WEB APPLICATION AND STUDENT MANAGEMENT SYSTEM

A case study in a branch of the Graduate Office, Faculty of Engineering, Mahidol University

SURASAK KOMOLMATHA

THEMATIC PAPER IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE
(TECHNOLOGY OF INFORMATION SYSTEM MANAGEMENT)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2001

ISBN 974-665-524-8

Thematic Paper

Entitled

WEB APPLICATION AND STUDENT MANAGEMENT SYSTEM

A case study in a branch of Graduate Office,

Faculty of Engineering, Mahidol University

Surasak Komolmatha

Mr. Surasak Komolmatha
Candidate

Lect. Bunlur Emaruchi, Ph.D.
Major-advisor

P. Kaimuk M.D.

Asst.Prof. Panya Kaimuk, M.D.
Co-advisor

Prof. Liangchai Limlomwongse Ph.D.
Dean
Faculty of Graduate Studies

Lect. Thanakorn Uan-on, D.Engr.
Chairman
Master of Science Programe in
Technology of Information
System Management
Faculty of Engineering

Thematic Paper

Entitled

WEB APPLICATION AND STUDENT MANAGEMENT SYSTEM

A case study in a branch of Graduate Office,

Faculty of Engineering, Mahidol University

Was submitted to the Faculty of Graduate Studies, Mahidol University
For the Degree of Master of Science
(Technology of Information System Management)

on

March 26, 2001

.....

Mr. Surasak Komolmatha
Candidate

.....

Lect. Bunlur Emaruchi, Ph.D.
Chairman

.....

Asst.Prof. Kasem Kulpradit, M.D.
Member

.....

Asst.Prof. Panya Kaimuk, M.D.
Member

.....

Prof. Liangchai Limlomwongse, Ph.D.
Dean
Faculty of Graduate Studies
Mahidol University

.....

Lect. Thanakorn Uan-on, D.Engr.
Dean
Faculty of Engineering
Mahidol University

ACKNOWLEGDEMENT

I would like to express my sincere gratitude and deep appreciation to Dr. Bunlur Emaruchi, Asst.Prof. Dr. Panya Kaimuk and Asst.Prof. Kasem Kulpradit my research advisor for their suggestion, comment, invaluable advice, encouragement and recommendation which enable me to carry out this research successfully.

I would like to thanks the authorities at a branch of Graduate Office, Faculty of Engineering, Mahidol University for their information and assistance in data collection.

Thank you very much to all my friends who have friendly giving discussion and important suggestion to my special project work. Finally, I must thank you my parents for my love, understanding, encouragement and support during the period of my study. They have made my life more meaningful.

Surasak Komolmatha

4037708 EGTI/M : MAJOR: TECHNOLOGY OF INFORMATION SYSTEM MANAGEMENT; M.Sc.(TECHNOLOGY OF INFORMATION SYSTEM MANAGEMENT)
KEY WORDS : WEB APPLICATION/ SYSTEM ANALYSIS/ SYSTEM DESIGN/ INFORMATION SYSTEM DEVELOPMENT

SURASAK KOMOLMATHA: WEB APPLICATION AND STUDENT MANAGEMENT SYSTEM: A CASE STUDY IN A BRANCH OF THE GRADUATE OFFICE, FACULTY OF ENGINEERING, MAHIDOL UNIVERSITY. THESIS ADVISORS : BANLUR EMARUCHI , Ph.D., PANYA KAIMUK, M.D. 55 p. ISBN 974-665-524-8

This research work is concerned with a case study of web application and student management system at a branch of the Graduate Office, Faculty of Engineering, Mahidol University. The objective of the research is to solve the current problems of the branch of the Graduate Office, Faculty of Engineering, Mahidol University by designing a database and developing applications through which end users can manage student data and students can update owner information by themselves through the Internet. Greater efficiency and effective management of student data using a web page and browser are the objectives. This study will apply the prototype approach during the requirements analysis and design stages of the traditional (System Development Life Cycle: SDLC) approach to develop the prototype of the web application and student management system of the branch of the Graduate Office. In conducting the research, the researcher completed data collection, analysis of the problems of the existing system, and a feasibility study. The system analysis is presented in a data flow diagram. In designing the system, the researcher used the Graphic User Interface (GUI) for the user interface design, and the Microsoft Access 97 relational database with 3NF normalization for the database design. Also, Microsoft Visual InterDev was used to develop the application software and was used for interface between the web server, database, end user and students. The findings illustrated the web application and student management applications.

These findings suggest that application software development can be further applied and improved for initiating such links as students' history and students' grades which can be stored at the Faculty of Graduate Studies, Mahidol University. Such a program will be a convenient and efficient means by which the user can validate student data.

4037708 EGTI/M : สาขาวิชา : เทคโนโลยีการจัดการระบบสารสนเทศ; วท.ม.
(เทคโนโลยีการจัดการระบบสารสนเทศ)

สุรศักดิ์ โกมลเมธา : การจัดการข้อมูลของนักศึกษาผ่านทางอินเตอร์เนต กรณีศึกษา ภาควิชาเทคโนโลยีการจัดการระบบสารสนเทศ คณะวิศวกรรมศาสตร์ มหาวิทยาลัยมหิดล (WEB APPLICATION AND STUDENT MANAGEMENT SYSTEM, A CASE STUDY IN A BRANCH OF GRADUATE OFFICE, FACULTY OF ENGINEERING, MAHIDOL UNIVERSITY) คณะกรรมการควบคุมสารนิพนธ์: บันลือ เอมะรุจิ Ph.D., ปัญญา ไข่มุก, M.D.

งานวิจัยที่จัดทำขึ้นนี้เกี่ยวกับระบบการจัดเก็บข้อมูลของนักศึกษาโดยใช้โปรแกรม Web Browser ผ่านทางเครือข่ายอินเตอร์เนท โดยใช้กรณีศึกษานักศึกษาในภาควิชาเทคโนโลยีการจัดการระบบสารสนเทศ คณะวิศวกรรมศาสตร์ มหาวิทยาลัยมหิดล โดยมีวัตถุประสงค์ในการทำวิจัยครั้งนี้เพื่อแก้ปัญหาความล่าช้า และไม่สะดวกในการเพิ่ม ลบ แก้ไขข้อมูลโดยทั่วไป เช่น รหัสประจำตัว ชื่อ ที่อยู่ เบอร์โทรศัพท์ ประวัติการการศึกษา ประวัติการทำงาน ของนักศึกษาในระบบจัดเก็บข้อมูลที่ใช้อยู่ในปัจจุบันของทางภาควิชา และเพิ่มความสะดวกของนักศึกษาในการแก้ไขข้อมูลส่วนตัวของตนได้ด้วยตัวเอง การแก้ปัญหาโดยการออกแบบฐานข้อมูลและพัฒนาระบบงานเพื่อให้เจ้าหน้าที่ของทางภาควิชา สามารถจัดการข้อมูลของนักศึกษา และนักศึกษาของคณะวิศวกรรมศาสตร์สามารถเปลี่ยนแปลงข้อมูลของตนเอง ได้อย่างมีประสิทธิภาพและประสิทธิผล ซึ่งในการศึกษานั้นจะใช้วิธี (System Development Life Cycle: SDLC) ในการจัดทำโปรแกรมต้นแบบ ของระบบการจัดการข้อมูลของนักศึกษาผ่านอินเตอร์เนต โดยทำการเก็บรวบรวมข้อมูล ทำความเข้าใจกับปัญหาที่เกิดขึ้นในระบบงานปัจจุบัน และศึกษาความเป็นไปได้ของระบบในการทำงาน เพื่อนำไปสู่การวิเคราะห์ระบบที่แสดงในรูปของ Data Flow Diagram การออกแบบระบบที่เป็นไปตามความต้องการของผู้ใช้ในลักษณะที่ง่ายต่อการใช้งาน รวมทั้งมีการออกแบบฐานข้อมูลในลักษณะของ Relational database ที่เป็นไปตามหลักการของ Normalization ในระดับ 3NF โดยใช้โปรแกรม Microsoft Access 97 เป็นฐานข้อมูล มีการพัฒนา โปรแกรมโดยใช้ Microsoft Visual InterDev โดยการเขียน ASP เพื่อใช้ในการติดต่อระหว่าง web server, ฐานข้อมูล, ผู้ใช้งานและนักศึกษา ซึ่งผลการวิจัยนี้จะได้ในรูปแบบของโปรแกรมประยุกต์เพื่อใช้ในการจัดการข้อมูลของนักศึกษาผ่านอินเตอร์เนต

พร้อมกันนี้ผู้วิจัยยังได้มีข้อเสนอแนะในการพัฒนางานวิจัยนี้ต่อไปคือ ควรมีการเชื่อมโยงข้อมูลของนักศึกษาและผลการศึกษาของนักศึกษากับทางบัณฑิตวิทยาลัย ซึ่งจะทำให้เกิดความสะดวกต่อผู้ใช้ในการตรวจสอบความถูกต้องของข้อมูลนักศึกษาเป็นอย่างมาก

CONTENTS

CONTENTS (CONT.)

CONTENTS (CONT.)

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

1.1 General Introduction

The world is going through fundamental changes. The ongoing advance in computer and communication technology continues to have a profound effect on the way people work and play. Both the technology itself and the expectation of the people who use it are altering the feature of the information.

A few years ago, World Wide Web and Internet Technology were just a concept in the minds of visionaries. Now it has turned into a powerful communication interface that is bound to bring the closer together. Sound, images, video clops, virtual reality and databases are all examples of developed and research disciplines gathering in the web domain. So many advancement of these areas affect the user's perception of the Web directly.

Among of these Web-related technology, database storage and management is the oldest and most currently utilized technology. Moreover, database storage and management achieves a new level applicability when given a Web interface with all its powerful features. In general, organizations have to collect data and document, especially in the big organizations, which contact with many persons. So there are a lot of data and document. Because of that, data management is very necessary. For education institute, student's data is very important, branch of graduate office at faculty of Engineering must store and management student data with carefully. So as

useful information in the form of document, report and so on with effectively and efficiency. For example, branch of graduate office at faculty of Engineering can inquiry student data who want to change address correctly, and in time that they want. There for information system was introduced to minimize a great deal of branch of graduate office at faculty of Engineering workload. So far branch of graduate office at faculty of Engineering division has been set up to provide a variety of information through the use of computer and knowledgeable personnel for potentially searching information rapidly, with valid, complete and up to date reliability.

As the citation above, all organizations that desire to improve performance of operations should select the computerized system that applies information with Internet Technology in order to inter-link everywhere around the world for their business and require some kind of Information Technology (IT) resources that enable users to collect and store data for later retrieval. After the acquisition of such data, the problem of efficiently managing the resources is created. Without proper management, costs are higher because of the unnecessary duplication, lose or misuse of equipment and software. The acquisition and efficient management of data customer have become particularly important due to the potential for cost reduction in business processes and the consequent increase in profitability. Moreover, competitive advantage may be derived from using IT in a business with good strategies.

1.2 Specific Background

For a faculty of Engineer, Mahidol University, a famous university in Thailand. A branch of graduate office at faculty of Engineering is one unit of the faculty of Engineer which essentially carries out student data.

Responsibilities of this faculty are correct student data and update student data when there are some change student data. Data that faculty of Engineer must store are student's data. Student's data are student name, student id, age, sex, birthday, address, telephone number, parent name, grade record, etc. The way they do for correcting data is record student data in documents file. In the past there are student not much but in the present the number of student more amount.

1.3 Statements of Problems

In present system, student who want to change owner data must contact by myself at branch of graduate office at faculty of Engineering. At the same time user in branch of graduate office at faculty of Engineering must correct and arrange student data by themselves, therefor it not convenient for student and user then student want the convenient system that they can submit change data request through internet and admin user want the system that they convenient to manage student data.

For manage student' s data, each student have many data to storage and the number of student increasing everyday and currently, the branch of graduate office at faculty of Engineering use manual system to management data then problems in manage data and inquiry data to use has occur.

The problems that will be solved in this research:

1. Uncomfortable for student to submit change request with branch of graduate office at faculty of Engineering.
2. Lost of data, how to collect student's data with safety, correctly and not duplicate.
3. Uncomfortable to inquiry specific student data.

This research will encourage them to work on their information without any complicated computerize knowledge.

1.4 Objective of Study

This research is to study and develop a prototype of a web application and information management system of the student management system. The system is intended to serve student and end-user in branch of graduate office at faculty of Engineering. Accordingly, this project will:

1. A database for collect student data.
2. A web application for user to manage student data and for student who want to change owner data

1.5 Scope of Study

The scope for development this research will use Microsoft Access97 for relational database creation, using WebSite Server or Microsoft Personal Web Server for web server, using Microsoft Visual InterDev for program development.

To study, analysis, design and development a prototype of the web application and information system of the student for branch of graduate office at faculty of Engineering following main concepts:

1. Develop a database for collect student data. Database is intended to design for collect data about history of student.
2. Develop application for manipulate information in database. The application developed for end user and student. This application has a function for insert, update, delete and inquiry information of student. End user can full control this program, they can insert, update and delete all data in database, student can change only owner data in database. The systems using Microsoft Visual for program development.

1.6 Expected Result

The outcome of this research will be "The Web application of Student Information Management System" that enables end users can manage the student's data for more efficiently and effectively, student can change owner information by themselves through Internet. Serve users more conveniently and to keep user satisfied in retrieve needed information.

CHAPTER II

LITERATURE REVIEW

2.1 Information Concepts

Data are basic facts which consists of raw facts, such as an employee's names or sales orders. There are several types of data that can be used to represent these facts, such as image data, audio data and video data which defined simply as numbers, words, names, and others symbols that can be stored in a computer system.

Information are a collection of facts organized, and processed by sorting, classifying, merging, computing or summarizing in such a way that they have additional value beyond that value of the facts themselves. They are simply useful data used in the decision making process. For instance, sales forecast data can be processed to produce information that helps determine production strategies.

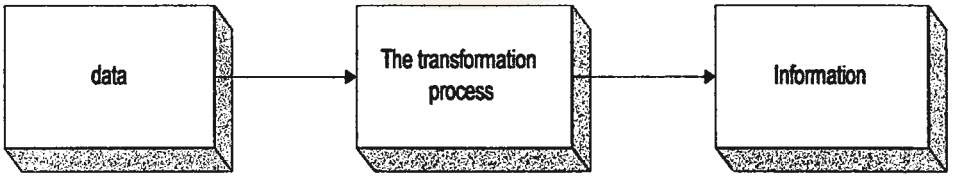


Figure 1 The process of transforming data into information

2.2 Database System (6)

A database system is basically a computerized record keeping system; that is, it is a computerized system whose overall purpose is to maintain information and to

make that information available on demand. The information concerned can be anything that is deemed to be of significance to the individual or organization the system is intended to serve- anything, in other words, that is needed to assist in the general process of running the business of the individual or organization.

Database is an organized collection of facts that are used by programs to produce useful information.

The Database Management System (6)

The Database Management System (DBMS) is the software that handles all access to the database. Conceptually, what happens is the following.

1. A user issue an access request, using some particular data sublanguage (typically SQL).
2. The DBMS intercepts that request and analyze is.
3. The DBMS inspects, in turn, the external schema for that user, the corresponding external/conceptual mapping, the conceptual schema, conceptual/internal mapping, and the storage structure definition.
4. The DBMS executes the necessary operation on the stored database.

Benefits of the Database Approach (6)

1. Redundancy can be reduced.
2. Inconsistency can be avoided (to some extent).
3. The data can be shared.
4. Standards can be enforced.
5. Security restrictions can be applied.

6. Integrity can be maintained.

7. Conflicting requirements can be balanced.

2.3 Entity-Relationship Model

The entity-relationship model (E-R model) is based on a perception of a real world, which consists of a set of basic object, called entity and relationship. E-R model is one of the techniques to organize retrieval of data collection

Relationship is the association between two files in a database based on specific criteria. Defined relationship is two-directional and based on an exact match of values in linking fields between the two files as specified on the relationship form.

Database relationship fall into the following three categories:

1. One to One is a relationship between two tables in which table A can have one and only one related record in table B and each record in table B is related to one and only one related record in table A.

2. One to Many is a relationship between two tables in which table A can have multiple related records in table B, but each record in table B is related to only one record in table A.

3. Many to Many is a relationship between two tables in which each record in table A is related to multiple records in table B, and vice versa.

A Relation

A Relation is a two-dimensional table containing rows and columns of data. It is divided into two parts, a heading that is a set of attributes and body, which is a set of tuples. A relation can be thought of as a table.

A Tuple is a row or record in a database relation.

A Cardinality is the number of tuples in a given table at a specific point in time.

An Attribute corresponds to a column of such a table. It is a characteristic or property of a database entity. Fields in database tables represent attributes. The number of Attribute in a relation is calling the Degree.

A Degree is the number of attributes.

The primary key is a unique identifier for the table – that is , a column or column combination with the property that, at any given time, no two rows of the table contain the same value in that column or column combination.

A Domain is an important feature of a relational structure. Those specific attributes of specific relation, which draw their actual values, come form a homogeneous pool of values. It is the set of all possible values for an attribute.

These terms are summarized in Table 2.1. A couple of points arising from the figure.

Table 1 Relational data objects terminology

Formal relational term	Informal equivalents
Relational	Table
Tuple	Row or record
Cardinality	Number of rows
Attribute	Column or rows
Degree	Number of columns
Primary key	Unique identifier
Domain	Pool of legal values

Key of Relations

Key is a minimal set of attributes or collection of attributes that uniquely identifies each tuple in a relation. In general type of keys:

Primary Key is attribute or set of attribute that uniquely identifies a record in a relation. The primary key 'Is used to prevent duplicate records from being entered and searched for records. In the relational model, each record (row) must have a primary key, which will be defined when a table is create. The combination of table name and primary key guarantees access to one specific row in the table.

Candidate Key is attribute or set of attribute which uniquely identifies a row in a relation that could be chosen to serve as a key of a relation.

Alternate Key or Secondary Key is attribute or set of attribute on record used to directly access a record.

Foreign Key is attribute or set of attribute in one relation that is the primary key field for another table. It is used to indicate logical link between relations.

A relation key is formally defined as a set of one or more relation attributes concatenated so that the following three properties hold for all time and for any instance of the relation.

1. Uniqueness:

The set of attributes takes on a unique value in the relation for each tuple.

2. Nonredundancy:

If an attribute is removed from the set of attributes, the remaining attributes do not possess the uniqueness property.

3. Validity:

No attribute value in the key can be null.

2.4 The Normalization Process (4,7,8)

Normalization is necessary for a relation database. It is the process to manage data structure in one or more tables. Normalization will help reduce or prevent Problems as follows:

1. Reduce data redundancy
2. Reduce loss of data integrity in the database
3. Reduce modification anomalies

3.1 Delete anomaly is unintended loss of data due to deletion of other data.

3.2 Update anomaly is data inconsistency resulting from data redundancy and partial update

3.3 Insert anomaly is inability to add data to the database due to absence of other data.

The method to prevent problems by using a more formal method is called the decomposition. Decomposition is the process of splitting relation into multiple relation to eliminate anomalies and maintain data integrity by using normal forms or rules for structuring relation.

Normal Form is rules for structuring relation that eliminate anomalies there is a sequence of normal forms; each one adding more constraints to a data structure (8,9)

First Normal Form (1NF)

A relation must have atomic value for all of its attribute values in every tuple and has a unique meaning and name without repeating groups.

Second Normal Form (2NF)

A relation is a INF relation and all non-primary key data item are fully ffunctionally dependent on the entire primary key of the entity.

Third Normal Form (3NF)

A relation is a 2NF relation and no transitive dependency of nonprime attribute on key.

Boyce-Codd Normal Form (BCNF)

A relation is a 3NF relation, which all attributes are determined only by each full candidate key, and not be any subset of a candidate key, which has no dependency of prime attribute on nonprime attribute.

Fourth Normal Form (4NF)

A relation is a BCNF relation and either

1. It contains no multivalued dependencies on the primary key or

2. All its multivalued dependencies are also function dependencies

Fifth Normal Form (5NF)

A relation is a 4NF relation and can be decomposed only into smaller records that all have the same key for eliminates join dependencies. The data that additionally has the characteristic if its primary key is a concatenated key such that none of the components of the concatenated key can be derived form another component of the concatenated key.

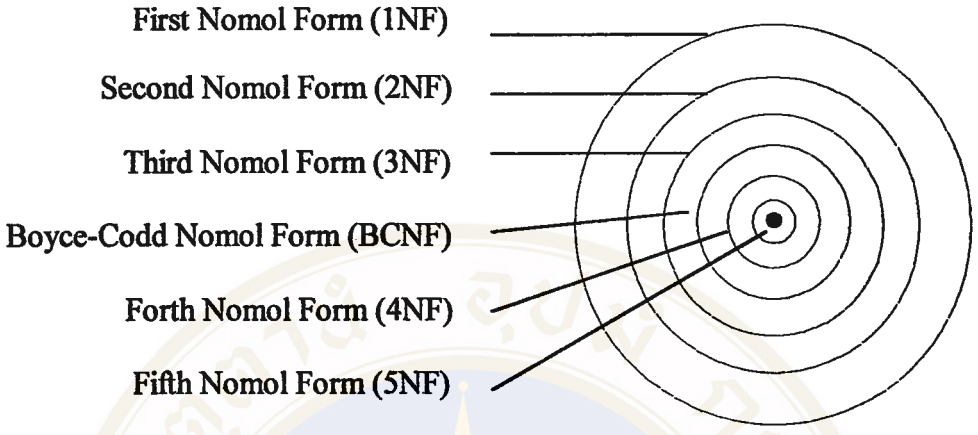


Figure 2 Normal Forms

2.5 Internet Background

The Internet, in its broadest sense, can be defined as a collection or interconnection of many different networks of computer hosts, clients, and servers that collectively provide and use information and connection services. This "network of computer networks" now includes a community that literally spans the globe and counts among its members nearly every country in the world.

Computers with access to the Internet come in all sorts of makes and models and run a variety of operating systems and applications. Strictly speaking, computers connected to the Internet are those that use the Transport Control Protocol/Internet Protocol (TCP/IP) suite, which is a common set of rules that allow a variety of systems to communicate. Computers on non-TCP/IP networks, however, can access the Internet through gateways that perform the necessary protocol translations and allow appropriate communications.

The Internet, also known as the Net, provides many standards, services, and protocols that allow individuals to access the huge number of resources available on

the Net. This section provides a brief introduction and history of the Internet to give you a sense of the growth that has led to the phenomenon known as the World Wide Web.

Overview of the more popular technologies: (3)

- **TCP/IP**: The Transmission Control Protocol /Internet Protocol is the basic collection of protocols that computers, servers, and clients use to communicate over the Internet.
- **HTTP**: The Hypertext Transport Protocol is a TCP/IP-based protocol used by Web servers and browsers that defines the manner in which they communicate over the Web.
- **Web servers**: A program that provides services to Web clients. These services generally are HTTP services that provide access to HTML document repositories or CGI applications. They also can be pass-through services such as FTP, Gopher, or Telnet.
- **Web browsers**: Programs such as Netscape Navigator, Mosaic, and Internet Explorer are among the dozens of available browsers (that is, Web clients) that allow easy navigation of Websites on the Internet and display documents written in HTML. Most of the popular commercial browsers are graphical-based, and many use extensions that allow inline images, as well as some audio and video capabilities, to be integrated.
- **HTML**: The Hypertext Markup Language is the primary language of documents served by Web servers. It provides a rich and growing set of tags that are embedded in documents to specify how the content should be formatted on a page.

These tags also enable you to establish hypertext links from content in one document to content in other documents (which can be local or on a server anywhere in the world). HTML also provides mechanisms for invoking programs and services on Web servers.

2.6 Web Database

Like any regular database management system, a Web database is a data store or information repository that can be accessed via a query language or programming API. Unlike conventional database systems, however, with Web databases, this access is not typically performed using instructions typed at a command line or issued through interfaces that are custom designed for use on a specific computer platform.

- Web databases are accessed via other Web applications--specifically, forms that are developed using standardized HTML tags (and, in some cases, vendor-specific extensions), ActiveX controls, and client-side scripts using VBScript and JavaScript. Using facilities available in HTML, applications programs on the Web server are accessed through server-side programs via CGI, server-specific interfaces such as Microsoft's Internet Information Server (IIS) application programming interface (ISAPI) or server-side scripting environments such as IIS's Active Server pages (which use Visual Basic). HTML form interfaces enable you to create applications that integrate database functionality and provide access to organizational data repositories on behalf of Web clients (that is, a user and browser). You can design applications solely for the purpose of querying a database and returning specific information--for example, a profile of the top-selling salespeople in your organization during the previous quarter. The application also can use information

pulled from a database to support more comprehensive applications. Sales statistics for a chain of stores could be pulled from a database, for example, and used to perform a statistical analysis of how various sales and promotions affected revenues during a given period

2.7 The System Development Life Cycle (4)

System development, a process consisting of the two major steps of systems analysis and design, starts when management or sometimes systems development personnel realize that a particular business system needs improvement.

The system development life cycle (SDLC) method (Figure 2.3) is classically thought of as the set of activities that analysts, designers, and users carry out to develop and implement an information system. In most business situations that activities are all closely related, usually inseparable, and even the order of the steps in these activities may be difficult to determine. Different parts of a project can be in various phases at the same time, with some components undergoing analysis while others are at advanced design stages.

The system development life cycle method consists of the following activities

1. **Preliminary Investigation:** This activity has three parts: Request Clarification, Feasibility Study and Request Approval.

1.1 Request Clarification: Before any systems investigation can be considered, the project request must be examined to determine precisely what the requester require.

The following will be done for clarifying the requests:

- Review and inventory all existing data including the current information system.
- Discuss with the other system administrator and some users for collecting another information
- Obtain reports to clarify the requests.

1.2 Feasibility Study: An important outcome of the preliminary investigation is the determination that the user's requests are feasible. There are 3 aspects in the feasibility portion of the preliminary investigation:

1.2.1 Technical Feasibility: Can the work for the project be done with current equipment, existing system technology, and available personnel? If new technology is required what is the likelihood that it can be developed?

1.2.2 Economic Feasibility: Are there sufficient benefits in creating the system to make the cost acceptable? Or, are the costs of not creating the system so great that the project must be undertaken?

1.2.3 Operational Feasibility: Will the system be used if it is developed and implemented? Will there be resistance from users that will obstruct the possible application benefits?

The feasibility study is carried out by a small group of people who are familiar with information systems techniques, understand the part of the business or organization that will be involved or affected by the project, and are skilled in the systems analysis and design process. People typically responsible for feasibility assessments are experienced analysts or managers.

1.3 Request Approval : project that are both feasible and desirable should be put into a schedule. After a project request is approved, its cost, priority, completion time,

and personnel requirements are estimated and used to determine where to add it to any existing project list.

2. Determination of System Requirements: At the heart of systems analysis is a detailed understanding of all important facets of the business area under investigation. The prototyping approach will apply to gather details about the business process and their opinions of why things happen as they do and their ideas for changing and improving the process. Detailed investigations also require the study of manuals and reports, actual observation of work activities, and sometimes, collection of samples of forms and documents to fully understand the process.

3. Design of System: Good, clear diagrams play an essential part in designing complex system and developing programs.

The design of an information system produces the details that state how a system will meet the requirements identified during systems analysis. Identifying reports and other outputs the system will produce starts the design process. Then the specific data on each are pinpointed. The system design also describes the data to be input, calculated, or stored. Individual data items and calculation procedures are written in detail. The selection of file structures, data structures, and storage devices, such as magnetic disk, magnetic tape, or even paper files are made. The procedure of how to process the data and produce the output in designed.

4. Development of Software: The programs may be written new or custom-designed and be documented for an explanation of how and why certain procedures are coded in specific ways. Documentation is essential to test the program and carry on maintenance once the application has been installed.

5. System Testing: During system testing, the system will be used experimentally to ensure that the software does not fail, i.e., that it will run according to its specifications and in the way users expect. Special test data are input for processing, and the results examined. A person other than those who wrote the original programs to ensure more complete and unbiased testing and more reliable software should perform the testing process.

6. Implementation and Evaluation: Implementation is the process of having systems personnel check out and put new equipment in to use, train users, install the new application, and construct any files of data needed to use it.

Evaluation of the system is performed to identify its strengths and weaknesses. The actual evaluation can occur along any of the following dimensions:

- Operational Evaluation: Assessment of the manner in which the system functions, including the ease of use, response time, suitability of information formats, overall reliability, and level of utilization.

- Organizational impact: Identification and measurement of benefits to the organization in such areas as financial concerns (cost, revenue, and profit), operational efficiency, and competitive impact, including the impact on internal and external information flows.

- User Manager Assessment: Evaluation of the attitudes of senior and user managers within the organization as well as and users.

- Development Performance: Evaluation of the development process in accordance with such yardsticks as overall development time and effort, conformance to budgets and standards, and other project management criteria, including assessment of development methods and tools.

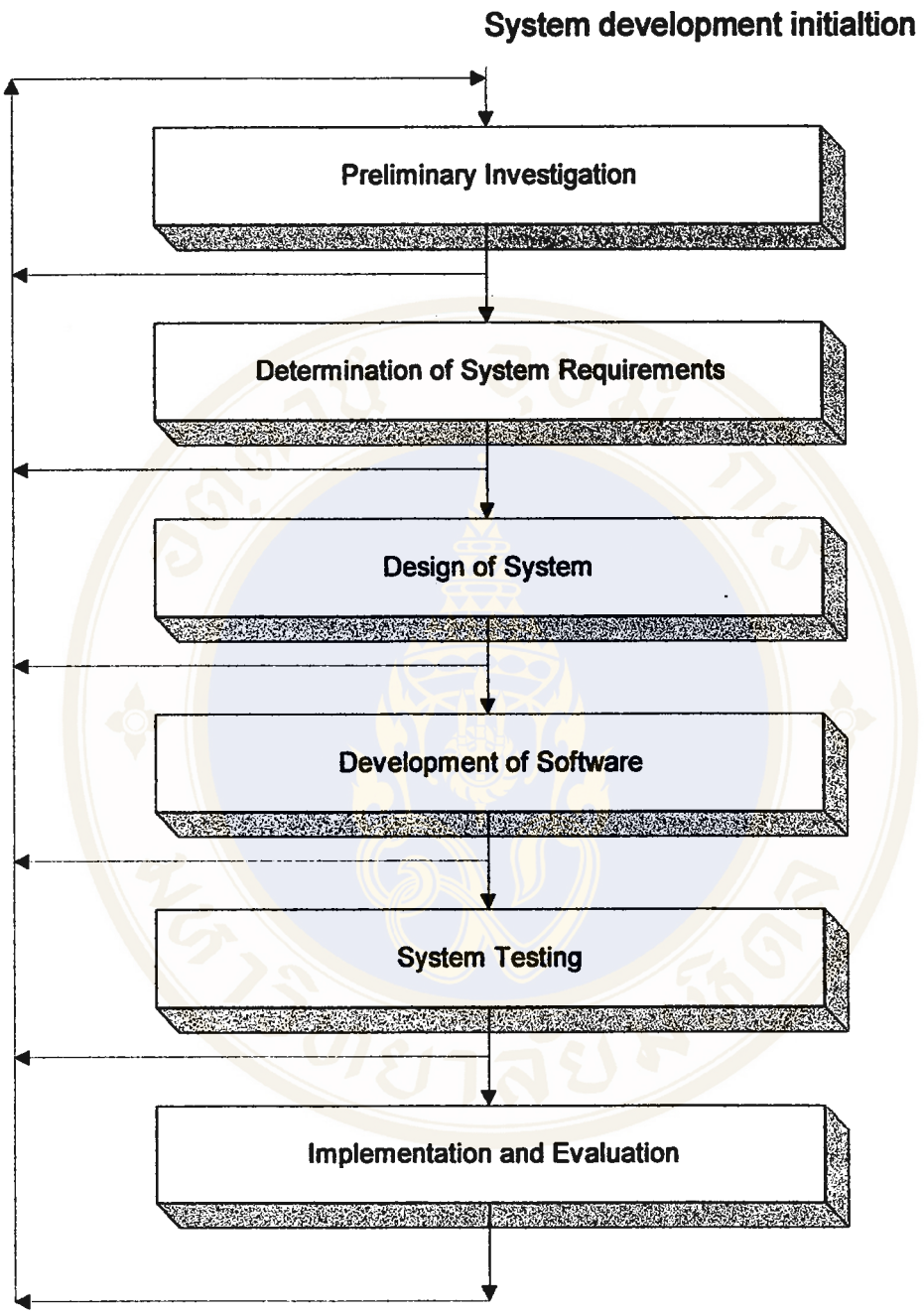


Figure 3 The System Development Life Cycle (SDLC)

2.8 The Active Server Page (ASP)

ASP was "born" in November 1996 when Microsoft announced its design of an Active Platform. The Active Platform reflects Microsoft's ideas about how a

desktop computer and a server computer should communicate. It consists of two parts: the Active Desktop and the Active Server. The Active Desktop refers to the client side, or the user's side, where HTML files are displayed on a web browser. The Active Server refers to the server-side component. This consists of pages that can be interpreted by the server, hence the term Active Server Pages.

Microsoft's documentation describes ASP as "a server-side scripting environment that you can use to create and run dynamic, interactive, high-performance Web server applications." ASP files combine HTML, scripts, and ASP code to enable a much higher degree of interactivity than is possible with plain vanilla HTML. With ASP, programmers working on Windows NT can tailor the way pages are displayed based on outside information. A different image could be displayed each day of the week, or information could be displayed based on a user's age. This process, which is called condition branching, allows ASP to make decisions about what to display based on certain criteria.

HTML, on the other hand, has no way to make this type of decision. It's a display language. In the real world, you'll probably want to interact with users through a web storefront or personalize their experience by offering tailored content. For this, you need the ability to make decisions.

How Files Are Interpreted

Normally, HTML files are "interpreted" on the client side (in a user's web browser). With Microsoft's Active Platform, the server can also interpret files. Interpreting to a server means that before displaying a file in a user's browser, the server will complete some initial steps:

- It will look at the file's extension. If the file has a standard extension, such as .html or .htm, the server will pass the file to the browser. If the file has an extension of .asp (or .asa), the server will open the file and look for tags that mark ASP code. ASP code is contained inside special tags: <% before the code begins and %> after it ends.
- The server evaluates the code contained inside these brackets and replaces it with HTML code. This HTML code is generated based on information about the user's setup or other conditions on the client side.
- The resulting page, which contains some of the file's original markup and some markup that has been generated with ASP, is sent to the browser that requested it.

Let's take the example of a shopping cart. Imagine a customer has selected five items from the store's catalog. These selections are listed together on one "shopping cart" page, which contains a table with rows and columns. At the top of each column is a heading, such as quantity, description, stock number, or price. How will you construct this page, considering that parts of it are dependent on what the customer has chosen?

The column headings can be included in the original HTML layout, since they won't change. The table's position probably won't change either, so it can also be incorporated into the original HTML file. These elements of the page will remain the same, regardless of how many times you come back and view the page.

The information inside the table (the list of what has been selected for purchase) will change, however. Each person viewing the site may select a different

set of items. To display this information, ASP pulls the item information from a database and adds that item information to the HTML layout before it is sent back to the user's browser. Programmers use the term "on the fly" for this type of page, because it doesn't exist on its own. Instead, it is created on demand ("on the fly") when needed. The ASP script creates the entire page, by combining the static page elements with selected information from the database.

Using Scripts to Extend ASP

VBScript, JavaScript, and JScript are scripting languages that, when added to an HTML file with SCRIPT tags, will allow for some tailoring of display. These languages generally are run on the client side; in other words, they are run by the browser when called for.

Used on their own, they have some serious drawbacks.

- They are browser-specific, so the same code may be interpreted differently depending on the browser being used.
- They can't be used to refer to a database (such as a product catalog) or to store data.

Despite these drawbacks, scripting languages can be useful. Possibly their best use is in validating data; for example, guaranteeing that certain fields have been filled out within a form before the data is sent back to the server for processing. This is done by having a script run when someone clicks on the submit button of a form. The function would check all of the form's required fields. If any of the required fields

were left empty, the script would display an alert message informing the user that they had left a field blank.

Scripts can be used on the server side, but they are more commonly used on the client side. There is an attribute of the SCRIPT tag that allows the programmer to determine where the code is to be interpreted. The default is to process all code in SCRIPT tags on the client side (in the browser), but the programmer can set the attribute so that scripts are processed on the server.

Components and Objects

Components and objects are the tools used to communicate with the server's environment and system. A component can contain one or more objects. An object can have one or more methods and one or more properties. (Tip: methods are sort of like verbs, and properties are like adjectives.) By creating an instance of an object, you can use its methods to perform tasks. Changing an object's properties will cause its methods to perform tasks differently.

Several objects are built into ASP, some are built into VBScript, and some are built into the server's system. Other components can be created to further customize an application.

Table 2 Components and Objects

Object or component	*Function*	*Source*
Request Object	Handles information coming from the browser	Built into ASP
Response	Handles information sent back to the browser	Built into ASP
Server Object	Provides access to some basic server services	Built into ASP
Application Object	Maintains information for the life of an application	Built into ASP
Session Object	Maintains information for the life of a session	Built into ASP
Text Object	Manipulates text files	VBScript Scripting Object
Error Object	Provides for error analysis	VBScript Scripting Object
Dictionary Object	Creates a lookup reference	VBScript Scripting Object
File System Object	Provide access to file system	VBScript Scripting Object

Object or component	*Function*	*Source*
Content Linking	Imparts an order to the pages on a site	Server Component
Browser Capabilities	Specifies what a user's browser can do	Server Component
Ad Rotator	Rotates several ads in a spot on the page	Server Component
Voting	Collects information from a user poll	Server Component
Active Database	Provides communication with a database	Server Component

Potential Drawbacks

ASP is a powerful tool for dynamic web content, but like other solutions, it does have some drawbacks. ASP is only available for Windows (NT and 95). It has traditionally required that you be running a Microsoft web server (generally Internet Information Server), though that may change with a product called Chili!ASP, which is marketed as ASP for other servers. ASP also uses cookies, which means people using the Lynx browser can't access pages. However, the number of people using Lynx is very small, and they may not be a significant part of your target audience.

CHAPTER III

METHODOLOGY AND MATERIALS

3.1 Research Methodology and Procedure

This study will apply the prototype approach during the requirements analysis and design stages of the traditional (System Development Life Cycle: SDLC) approach to develop the prototype of the web application of student management system. The methodologies of these concepts are as follows:

1. Preliminary Investigation

In present Branch of graduate office at faculty of Engineering corrects student data in file document (manual system) and keep file in to bookcase. But faculty have many student increase in every course then user (an official in branch of graduate office at faculty of Engineering) not convenient to find and edit student data.

2. Determination of System Requirements

From the problem that happens, database storage and management into computer is the appropriate method for collect data and document because computer can collect a lot of data, potentially searching information rapidly, with valid, complete and up to date reliability. In branch of graduate office at faculty of Engineering must store and management student data with carefully. So as useful information in the form of document, report and so on with effectively and efficiency.

3. Design of System

Design Input System and Display Data

Using Web Browser for example Internet Explorer for Input data and display data trough Internet or Intranet because it convenience for authorities in Branch of Office to manage student data, convenience for student to change owner data and convenience for teacher or concern person who want to retrieve student data from in university or outside of university through Internet any time and anywhere around the world.

Design Database

From quantity of data per 1 student use space for store data not more that 1 Kbyte or 1000 characters and for store student's picture use space about 50 Kbyte. Number of student in Faculty of Engineering not over 1000 persons then estimate all of spaces to use 50 MB. Database to use is Microsoft Access 97 because inexpensive, can cope with volume of student data and it's products that come from manufacture of Operating System Window 98 that used for develop system then Microsoft Access 97 can compatible for this research.

Design Program

Operation working is Web Base Client-Server using Microsoft Visual InterDev for manipulate data with database but Graphic User Interface from Microsoft Visual InterDev unattractive then researcher use Dream Weaver, program for design Web Page, to decorate for more attractive.

Design Security

Used Personnel Web Server because it have security system enough for student data, moreover it appended with Microsoft Windows 98 and compatible with Microsoft Access 97.

Design Hardware

Because Operating System Window 98 use memory 64 MB for stable system and effective system but this research must use with Personal Web Server and connect to database then should add memory from 64 MB to 128 MB for more effective system.

4. Development of Software

All analyzed and designed information will used for developing the information system by using Microsoft Visual InterDev as a tool and using Active Server Page (ASP) for inquiry data from web application.

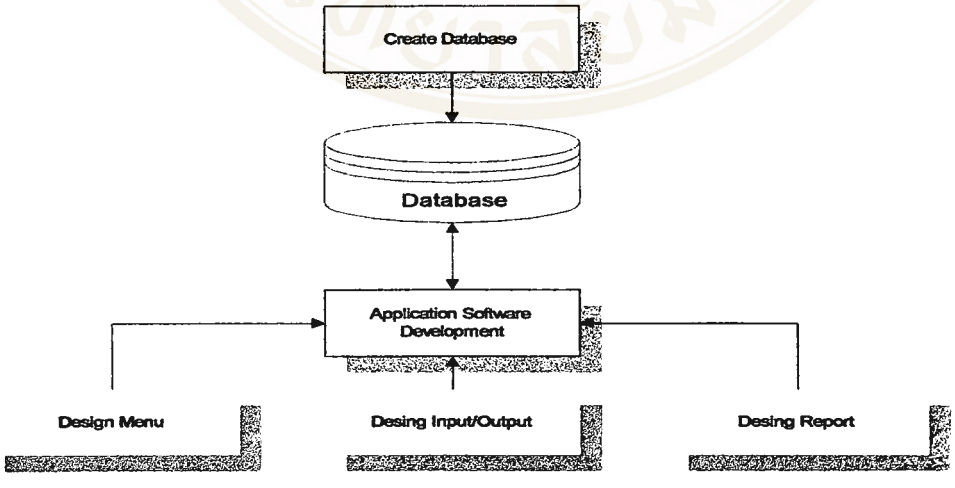


Figure 4 Application Software Development

5. System Testing

The application software model has to be tested before allowing actual use. This comprises the two parts of the test as follows;

5.1 The programmer will periodically conduct the test during the period of program development activities.

5.2 The users test the application software by using current data. This will be required for the purpose of trials.

6. Implementation and Evaluation

Implementation is the process of having systems personnel check out and put new equipment in to use, train users, install the new application, and construct any files of data needed to use it.

Evaluation of the system is performed to identify its strengths and weaknesses. The actual evaluation can occur along any of the following dimensions:

- Operational Evaluation: Assessment of the manner in which the system functions, including the ease of use, response time, suitability of information formats, overall reliability, and level of utilization.

- Organizational impact: Identification and measurement of benefits to the organization in such areas as financial concerns (cost, revenue, and profit), operational efficiency, and competitive impact, including the impact on internal and external information flows.

- Development Performance: Evaluation of the development process in accordance with such yardsticks as overall development time and effort, conformance

to budgets and standards, and other project management criteria, including assessment of development methods and tools.

3.2 MATERIALS

Hardware's configuration (Server/ Client)

CPU	:	Pentium II 300 MHz
RAM	:	At least 64 MB
HDD	:	6 GB
Floppy disk	:	3.5 inch
Monitor	:	SVGA
Peripherals	:	Mouse, Keyboard 101 key, CD-ROM 20x Laser Printer

Software

Operating System

Microsoft Windows 98 Thai Edition

Web Server

Microsoft Personal Web Server (from Microsoft Corporation)

Application Tool

Microsoft Visual InterDev for web application development

Database

Microsoft Access97 for relational database creation

Browser

Netscape Communicator, Internet Explorer

HTML Editor

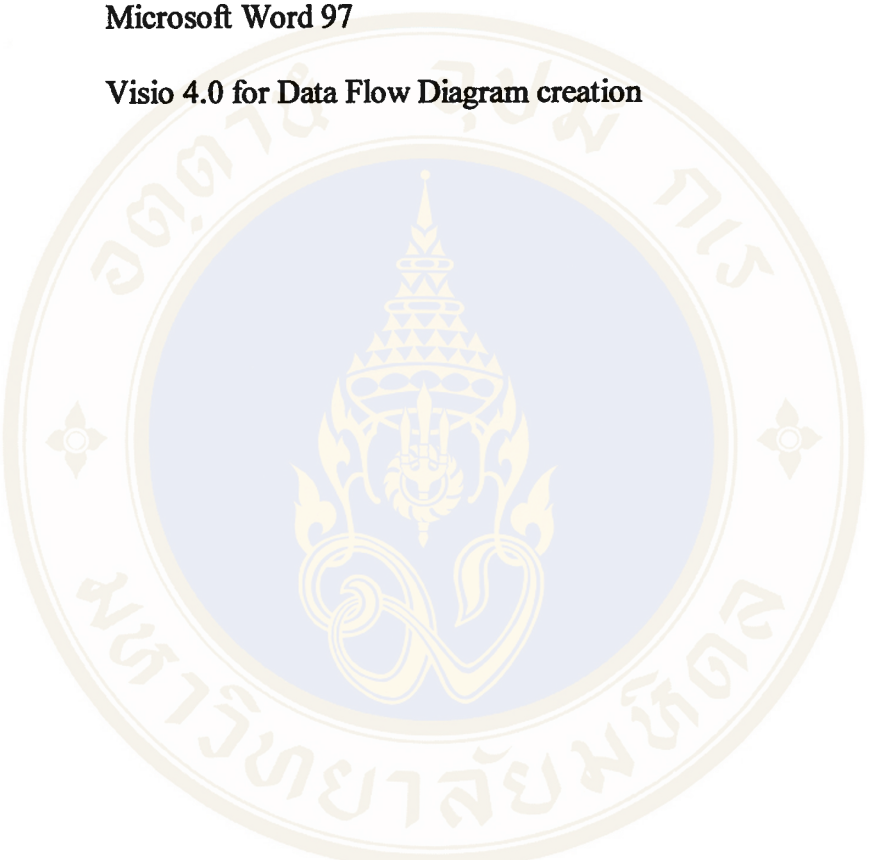
Notepad

Dream Weaver

Documentation

Microsoft Word 97

Visio 4.0 for Data Flow Diagram creation



3.3 RESEARCH TIME

Activities	Time					
	Q1			Q2		
	1	2	3	4	5	6
1. Preliminary Investigation	—					
2. Determination of System Requirements	—	—				
3. Design of System		—	—	—		
4. Development of Software			—	—	—	
5. System Testing				—	—	
6. Implementation and Evaluation					—	—

Table 3 Research Time Table

CHAPTER IV

RESULTS

Data related to the organizational structure, the existing information system and technologies including the needs of user were collected in this study. So far, documents review and interviewing processes had also been employed for gathering all necessary information. In addition, such a crucial procedure of making an effort on understanding the actual problems occurring with the previous operational system, the researcher emphasized on assessing and studied the feasibility of fully operation of the existing system, therefore this will lead to the initiation of system analysis, design and application software development as it has been presented in the details as follows;

4.1 The Analysis of a New Operational System

This research is stressing on the analysis of new operation system rectifying the original system or the existing shortcomings. This will lead to the increasing of work efficiency, effectively, convenience and rapidly in operation and the reduction of data duplication. Its operation details will be representing as Data Flow Diagram (DFD).

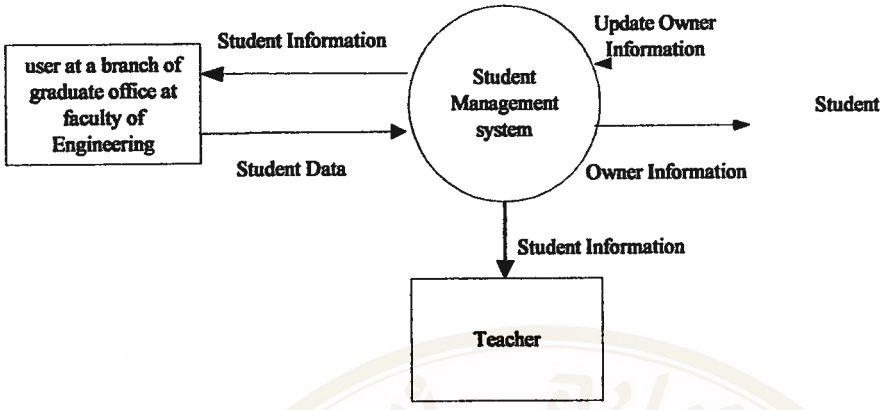


Figure5 The New Context diagram for "Web Application and Student Management System".

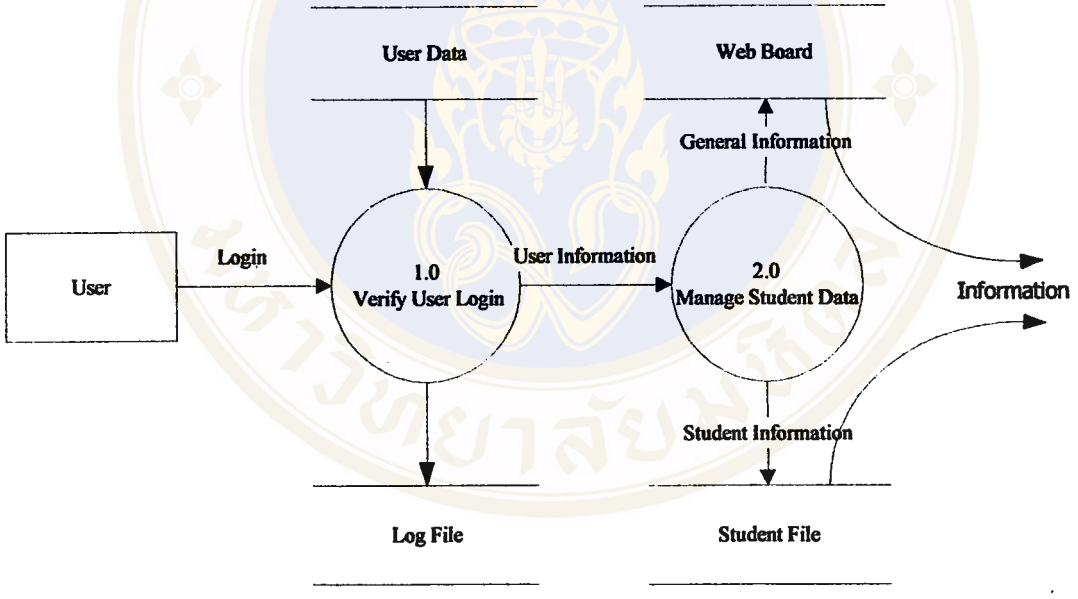


Figure6 The New First-level data flow diagram for "Web Application and Student Management System".

4.2 The Database Design

According to the analysis of a new operating system influence to a design of a Relational Database system by following the Normalization standard at a level of 3NF. All tables of the web a web application and student management were designed under a database named Student.mdb as the following detail;

Consideration database of Student that consists of 4 tables as below

1. Student
2. User
3. Log
4. Message

Table 1 : Table Student

This table is applied for storing history of each student who is student of a Faculty of Engineering as follows;

No.	Field Name	Description	Data Type	Field Size	Primary Key
1.	Student_Rec	Student code (reference)	Integer		Y
2.	Student_ID	Student ID	Character	10	
3.	FirstName	Student name	Character	50	
4.	LastName	Student last name	Character	50	
5.	E_FirstName	Student English Name	Character	50	
6.	E_LastName	Student English last name	Character	50	

7.	Gender	Student gender	Character	5	
8.	MarriedStatus	Married Status	Character	10	
9.	Birth_D	Day of birth	Integer		
10.	Birth_M	Month of birth	Integer		
11.	Birth_Y	Year of birth	Integer		
12.	Year_In	Date of admitted	Integer		
13.	Major	Student major	Character	50	
14.	StudyStatus	Student status	Character	50	
15.	PictureFileName	Picture's name	Character	50	
16.	Address1	Address,District	Character	50	
17.	Address2	Subdivision of a province	Character	50	
18.	Province	Province	Character	40	
19.	PostCode	Zip code	Character	5	
20.	Phone1	Phone Number	Character	50	
21.	Phone2	Phone Number	Character	50	
22.	Email	E-mail Address	Character	50	
23.	Sgroup	Student Group	Character	50	
24.	FatherName	Father Name	Character	50	
25.	MotherName	Mother Name	Character	50	
26.	GPA	GPA	Number		
27.	Education	Education History	Character	255	
28.	Experience	Job Experience	Character	255	

Table 2 : Table User

This table is applied for storing regarding the login ,password and level code of user for access program as follows;

No.	Field Name	Description	Data Type	Field Size	Primary Key
1.	UserName	User name	Character	10	Y
No.	Field Name	Description	Data Type	Field Size	Primary Key
2.	Password	User password	Character	10	
3.	UserType	User Type	Character	10	
4.	CreateDate	Create Date	Date/Time		

Table 3 : Table Log

This table is applied for storing information of each student who log on to the system are as follows;

No.	Field Name	Description	Data Type	Field Size	Primary Key
1.	UserName	User name	Character	50	Y
2	IP_ADD	IP Address	Character	50	
3.	Agent	Used System	Character	50	
4.	Log_Time	Member card issue date	Date/Time		

Table 4 : Message

This table is applied for storing information of each student who write message on the web board are as follows;

No.	Field Name	Description	Data Type	Field Size	Primary Key
1.	Header_ID	Message No.	Integer		Y
2	Topic	Topic	Character	255	
3.	Detail	Detail	Character	255	
4.	UserName	UserName	Character	50	
5.	PostDate	PostDate	Date/Time		
6.	LastDate	LastDate	Date/Time		
7.	MsgAmount	MsgAmount	Integer		

4.3 Entity Relationship

Entity-relationship (ER) diagram uses basic graphical diagram to show the organization of and relationships between data. In most cases, boxes are used in ER diagram to indicate data items or entities, and diamonds to show relationships between data items or entities

In design database, after identifying analyze for attributes and relationships of each table, ER diagram is used to represent database architecture in consideration of their properties and conditions.

The correlation of each Entity includes in the branch of graduate office function can be presented in the Entity Relationship Diagram (ER Diagram) as shown in the following chart.

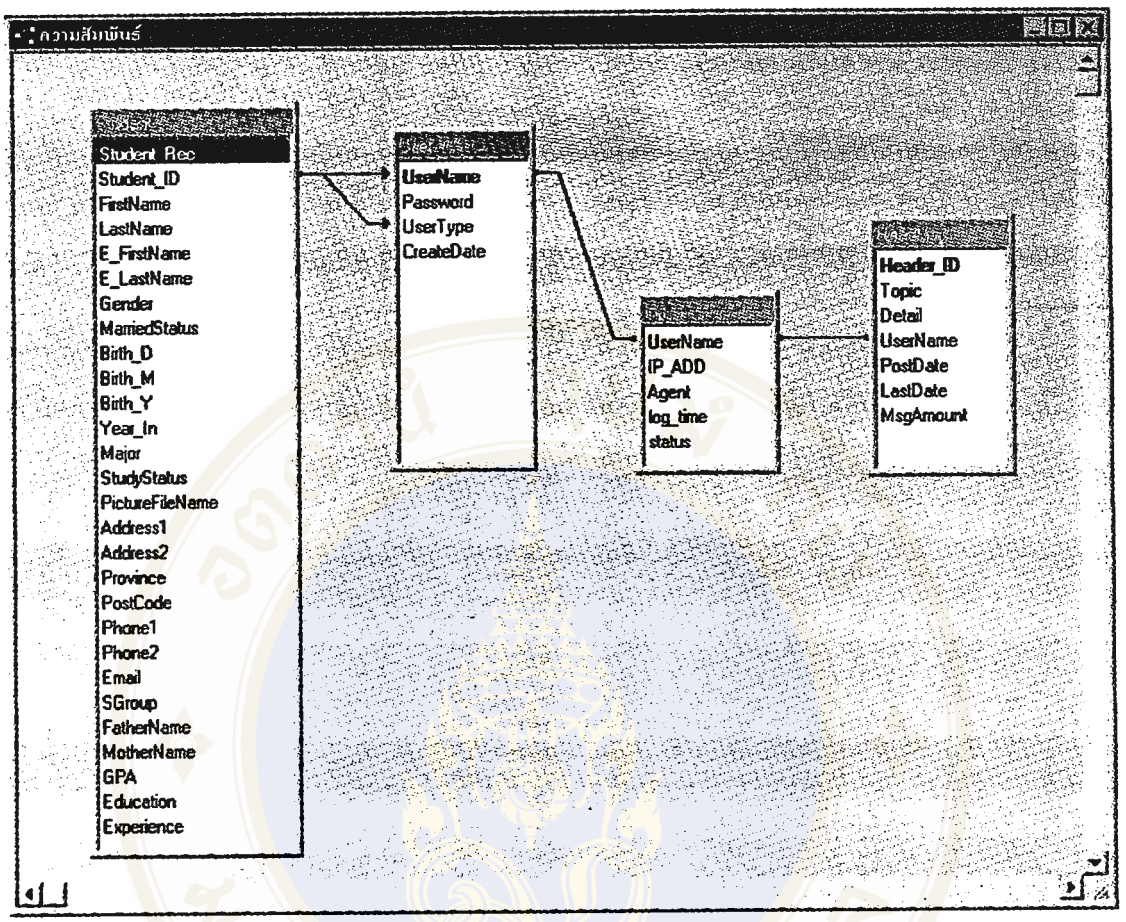


Figure 7 Entity Relationship Diagram for Application "Web Application and Student Management System"

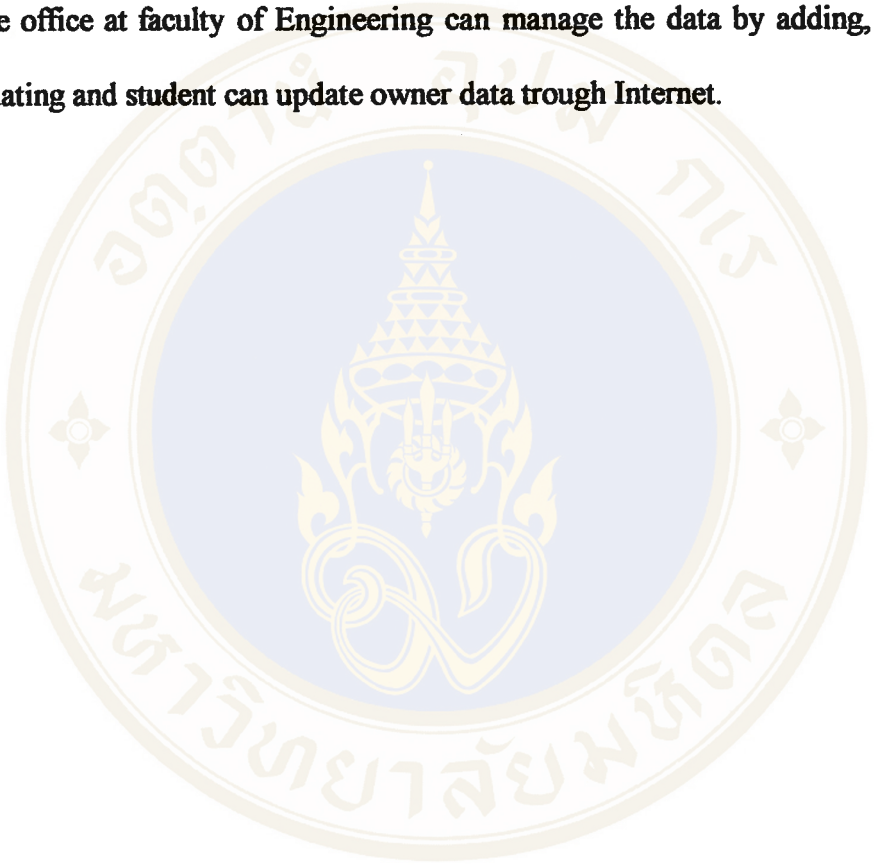
4.4 The Security

For this application software, a double security system has been designed. This means user need the privilege on program to access the application and database. In this case, users need to login before access the program by typing their username and password which were set by the user administrator. After finishing the first stage, if users have to login into the database system by keying their username and password which set by the user administrator of the branch of graduate office at faculty of Engineering. Users are classified into 2 types:

1. Users with rights to add, edit and delete data.
2. Users with restricted right to retrieve and update data only.

The Result of the Application Software

This application software has its effect of Input screen: Users at a branch of graduate office at faculty of Engineering can manage the data by adding, retrieving and updating and student can update owner data trough Internet.



CHAPTER V

DISCUSSION

"The Web Application and Student Management System" is a system that applies Internet, System Analysis and Design and Development Application Software as a part of Information Technology to enable user to use information easily and quickly. This research is present in the part Application Software that are definitely implemented at branch of graduate office, Faculty of Engineering, Mahidol University. Detail are as follows :-

5.1 Application Software Development

The application software development is derived from the study on the existing student management system with an aim to analyzes, design, and develop application of the new student management system. The application software is also able to solve various problems occurring with the original system of the branch of graduate office, Faculty of Engineering. In addition, it can support the correct data functions operation to run the process effectively. Regarding the study on the original system method. The application software is not possible to respond successfully to the user's need and continuously caused delay, repetition and wasted man-hours. The existing operation problems can be concluded as follows;

1. Uncomfortable for student to update owner information.
2. Inability for end user to collect student's data with safety, correctly and not duplicate.

3. Uncomfortable to inquiry specific student data.

For the problems as listed above, the software application development is considered as solution and is expected to bring about the following result:

1. The Web application for end users can manage the student's data with more efficiently and effectively, student can change owner information by themselves through Internet.
2. Ability of the advance computer program to collect student data in Microsoft Access database and not occur duplicate data.
3. The system model is designed in accordance with user's need by emphasis on the design of display of Graphic User Interface (GUI) ie. Menu details, etc. The system will facilitate and assist users in their tasks.

The followings are the capacity of the application software in meeting the requirements of the Divisions and the customers.

1. Customer is able to register "Kiddies Club" program through Internet.
2. The end users in Member Service Division are able to manage the customer data and member data for more efficiently and effectively.
3. The end users in Member Service Division are able to create service report, for customer, teen member and kid member, both displayed on screen and print on the hard copy.
4. The end user in Member Service Division are able to inquiry need information with fast and accurate performance.

5.2 Performance of the Application Software Development

1. Increase the way for student to update owner information using Internet.
2. Increase of the information accuracy, up to date, in accordance with user's need.
3. Increase of the operation efficiency and effectively.
4. Reduction of repetition and lost of data.
5. Reduction of manual operation system.

CHAPTER VI

CONCLUSION

6.1 Conclusion

A study of "Web Application and Student Management System" was conducted for solving various problems occurring with the original system of the branch of graduate office, Faculty of Engineering, as well as for responding the user needs. Most major problems found from this study are related to the Application Software, which is used manual system. Due to the fact that its operation inconvenient for student who want to change or update address and to know information, for teacher or concern person who want to know student' s information. Moreover its inconvenient for user in branch of graduate office, Faculty of Engineering to manage student data, which bring about data repetition, operational delay and difficulty of work.

As a result, this research is principally for analyzes, design and develop the current operation system of the branch of graduate office, Faculty of Engineering. Hopefully, this model system will be able to create the system that convenient for student who want change or update address and owner information through Internet. Moreover its will bring convenient for user in branch of graduate office, Faculty of Engineering to manage student data. Certainly, several influential components regarding to organizational structure, original operational system, applicable technologies and needs of users are considered as significant information sources and needed to be investigated by using interviewing technique and reviewing various

documents for data collection purpose. So far, emphasizing on studying the feasibility and highest efficacy has carried out a crucial procedure of criticizing the existing problems of the original system. A display of Data Flow Diagram will present the information flow process. Significantly, this system is designed in accordance with the user needs by stressing on designing a display of Graphic User Interface (GUI). As well as, the Microsoft Access 97 is brought in use with an appearance of a relational model by following the Normalization Standard at level 2 NF. The application software is developed under the operational control of Microsoft Visual InterDev.

The finding is illustrated in part of the Student Web Applications. Development of application software will be resulting in emerging the system that student can change or update owner information by using internet or change by myself and user convenient to manage data. Consequently, such a required information will be accurate, up to date and can respond to the user needs. This is considered as a solution mechanism influencing to the increasing of the operational system efficacy as well. Therefore, it can be concluded that all objectives of this research can be met under a specific operational limitional as planned.

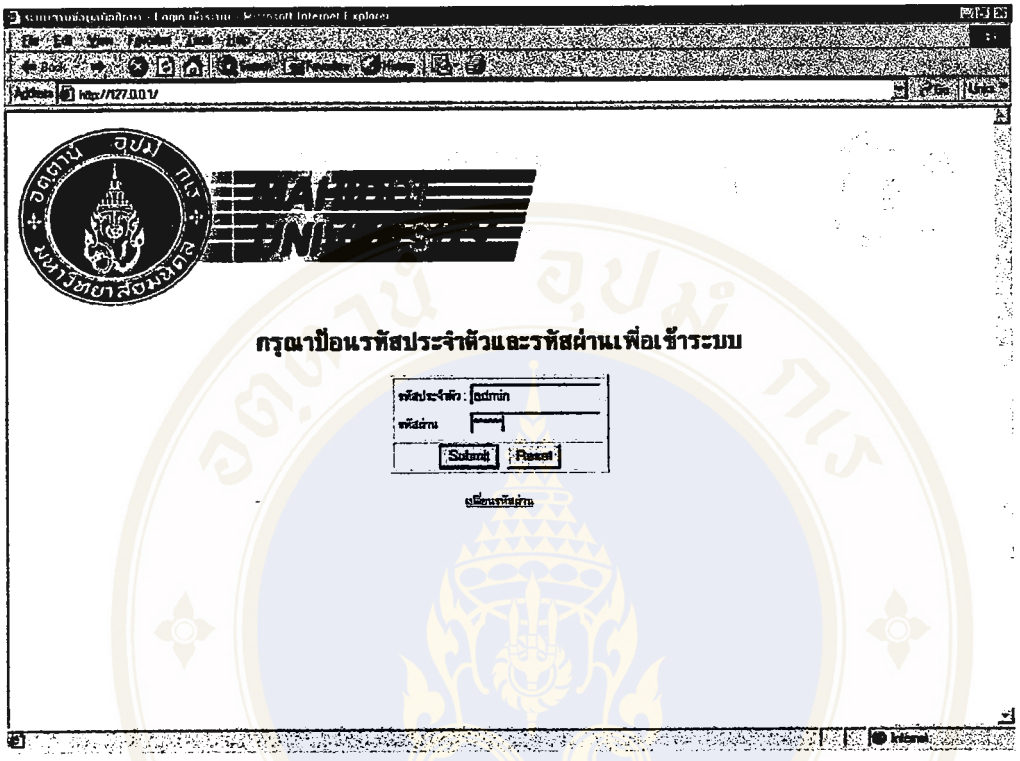
6.2 Recommendations from this study

This application software development can be further applied and improved for initiating such can link student history and student's grade that store at Faculty of Graduate Studies, Mahidol University which will convenient for end user to check validation of student data that will bring more effectively function.

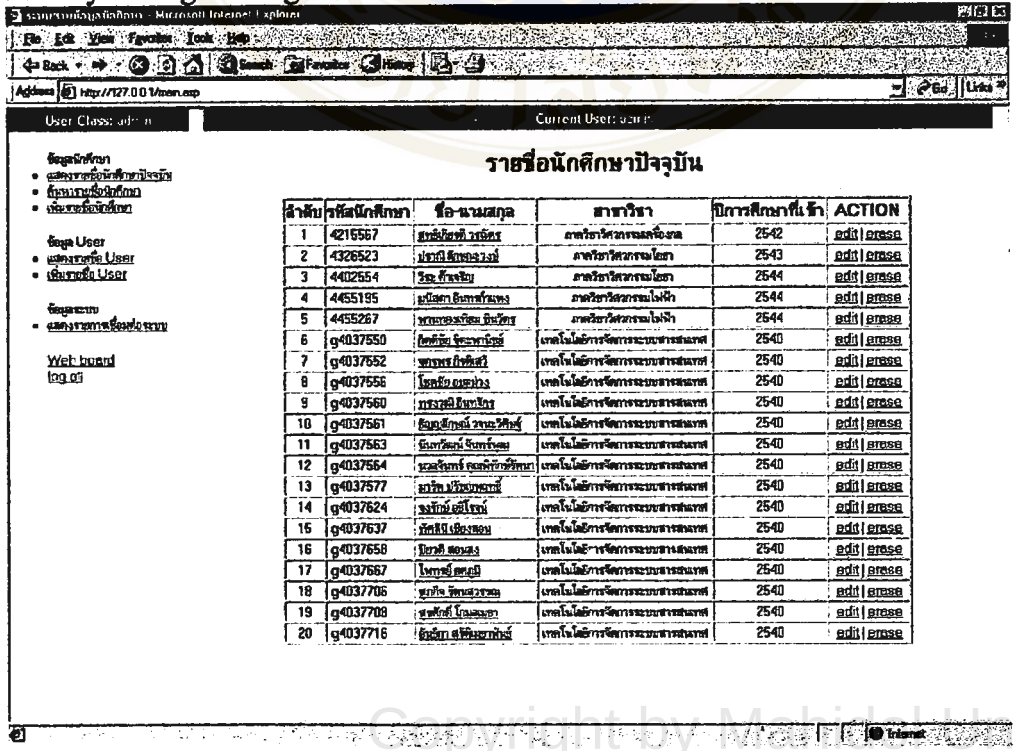
REFERENCES

1. Jindarat Varachanonth. The analysis, design and development of information system of customer service division, National Laboratory Animal Centre. Bangkok: Mahidol University; 1999.
2. Piyarat Tangkasemchit. The application of web database for executive information system case study: Levi's products. Bangkok: Mahidol University, 1998.
3. Tudsinee Chiangsorn. Web Registering and Member Service Management System case study: A famous car company in Thailand. Bangkok : Mahidol University; 2000.
4. James A. Senn. Analysis & Design of Information Systems. 2nd ed. Singapore: McGraw-Hill, 1998.
5. C. J. Date. An Introduction to Database Systems. 6th ed. : Addison-Wesley Publishing Company; 1995.
6. Stair RM. Principle of information system : A management approach. 2nd ed. Danvers (MA) : Boyd & Fraser, 1996.

APPENDIX
Login Screen

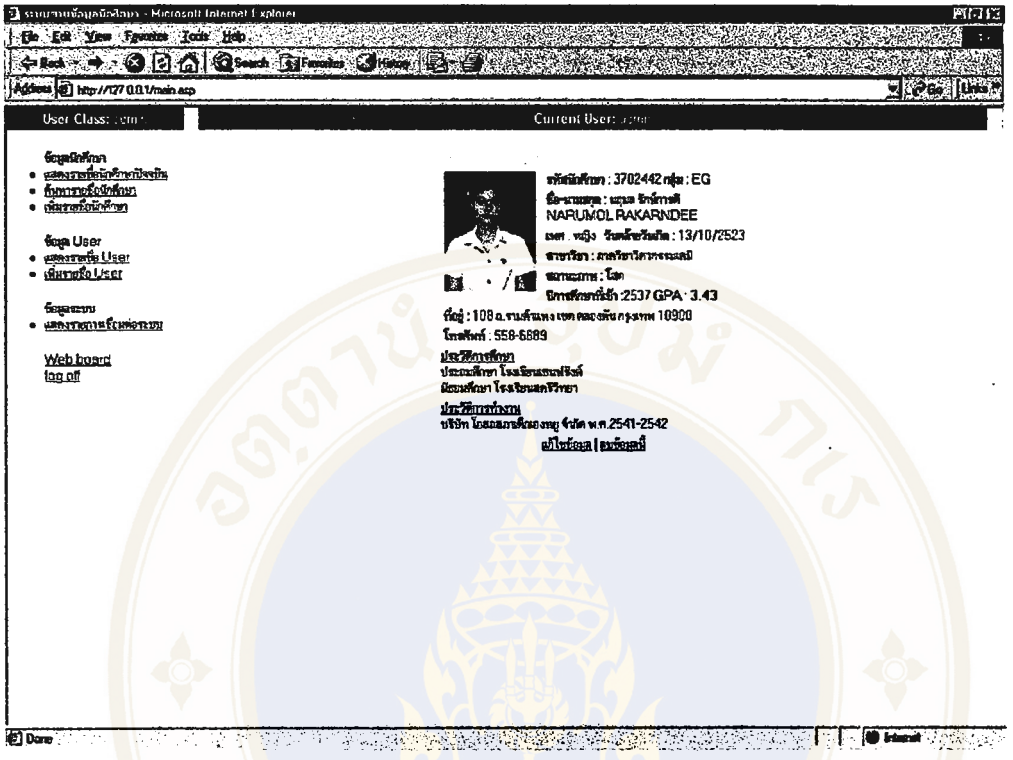


When Click Submit button screen show main menu and show list all students in Faculty of Engineering

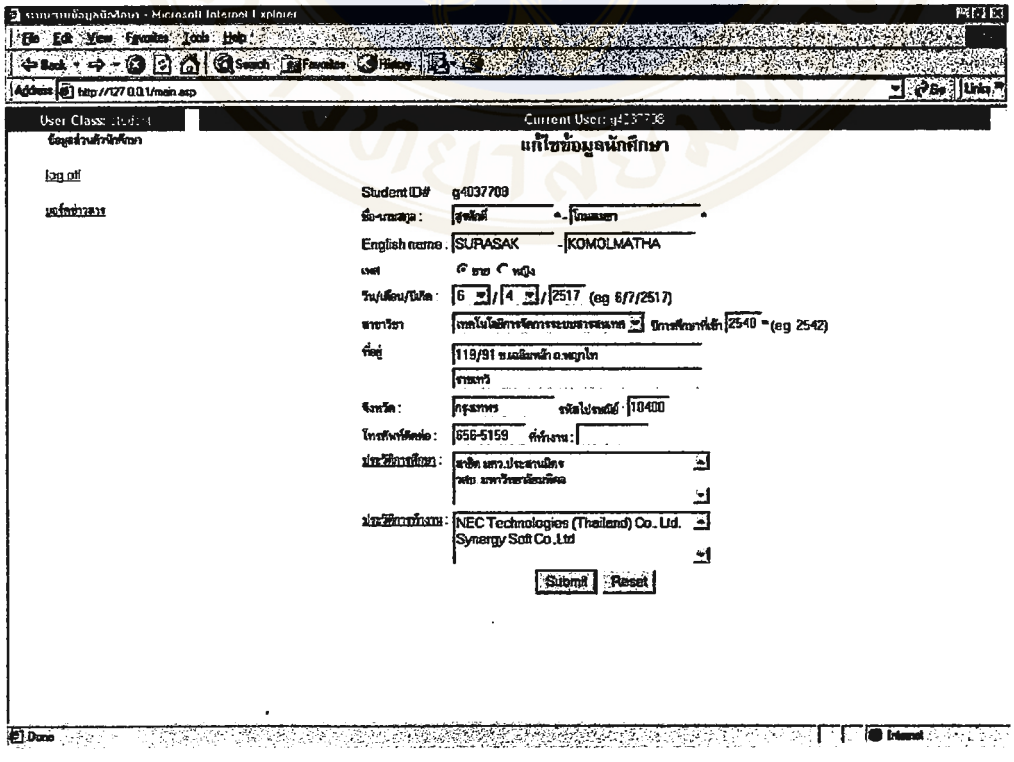


ลำดับ	รหัสนักศึกษา	ชื่อ-นามสกุล	สาขาวิชา	ปีการศึกษาที่เข้า	ACTION
1	42155567			2542	edit | erase
2	4326523			2543	edit | erase
3	4402554			2544	edit | erase
4	4455195			2544	edit | erase
5	4455267			2544	edit | erase
6	g4037550			2540	edit | erase
7	g4037552			2540	edit | erase
8	g4037556			2540	edit | erase
9	g4037560			2540	edit | erase
10	g4037561			2540	edit | erase
11	g4037563			2540	edit | erase
12	g4037564			2540	edit | erase
13	g4037577			2540	edit | erase
14	g4037624			2540	edit | erase
15	g4037637			2540	edit | erase
16	g4037658			2540	edit | erase
17	g4037667			2540	edit | erase
18	g4037706			2540	edit | erase
19	g4037709			2540	edit | erase
20	g4037716			2540	edit | erase

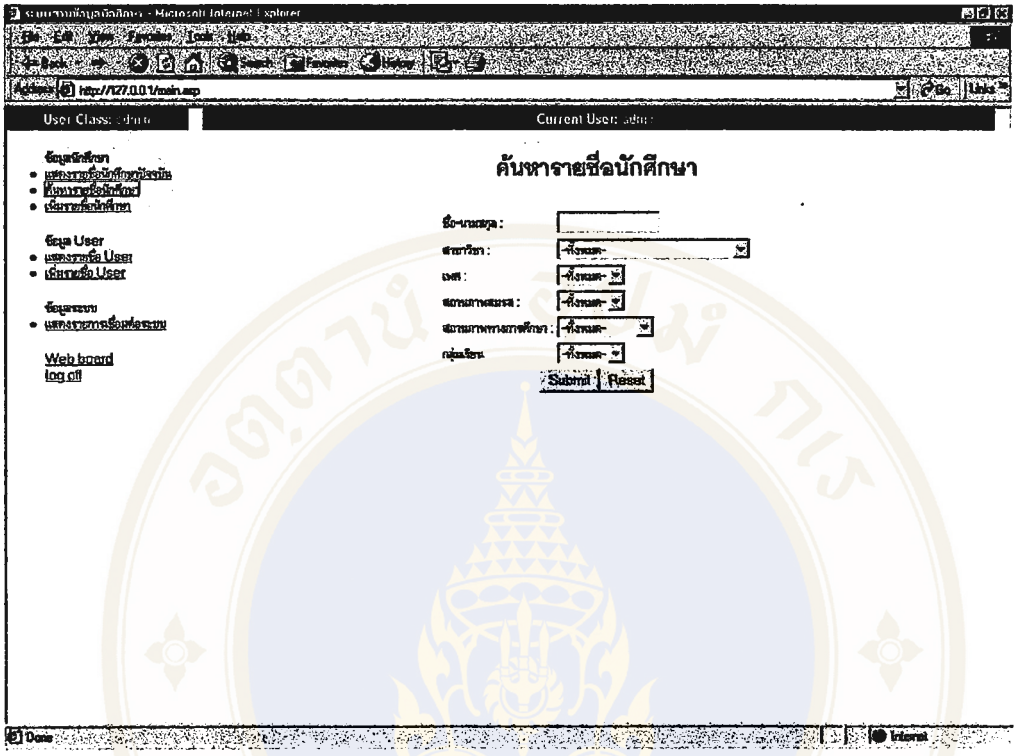
Click at the name-surname hyperlink at all list student page will show student detail.



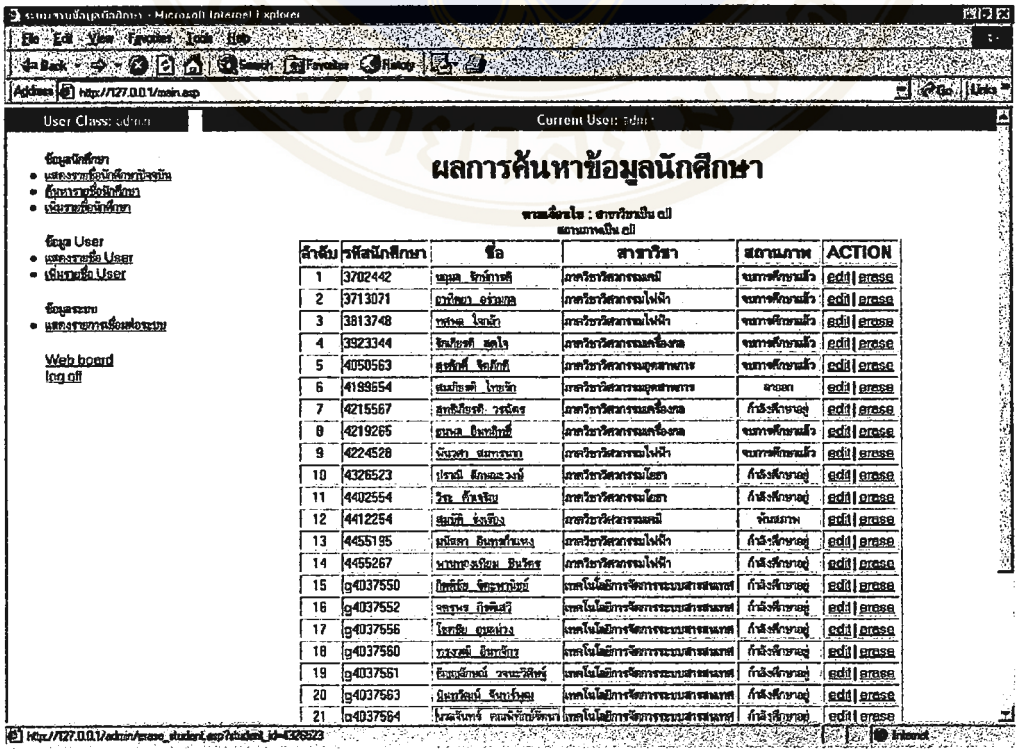
Click at the edit hyperlink at all list student page to edit student data.



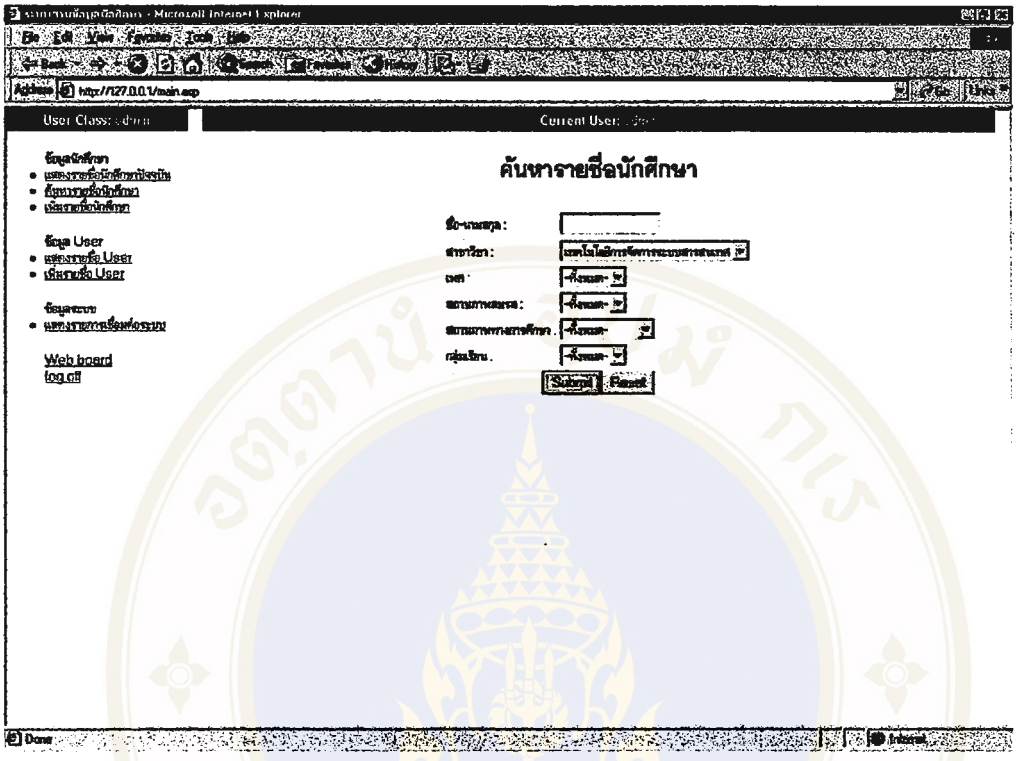
At main menu click "ค้นหารายชื่อนักศึกษา" show Search Screen as follow,



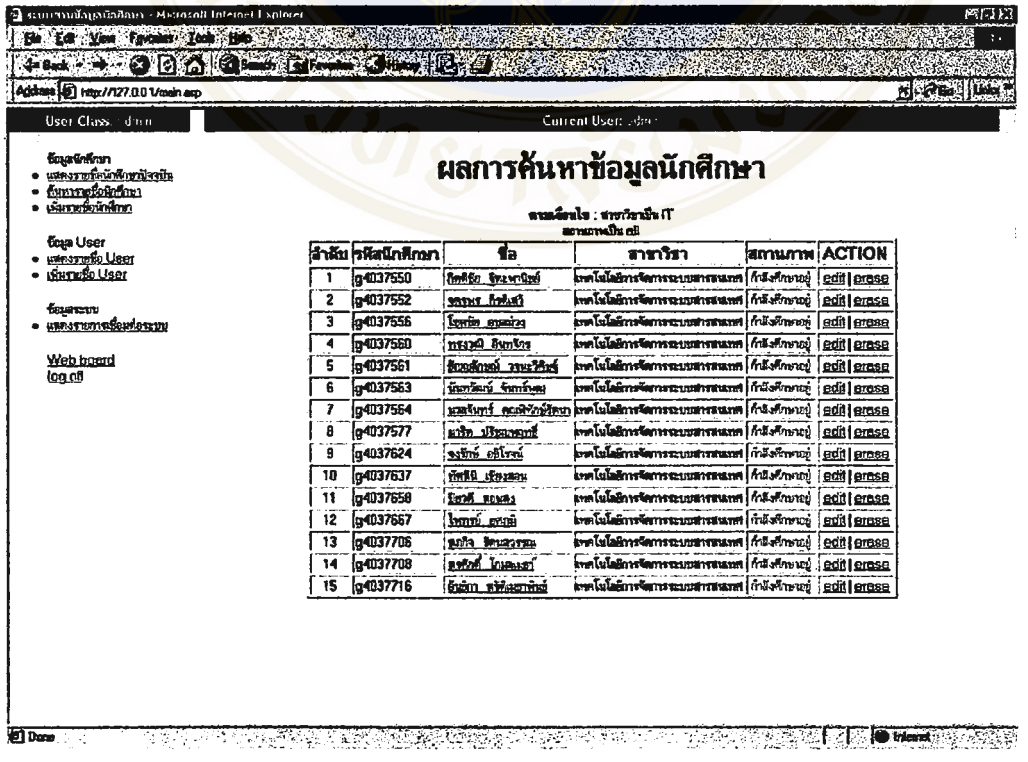
In case don't input any criteria and click Submit will show all student as follow,



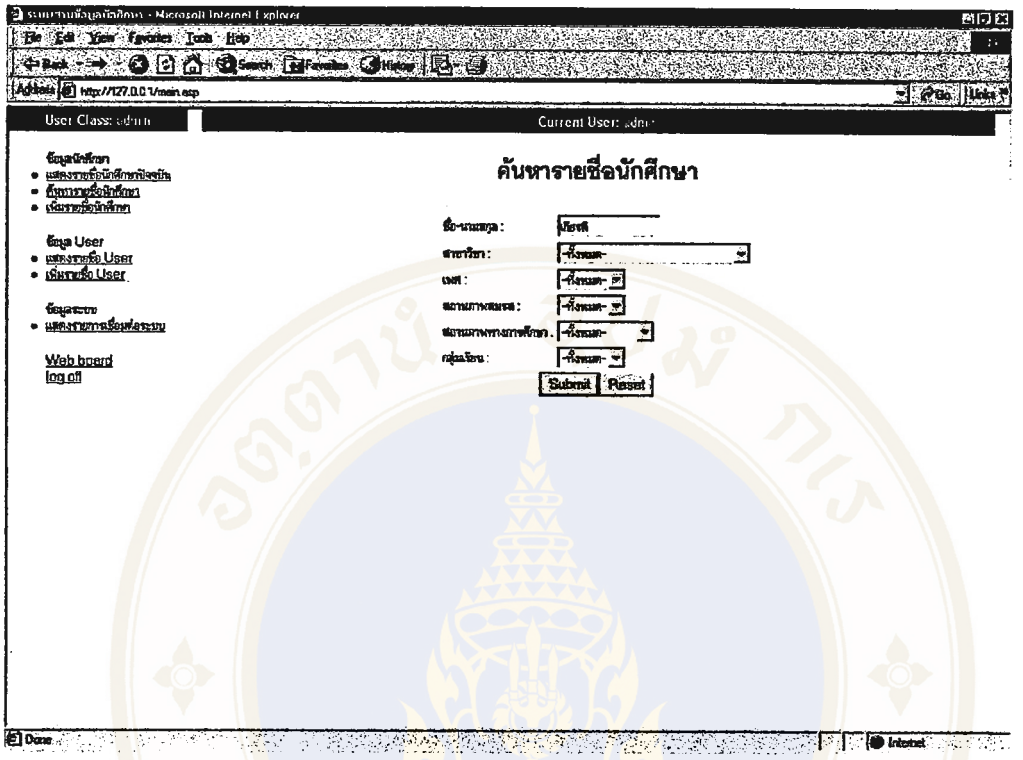
In case search by Major Criteria.



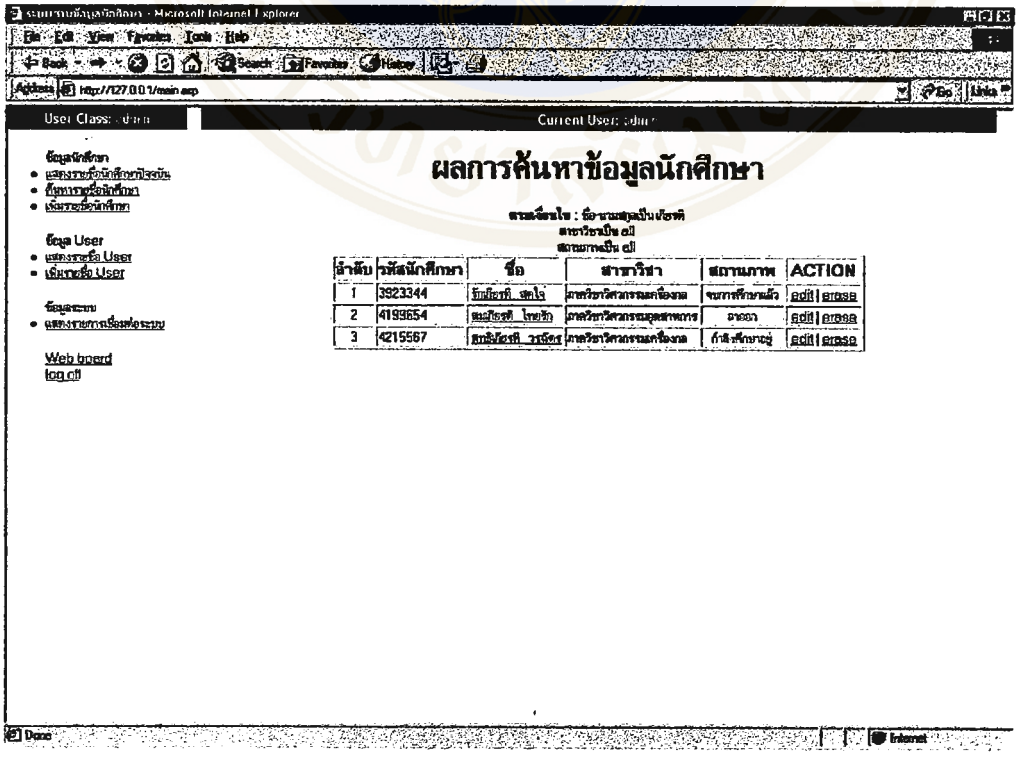
Major Criteria Search Result Screen



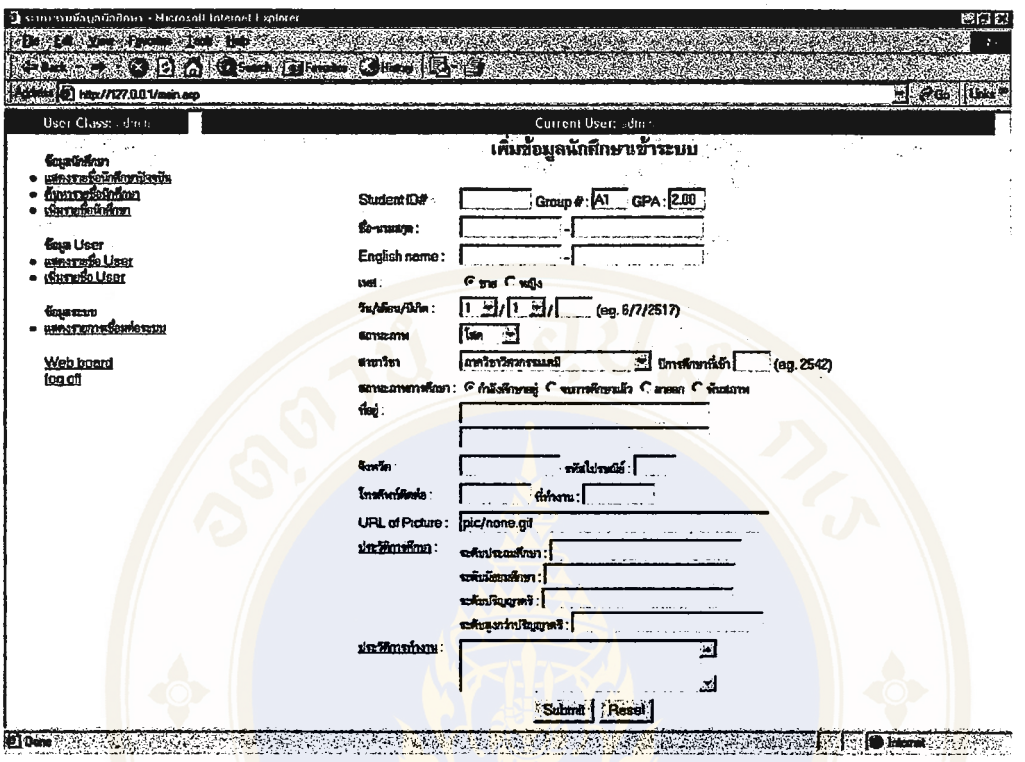
In case search by Name Criteria.



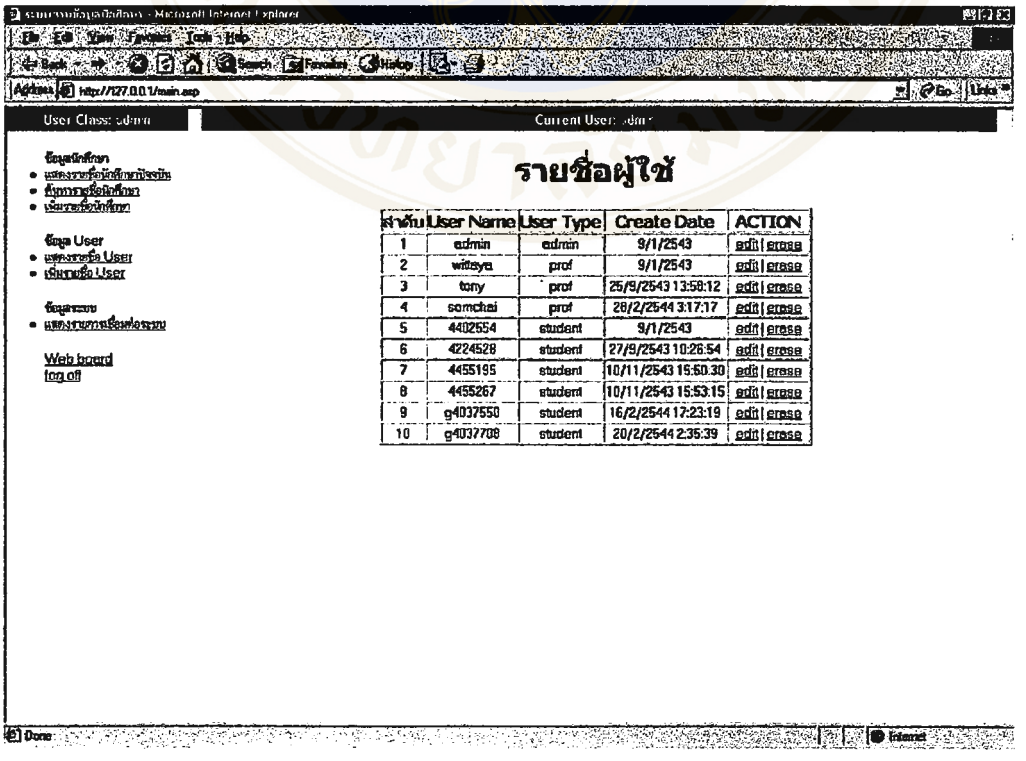
Name Criteria Search Result Screen.



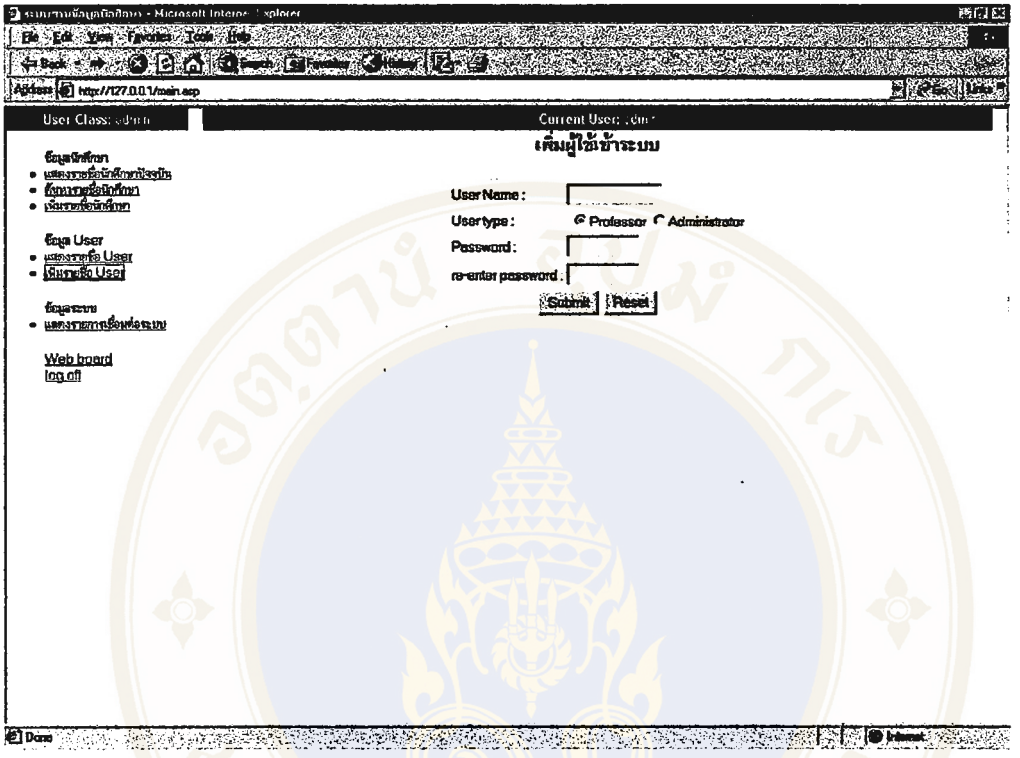
At main menu click "เพิ่มรายชื่อนักศึกษา" show Input Screen Screen



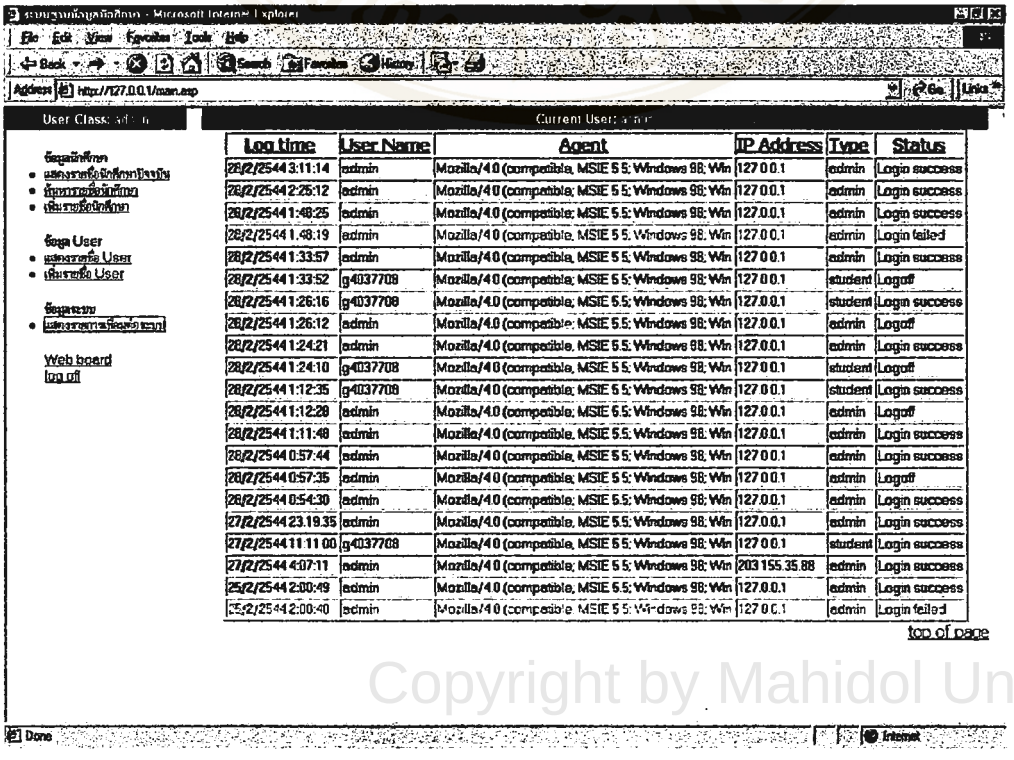
At main menu click "แสดงรายชื่อ User" show List of User in the system as follow,



At main menu click "เพิ่มรายชื่อ User" show Input User as follow,



At main menu click "แสดงรายการเชื่อมต่อระบบ" show List of User who logon to the system as follow,



Log time	User Name	Agent	IP Address	Type	Status
28/2/2544 3:11:14	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 2:25:12	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 1:48:25	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 1:48:19	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login failed
28/2/2544 1:33:57	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 1:33:52	g4037708	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	student	Logoff
28/2/2544 1:26:16	g4037708	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	student	Login success
28/2/2544 1:26:12	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Logoff
28/2/2544 1:24:21	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 1:24:10	g4037708	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	student	Logoff
28/2/2544 1:12:35	g4037708	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	student	Login success
28/2/2544 1:12:28	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Logoff
28/2/2544 1:11:48	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 0:57:44	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
28/2/2544 0:57:35	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Logoff
28/2/2544 0:54:30	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
27/2/2544 23:19:35	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
27/2/2544 11:11:00	g4037708	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	student	Login success
27/2/2544 4:07:11	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	203.155.35.88	admin	Login success
25/2/2544 2:00:49	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login success
25/2/2544 2:00:40	admin	Mozilla/4.0 (compatible; MSIE 5.5; Windows 98; Win	127.0.0.1	admin	Login failed

top of page

BIOGRAPHY

NAME	Mr. Surasak Komolmatha
DATE OF BIRTH	6 April 1974
PLACE OF BIRTH	Bangkok, Thailand
INSTITUTIONS ATTENED	Mahidol University, 1991-1994: Bachelor of Engineering (Industrial Engineering)
POSITION & OFFICE	1994 – 1996, NEC Technologies Co.,Ltd. Position : Engineer 1996 - Present, Synergy Soft Co,Ltd. Position : System Engineer