result Page of eXcessToLDatabase* 83
Figure 6.17  *Null Record Found Pop-Up Message* 84
Figure 6.18  *Request for Textbook Form (Step 1) Page of eXcessToLDatabase* 85
Figure 6.19  *Request for Textbook Form (Step 2) Page of eXcessToLDatabase* 84
Figure 6.20  *Invalid Request Quantity Error Alert Pop-Up Message* 85
Figure 6.21  *Request for Textbook Details Page of eXcessToLDatabase* 87
Figure 6.22  Auto Update of Database Record Display 88

Figure 6.23  Request for Textbook Details Page of eXcessToLDatabase 88
(Print version)

Figure 6.24  Admin Login Page of eXcessToLDatabase myAdmin 91

Figure 6.25  Homepage of eXcessToLDatabase myAdmin 92

Figure 6.26  Delete Textbook Advertisement Record (Step 1) Page of eXcessToLDatabase myAdmin 93

Figure 6.27  Delete Textbook Advertisement Record (Step 2) Page of eXcessToLDatabase myAdmin 94

Figure 6.28  Updated Textbook Advertisement Record Page of eXcessToLDatabase myAdmin 95

Figure 6.29  Update Textbook Request Record (Step 1) Page of eXcessToLDatabase myAdmin 96

Figure 6.30  Update Textbook Request Record (Step 2) Page of eXcessToLDatabase myAdmin 97

Figure 6.31  Updated Textbook Request Record Page of eXcessToLDatabase myAdmin 98

Figure 6.32  Add Textbook Officer Record Page of eXcessToLDatabase myAdmin 99

Figure 6.33  Added Textbook Officer Record Page of eXcessToLDatabase myAdmin 99

Figure 6.34  Update Textbook Officer Record (Step 1) Page of eXcessToLDatabase myAdmin 100

Figure 6.35  Update Textbook Officer Record (Step 2) Page of eXcessToLDatabase myAdmin 101
Figure 6.36 Updated Textbook Officer Record Page of eXcessToLDatabase

Figure 6.37 Delete Textbook Officer Record (Step 1) Page of eXcessToLDatabase

Figure 6.38 Delete Textbook Officer Record (Step 2) Page of eXcessToLDatabase

Figure 6.39 Updated Textbook Officer Record Page of eXcessToLDatabase

Figure 7.1 Percentage on Ease of Navigation of eXcessToLDatabase

Figure 7.2 Percentage on Ease of Accessibility of eXcessToLDatabase

Figure 7.3 Percentage on Good Information Design of eXcessToLDatabase

Figure 7.4 Percentage on Textbook Advertisement Task’s Usability of eXcessToLDatabase

Figure 7.5 Percentage on Textbook Search Task’s Usability of eXcessToLDatabase

Figure 7.6 Percentage on Textbook Request Task’s Usability of eXcessToLDatabase

Figure B.1 Validate School ID & Password Process of eXcessToLDatabase

Figure B.2 Enter Textbook & Contact Particulars Process of eXcessToLDatabase

Figure B.3 Press “Submit” Button Process of eXcessToLDatabase

Figure B.4 Validate School ID & Password Process of eXcessToLDatabase

Figure B.5 Select “Display All” or “Search” Process of eXcessToLDatabase

Figure B.6 Display Available Textbook List Process of eXcessToLDatabase

Figure B.7 Enter Search Key Process of eXcessToLDatabase

xvi
Figure B.8  Search Single Item Process of eXcessToLDatabase
Figure B.9  Enter Textbook & Contact Particulars Process of eXcessToLDatabase
Figure B.10 Press “Request” Button Process of eXcessToLDatabase
Figure B.11 Validate Administrator ID & Password Process of eXcessToLDatabase
Figure B.12 Select Database Table-Level Maintenance Item Process of eXcessToLDatabase
Figure B.13 Locate Textbook In BkReq Process of eXcessToLDatabase
Figure B.14 Locate Textbook In BkAdv Process of eXcessToLDatabase
Figure C.1 End-User Login Page of eXcessToLDatabase
Figure C.2 Login Error Message of eXcessToLDatabase
Figure C.3 Home Page of eXcessToLDatabase
Figure C.4 Textbook Advertisement Page of eXcessToLDatabase
Figure C.5 Advertised Textbook List Page of eXcessToLDatabase
Figure C.6 Incomplete Particulars Error Message of eXcessToLDatabase
Figure C.7 Request Textbook Page of eXcessToLDatabase
Figure C.8 Display All Result Page of eXcessToLDatabase
Figure C.9 Search Single Title Result Page of eXcessToLDatabase
Figure C.10 Item Not Found Page of eXcessToLDatabase
Figure C.11 Request for Textbook Form Page of eXcessToLDatabase
ABSTRACT

This project develops a web-based system called 'eXcessToLDatabase' to systematically manage and make public the data on excess textbooks in secondary schools of the Kuching division. The present manual access to this kind of data is difficult and consequently, request for the excess textbooks is time-consuming. eXcessToLDatabase - equipped with the speedy information-delivery capability of the internet and coupled with the efficient data-administration feature of the database - offers an in-time sound solution to the said problem. The website provides services for schools to advertise information on excess textbooks, search for availability of excess textbooks, request for advertised excess textbooks and forward queries or suggestions via an instant email facility.
ABSTRAK

Proyek ini membangunkan satu sistem berdasarkan Web bergelar ‘eXcessToLDatabase’ untuk menguruskan serta menyampaikan maklumat tentang buku teks yang berlebihan secara sistematik di sekolah-sekolah menengah dalam bahagian Kuching. Pencapaian kepada maklumat sebegini secara manual pada masa kini adalah sukar dan mengakibatkan pemohonan untuk buku teks yang berlebihan mengambil masa yang agak panjang. eXcessToLDatabase - dengan kemampuan internet untuk menyampaikan maklumat dengan pantas serta ciri pengurusan data yang efisien yang dibekalkan oleh sesuatu pangkalan data - menawarkan satu cara penyelesaian yang berkesan kepada masalah tersebut. Antara perkhidmatan yang ditawarkan oleh laman Web ini ialah: Pengiklanan senarai buku teks berlebihan, enjin pencarian judul buku teks yang diiklankan, permohonan untuk buku teks berlebihan serta sudut email untuk mengemukakan soalan atau cadangan.
CHAPTER 1: AN OVERVIEW

1.1 Introduction

As the world advances into the so called Information Highway era, one will certainly be of enormous advantage over the others if he/she is able to possess the most up-to-date global information to thrive in the ever increasing competitive environments. In this aspect, the degree of efficiency and the swiftness in which the information is acquired counts.

The setting up of the Multimedia Super Corridor (MSC) indicates that Malaysia has also realized the importance of her people in grasping the latest information communication technology in order to perform well in the global environment. The Smart Schools, as one of the seven flagship applications of MSC, serves as the germinating nursery for producing the nation’s future knowledge workers. To achieve this end, two of its components/strategies namely Smart School Management System and Smart School Technology Infrastructure are of utmost important. As the country is stirring towards a developed nation by the year 2020, all schools in Malaysia will be gradually upgraded to Smart School status. This implies that the schools’ overall management system (inclusive of the database management) have to be moving in par with this development via employing of the most recent technology as possible (Multimedia Development Corporation, 2003).

Thus, in envisaging the global trend, this proposed project which entitled “The Web-based Secondary Schools Excess Textbook-on-Loan Database Management System” (eXcessToLDatabase) has come into being.
1.2 Problem Statement

The Textbook-on-Loan Scheme Program or *Program Skim Pinjaman Buku Teks* (SPBT) was first implemented in the year 1975 in government and government aided schools to all eligible students whose parents are Malaysian citizens only. The SPBT program was implemented with two major aims. First, it aimed to help reduce the financial burden of the low-income parents. Second, it was meant to ensure that no needy students were left unattended of their welfare in their schooling years (*Bahagian Buku Teks*, 2000).

Since the program’s first implementation, it was managed manually based on the guidelines and work procedures provided in a handbook. A file system which consists of a minimum of nine different files is employed to ensure the textbooks are managed efficiently and systematically. This file system used to work well in its setting as the total student population was considerably manageable. Moreover, there was no alternative to resort to as Malaysia was still lagging behind in terms of technology literacy.

As the student population swells and the digital divide gap between Malaysia and the West shrinks, the manual file system is becoming obsolete and is impeding the system’s efficiency. This prompted a group of UNIMAS students to develop a Computer-based Textbook-on-loan System Model or *Sistem SPBT Berkomputer* in 2002.

The computer-based system has inevitably capable of improving the efficiency of the manual system in term of textbook data management in individual school. However, it does possess certain shortcomings that would impede its performance like:
• It does not provide the mechanism as how the excess textbooks in any schools are to be interchanged or reallocated. As according to the guidelines provided by the Textbook Section or Bahagian Buku Teks of the Ministry of Education, schools have to transfer any excess textbooks to those that need them.

• The system is designed stand alone and not Web-based. It only provides individual service to any one school that installs it. The technology employed in developing the system, like Microsoft Visual Basic, has in one way or another impeded the effort to upgrade it to a Web-based system.

• As the databases are not interlinked, information on excess and shortages of textbooks have to be enquired manually from every single school and this is of no time and cost benefits.

Consequently, these hindrances demand enhancements/complements to the present system so as to increase its efficiency. The proposed Web-based system with a central database will certainly meet this end.

1.3 Project Purpose and Objectives

The project has the ultimate purpose or goal of identifying the weaknesses of the present manual system of textbook information dissemination alongside with the requirement analysis and develops an enhanced system to rectify the problems and to offer more efficient services. Based on this purpose, the following objectives are defined:
1.3.1 To fully tap the Web-based system’s efficiency in information dissemination

As being mentioned in the introductory section, timely and efficient acquirement of information put one at advantage and this can be easily achieved via a Web-based system that data can be easily uploaded and referred to by anyone with a matter of mouse click. This speeds up information exchange.

1.3.2 To produce an organized and efficient textbook data management system

This objective is utmost important as the present manual system is disorganized and lack of proper guidelines in its implementation. The proposed system will be able to rectify this problem by providing (online) documented rules and procedures in the management of textbook transfer.

1.3.3 To allow instant references on available excess textbooks in other schools

As differs from the present system that requires a school to contact each and every other school to obtain the required information on excess textbooks, eXcessToLDatabase, as a centralized data repository, offers immediate reach to this information irrespective of time and location factors.

1.3.4 To provide a channel for suggestions in promoting the system’s efficiency

With the suggestions/comments corner provided, the new system offers a proper channel to pull in constructive comments that will be invaluable in the effort to improve the system’s efficiency.
1.4 Project Scope

“The term scope is used to define the work boundaries and deliverables of the project so what needs to get done, gets done…” (Marchewka, 2003). Based on this definition, the project scope for eXcessToLDatabase is defined as follows:

1.4.1 Project Deliverables and Boundaries

The project will deliver a system called eXcessToLDatabase and a documented report, a user manual and helpdesk. The system will serve to take care of the exchange of excess textbooks’ information among schools to enable the reallocation of these textbooks to schools that need them. The management of SPBT at individual school level will not be of its concern.

1.4.2 System Target Users

eXcessToLDatabase will serves two types of authorized users who are provided with unique login usernames and passwords. The first type of users is the Kuching division’s Department of Education (which is the system/database administrator as well). Whereas schools with excess textbooks to advertise and contribute as well as schools that need these textbooks make up the second type of users.

1.4.3 System Limitation

eXcessToLDatabase is developed to only complement, but is not meant to replace, the present SPBT system at school level. The system’s effectiveness, to a great extent, relies on the degree of cooperativeness and proactive-ness of the schools to advertise the information on the excess textbooks possessed by them as they are not bounded by any rulings to do so.
1.5 Research Significance

This project, upon implementation, will ultimately benefit the school teachers, students, parents and the education department in terms of providing sufficient textbooks to needy students as stated in the SPBT program. The improved efficiency in textbook data management will bring about both tangible and intangible benefits as listed below:

1.5.1 Tangible Benefits

- The web-based centralized database offers easy and instantaneous information on excess textbooks in any schools. This reduces cost and time by in enquiries from school to school by phone/mail.
- Textbook exchange among schools is faster and more systematic.
- The education department can issue immediate directives via email to schools for textbook-exchange arrangement.

1.5.2 Intangible Benefits

- The system allows the education department to indirectly monitor the performance of every school in term of textbook management via how quick the school can provide the statistics of textbooks for reallocation purposes.
- The timely reallocation and distribution of textbooks to eligible students will boost up their morale value as well as their interest in studies as they will not feel that they have been discriminated from the main stream.
- The subsequent effect of the above is that the parents will have a greater confidence in the teachers and this again will promote the school’s image as a whole.