Online Accounting System

by

Mr. Krit Plianpae

A Final Report of the Three-Credit Course
IC 6997 E-Commerce Practicum

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Internet and E-Commerce Technology
Assumption University

March 2008

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Project Title	Online Accounting System
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Project Advisor	Rear Admiral Prasart Sribhadung
Academic Year	March 2003

The Graduate School of Assumption University has approved this final report of the three-credit course, IC 6997 E-Commerce Practicum, submitted in partial fulfillment of the requirements for the degree of Master of Science in Internet and E-Commerce Technology.

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March 2003

ABSTRACT

Nowadays, there is very high competition in the world and information is very important in order to support the decision making in time. We realize the importance of the ways to provide the information to be updated, reliably and timely. We promote the employees to follow the new technology because it is one part of our company to be able to survive in the e-business market. Thus we try to reduce the manual system in order to reduce time, manpower, errors, paper and cost of any unnecessary expenses.

This study of this project starts from analyzing all the processes related to the invoice, report and customer transactions and focuses on the areas of improvement. This project aims at promoting the new technology to the high level managers to be aware of, get benefit of the new Internet technology, after that we promote the technology to all staffs. Finally, this project is developed to improve the work efficiency and knowledge of all staffs in the accounting system.

The proposed system has been designed to help to improve the operation, and it is expected to provide rapid work, allowing immediate access to the information, and also providing more up-to-date information for decision making. Moreover, it provides convenience and fast ability for recording, finding or reporting the information.

ACKNOWLEDGEMENTS

Several people have made contributions to this project. The writer is pleased to acknowledge their effort and thank them for their help.

Rear Admiral Prasart Sribhadung, his advisor, is the first person that helped him with suggestions during the entire course of the project. The patient assistance, guidance, and constant encouragement from his advisor have led him from the research inception to the research completion.

All the lecture of MS(IEC) program who have imparted their knowledge and enabled preparation for this project, the various subjects taught, and the various course assignments given by them have a relationship to achieve this project

Mr. Galal A. Elenein, Founder of Gems Plus G Inc., for his timely assistance and provision of information in his project, who also guided the conceptual accounting system in the company, is specially noted.

Finally, he would like to thank his family and his friends who supported him for everything in this project.

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I. INTRODUCTION

1.1 Background of the Project

Gems Plus G., Inc. is one of online gemstone and jewelry company in United States. There are 3 branches which are located in Los Angeles, California; Orlando, Florida; and Bangkok Thailand. I work for G.PL.G. Ltd. which is one of 3 the branches. The company has their own website called "gemsplusg.com" and "gemauction.com". Both are the high revolutionary high tech gemstones and jewelry online market places.

We have not only online customers in our website, but we also have offline customers who watch the cable TV broadcasting. At the present, the company business is rapidly growing. We have a lot of new coming customers each week.

Our existing accounting system is not effective enough to handle a lot of transactions. Due to some part of our existing is done manually. Also, there is no database management in current system. The data is kept separately in each branch and with inconsistent format. Thus, retrieving information is very difficult and inefficient.

From the above situation, our company needs to develop a new accounting system. This must have database system running up to provide the centralized information. Also this system has to be online which is accessible from any branch. It should have good security and control information.

1.2 Objectives of the Project

The objective of the project is to develop an online accounting system web-based application. The system is expected to increase the company's effectiveness as follows:

(1) To reduce paper work.

(2) To reduce time consuming in each process.

(3) To improve data correctness, integrity and consistency.

(4) To eliminate unnecessary or duplicate data.

(5) To overcome the limitation of customer information.

(6) To have powerful and effective manipulation of the company's customers database.

(7) To classify the customer level.

(8) To generate accurate sale/invoice report.

(9) To eliminate the difficulties of information retrieval.

(10) Serving users and management requirements.

1.3 Scope of the Project

The scope of this project covers only the area of invoice, report and customer modules. This project started with the studying and evaluation of the existing system. The problem from the result of studying will be recorded and analyzed to solve the problem.

The project will cover major parts of the online accounting system as follows:

1.3.1 Analyze the Existing System

(1) Analyze the process of existing business function

(2) Analyze the Strength, Weakness, Opportunity and Threat of existing system

(3) Study the problem of existing system

(4) Study the way to reduce the redundant jobs

(5) Study the user requirement

(6) Study the way to convert the existing data to use in the new system

(7) Study the essential information to support decision making

(8) Compare the cost and benefit between existing system and proposed system

1.3.2 Design the New System

(1) Design input/output

(2) Design the hardware specification

(3) Design the network specification

(4) Design the security and control

(5) Design database structure and format

(6) Design user interface

(7) Design the testing procedure

1.3.3 Implementation of the New System

(1) Coding.

(2) Testing and verification.

(3) Data conversion.

(4) Hardware installation

(5) Software installation

1.4 Deliverables

After completing the project, we can deliver as follows:

(1) A complete Final Report.

(2) An Online Accounting System Web-based Application

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II. THE EXISTING SYSTEM

2.1 Background of the Existing System

Our company business is based on e-commerce business and off-line business. Our existing system consists of a manual system and computerized system. All billing data and customer database are recorded in Microsoft Excel. Invoices are written on a printed form by using Microsoft Excel and issued to customer. The accounting data is recorded in a book as well. Thus, our manager can not confidently keep the data which is recorded in the books, and cannot be tracked, searched for the data required. It also takes along time to retrieve information from it. Moreover, the existing system consumes a lot of resources to perform tasks, time wasted, and spending a lot of money. Additionally, this system's risks are very high with human error.

2.2 The Existing Business Function

In Orlando office, when operators receive call orders from customers, they have to record order information and customer information in Microsoft Excel. The order information contains ordered items, quantity, and amount of order. After staffs finish this task, all information will be transfered to Los Angeles Office by email as Microsoft Excel file attachment.

In Los Angeles Office, staff will open the attachment, calculate the shipping charge for each invoice manually. Then, staff will charge to customer's credit card through the virtual terminal of authorize.net. If the transaction is completed, staff records the authorization code in their book. Then, they prepare the shipment according to that particular invoice.

In Bangkok office, each week staff will get the invoice report from Los Angeles office by email. They can see the items that is purchased in last week. Then, they can prepare to make the new production.

2.3 SWOT Analysis of Existing System

Strength

(1) Easy to understand the system

(2) No need computer knowledge in part of manual job

(3) System is not complicated

Weakness

(1) A lot of time consumed

(2) Redundant jobs

(3) Manual system causes human errors

(4) Lack of real-time information providing

(5) Inconsistent format of data

(6) Inefficient to store the large records of data

(7) Redundant data

(8) Difficult to retrieve information

(9) Non-reliable information

Opportunities

(1) Use in small business

(2) Use existing function to develop the better system

Threats

(1) Risk losing the document and data

(2) Increasing number of transaction leads the system to inefficiency.

(3) Other competitor has more efficiency system

2.4 Problem Identification

According to the SWOT Analysis from above section, we concluded the problem as follows:

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(1) Redundant and inconsistent data

For existing system, staff in each branch will have the data which is collected and recorded for use only in that branch. This information is not shareable with any other branches. Thus, data will become redundant and inconsistent in the system which also leads to the inconsistency of updated information. This will generate problems and increased expense to the company.

With centralized database management, it can reduce the expenses from keeping the redundant information because data is kept in only one place. The information will be updated easier, faster than the existing system. Thus, it can avoid the problem of inconsistent data.

(2) Slow business processes

The effect of redundant and inconsistent data problem will effect the whole business processes. Staff has to spend a lot of resources and time to perform each step in business process.

(3) Inconsistency format of information

As all data records are kept depending on the record owner's purpose. The format of data being kept will be different from time to time. Also in each branch, staff keeps the information in different format. The different format of data lends to loss of data compatibility and difficulty in information analysis for management.

This problem could be solved by setup of the database management system (DBMS). The database management system has ability to restrict the format of data in database. All staff can record the data in the same format and can avoid the problem of data incompatibility.

(4) Difficulties in information retrieval

In the existing system, in each branch, there are difficulties to retrieve the information which does not exist in the same branch. Example, In Orlando office, staff could not know the payment status of each invoice. They need to call to Los Angeles office and ask for the information even asking for them to send the file via email.

This problem can be solved by setting up a centralized database. Each branch will have access to the information through the Internet. All staffs can see the latest information in real time. This can reduce the long-distance telephone call expenses.

(5) Classification of customers

There is no classification process to classify the customer in the existing system. As our company provides the satisfaction guarantee for any purchased product that customer wants to return within 10 days after they receive the product. They will get full refund of their purchase. However, the company still does not want to deal business with customer who returned too many items. It wastes our time to deal business with him.

Therefore, the proposed system should have function to calculate and record the return items in invoices. Then, classify the customer in case they have too many return items and indicate it in their customer's profile.

III. THE PROPOSED SYSTEM

3.1 Conceptual Requirement of the New System

The Objective of the new system requirements is to assemble an overall picture of input, output, operations and resources required by the system to meet the present and future needs of the organization.

After investigating and analyzing an existing system, the new system requirements can be mainly stated for a centralized database system that contains all the information from the existing system. This new system has to have more consistent, reliable, and fast information retrieval. In conclusion, the new system requirements can be clarified as follows:

(1) Reduce document redundancy

(2) Reduce time and difficulties in searching for the required information

(3) Increase more effectiveness and efficiency in management control

(4) Create more accurate and reliable report system

(5) Increase efficiency to classified customer type

(6) Support the management future plan

3.2 Process of the Proposed System

(1) Create new project

For each week, staffs in Orlando office have to create the new project for the sale of each weekend. They will key-in project id, project name and all other project information into the system. After this process is performed, staff will wait for orders during TV show.

(2) Create invoices

After receiving the call order from customers, Orlando staffs response to key-in customer information such as: customer name, address, credit card

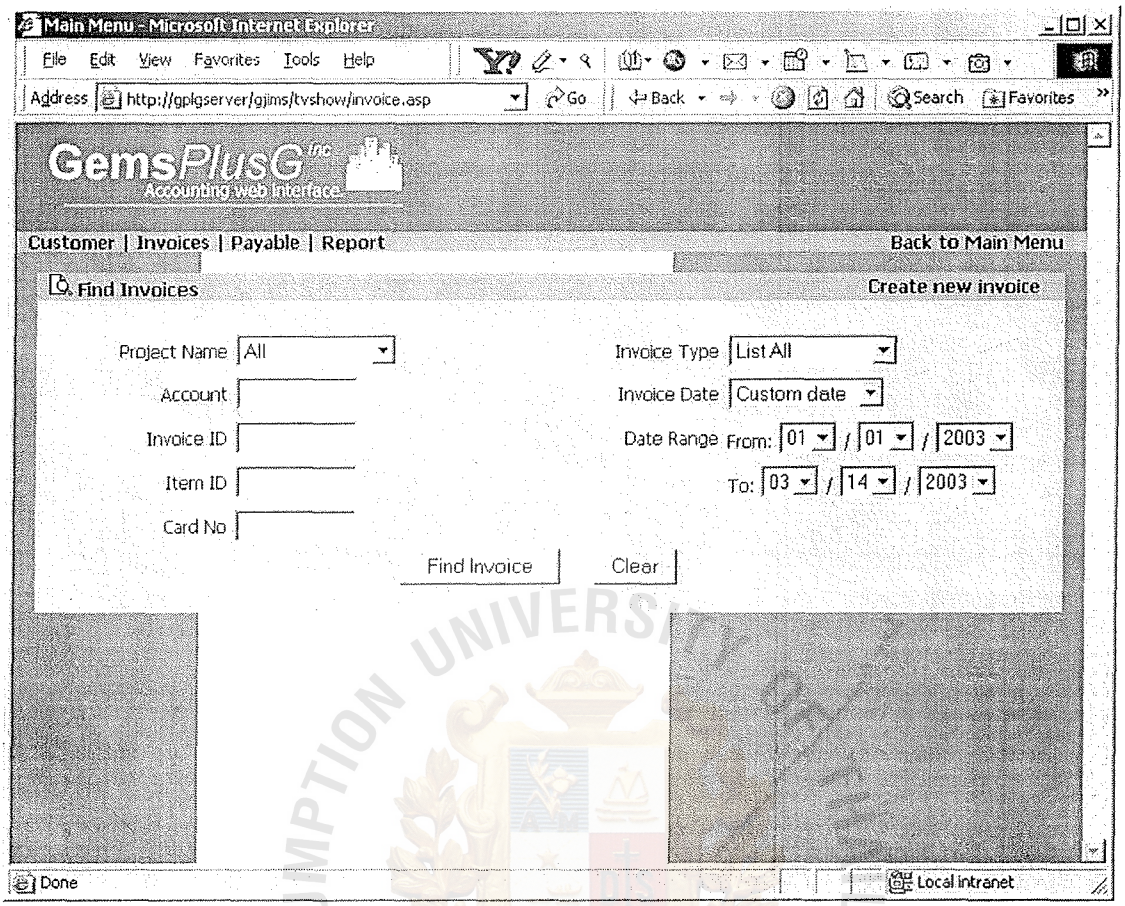

Figure 4.5. Search Invoice Page Design.

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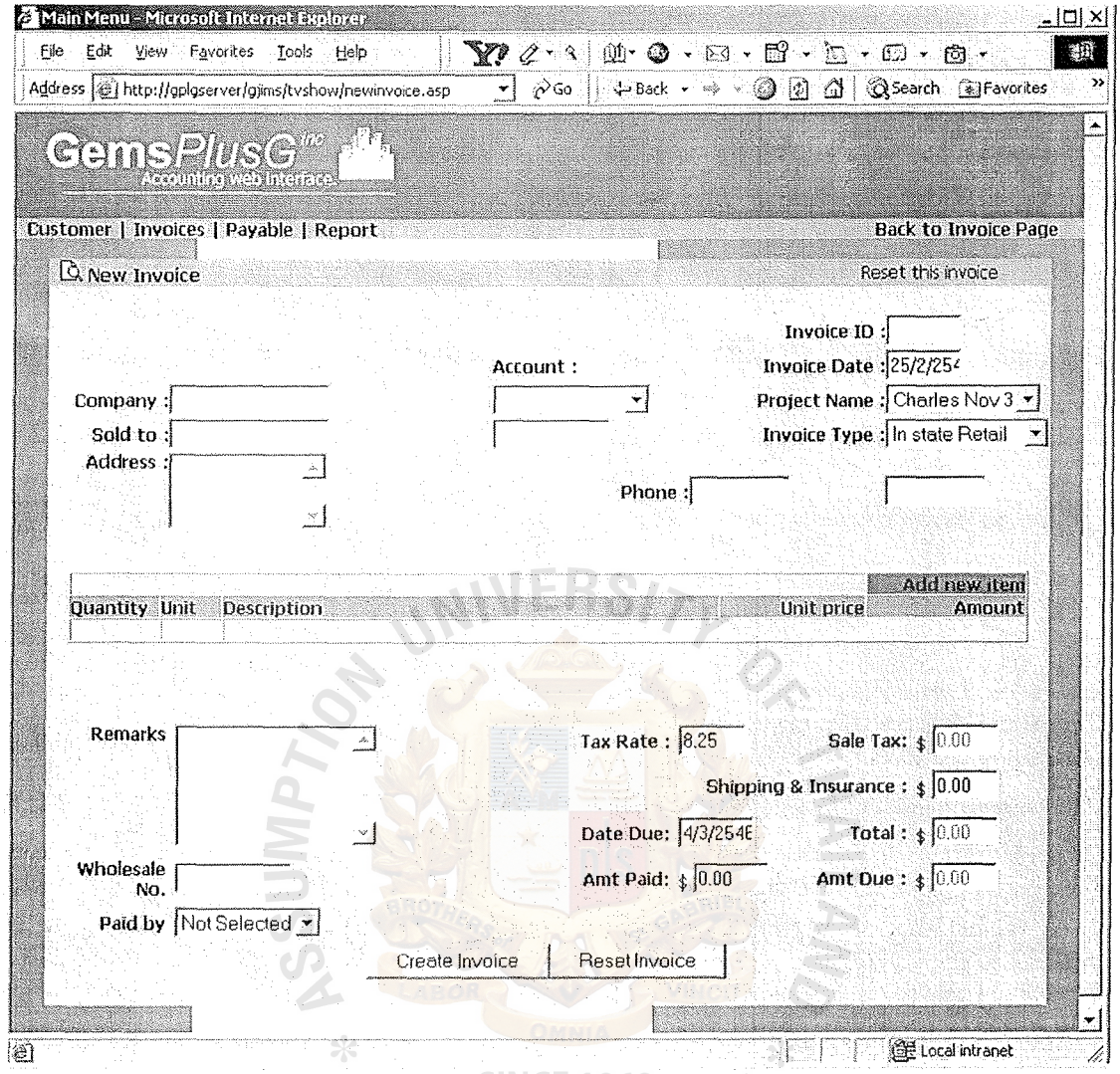

Figure 4.6. Create Invoice Page Design.

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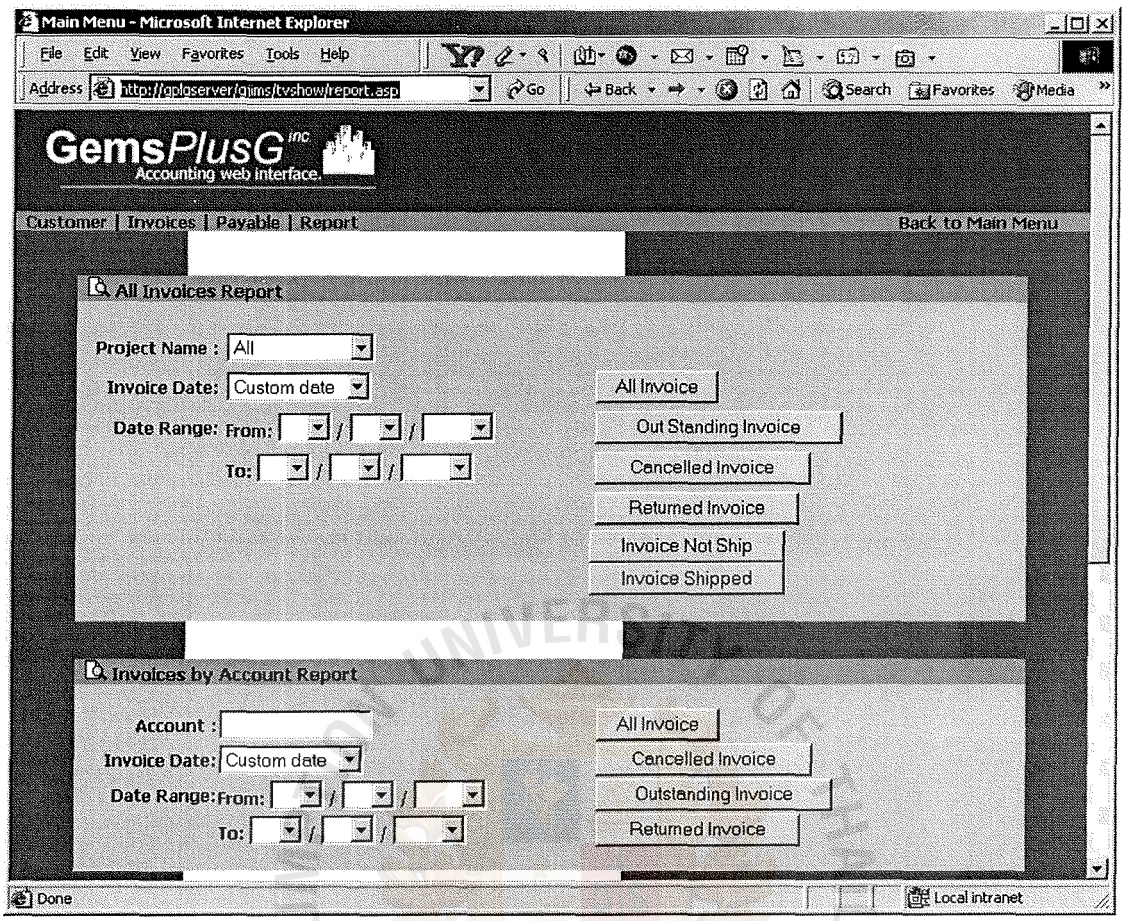

Figure 4.7. Generate Report Page Design.

4.2.3 Software Programming

After finished design of database structure and relationship of each table, the project requires to program with Microsoft Active Server Pages (ASP). We decide to use Microsoft Active Server Pages because it comes with Internet Information Server 4.0. It is free and easy to develop web application with MS-SQL Database.

The programming language which is used in ASP is VBScript. This is a simple language and easy to understand the coding. The programming structure is not too complicated to develop and modify the existing source code from Internet. Moreover, there are a ton of ASP users and web sites which can be the resource that help to program this project.

4.3 Data Conversion

According to the existing system, the data is kept in the form of written on paper and some stored in Microsoft Excel. These data need to be converted into Microsoft SQL Database by using the import/export tools in Microsoft SQL Enterprise Manager. There is also some data which need to be entered manually.

The data conversion is important for new system. Instead of all manual key in the data which wasted time and not effective, data conversion tools will save a lot of time and reduce the human errors by manual key-in data.

However, even if we have data conversion tools to convert data from existing system to new system, we still have to investigate the correctness of the recorded data, edit, and complete the missing points also.

4.4 Testing and Verification

The most effective way to reduce risk and costs is to start testing early in the development cycle and to test successively, with every build. In addition, test planning should happen early in the design process to ensure that quality standards are set early in the delivery life cycle. With this approach, defects are removed as features are implemented. This way, when testing is used to improve software quality earlier in development, the cost of testing and correcting the software in later phases of the cycle falls dramatically. Testing early and testing with every iteration requires up-front planning between developers and testers.

The key advantages of early testing are:

(1) Risks are identified and reduced in the primary stages of development.

(2) Repairs to the problems are less costly.

(3) The release date can be more accurately predicted.

(4) The product development process is accelerated.

The software product under development should address the business problem and satisfy user requirements. The difference in the software between the project as planned and the state in which it has been verified is called the quality gap. Large quality gaps mean that application(s) do not serve the business needs for which they have been built. Testing is used as a means for closing the quality gap and ensuring that the system can be used effectively in the target environment.

The system is formally tested for:

(1) Reliability – the application operate without crashing, hanging or other run-time errors.

(2) Functionality – the application meet the business requirements established for it.

(3) Performance – the application respond in a timely manner.

(4) System Performance – the application continues to perform correctly in a timely manner when it is subjected to production load.

The other objective of testing is to ensure operational reliability by uncovering defects in the system. This objective is achieved by deliberately designing sets of input data and rigorously testing the system against those inputs. The defects uncovered include:

(1) Logic errors

(2) Coding errors

(3) Technical language syntax errors

(4) Database integrity errors

Testing should be viewed as a broad workflow encompassing a continuous series of tests focused on identifying and eliminating defects, and accessing product quality early and continuously throughout the development life cycle.

Testing effectiveness is measured by the difference between the required and actual test response. In this process one examines software components with the intent of finding errors. This "intent to find errors" strategy inherently makes it difficult for a development team to effectively test their own product. Thus, to obtain a more objective evaluation, independent test teams should test software whenever possible.

Increased application complexity, shorter development cycles, and the unacceptable cost of failure are mandating a well thought-out methodology and a set of automated tools for implementing effective software quality practices. The testing process should include the following:

(1) Test plans

(2) Test specifications

(3) Test cases

(4) Automated test scripts

(5) Testing based on manual and automated scripts

(6) Defect logs

Test management should be integrated with the defect management system to ensure that the detected problems are tracked, fixed, and then re-tested. Additionally, extensive and thorough status reports and graphs must be included so project leaders and managers can monitor the progress and effectiveness of testing.

In this project, the testing and verification phase is divided into 3 phases as follows:

Phase 1: Develop a Testing Strategy

This phase includes determining what products to test and how and when to test them. This phase lays the ground work for executing a successful testing campaign.

Phase 2: Develop a Test Design

This phase encompasses the building of detailed test plans, test cases and automated scripts where appropriate. The goal of the automated scripts will be to formulate solutions that will encourage the reuse of code.

All tests, whether manual or automated, will be designed with portability in mind. Various hardware and software components will be able to be tested with one set of test cases. Test data will be developed that will support the testing of the applications.

The type of testing to be performed will include:

(1) Functional and System

(2) Stress/Load and User Acceptance

(3) Regression and Application Performance

Phase 3: Build and Execute System, and Integration Tests

Once the planning and design of the testing strategy has been completed, execution may begin. Tools are used that will automatically schedule script runs, and record the results of the testing. Data is generated within the testing application suite that will detail the passing/failure rate of the individual test cases.

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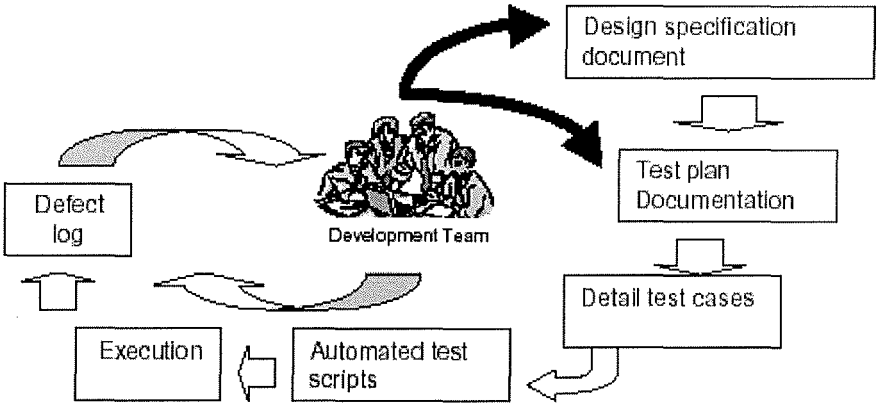

Figure 4.8. Testing and Verification Process.

The testing result of proposed system compares with the existing system as showing on following table.

Table 4.8. The Degree of Achievement of the Proposed System.

Process	Existing System	Proposed System	Reduced Time
Record Information	240 mins.	120 mins.	50%
Generate Invoice	120 mins.	30 mins.	90%
Search Information	15 mins.	1 min.	93%
Generate Sale report	60 mins.	1 min.	98%
Generate Sold item report	60 mins.	1 min.	98%
Total	**495 mins**	**153 mins**	**69%**

In Table 4.8 shows the time performance on each process of the proposed system comparing with the existing system. It shows that each process of the proposed system performs less time than each process of the existing system.

4.5 Training

Training process requires after finish development phase. The system analysts has to create a training session for users to understand how to use the new system. Moreover, the system analyst should create a user's manual for users to study and follow during the training period.

During the training period, the system analyst will get feedback from users who are responsible to use this new system to help their work.

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V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

For the existing system, users spend too much time recording and searching for the information. The data is kept separately in each branch which cannot access from each other. Also, it produces a lot of redundant data and redundant works. Some data may be lost by missing of documents which can not be get back.

The proposed system is a web application system which is developed to replace the existing system. It is developed based on the Client-Server technology. The proposed system is coded by using Microsoft Active Server Page which runs on Windows NT or Windows 2000 Server. For accessing the proposed system, users only need a web browser and Internet connection to access the accounting web-based application which stores in the web server. The proposed system provides on-line information which users can make inquiry and manipulate the information in real-time. It also provides the Graphic User Interface (GUI). GUI is designed to be user friendly. Thus, users can be familiar with the system quickly, reduce the human errors and easy to understand the system.

The proposed system uses Microsoft SQL server to be Database Management System (DBMS). This DBMS provides strong efficiency to manipulate a lot of data records. The database is stored in centralized form which can reduce the redundant data, increase more data reliablility and data consistency.

The proposed system is developed to ease users to accomplish tasks faster and management can trust that this system is reliable, correct, and fast in computation. The management can use the information which is stored in a database for management purposes such as planning, investment, decision making and etc.

In conclusion, the proposed system will be the tools to help staff to produce efficient work, more productivity and satisfy the staff.

5.2 Recommendations

In the proposed system, there is no interface to connect with the inventory system. Staff also has to update item quantity to the inventory system manually after receiving the order from customers. These systems should be integrated together in the future. It will reduce the time to do the inventory also.

The backup policy also should be applied to this system because the computer does not stand still. It may break down sometime and data may be lost. Therefore, the backup strategy and policy must be established to avoid this problem. The emergency plan also must be established in case of fire, flood, earthquake or any undesirable events which may occur.

Moreover, this system needs to have a reliable Internet connection. The server should be located in a reliable Internet service provider to ensure that the system is online 24 hours a day and available to access when required.

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APPENDIX A

DATA FLOW DIAGRAM OF THE EXISTING SYSTEM

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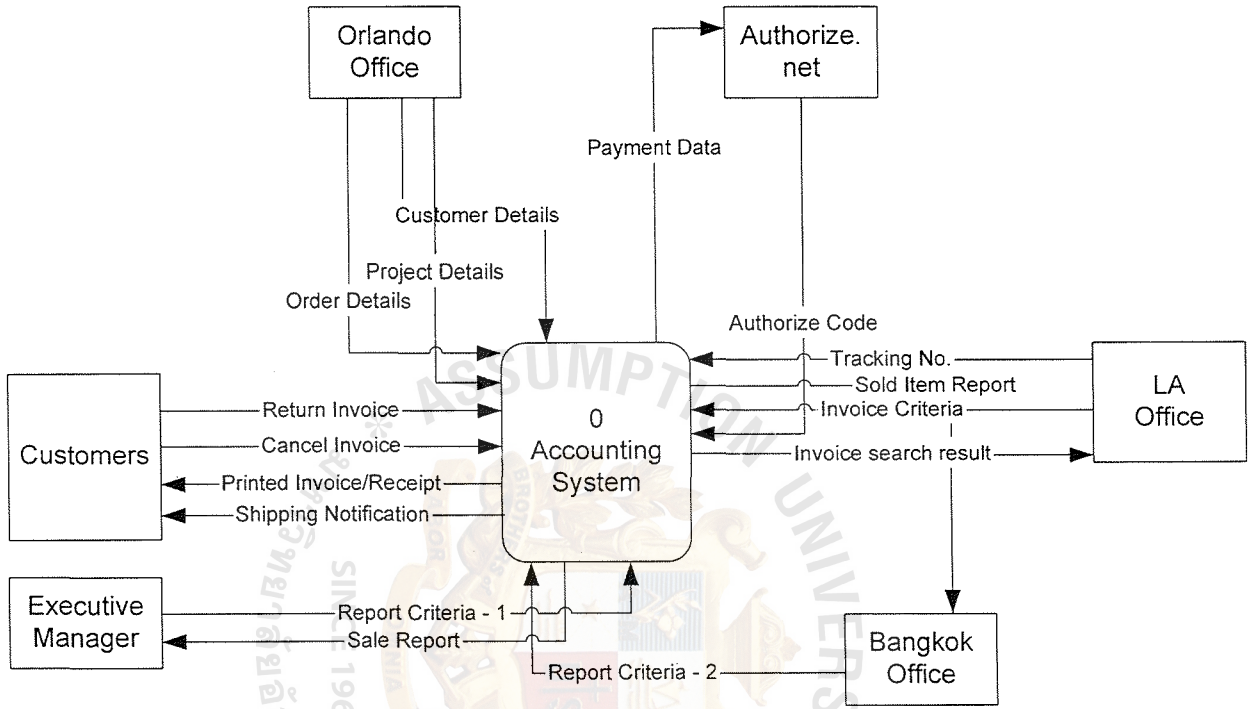

Figure A.1. Context Diagram of Proposed System.

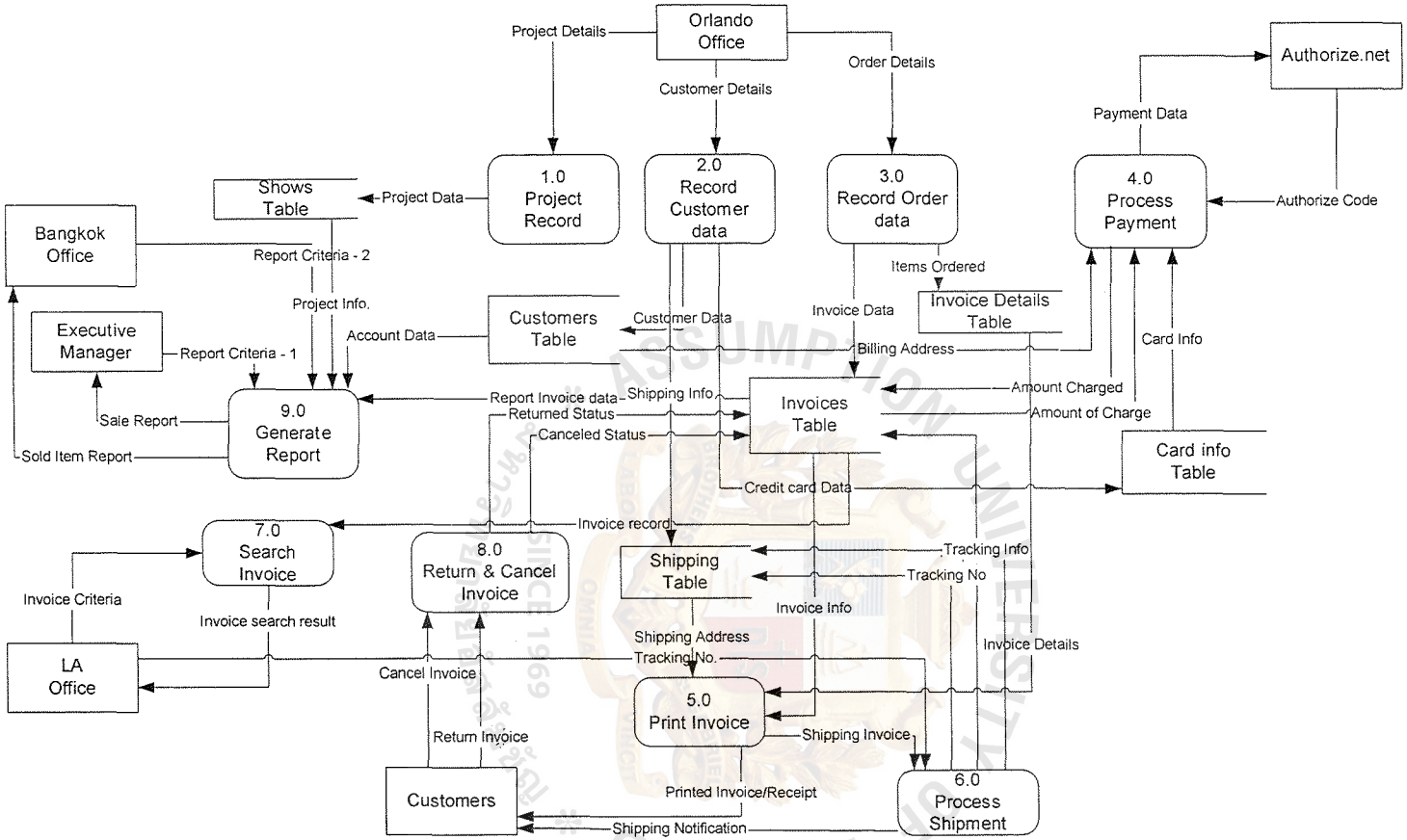

Figure A.2. Data Flow Diagram Level-0.

APPENDIX B

PROJECT PLAN

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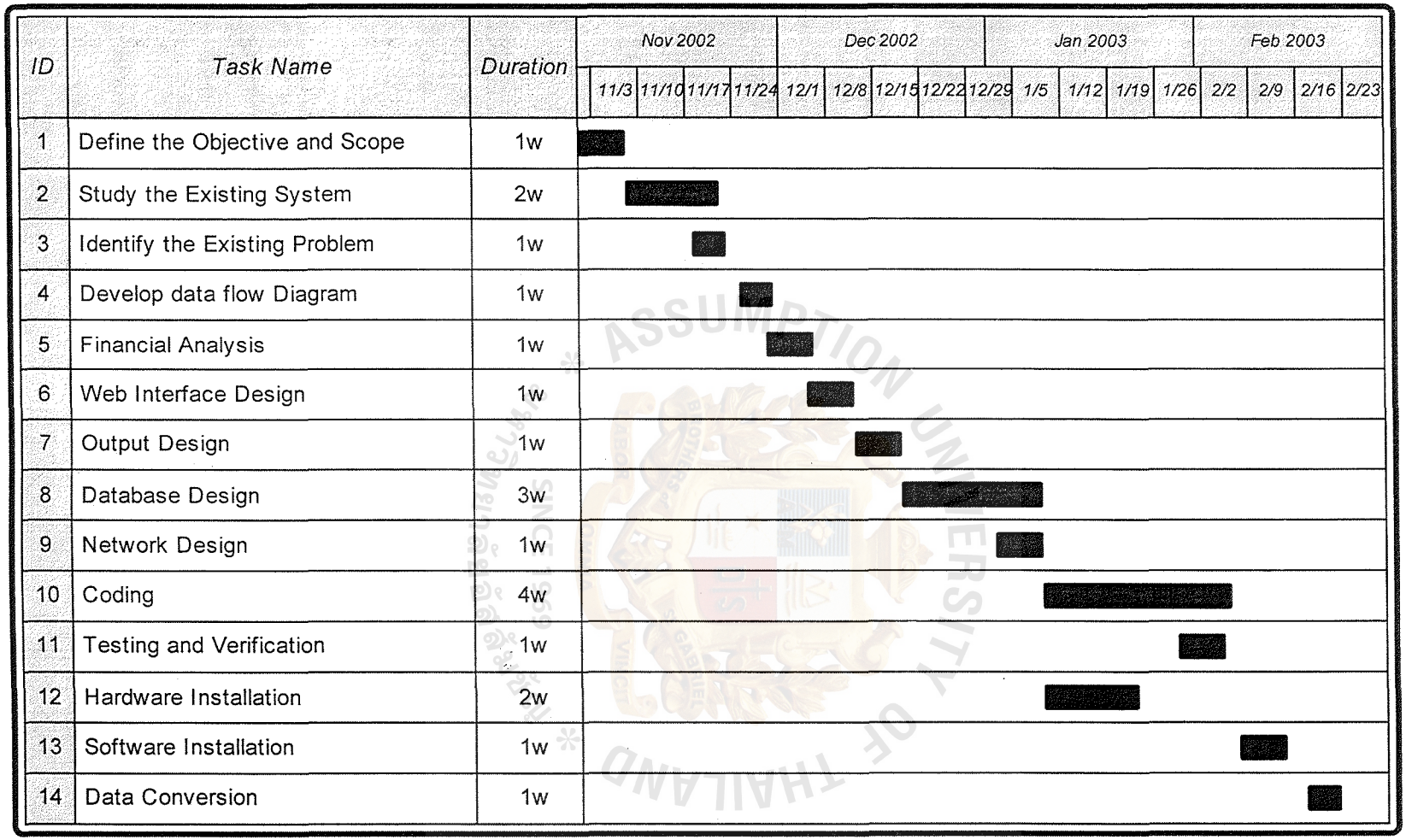

Figure B.1. Project Plan of Online Accounting System.

APPENDIX C

RELATIONSHIP OF THE PROPOSED SYSTEM

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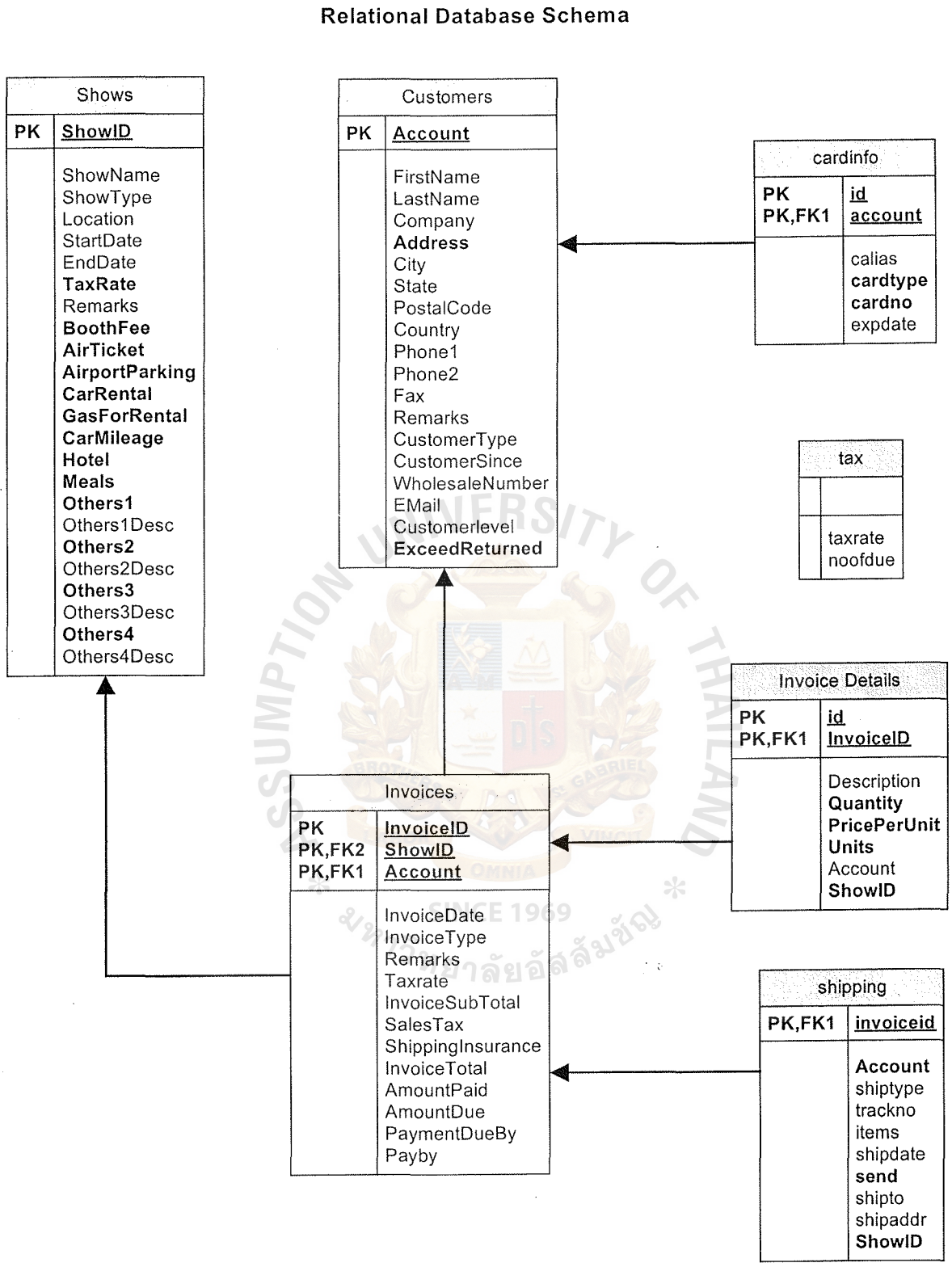

Figure C.1. Relationship Tables of the Proposed System.

APPENDIX D

DATA TABLES

ASSUMPTION UNIVERSITY OF THAILAND
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Table D.1. Structure of Cardinfo Table.

Field Name	Field Type	Size	Attributes
Id	Long	4	(auto increment) (fixed)
Account	Text	75	
Calias	Text	20	(nullable)
cardtype	Text	30	
cardno	Text	30	
expdate	Text	10	(nullable)

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Table D.2. Structure of Customers Table.

Field Name	Field Type	Size	Attributes
Account	text	75	
FirstName	text	30	(nullable)
LastName	text	30	(nullable)
Company	text	50	(nullable)
Address	text	30	(nullable)
City	text	20	(nullable)
State	text	20	(nullable)
PostalCode	text	10	(nullable)
Country	text	15	(nullable)
Phone1	text	20	(nullable)
Phone2	text	20	(nullable)
Fax	text	20	(nullable)
Remarks	text	250	(nullable)
CustomerType	text	10	(nullable)
CustomerSince	text	10	(nullable)
WholesaleNumber	text	20	(nullable)
Email	text	50	(nullable)
Customerlevel	text	20	(nullable)
ExceedReturned	boolean	2	(fixed)

Table D.3. Structure of Invoice Details Table.

Field Name	Field Type	Size	Attributes
Id	decimal	19	(auto increment) (fixed)
InvoiceID	text	50	
Description	text	100	(nullable)
Quantity	double	8	(fixed)
PricePerUnit	currency	8	(fixed)
Units	text	5	

Table D.4. Structure of Invoices Table.

Field Name	Field Type	Size	Attributes
InvoiceID	text	50	(nullable)
ShowID	text	20	(nullable)
Account	text	30	(nullable)
InvoiceDate	datetime	16	(nullable) (fixed)
InvoiceType	text	12	(nullable)
Remarks	text	250	(nullable)
Taxrate	double	8	(nullable) (fixed)
InvoiceSubTotal	currency	8	(nullable) (fixed)
SalesTax	currency	8	(nullable) (fixed)
ShippingInsurance	currency	8	(nullable) (fixed)
InvoiceTotal	currency	8	(nullable) (fixed)
AmountPaid	currency	8	(nullable) (fixed)
AmountDue	currency	8	(nullable) (fixed)
PaymentDueBy	datetime	16	(nullable) (fixed)
Payby	text	20	(nullable)

Table D.5. Structure of Shipping Table.

Field Name	Field Type	Size	Attributes
Invoiceid	text	30	
Shiptype	text	40	(nullable)
Trackno	text	50	(nullable)
Items	text	500	(nullable)
Shipdate	datetime	16	(nullable) (fixed)
Send	boolean	2	(fixed)

Table D.6. Structure of Shows Table.

Field Name	Field Type	Size	Attributes
ShowID	text	20	
ShowName	text	50	(nullable)
ShowType	text	50	(nullable)
Location	text	50	(nullable)
StartDate	datetime	16	(nullable) (fixed)
EndDate	datetime	16	(nullable) (fixed)
TaxRate	double	8	(fixed)
Remarks	text	300	(nullable)
BoothFee	currency	8	(fixed)
AirTicket	currency	8	(fixed)
AirportParking	currency	8	(fixed)
CarRental	currency	8	(fixed)
GasForRental	currency	8	(fixed)
CarMileage	currency	8	(fixed)
Hotel	currency	8	(fixed)
Meals	currency	8	(fixed)
Others1	currency	8	(fixed)
Others1Desc	text	50	(nullable)
Others2	currency	8	(fixed)
Others2Desc	text	50	(nullable)
Others3	currency	8	(fixed)
Others3Desc	text	50	(nullable)
Others4	currency	8	(fixed)
Others4Desc	text	50	(nullable)

Table D.7. Structure of Tax Table.

Field Name	Field Type	Size	Attributes
Taxrate	Double	8	(nullable) (fixed)
Noofdue	Long	4	(nullable) (fixed)

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APPENDIX E

DATA DICTIONARY

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Data Dictionary is an automated or manual tool for storing and organizing information about the data maintained in database.

A data dictionary is a central storehouse of data about an information system's data and the data's transformations. We can use the data dictionary throughout the systems development life cycle and during systems operation to document the detailed facts about an information system.

DATA DICTIONARY

Account = *Account Number*

{Text: 75 characters}

Calis = *Credit card Alias name*

{ Text: 20 characters }

Cardtype = *Type of credit card*

{ Text: 30 characters }

Expdate = *Credit Card Expire Date*

{ Text: 30 characters }

FirstName = *Customer 's First Name*

{Text: 30 characters}

LastName = *Customer 's First Name*

{Text: 30 characters}

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Company	= *Customer's Company*
	{Text: 50 characters}
Address	= *Customer 's Address*
	{Text: 30 characters}
City	= *Customer 's City*
	{Text: 20 characters}
State	= *Customer 's State*
	{Text: 20 characters}
PostalCode	= *Customer 's Zip code*
	{Text: 10 characters}
Country	= *Customer 's First Name*
	{Text: 15 characters}
Phone1	= *Customer 's Phone No. 1*
	{Text: 20 characters}
Phone2	= *Customer 's Phone No. 2*
	{Text: 20 characters}
Fax	= *Customer 's Fax No*

ASSUMPTION UNIVERSITY OF THAILAND
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{Text: 10 characters}

CustomerType = *Customer Type*

[Wholesale/Instate/Outstate]

CustomerSince = *Customer registered date*

{Text: 10 characters}

WholesaleNumber = *Customer 's wholesale number*

{Text: 20 characters}

Email = *Customer 's Email*

{Text: 50 characters}

Customerlevel = *Customer 's level*

[V.I.P./Normal/Black List]

ExceedReturned = *Identify customer return too many items*

{boolean}

InvoiceId = *Invoice Number*

{Text: 50 characters}

Description = *item Description*

{Text: 100 characters}

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SINCE 1969

Quantity	= *Quantity of order*
	{numeric: double}
PricePerUnit	= *item price*
	{numeric: currency}
Units	= *Unit of item*
	{Text: 5 characters}
InvoiceDate	= *date of create invoice*
	{datetime}
InvoiceType	= *Type of invoice*
	[Instate/Outstate/Canceled/Returned]
Remarks	= *Remark of particular invoice*
	{Text: 250 characters}
Taxrate	=*Rate of tax*
	{numeric: double}
InvoiceSubtotal	= *Sub total of invoice*
	{numeric: currency}
SalesTax	= *Total invoice sale tax *

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{Invoicesubtotal*taxrate}

ShippingInsurance = *Shipping and Insurance Cost*

{numeric: currency}

Invoicetotal = *Total amount of invoice*

{Invoicesubtotal+salestax+shippingInsurance}

AmountPaid = *Amount which paid by customer*

{numeric: currency}

AmountDue = *Balance due of invoice*

{Invoicetotal-AmountPaid}

Payby = *Type of payment*

{text: 20 characters}

Shiptype = *shipping type*

[UPS Ground/Overnight/2 Days/3 Days/USPS]

Trackno = *Tracking no. of package*

{text: 50 characters}

Items = *package information*

{text: 500 characters}

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Shipdate = *Date of ship package*

{datetime}

Send = *Send track no. of shipment via email*

{boolean}

Showname = *Project Name*

{text: 50 characters}

Showtype = *Project Type*

{text: 50 characters}

Location = *Project Location*

{text: 50 characters}

StartDate = *Start date of Project*

{datetime}

EndDate = *End date of project*

{datetime}

BoothFee = *Booth Fee*

{numeric: currency}

Noofdue = *No of due date*

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{numeric: integer}

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APPENDIX F

WEB APPLICATION INTERFACE

ASSUMPTION UNIVERSITY OF THAILAND
LABOR OMNIA VINCIT
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

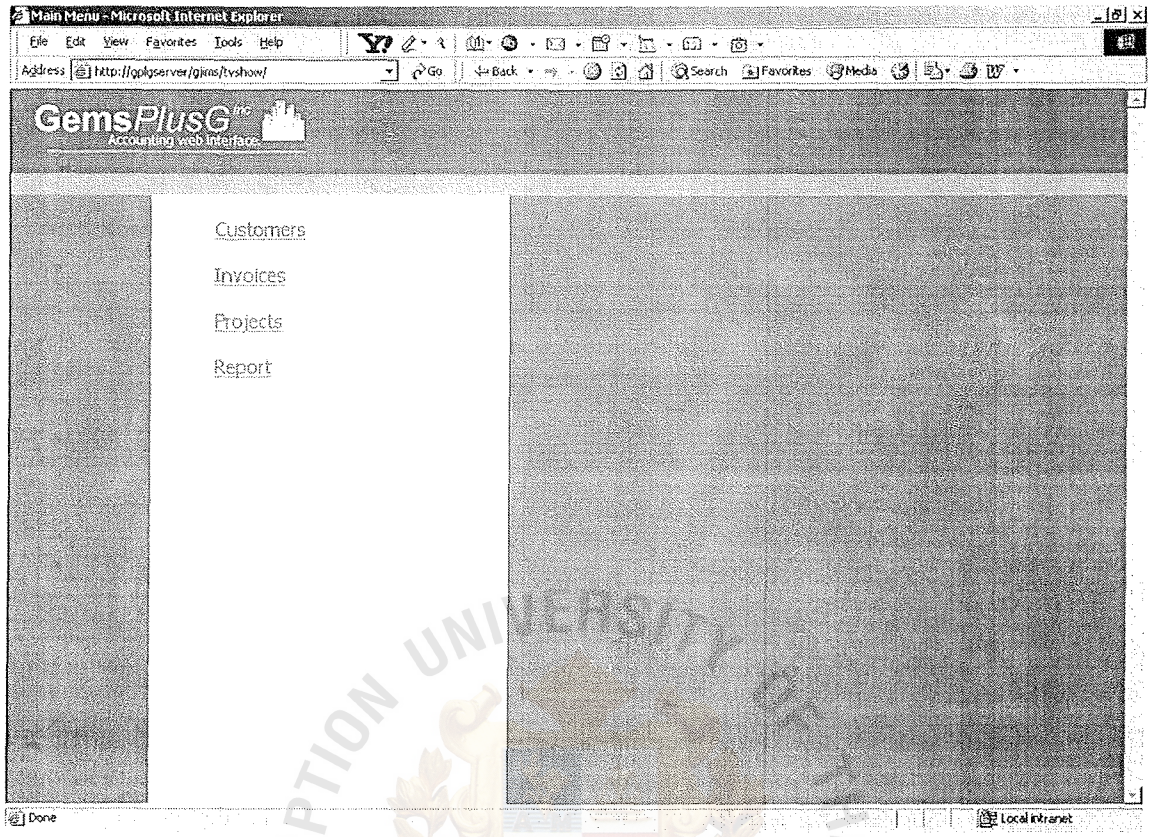


Figure F.1. Main Page.

ASSUMPTION UNIVERSITY THAILAND
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

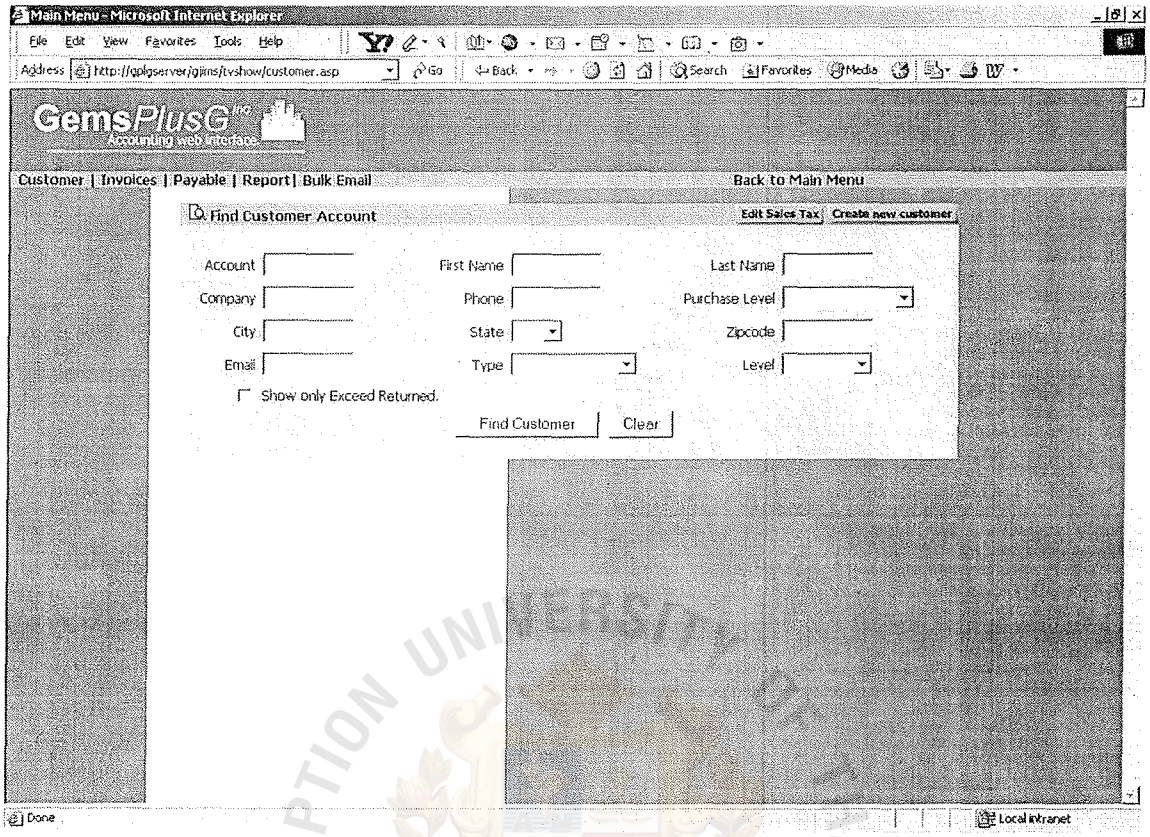


Figure F.2. Customers System: Search Page.

ASSUMPTION UNIVERSITY THAILAND
LABOR OMNIA VINCIT
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

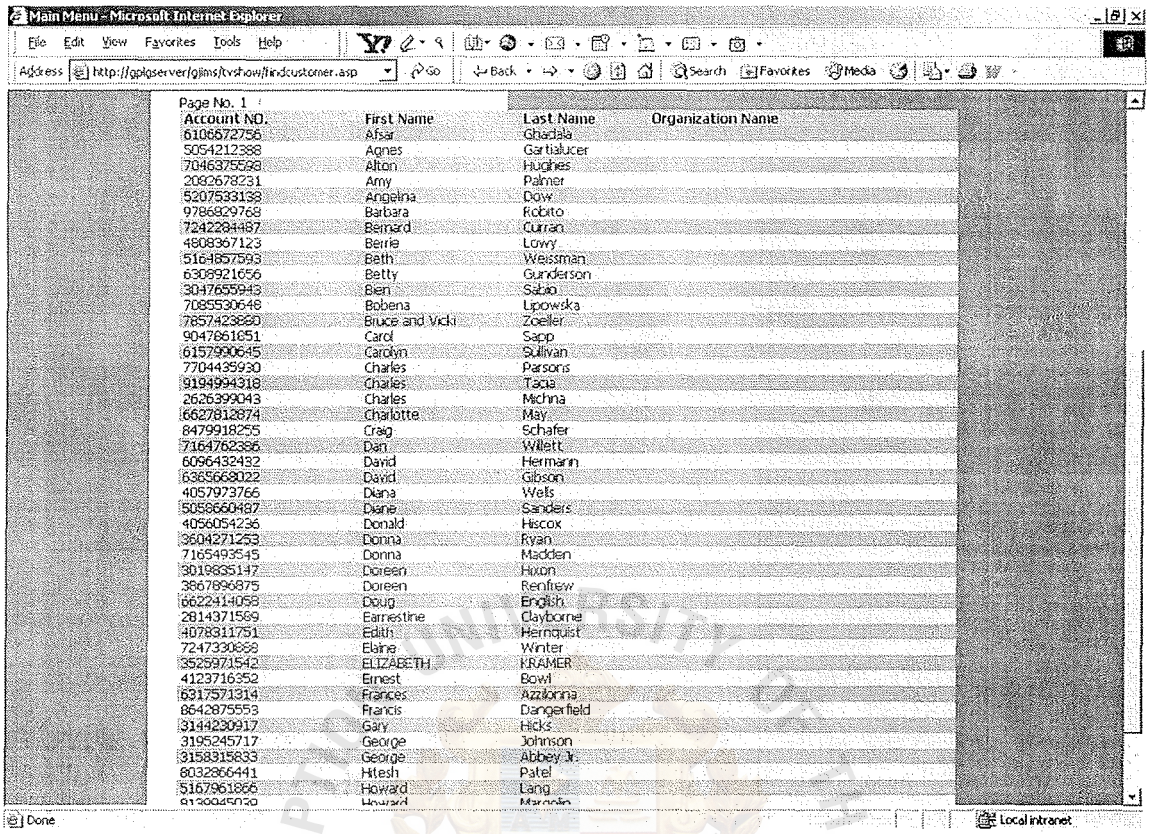


Figure F.3. Customers System: Search Result Page.

ASSUMPTION UNIVERSITY THAILAND
LABOR VINCIT OMNIA
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

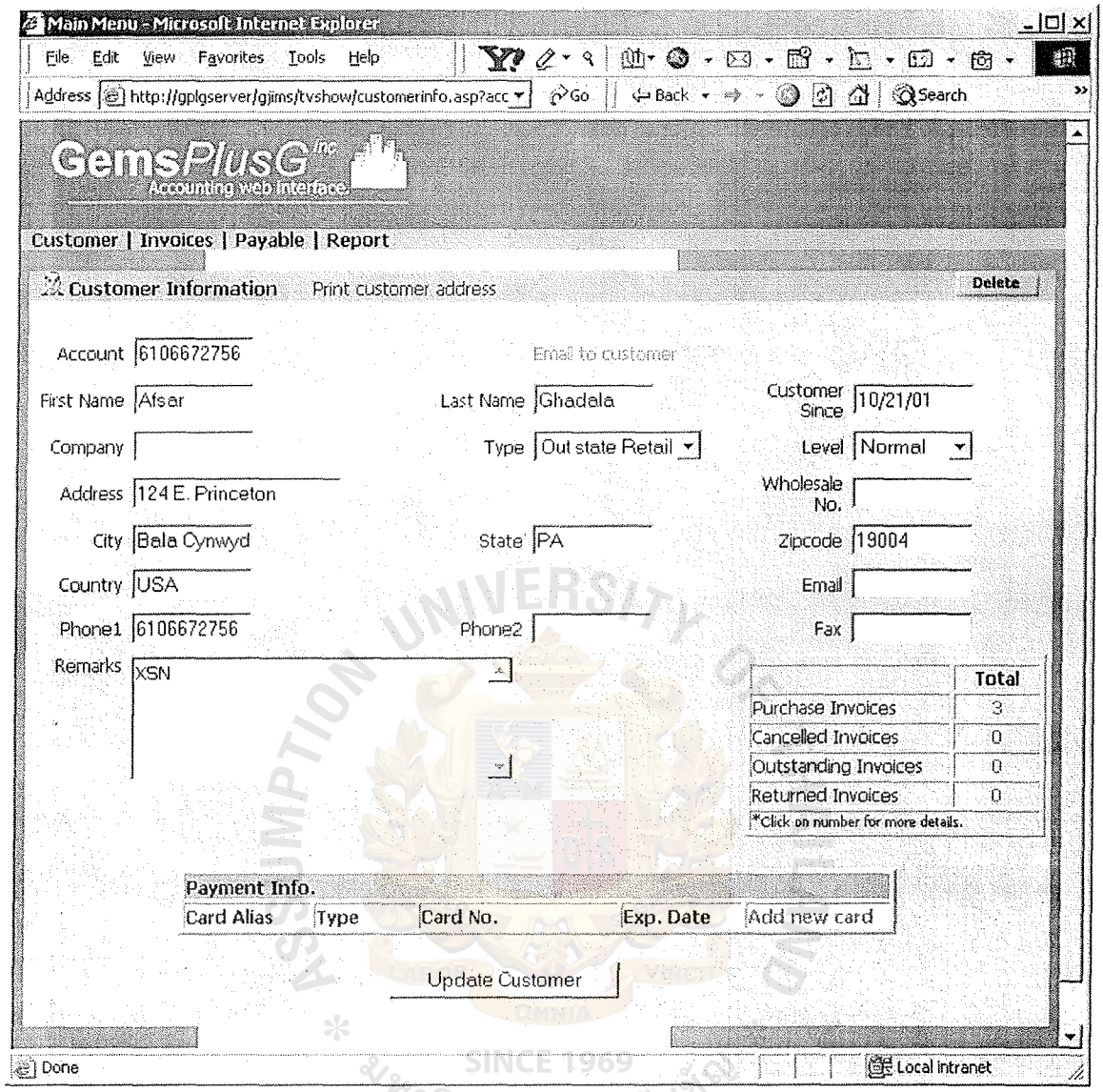


Figure F.4. Customer System: Customer Information Page.

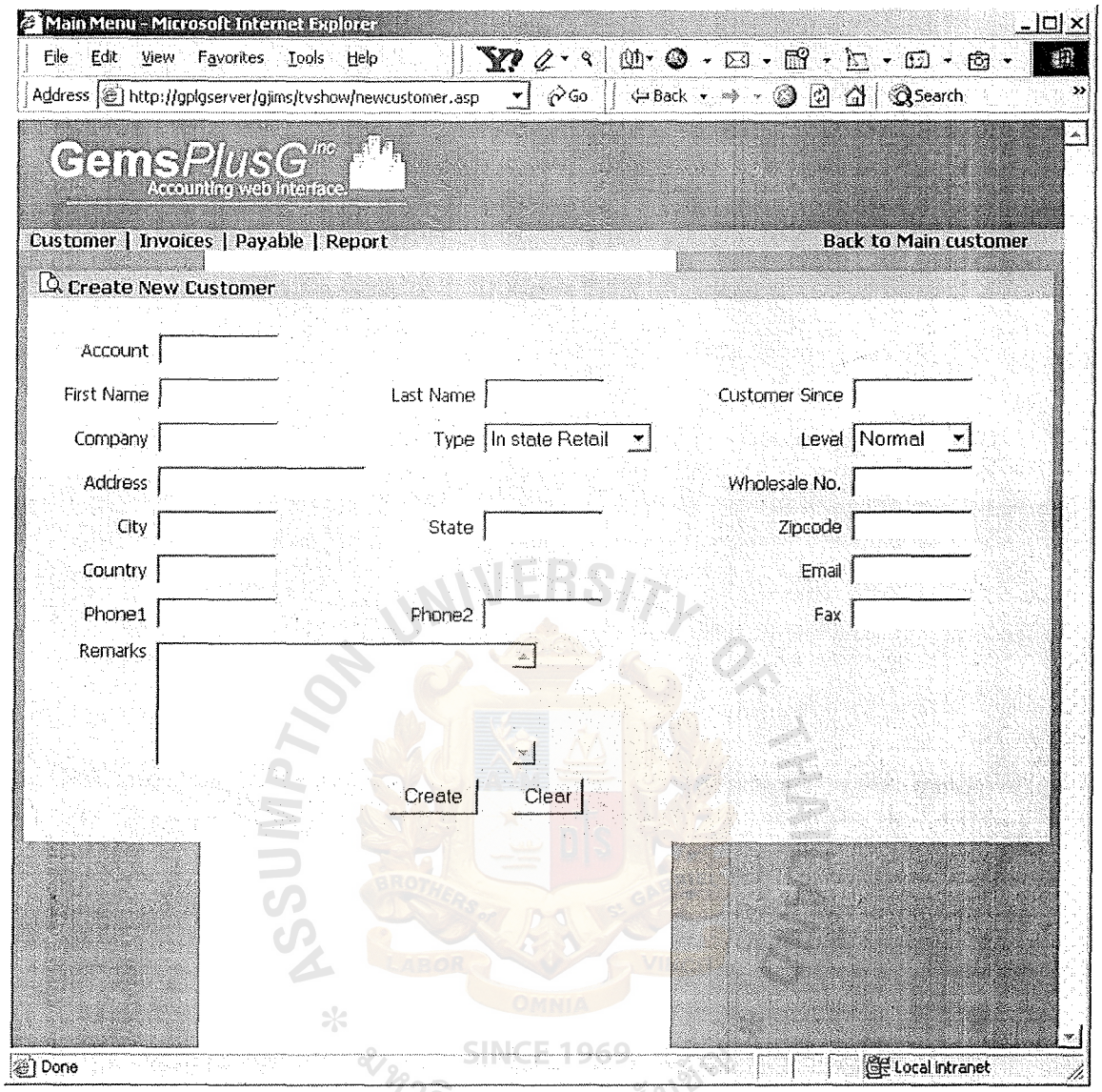


Figure F.5. Customer System: Create New Customer Page.

ASSUMPTION UNIVERSITY OF THAILAND
BROTHERS OF ST. GABRIEL
LABOR OMNIA VINCIT
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

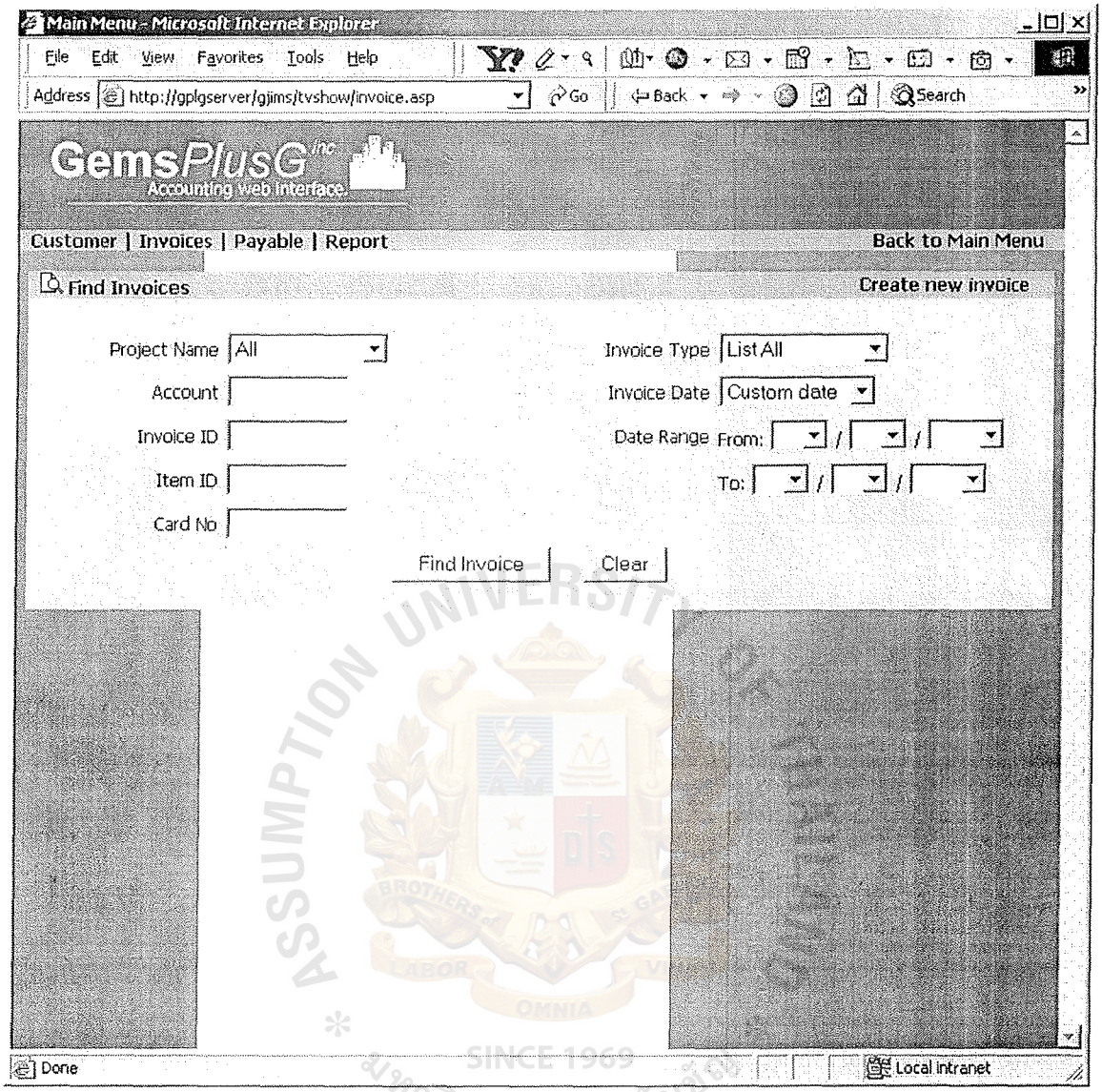
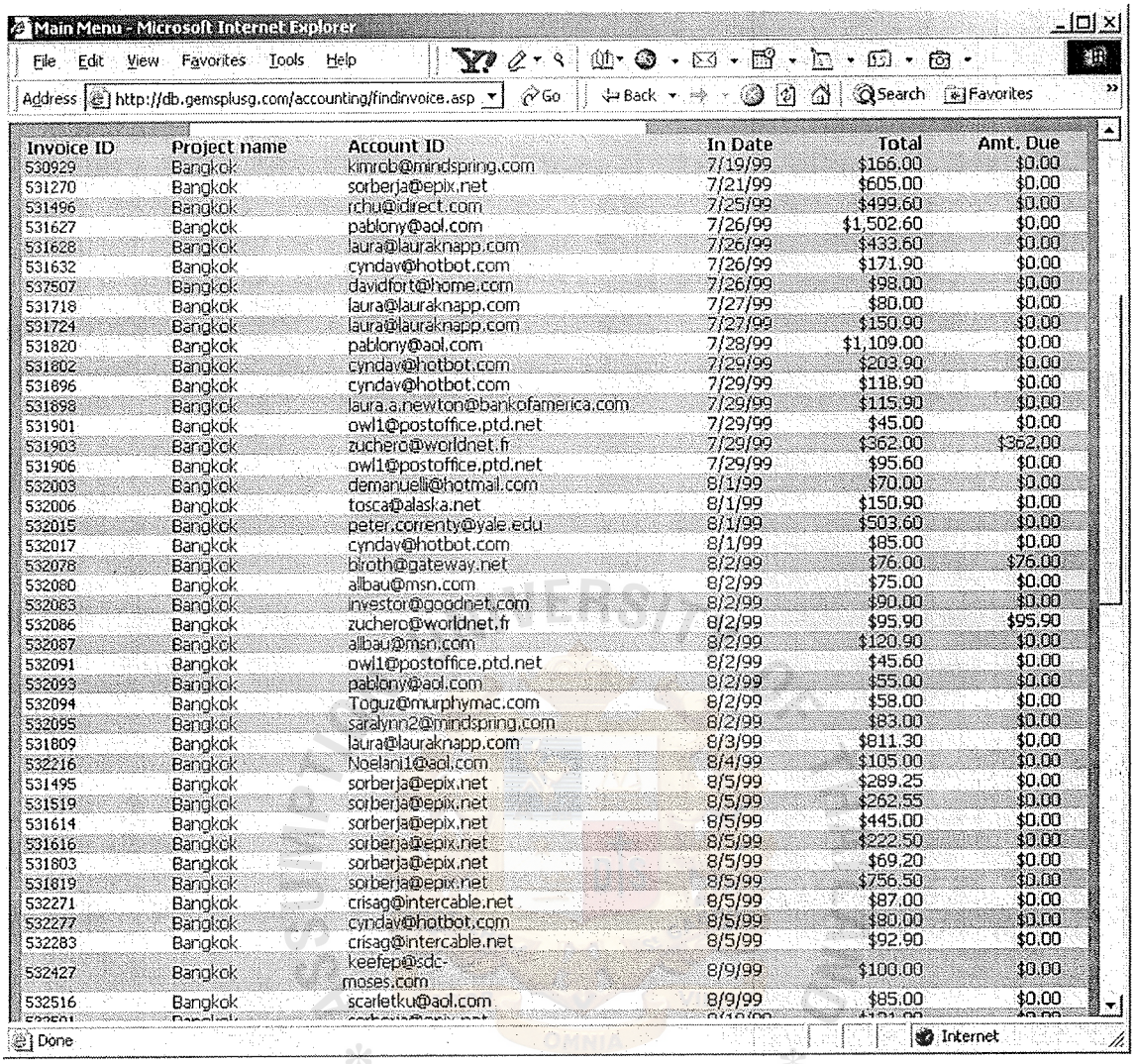


Figure F.6. Invoice System: Search Invoice Page.

ASSUMPTION UNIVERSITY
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ



Invoice ID	Project name	Account ID	In Date	Total	Amt. Due
530929	Bangkok	kimrob@mindspring.com	7/19/99	$166.00	$0.00
531270	Bangkok	sorberja@epix.net	7/21/99	$605.00	$0.00
531496	Bangkok	rchu@direct.com	7/25/99	$499.60	$0.00
531627	Bangkok	pablony@aol.com	7/26/99	$1,502.60	$0.00
531628	Bangkok	laura@lauraknapp.com	7/26/99	$433.60	$0.00
531632	Bangkok	cyndav@hotbot.com	7/26/99	$171.90	$0.00
531507	Bangkok	davidfort@home.com	7/26/99	$98.00	$0.00
531718	Bangkok	laura@lauraknapp.com	7/27/99	$80.00	$0.00
531724	Bangkok	laura@lauraknapp.com	7/27/99	$150.90	$0.00
531820	Bangkok	pablony@aol.com	7/28/99	$1,109.00	$0.00
531802	Bangkok	cyndav@hotbot.com	7/29/99	$203.90	$0.00
531896	Bangkok	cyndav@hotbot.com	7/29/99	$118.90	$0.00
531898	Bangkok	laura.a.newton@bankofamerica.com	7/29/99	$115.90	$0.00
531901	Bangkok	owl1@postoffice.ptd.net	7/29/99	$45.00	$0.00
531903	Bangkok	zuchero@worldnet.fr	7/29/99	$362.00	$362.00
531906	Bangkok	owl1@postoffice.ptd.net	7/29/99	$95.60	$0.00
532003	Bangkok	demanuelli@hotmail.com	8/1/99	$70.00	$0.00
532006	Bangkok	tosca@alaska.net	8/1/99	$150.90	$0.00
532015	Bangkok	peter.correnty@yale.edu	8/1/99	$503.60	$0.00
532017	Bangkok	cyndav@hotbot.com	8/1/99	$85.00	$0.00
532078	Bangkok	broth@gateway.net	8/2/99	$76.00	$76.00
532080	Bangkok	allbau@msn.com	8/2/99	$75.00	$0.00
532083	Bangkok	investor@goodnet.com	8/2/99	$90.00	$0.00
532086	Bangkok	zuchero@worldnet.fr	8/2/99	$95.90	$95.90
532087	Bangkok	allbau@msn.com	8/2/99	$120.90	$0.00
532091	Bangkok	owl1@postoffice.ptd.net	8/2/99	$45.60	$0.00
532093	Bangkok	pablony@aol.com	8/2/99	$55.00	$0.00
532094	Bangkok	Toguz@murphymac.com	8/2/99	$58.00	$0.00
532095	Bangkok	saralynn2@mindspring.com	8/2/99	$83.00	$0.00
531809	Bangkok	laura@lauraknapp.com	8/3/99	$811.30	$0.00
532216	Bangkok	Noelani1@aol.com	8/4/99	$105.00	$0.00
531495	Bangkok	sorberja@epix.net	8/5/99	$289.25	$0.00
531519	Bangkok	sorberja@epix.net	8/5/99	$262.55	$0.00
531614	Bangkok	sorberja@epix.net	8/5/99	$445.00	$0.00
531616	Bangkok	sorberja@epix.net	8/5/99	$222.50	$0.00
531803	Bangkok	sorberja@epix.net	8/5/99	$69.20	$0.00
531819	Bangkok	sorberja@epix.net	8/5/99	$756.50	$0.00
532271	Bangkok	crisag@intercable.net	8/5/99	$87.00	$0.00
532277	Bangkok	cyndav@hotbot.com	8/5/99	$80.00	$0.00
532283	Bangkok	crisag@intercable.net	8/5/99	$92.90	$0.00
532427	Bangkok	keefep@sdc-moses.com	8/9/99	$100.00	$0.00
532516	Bangkok	scarletku@aol.com	8/9/99	$85.00	$0.00

Figure F.7. Invoice System: Search Invoices Result.

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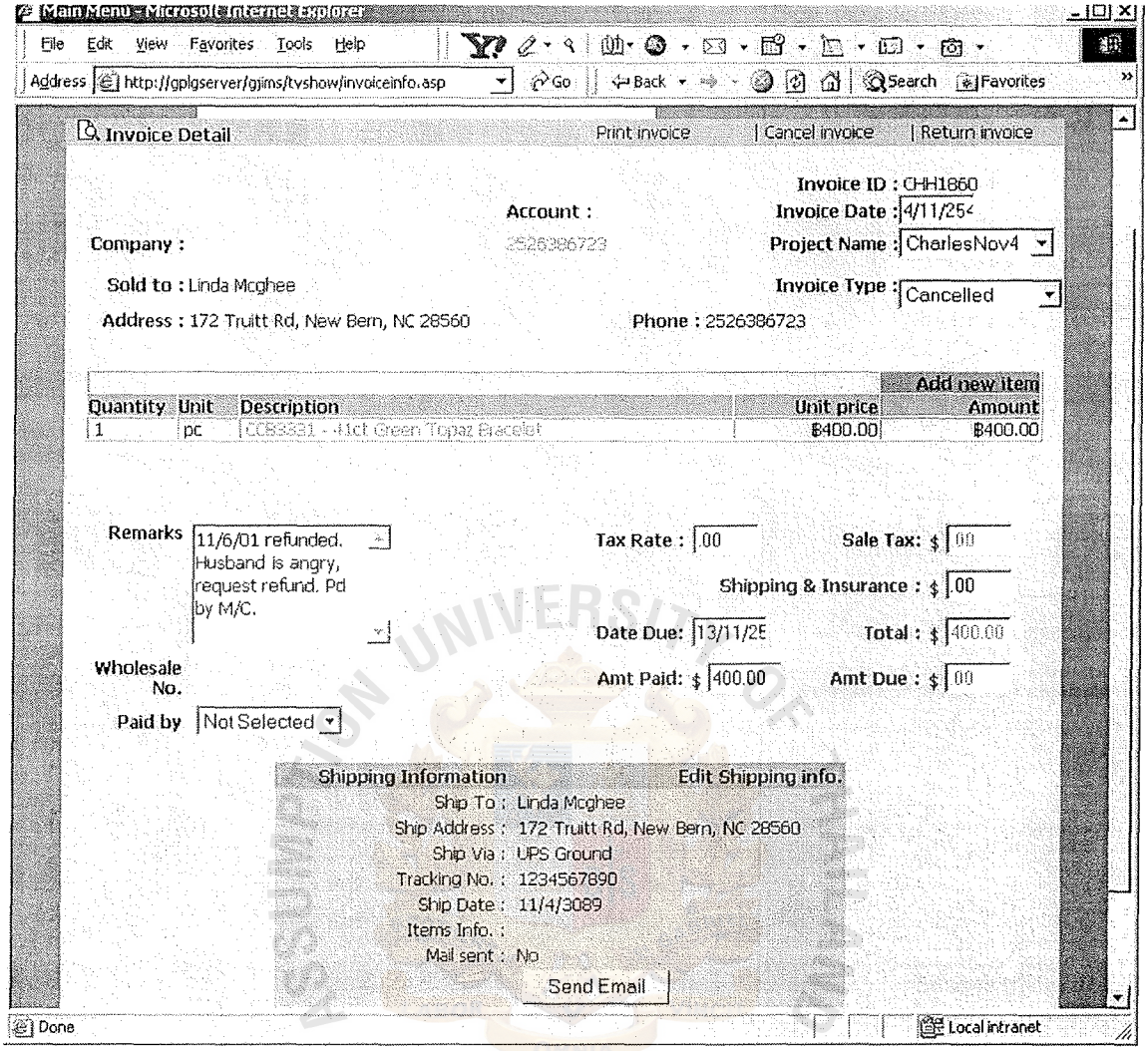

Figure F.8. Invoice System: Invoice Information Page.

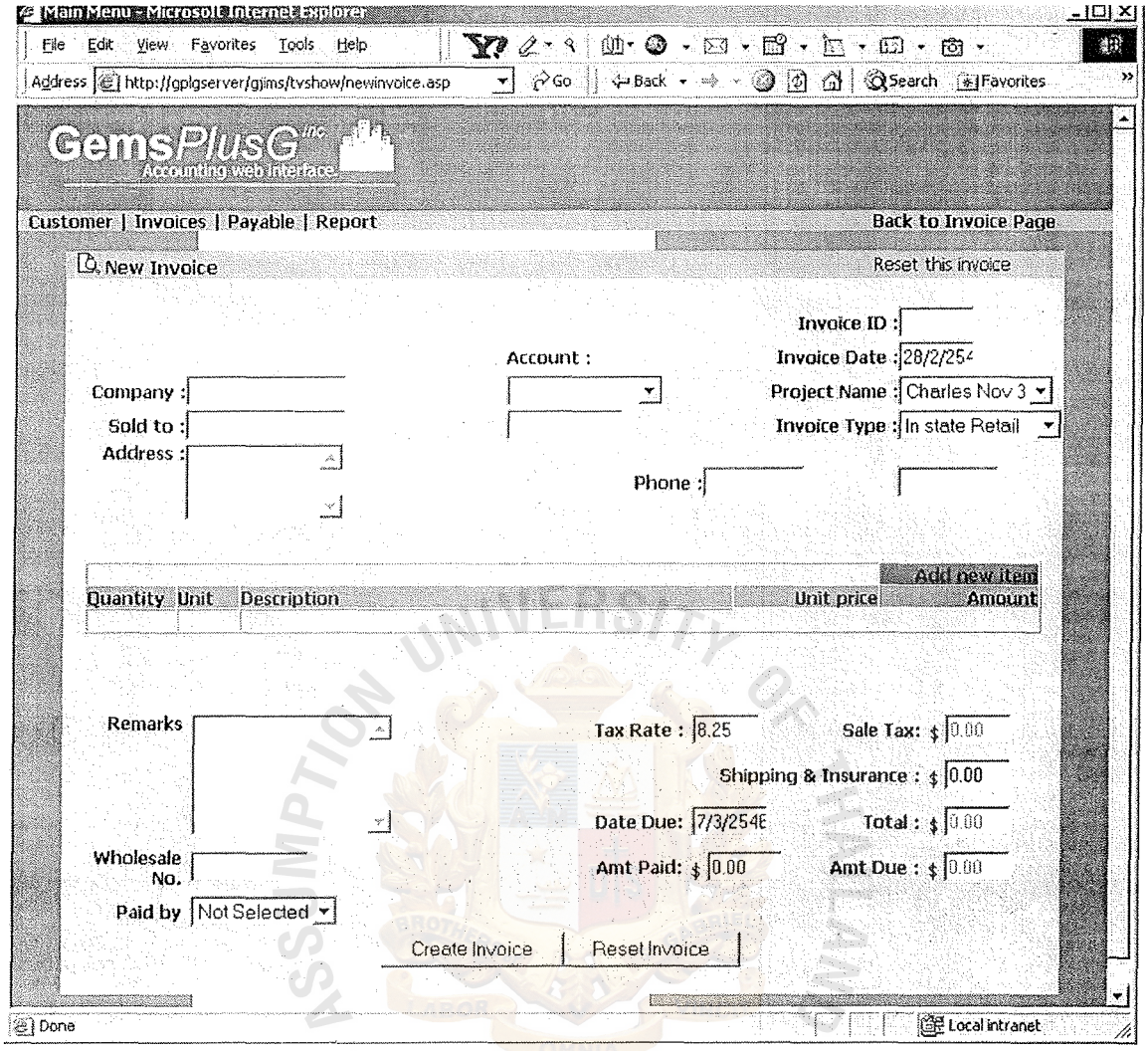

Figure F.9. Invoice System: Create Invoice Page.

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SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

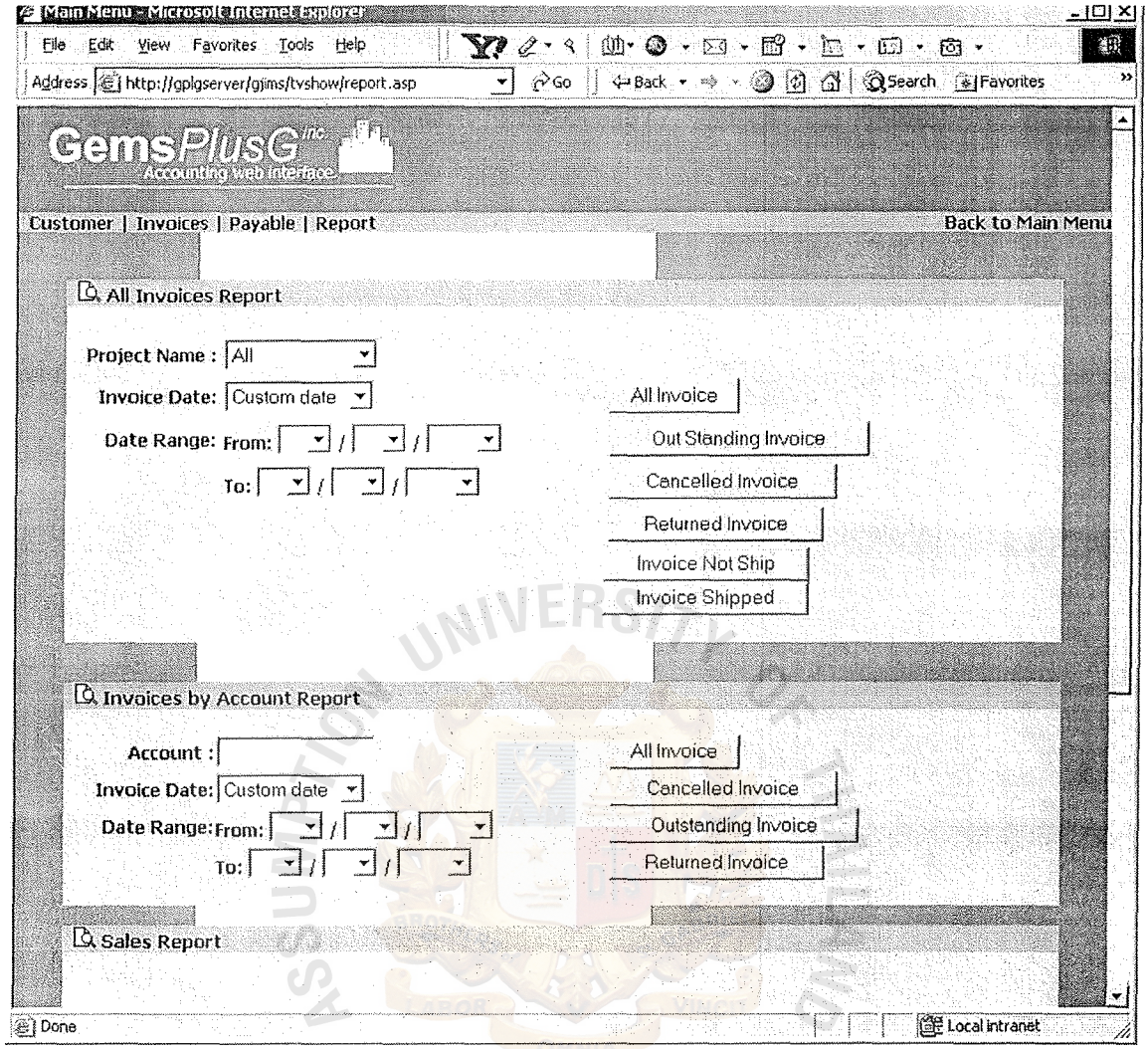

Figure F.10. Report System Page.

SUKHOTHAI THAMMATHIRAT OPEN UNIVERSITY
SINCE 1969

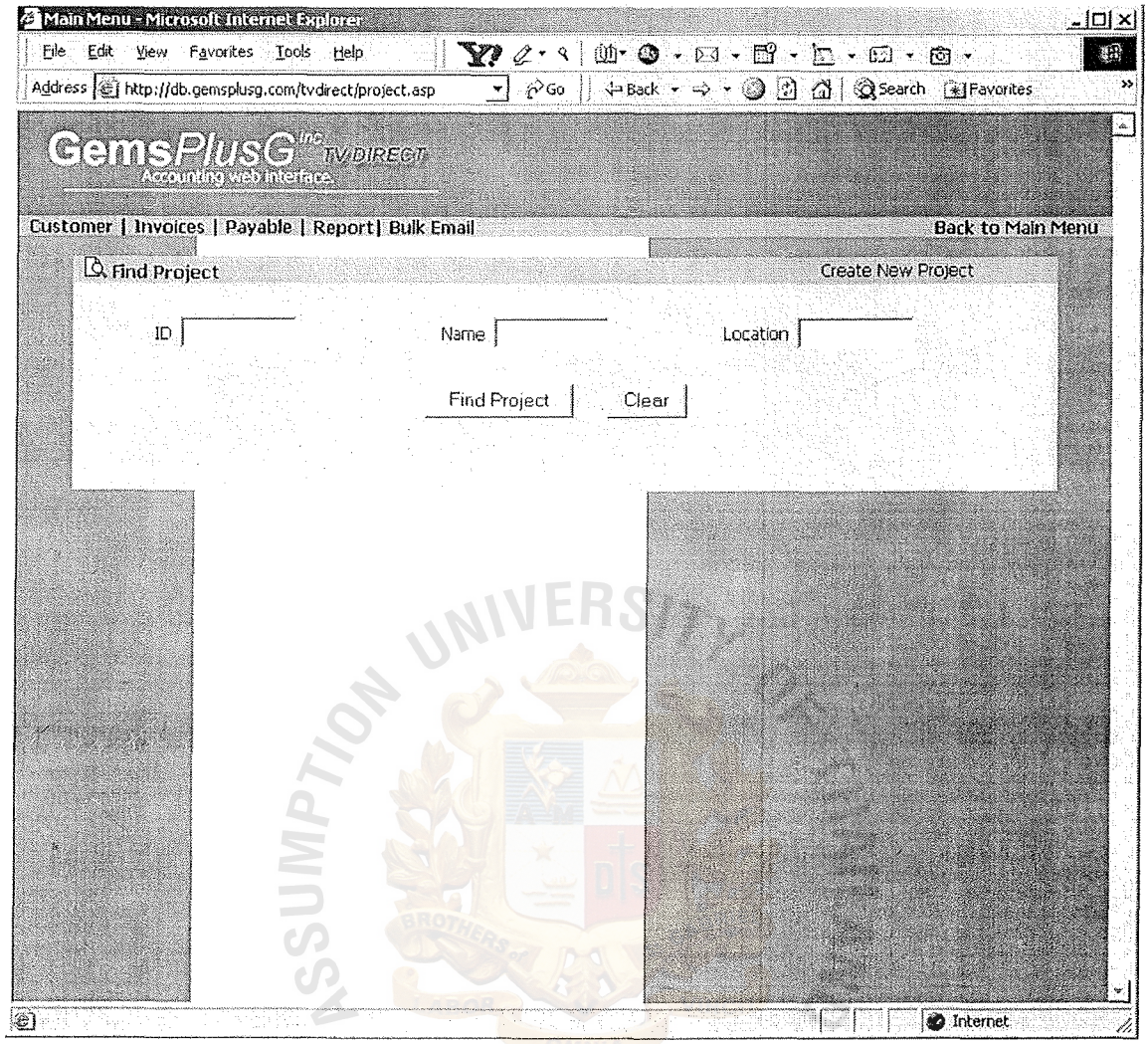

Figure F.11. Project System: Search Page.

ASSUMPTION UNIVERSITY
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

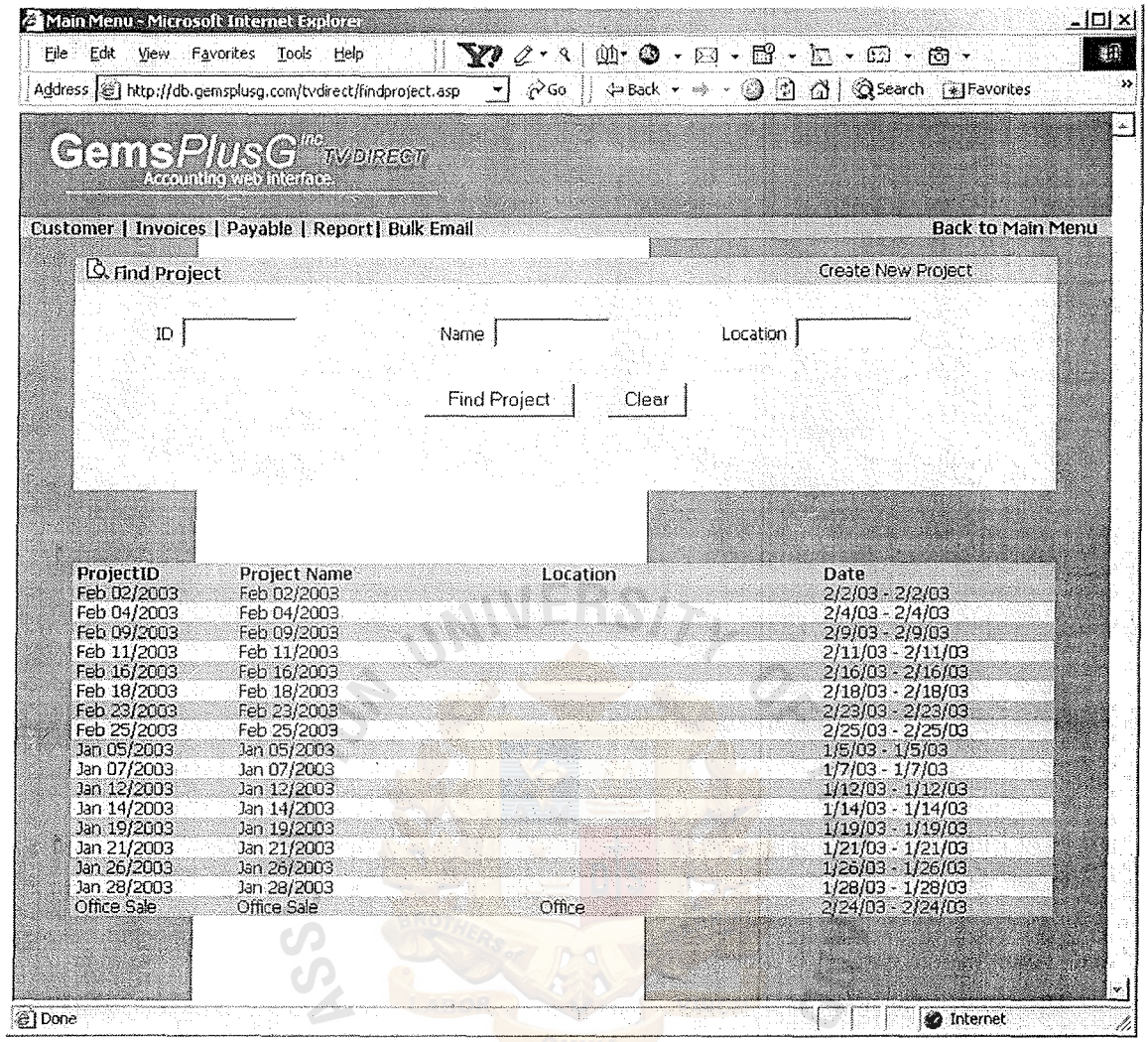

Figure F.12. Project System: Search Result Page.

SINCE 1969

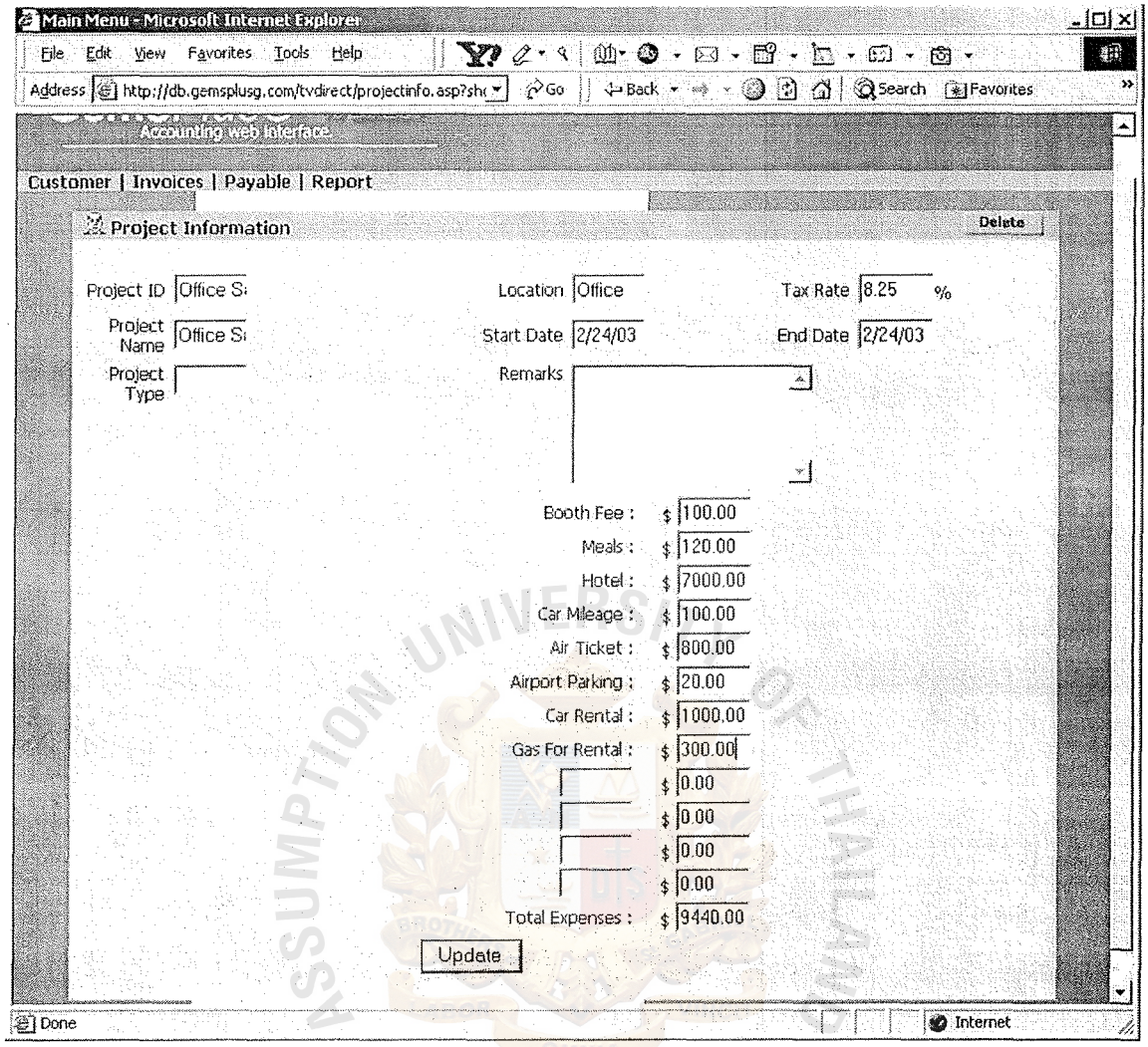

Figure F.13. Project System: Project Information Page.

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SINCE 1969

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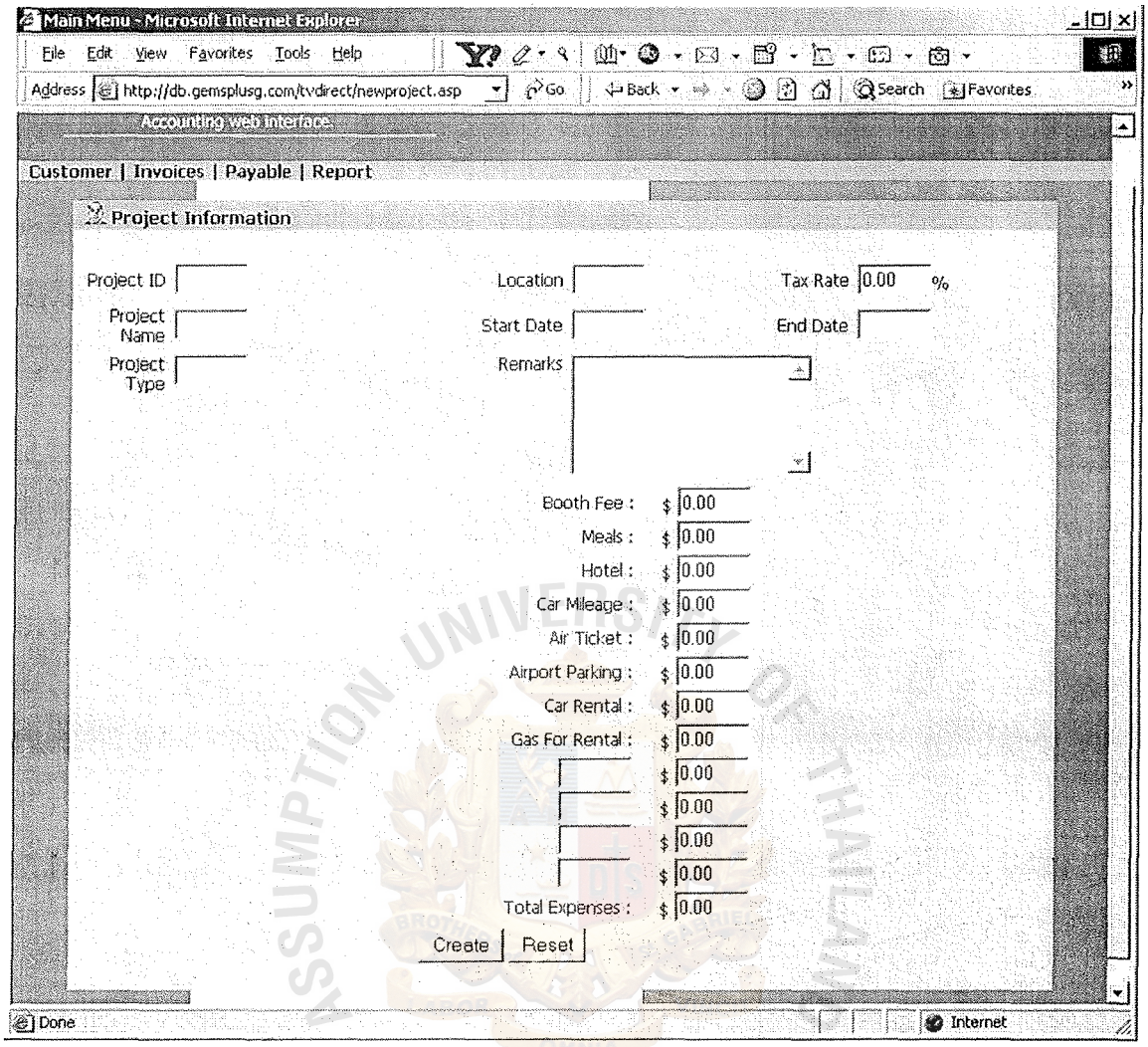

Figure F.14. Project System: Create New Project Page.

APPENDIX G

OUTPUT DESIGN

ASSUMPTION UNIVERSITY OF THAILAND
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

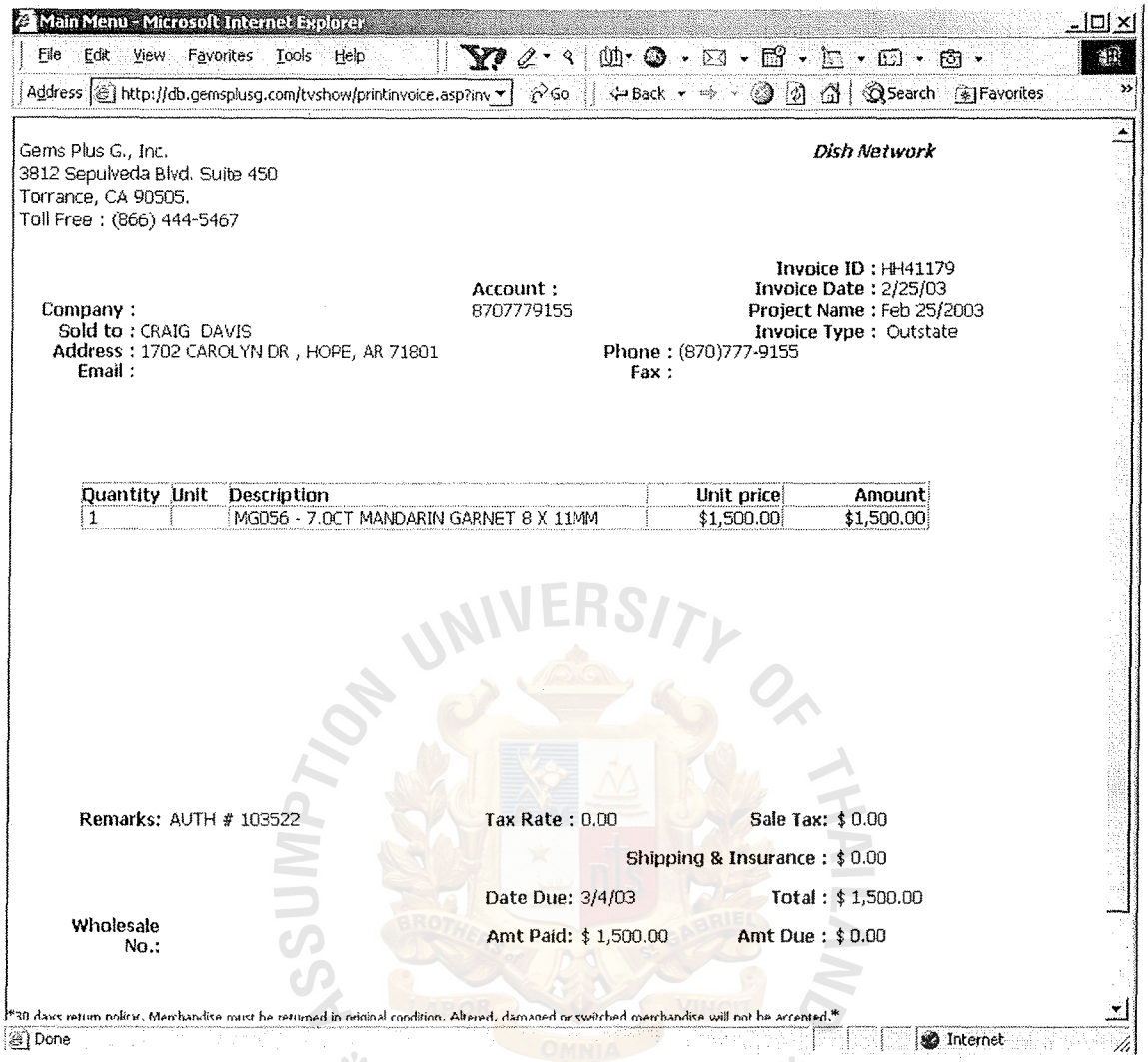

Figure G.1. Tax Invoice/Receipt.

ASSUMPTION UNIVERSITY OF THAILAND
SINCE 1969

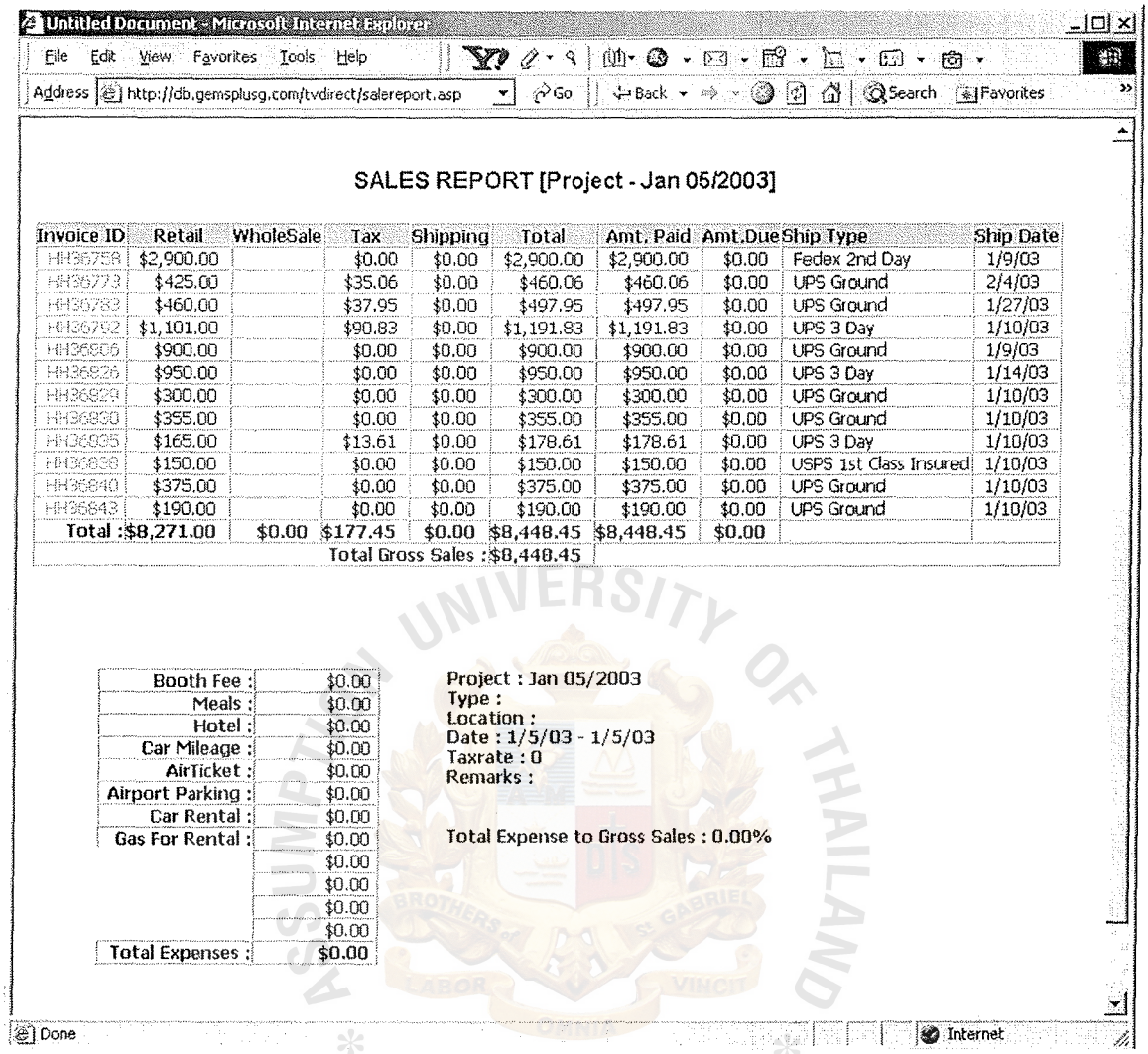

Figure G.2. Sales Report.

SINCE 1969

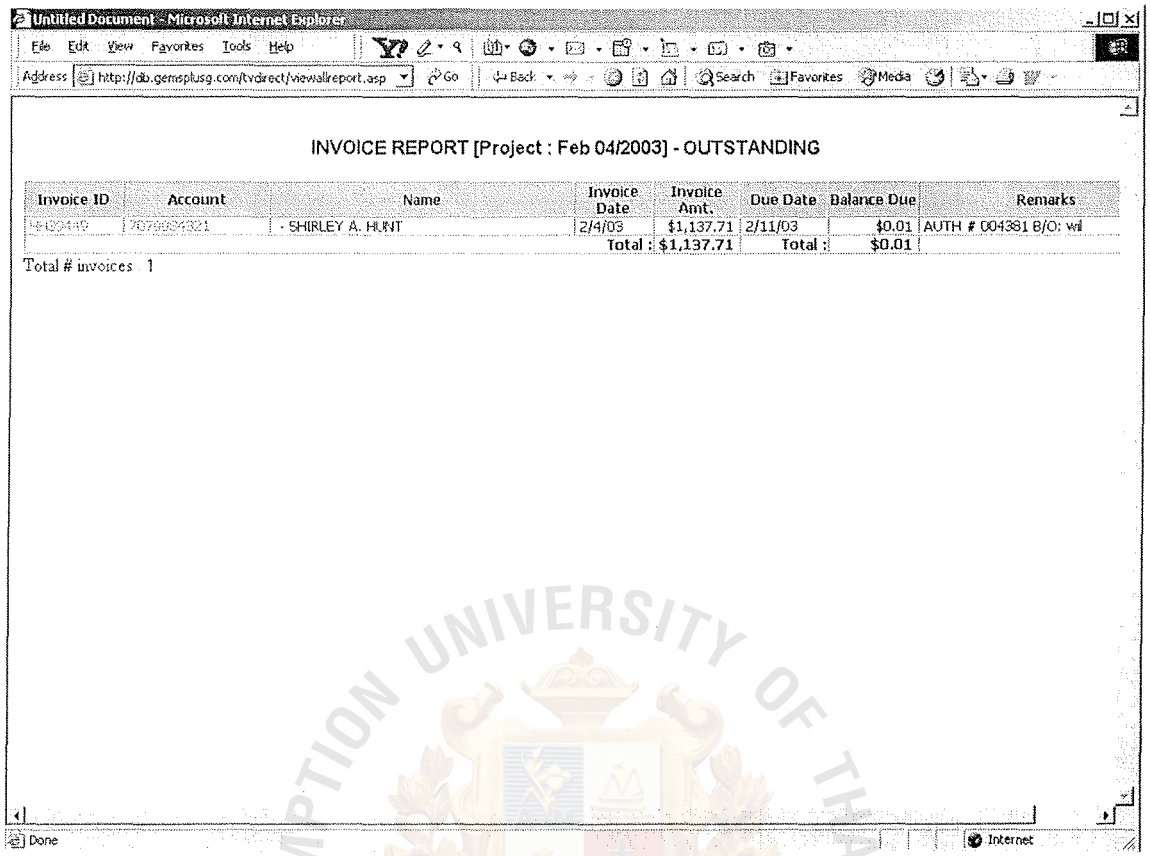

Figure G.3. Outstanding/Receivable Invoice Report.

ASSUMPTION UNIVERSITY OF THAILAND
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

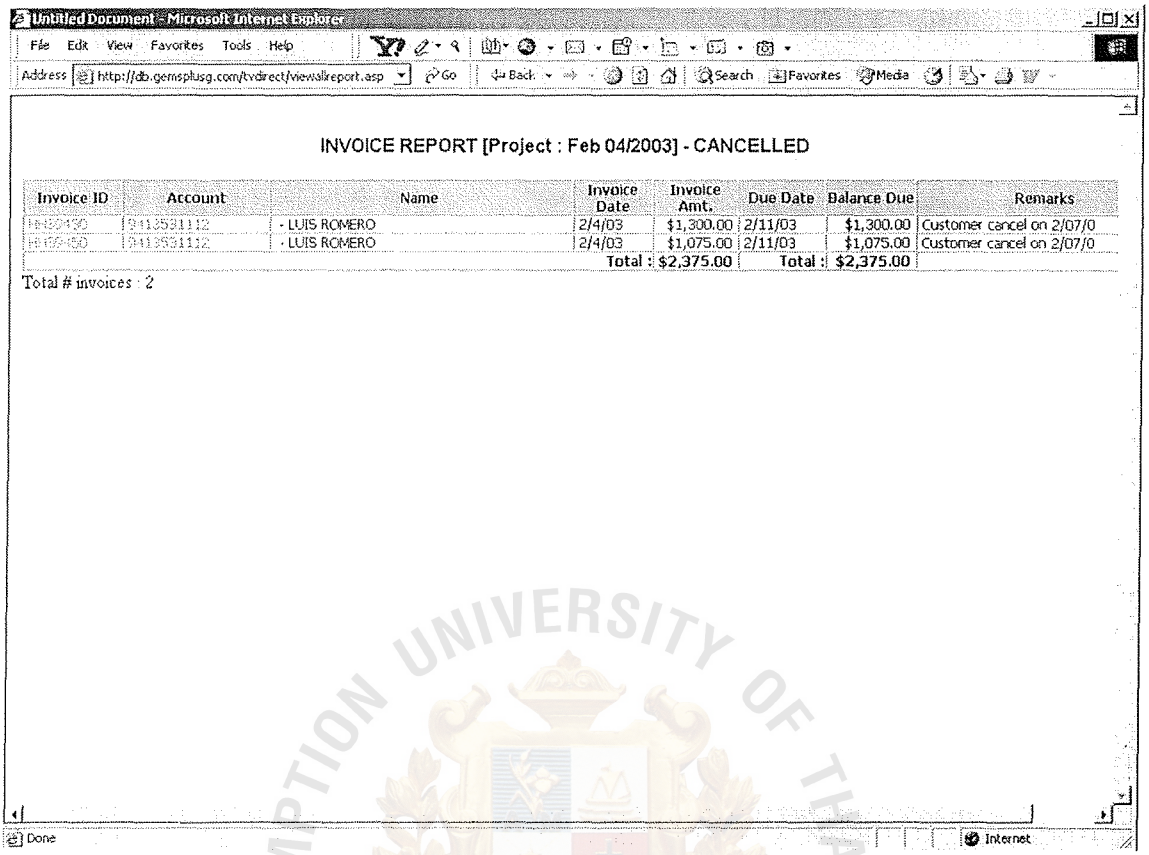

Figure G.4. Cancelled Invoice Report.

ASSUMPTION UNIVERSITY OF THAILAND
SINCE 1969
มหาวิทยาลัยอัสสัมชัญ

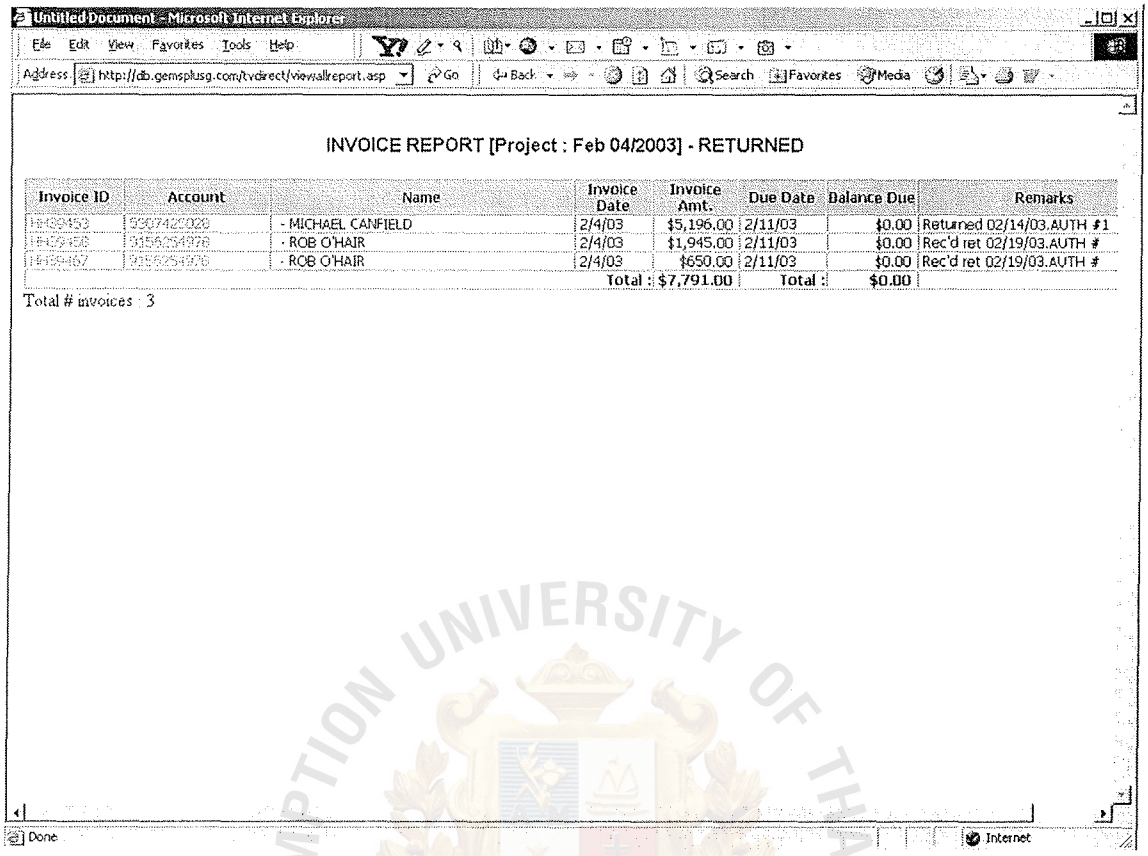

Figure G.5. Returned Invoice Report.

ASSUMPTION UNIVERSITY OF THAILAND
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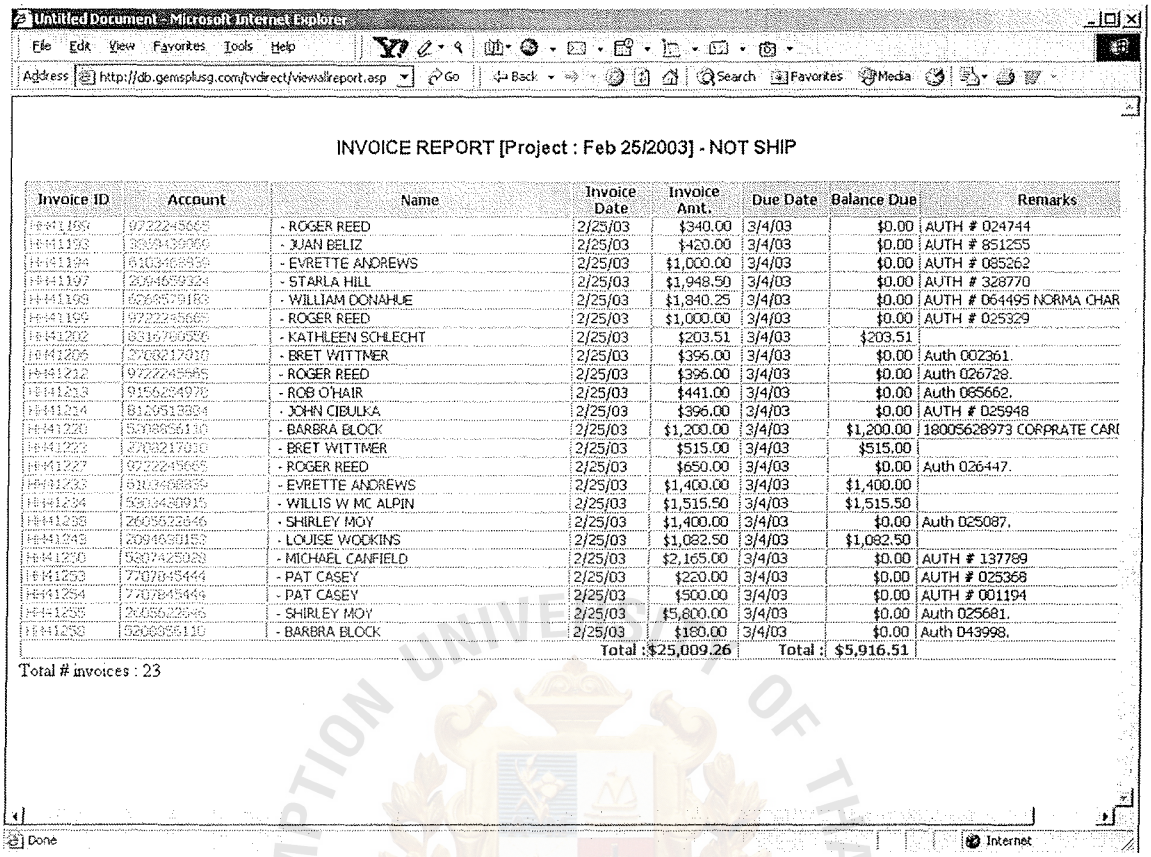

Figure G.6. Not Ship Invoices Report.

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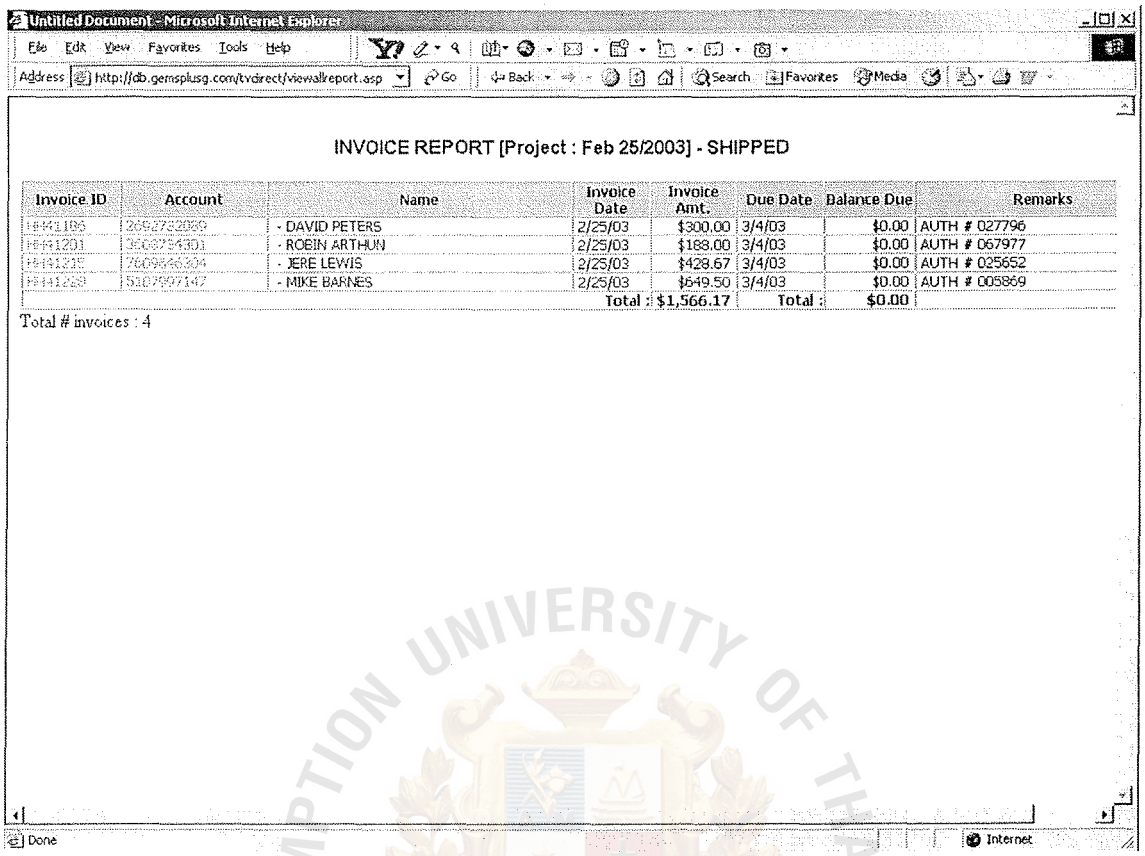

Figure G.7. Shipped Invoices Report.

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APPENDIX H

PROCESS SPECIFICATION

PROCESS SPECIFICATION

PROCESS NUMBER: 1.0

PROCESS NAME: Record Project

DESCRIPTION: Record the project details

INPUT: Project Detail

OUTPUT: Project Data

PROCESS LOGIC:

Begin

Record the project details

Save data record to project table

End

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PROCESS NUMBER: 2.0

PROCESS NAME: Record Customer Data

DESCRIPTION: Record new customer data and credit card information

INPUT: Customer details

OUTPUT: Customer Data, Credit Card Data

PROCESS LOGIC:

```
Begin
        Check customer detail
        If  customer is not exist  then
                Record the new customer details
                Save data record to customer table
        Else
                Warning Message
        End If
End
```

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PROCESS NUMBER: 3.0

PROCESS NAME: Record Order Data

DESCRIPTION: Record new invoice data and ordered item

INPUT: Order details

OUTPUT: Invoice Data, Item Ordered

PROCESS LOGIC:

Begin

Check Order Details

If Order Details is not exist then

Record the new invoice data

Record the items ordered

Save data record to customer table

Save data record to Invoice Detials table

Else

Warning Message

End If

End

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PROCESS NUMBER: 4.0

PROCESS NAME: Process Payment

DESCRIPTION: Process payment through authorize.net

INPUT: Card info, Amount of Charge, Billing Address, Authorize Code

OUTPUT: Charged Amount

PROCESS LOGIC:

Begin

Retrieve Billing information from customer table

Retrieve amount of charge from invoices table

Process payment through Authorize.net

If Received authorize code then

Update Amount charged to invoice table

Else

Warning Message

End If

End

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PROCESS NUMBER: 5.0

PROCESS NAME: Print Invoice

DESCRIPTION: Print Invoice for shipping and customer

INPUT: Invoice Info, Invoice Detail, Shipping Info

OUTPUT: Printed Invoice/Receipt

PROCESS LOGIC:

Begin

Retrieve Invoice info from invoices table

Retrieve Invoice Details from invoice details table

Retrieve Shipping Info from shipping table

Generate Print Invoice friendly page

Print customer invoice

Print shipping Invoice

End

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PROCESS NUMBER: 6.0

PROCESS NAME: Process Shipment

DESCRIPTION: Record Shipment information and send shipping notification to customer

INPUT: Tracking No., Shipping Invoice

OUTPUT: Tracking Info. , Shipping Notification

PROCESS LOGIC:

Begin

Retrieve Tracking no from LA Office

Retrieve Shipping Invoice from Print invoice process

Save tracking no to shipping table

Email shipping notification to customer

End

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PROCESS NUMBER: 7.0

PROCESS NAME: Search Invoice

DESCRIPTION: Search Invoice according to criteria

INPUT: Invoice criteria, Invoice record

OUTPUT: Invoice search result

PROCESS LOGIC:

Begin

Retrieve Invoice Criteria

Retrieve Invoice record

If there is match record then

Display invoice search result

Else

Warning message

End If

End

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PROCESS NUMBER: 8.0

PROCESS NAME: Return & Cancel Invoice

DESCRIPTION: Record return & cancel invoice from customer

INPUT: Return Invoice, Cancel Invoice

OUTPUT: Returned Status, Canceled Status

PROCESS LOGIC:

Begin

Receive Invoices

If it is return invoice then

Update invoice status to "Returned"

Else

Update invoice status to "Canceled"

End if

End

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PROCESS NUMBER: 9.0

PROCESS NAME: Generate Report

DESCRIPTION: Generate various type of report to executive manager and Bangkok office

INPUT: Report criteria –1, Report criteria-2, Account Data, Report invoice data, project info.

OUTPUT: Sale Report, Sold item report

PROCESS LOGIC:

Begin

Retrieve Report Criteria

Retrieve Account Data

Retrieve Report invoice Data

Retrieve Project Info

Generate Report

End

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APPENDIX I

WEB SITE MAP

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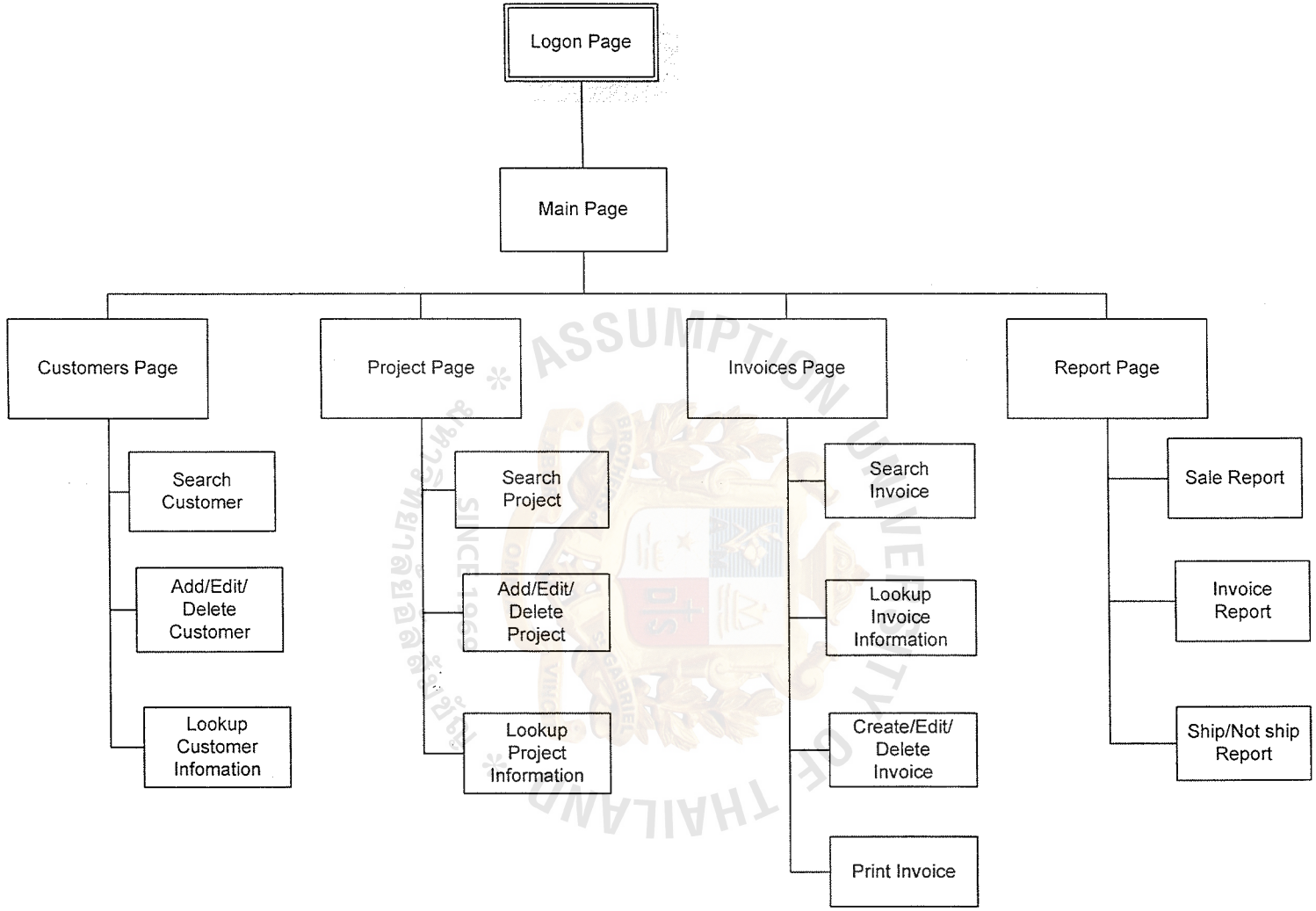

Figure I.1. Site Map of Online Accounting System.

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