Palestine Polytechnic University
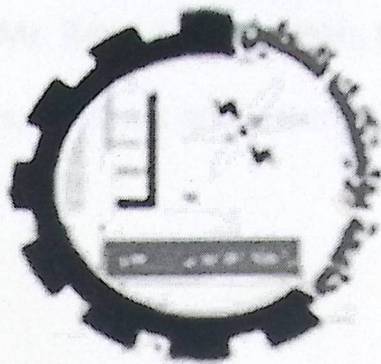
Collage of Administrative Science and Informatics

Department of Business Administration

Electronic Archiving System for Ministry of Youth and Sport

Research team

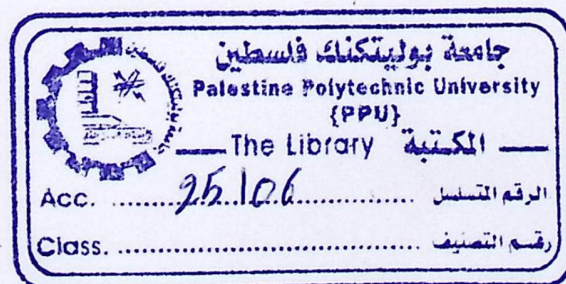Bassam N. Tawaiha

Amani Qafesha

Bara Falah

Supervisor

Mr. Rami Al Daraweish

This research is submitted in practical fulfillment for the degree of B.Sc in
Business administration

June , 2010

Dedication

To our precious parents how have lightened our way

To out supervisor Mr. Rami Al Darawiesh, thanks for your support

To out best friends, brothers and sisters, thanks for your support

Research team

Table of Content

II

Thanks and appreciation

At the beginning of this research, we can only express our sincere thanks and appreciation to all who contributed to this work, to each of fatigue in this matter will come to work in complete image most notably dear Mr. Rami Al Darawiesh, supervisor of this research, and who sent us advice and guidance.

In addition, we express out thanks and appreciation for the ministry of youth and sport at Hebron for their help and support .

<div align="right">Research team</div>

Chapter 1
Introduction

1. Introduction

In the age that technology comes to be important thing in every side of the life, we can notice the impact of it on the administration of all organizations whatever is it governmental, NGOs, companies, and how make it easier for managers whatever their role in achieving the tasks and duties needed within the time given.

And if we make a look on the change that the Email made when it used instead of the traditional mail in business administration , we will see that it makes communication easier and reduce time, receive information on time without any delay.

Side by side with the development of the technology, business solutions comes to solve a lot of the challenges that face managers and organizations , which convert business processes to computerized systems, and makes it easy, accurate, and finish tasks on time, don't forgot the importance of time in the decision making process because in some cases timing so critical.

The archive, one of the basic components of any organization, which aims to manage and categorize the documents and store them depending on the topic, date, serial number or combination of them, and since it's important when a manager want to make decision , manager have to go back to all documents related to the decision as a reference to make sure that the decision maker will make realistic decision that built on accurate and true information.

Years ago, first time the idea of archiving saw the light, the main goal was as we mentioned before is to organize, manage and store the documents in a way that make it as easy as possible to reach any document when it needed, and for this we found that most of organizations employ people and train them to manage the archive, also other organization use a special room for this purpose, and it just allow for very few people to enter the archive and it needs permission for that.

The traditional archiving methods in big organizations like the governmental ministries, the archive size by the time will increased dramatically , and consume money, paper, folders, human resources, devices and rooms. In addition to the possibilities that some papers will be lost by mistake, also the time and effort needed to find a document in such mess.

In the age of information technology, everything comes to be different, and after making short look in how this change the nature of the business and decision making process. The traditional archiving after the revolution of technology , archiving system comes to be different, computerized with great capabilities that allow users to achieve the goal of archiving with minimum costs, effort, and the most important time.

The duty of archiving system as we mentioned before is to manage, organize, store, and retrieve any file at any time. But the aim of electronic archiving is to do what traditional archiving do, and add the attributes that make searching and retrieving more effective and accurate.

1.1 Electronic Archiving System Definition:

An Informative application that works to help organizations and government to save all important files and documents using different technologies.(Like scanner and data base) And retrieve any file at any time in easy and accurate way, to reduce the time and cost and effort.

1.2 Purpose of System:

Benefits of electronic archiving system: -

1. reduce time, effort and some running cost.
2. reduce the space needed for archiving.
3. the accuracy of saving and retrieving archived data electronically.
4. permission that is given for each user.
5. search attribute is easy.
6. information safety.

Limitations of Archiving System:-

1. Cost of Implementation.
2. special equipment
3. people knowledge
4. continuous development and technology
5. change resistance
6. integration between system capabilities and employees requirement

1.3 Problem of research:

According to the study that project team have made in the Ministry of Youth and Sports ,we found that the employees of the ministry suffer from many problems in traditional archiving representing in big loss in information, inaccurate information, and a lot of time and effort that is consumed in searching and retrieving files and documents. and we, as a project team decided to create an electronic archiving system in order to eliminate all these problems, and saving time and effort.

1.4 Solutions of problem:

Designing an electronic website that enables the employees to store all kinds of files and documents and retrieving them in an easy, flexible and interactive way, in addition to privacy and security of information.

1.5 Scope of project:

This system target employees the ministry of youth and sport.

Benefit of project:

the importance of project Highlights in these goal of project:

- More accurate managerial decisions.
- Reduce Corruption that can happens in all organizations (Fraud).
- Reduce cost ,time and effort.
- Reduce number of employees that could be needed in other jobs.

1.6 Importance of Project

We can summarize the importance of this project by providing the ministry of youth and sport with a computerized system that aims to help the employees to manage the documents and information in easy and flexible way.

Chapter two
Planning

2. Planning:

2.1 Introduction:

In this chapter we will explain the system plan and all resources that is needed and limitations and risks that the system will face, in addition to alternatives and feasibility study, all of these are in the first stage.

2.2 limitations:

In this section we will explain the limitations and restrictions that will face the system during building and designing this system:

1. building system during limited period(4 months).
2. the costs are limited within the budget that we had calculated.
3. the system must have the ability to maintenance and development.
4. design the system in a way that suites with employees level ,that helps them to interact with the system in a better way.

2.3 alternatives:

Archiving is one of the fields that many researchers work in, they try to build many systems to make this traditional archive computerized, and after the study in this field, the research team found that there is different alternatives, and for each one there is advantages and disadvantages.

And for the problem that the research team working to solve, they found three possible solutions , which is:

There are three alternatives to solve this problem:

1. Buying application from one of the companies that offer archiving systems, in this case, we just install the system on the needed infrastructure.
2. use the content management technology that we can customize ,and try to create applications to archive all files that the user want.
3. create a web application that is designed to manage all the information that ministry want to manage.

2.4 Risks:

1. rise new requirements during building the system or after finishing it.
2. problems and errors occur in devices and software used during the implementation of the system .
3. employees knowledge and skills: the possibility that the employees don't have needed level of skills to use the system and benefit from it in their daily work .
4. Financial risk: the possibility that total cost of the project exceed the budget that was allocated for it, especially if these changes happen(new requirements appeared , devices prices, rise of new technologies) .
5. electricity shortage: it is possible to happen and this causes loss of information in a lot of systems, so we have to find solution because in some fields information cost a lot .
6. Information security: information theft, hacking, information privacy.
7. internet problems: internet disconnection , security .

2.5 Risks solutions:

1. the accurate study and understand of the system to specify all requirements required to build the system.
2. to come over the risk of physical problems of the devices, we can use the backup techniques, which makes a copy of the files daily and save them on different means of storage like external hard drives , tapes, or SCSI technology, or may be other ways.
3. the interfaces of the system that we want to implement will be easy to use and easy to remember by the employees, and show everything that can be done during using this system.
4. when we allocate a budget for this project, we have to put some variables in our calculations, because most of the time changes take place and some extra cost just rise from now were, for example, the prices of devices increased and decreased depending on the money exchange price in the money market.
5. how to use the system : to come over this issue, we can make training for the employees to teach them how to use the system, and design a manual to use it if there is something unclear after the training, and keep it as a reference to use later.
6. electricity shortage: using backup electricity generator and UPSs to make sure that the system will keep working no matter what happen.
7. internet technologies : we can come over this risk by using leased lines and make agreements with internet suppliers to make sure that the connection is keep working no matter what is circumstances.
8. information security : to come over this problem we can : make accounts ,specify permissions ,file encryption ,using firewall, in order to secure information and protect it from any risk

2.6 Economic feasibility:

2.6.1 Resources and costs of first alternative:

2.6.1.1 resources of usage development costs for software package :

- hardware development resources and costs:_

Item	Description	cost
Server(dell) Power edge t410 Tower server	Process speed(Intel) Xean Memory up 64 G Hard disk up:6 terabyte	7000$
Desktop computer	Process speed: Core 2 due 2GHz.:250 GB CD Rom :52 K Screen (LCD)17 Keyboard mouse	400$
Scanner(special)		2000 $
Printer	HP1020 laser jet	100$
Total		9500$

Table1.1

- software development resources and costs:_

Item	Cost
Server OS for server (windows server 2003 enterprise)	1500$
Desktop OS (XP , vista)	280$
Antivirus corporation	1000$
Microsoft Office 2007	370$
Total	3150$

Table 1.2

- Human Resources costs:

Human Resources	Hour/Week	Cost/Hour	Total/Week
1	(8h*5days) =40	10$	400$

Table 1.3

Cost for human resource through four months:

400$*16 week=6400$

Total cost = physical cost + human resource cost

    = 12650 + 6400 = 19050

2.6.2 Resources and costs of second alternative:

2.6.2 resources of usage development costs for content management :

- hardware development resources and costs:_

Item	Description	cost
Server(dell) Power edge t410 Tower server	Process speed(Intel) Xean Memory up 64 G Hard disk up:6 terabyte	7000$
Desktop computer	Process speed: Core 2 due 2GHz.:250 GB CD Rom :52 X Screen (LCD)17 Keyboard mouse	400$
Scanner(special)		2000 $
Printer	HP1020 lazer jet	100$
Total		9300

Table2.1

- software development resources and costs:_

Item	Cost
OS (windows server 2003)	1500$
Desktop OS (XP)	80$
Antivirus	1000$
Microsoft Office 2007	370$
Total	2950$

Table 2.2

- Human Resources costs:

Human Resources	Hour/Week	Cost/Hour	Total/Week
1	(8h*5days) =40 hour/week	10$	400$

Table 2.3

Cost through four months:_

400$*16week = 6400$

Total cost for the second alternative = HW cost + SW cost + HR cost

= 9300+ 2950+ 6300 = 18550$

2.6.3 Resources and costs of third alternative:

2.6.2 Resources of usage development costs for electronic archiving system :

- hardware development resources and costs:_

Item	Description	number	cost
Desktop computer Pentium 4	CPU Intel 3GHz Memory 2GB Hard disk 160 GB DVD ROM 32 X Screen 17 Keyboards, mouse	2	400*2=800$
Scanner	HP	1	100$
Printer	HP1020 laser jet	1	100$
Total			1000$

Table 3.1

- software development resources and costs:_

Item	Cost
Windows XP professional	80$
Microsoft visual professional Studio.net 2008	890$
Microsoft SQL mgt Server(2008)	26$
Microsoft vision	250$
Microsoft office	370$
Total	1616$

Table 3.2

- Human Resources costs for development:

Human Resources	Hour/Week	Cost/Hour	Total/Week
3	5*5=25	5$	375$

Table 3.3

Human resource costs for 16 week:

$375*16=6000$

Human resource cost during 1 month: 1500$

- Total development costs:_

Physical cost	Software costs	HR/	total
1000$	1616$	6000$	8616$

Table 3.4

- Total development cost during 16 week : 8616 $

2.6.3.2 costs for operating system:_

- software operating resources and costs:_

Item	Description	cost
Web server SQL DB server		30$
Microsoft visual professional studio.net 2008		850$
Microsoft SQL server mgt 2008		26$

Table 3.5

- Human Resources costs for operating:

Human Resources	Cost/year	Total
Administrator	12000$	17000$
programmer	(1500$*6month)=9000$	

Table 3.6

2.6.3.3 cost of software maintenance:

Include the cost of s/w expected for the system (data base, system interface, adding and modifying of code, others)

- cost of physical maintenance

Include the cost of physical maintenance expected of system:

Computer device(input system on another computer device)cables specially for network, server ,router, hubs.

In some cases the maintenance cost reach about 15% of total cost of any system .

2.6.4

Why we decided to choose the third alternative?

The research team found the best thing is to design and implement complete system to solve the problem of tradition archiving system in the ministry of youth and sports ,and sense both of the systems that are: available in the market and content management would not satisfy the requirements of the ministry , they cover partially it's needs of efforts and work to cover part of the requirements .

And because of the special needs they asked from us to be available in the system ,the research team found this alternative is the best alternative to choose and implement electronic archiving system from A to Z.

2.7 Scheduling:

2.7.1 Time scheduling:

Nowadays any project either in business, education, or any field should be limited to specific time schedule to be adapted. This project is limited to sixteen weeks, obviously it is a short time, and this is one of the risks that the project team suffering from as we mentioned before, but they have managed this time to the activities or tasks as follow:

Task #	Task name	Task time/week
1	System planning	1 week
2	System analysis	3 weeks
3	System design	4 weeks
4	System implementation	4 weeks
5	System testing	2 weeks
6	System maintenance	12 weeks
7	System documentation	System life cycle

2.7.2 Gant chart

The following are the proposed and the actual time schedules needed to accomplish the project based on the "Gant Chart" which is considered as the strongest tool for planning and managing the time needed to order the required tasks:

Task \ week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Planning	▓															
Analysis		▓	▓													
Design					▓	▓	▓									
Implementation								▓	▓	▓	▓					
Testing												▓	▓			
Maintenance					▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
Documentation	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
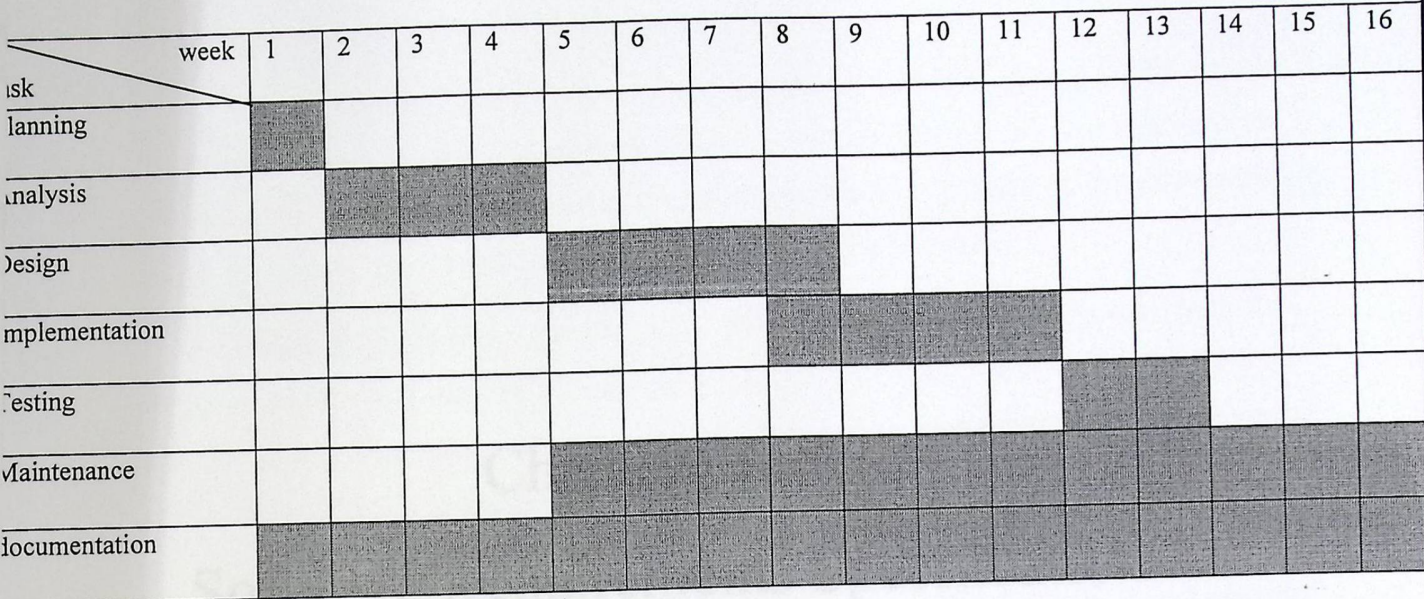
Gantt Chart.

Chapter Three
Software Requirements Specification

3.1 Introduction

The purpose of this document is to analyze and elaborate on the high-level needs and features of the electronic Archiving system(EAS) .

In traditional archiving systems, archiving files is done by giving all documents the employee want to archive a number and date, and then store it in folders categorized by topic. To Search for a document, the employee have to go back to the folders and search for it under the topic the document related to, and find it out.

electronic Archiving system(EAS) provides the user of the system with the ability to archive and manage all the documents in a database, categorized by topic, and retrieve it when needed in an electronic way. This system makes the archiving process easier, more effective and accurate.

The electronic Archiving system(EAS) supposed to support the users of the system with the following features: archive all the documents and save it as soft copy in the database, retrieve any document from the database and support users with different search methods according to topic, date, sender, subject.

Also the system support the administrator with the ability of adding, removing, modifying accounts of users, and grant permissions for each account. electronic Archiving system(EAS) increase the monitoring on all formal documents and increase security on all the system.

In addition of what we mentioned above, this system will enable the users to manage all information of the sport clubs working under the umbrella of the ministry.

3.1.1 Purpose

The purpose of Software Requirements Specification (SRS) document is to describe the external behavior of the electronic Archiving system(EAS). Requirements Specification defines and describes the operations, interfaces and performance of the electronic archiving system. The document also describes the nonfunctional requirements such as the user interfaces. It also describes the design constraints that are to be considered when the system is in the design phase, and other factors necessary to provide a complete and comprehensive description of the requirements for the software. The Software Requirements Specification (SRS) captures the complete software requirements for the system, or a portion of the system.

3.1.2 Scope

The Software Requirements Specification captures all the requirements in a single document. The Electronic Archiving System will provide the employees of the Ministry of youth and sport with the ability to archive and manage all documents and information within the ministry. The Electronic Archiving System is supposed to have the following features:

1.   The EAS provide the users(ministry employees) with the ability of archiving all business correspondence (sent, inbox) by saving copy of the document (softcopy of hard copy) .

2.   The EAS provide system users with the ability to archive a report of any training and workshops and link it with photos related to any of them.

3.   The EAS provide users with search ability to find out any document in different ways using different attributes.

4.   Managing all information of sport clubs and sport facilities that is used by the ministry in different activities.

5. Providing branch managers with high monitoring over all the documents that will be send to any one.

The users of EAS divided in two categories depending on user role:

1. System Administrator.

2. System User.

- System administrator will do:

    a. Add user.

    b. Delete user.

    c. Grant permissions.

    d. Monitor hall the system.

- system users will do:
    a. upload files.
    b. Upload photos.
    c. Retrieve files.
    d. Retrieve photos.

The features that are described in this document are used in the future phases of the software development cycle. The features described here meet the needs of all the users. The success criterion for the system is based in the level up to which the features described in this document are implemented in the system.

3.1.3 Definitions, Acronyms, and Abbreviations

-EAS: Electronic Archiving System .

-MOYS: Ministry Of Youth and Sport.

Definitions:

EAS: An Informative application that works to help organizations and governments to save all important files and documents using different technology.(Like scanner and data base) And retrieve any file at any time in easy and accurate way. To reduce the time and cost and effort.

MoYS: one of the government ministries, responsible of creating and implementing different programs(sport, summer camps, educational), in addition to monitor and direct the sport club and youth centers.

3.1.4 Overview

The SRS will provide a detailed description of the electronic archiving system. This document will provide the outline of the requirements, overview of the characteristics and constraints of the system, Section 2: describe the general factors that affect the product and its requirements. It provides the background for those requirements. The items such as product perspective, product function, user characteristics, constraints, assumptions, dependencies and requirements subsets are described in this section,   Section 3: contains all the software requirements mentioned in section 2 in detail sufficient enough to enable us to design the system to satisfy the requirements and testers to test if the system satisfies those requirements.

3.2 Overall Description

This section describes the general factors that affect the product and its requirements

3.2.1 Product perspective

The aim of this project is to design an electronic archiving system that using web based application with accounts and permissions to manage the archive effectively, reducing time and effort ,decreasing the cost, and decrease number of faults that happening using the old system. The system interface should be user-friendly in which users would feel comfortable when using the system .

The system enable users to store all files and documents , and retrieving them in an easy, flexible and interactive way, in addition to privacy and security of information .

The complete overview of the system is as shown in the overview diagram below:
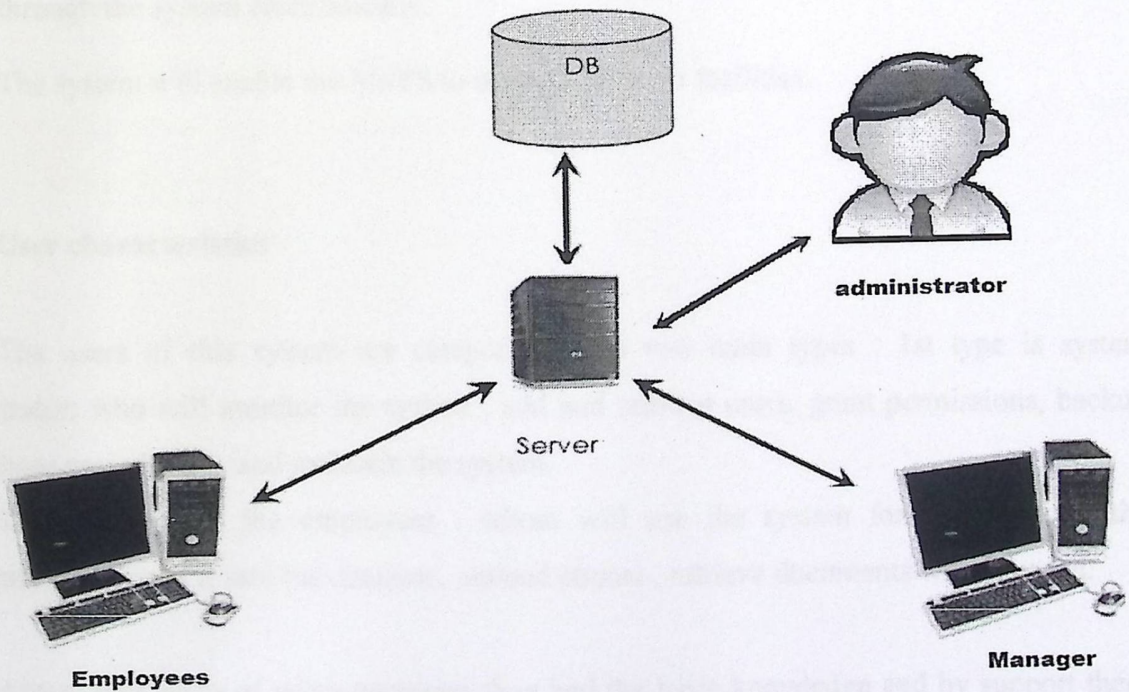
3.2.2 Product functions

The EAS provides the employees of the ministry with the ability of managing all the archive. The functions of the system include providing sets of services for MoYS employees are listed below:-

- The users can upload all documents that they need to archive into the system database.
- The Users had ability to upload images with its description to the System Database and link it to activity.
- The user can retrieve any file needed using the system.
- The system save all files uploaded into the database encrypted to make sure that all documents are safe.
- The system support users with search functionality using different methods.
- The system gives the administrator with the ability to add and remove users.
- The system will support the manager with ability to sign all documents need his signature through the system electronically.
- The system will enable the MoYS to manage all sport facilities.

3.2.3 User characteristics

The users of this system are categorized into two main types : 1st type is system administrator: who will monitor the system , add and remove users, grant permissions, backup the database periodically, and maintain the system.

The 2nd type is the employees : whom will use the system for archiving all the documents and upload it into the database, upload photos , retrieve documents when needed.

About their skills of using computer they had the basic knowledge and by support them with short training on how to use the system , and system manual , they will be able to use all system functions effectively.

3.2.4 Constraints

- The electronic archiving system is available 24 hours.
- All files will be stored in PDF format.
- All photos will be stored in jpg format.
- All files (documents and photos) will be encrypted before store it.
- All the users should be employees in the MoYS.
- Every user should have user name and password.
- System available for employees within the ministry just.
- The system is available for the manager within and out of the ministry.
- Database response times should be as fast as possible.
- Every document represent the MoYS must signed by the manager and all employees must pass it to the manager.

3.2.5 Assumptions and dependencies

- The users have sufficient knowledge of computers skills.
- The users know English language, as the user interface will be provided in English. With more user friendly.
- Devices must have network and internet connection.

3.3 Specific Requirements

This section describes in detail the functional and non functional requirements:

3.3.1 Functionality

3.3.1.1 Upload files and documents into the system database:

Through this system users can upload and save all documents which is mentioned before into the database using the system interface which support the user with different options, and the user must fill all the fields that describe the file he want to store in the system.

3.3.1.2 Upload photos into the system database:

Through this system ,users can upload photos into the database and link it to activities that the MoYS organize, so when any one of the employees want to make a report about any activity, they can find all information and photos related to it, this makes manage information of activities in the best way.

3.3.1.3 The user can retrieve any file needed using the system

The system users can retrieve any file stored in the system database, and the system enable the user to do this easily and fast, and on the time.

3.3.1.4 The system save all files uploaded into a secure database :

This system makes all the files secured and safe, because only the system users with valid user names and passwords can login the system, in addition user passwords encrypted in MD5 format.

3.3.1.5 The system support users with search functionality

This system support users with search functionality, in which the user can find and retrieve any document through the search methods supported.

Users can search for any document depending on document subject, date, or by to whom sent.

3.3.1.6 The system gives the administrator with the ability to add and remove users

This system allows the administrator to manage all the accounts in the system by adding, removing, or modifying user's accounts, admin also can grant permissions to users depending on their job position. In addition, system administrator monitor all the movements of all users to make sure that all of them working under the permissions granted to him.

3.3.1.7 Sign all documents electronically

This system will enable the manager to sign all the documents need his\her signature electronically, with make the monitoring better.

3.3.2 Usability

- Internet should be available to access the system through using web browser for devices that support web browsing and application for devices that doesn't support web browsing.
- The system is user friendly.
- The system is easy to use.
- The system is fully functioned without errors occur during the use.
- Framework should be designed such that the user with basic understanding of windows 2000/XP/Vista operating system would instinctively be able to interact with them.

3.3.3 Reliability

The system has to be very reliable due to the importance of data, without any damage or incorrect or incomplete data.

3.3.3.1 Availability

The system is available 100% for the user and is used 24 hours a day and 365 days a year.

3.3.3.2 Mean Time between Failures (MTBF)

The system will be developed in such a way that it may fails once a year.

3.3.3.3 Mean Time to Repair (MTTR)

If the system fails, it will be recovered within an hour or less.

3.3.3.4 Accuracy

The accuracy of the system is limited based on algorithm used in search.

3.3.3.5 Maximum Bugs or Defect Rate

Not specified.

3.3.4   Performance

System performance will be high, perform needed task accurately and quickly.

3.3.4.1 Response time

- The required speed when a user opens an electronic archive system to perform his functions.
- A user must receive status on a request within 1 minute.
- Search result must be compatible correctly, and respond quickly when you search for any file or document .
- Loading speed: The data system shall load as quickly as comparable productivity tools on whatever environment it is running in. (Speed is necessary in order to download files and documents to be archived.)

3.3.4.2 Throughput

The number of operation that the system can perform in a specific period, it depends on the user requests in EAS, the user who will use this system is the manager of ministry, and users in the MoYS who make some of operations that is required by the system, the user uses the EAS for upload files and documents, Upload photos, retrieve any file needed, search functionality, ability to add and remove users, Sign all documents electronically

3.3.4.3 Capacity

The system must support an unlimited number of users, but only the users located within the MoYS.

3.3.5   Supportability

The system designers should take in consideration the following supportability and technical limitations.

- Internet Protocols: The system should be integrated with the TCP/IP protocol standards and should be designed accordingly.

- Adaptability: Implementation of the application software/code and design of database structure should be flexible enough for the necessary change in the later phase.
- Coding Conventions: Any coding conventions to be used during implementation must be documented.
- The EAS is not an open source system, which means that the source code is not available for anyone to see or use except the system developers, even the MoYS employees, they just have the right to use the application, and the only who is authorized and have the right to manage, modify, and delete any data from this system, is the system administrator.

3.3.6 Design Constraints

The goal of this project is to design and build a web application, this application work using client-server platform ,in which most of the processing will take place on the server side, and on the client side the application will use web browser for data entry and retrieving.

Software Language Used in EAS

- On the server side is

    ASP.NET.

    SQL server management Database is used to handle Data operations.

- Purchased Developmental Tools:

    Visual basic. Net: this is for develop the EAS using ASP.NET framework.

    SQL Database: is the database for storage data is run on some of platform such as Linux, windows server.

- GUI design must be friendly and simple with detailed instructions for all components, computer devices taking into consideration the limitation on some devices to implement such an interface that support such Functionality.

- Purchased Components

  SQL Server management Database.
  Rational Rose or Start UML.

3.3.7 Interfaces

3.3.7.1 User Interfaces

User interfaces Will make the use of the existing Web Browsers such as Microsoft Internet Explorer , FireFox for PC application, and for the other devices an interface developed to support system functionality .

User interface is used for communication protocols TCP/IP with port number 8080 to communicate, the web page can be reached through Address WWW.EAS.COM for pc users, a built in interface is implemented as shown forward in the design chapter, the users can archive files and photos using this web application , where files and photos are stored.

3.3.7.2 Hardware Interfaces

The system communicate with a server for search operations, upload images through 8080 port with physical address --------------------- for server.

3.3.7.3 Software Interfaces

The system will interact with other software programs to maintain a better performance with the system, which enable users to archive files and photos in the database using this system.

3.3.7.4 Communication Interfaces

The system support Wireless and Wired LAN, to reach the system server and use its features.

31

3.3.8   Licensing Requirements

The system is licensed only to the research team of this project and they only has the authority to sell the system.

3.3.9   Legal, Copyright, and Other Notices

Electronic Archiving System is closed source system.

Chapter Four

Analysis

4.1 Introduction

Gathering and analyzing requirements is an important stage, and it is a Basic step for developing and completing any system that must be made before starting building the system, in this stage we will analyze functional and non-functional requirements and identify its relationship with system environment in details, and describe all system data ,in addition to clarify the database, this chapter will contains also:

- Context Diagram

- Data Flow Diagram

4.2 System Requirements:

This system includes a set of requirements that is divided into Functional and Non-functional requirements, that will be clarified through the following points:

4.2.1 Functional requirements:

This system includes a collection of functional requirements that can be divided into special requirements for users or employees who is using this system, special requirements for the manager, and special requirements for system administrator, and we will clarify and describe them as follows:

4.2.1.1 Requirements for system-users or employees:

1. Enable users to log in the system and work on it

2. Enable users to archive all files and documents to database.

3. Enable users to search and retrieve any file or document that is needed

4. Enable users to issue reports from files that the user needs.

4.2.1.2 Requirements for manager:

1. Enable manager to log in to the system.

2. Enable manager to archive all files and documents.

3. Enable manager to search and retrieve files and documents.

4. Enable manager to issue reports.

5. Enable manager to approve all documents when it passing to him, and sign it electronically.

4.2.1.3   Requirements for system administrator:

1. Enable administrator to log in to the system.

2. Enable administrator to add and delete users in the system.

3. Enable administrator to search about any file or document.

4. Enable administrator to retrieve any file or document.

5. Enable administrator to issue reports.

6. Enable administrator to modifying information about users.

4.2.2   Non-functional requirements:

4.2.2.1 Work environment:

- This system is an active electronic archiving system depends on the characteristics of electronic archiving and has an active interaction with users.

- The system is working in an environment of windows XP, VB. Net.

- To achieve the desired goal in an easy and understandable way for users.

- The system must be easy to access by its users.

- The system must be flexible and changable according to the user requirements.

4.2.2.2 Interface:

According to the instructions related to interface and effects of colors that depends on Human Interaction Computer (HCI) beings, we use colors that are comfortable to the eyes, and the interface is designed in a way that suits the subject & the targeted group, to enable the users to move between pages easily.

4.2.2.3 Safety:

The development team achieves the security and privacy in the system through:

- No access to the system is allowed until making sure that the user name and password is true.

- No user is allowed to access to another user page or account.

- Not every user is allowed to access the database and modify it.

- Just administrator and manager can see all the archived files and documents.

4.2.2.4 Speed:

- Speed of access to the system.

- The speed of interaction between the system and the user, through clear interfaces that are arranged in a way that enable users to archive and retrieve files in an effective and efficient way.

4.2.2.5 Ease of use:

The system is easy to use, and easy to update by system administrator, and interfaces are serial, and the user interacts with them easily.

4.2.2.6 reliability:

This system will be used effectively, and the users can replace it with traditional archiving completely.

4.2.3 Description of the functional requirements:

4.2.3.1 Describes the functional requirements for users:

- **Enable the employee to enter the system and work on it.**

Function	Login to the system
Description	An employee can access to the system to gain access to its page and doing his job.
Input	User name and password.
Source	User page.
Output	Display the requested page.
Goal	Enable the user access to his own page
Requirements	Enter the correct user name and password.
Conditions before implementation	The user has a special account to enter the system.
Conditions after implementation	User access to his own page.
Procedures	The user enters the user name and password and is being compared with data stored in the database, if the data is entered correctly, then the user can access to his own page and benefits from the content.

Table (1.3) describing the user logs on to the system.

- **Enable employees to archive files and documents to the database.**

Function	Archiving files and documents.
Description	Enable the employee to archive files and documents to the database
Input	Files & data
Source	Special page in the files.
Output	Archive or store File in DB.
Goal	Archiving files and documents.
Requirements	There is a table in the database, to archive and store files and documents, one for received files and one for sent files.
Conditions before implementation	The user has the authority to archive files.
Conditions after implementation	The file is stored in the database
Procedures	Enter the file or data and store them in the database in a section determined by the user

Table (2, 3) describing archiving files and documents.

- **Enable the employee to retrieve files & documents stored in the database.**

Function	Retrieve File and Document
Description	Enable the employee to retrieve files & documents from database.
Input	Source Number or date
Source	Special page in retrieving files and documents.
Output	Display data and files and documents.
Goal	Retrieving file or document.
Requirements	There is a table in the database, one for sent files and one for needed files.
Conditions before implementation	File or document stored in DB
Conditions after implementation	Retrieve the desired file
Procedures	Entering the file or document data of the file or document to be retrieved from files that were archived, the file or document is displayed to the user.

Table (3.3) Description of retrieving files and documents that have been archived.

- **Enable employees to issue reports:**

Function	Report about the file or document
Description	Enable the employee to make report of the files or documents.
Input	Source Number or date
Source	Special page in report file.
Output	Display data report about file.
Goal	Report file.
Requirements	Data about files that is stored in DB.
Conditions before implementation	Data about File stored in DB
Conditions after implementation	Display report.
Procedures	After Enter the data about file that was Archived, a report about file is being displayed

Table (4.3) Description of the presentation of the reports

4.2.3.2 Describes the functional requirements for managers:

- **Enable the manager to enter the system and work on it.**

Function	Login to the system
Description	A manager can access to the system to gain access to his page and doing his job.
Input	User name and password.
Source	manager page.
Output	display the requested page.
Goal	Enable the manager access to his own page
Requirements	Enter the correct user name and password.
Conditions before implementation	The manager has a special account to enter the system.
Conditions after implementation	manager access to his own page.
Procedures	The manager enters the user name and password and is being compared with data stored in the database, if the data is entered correctly ,then the manager can access to his own page and benefits from the content.

Table (5.3) describing the manager logs on to the system.

- **Enable manager to archive files and documents to the database.**

Function	Archiving files and documents.
Description	Enable the manager to archive files and documents to the database
Input	Files & data
Source	Special page in the files.
Output	Archive or store File in DB.
Goal	Archiving files and documents.
Requirements	There is a table in the database, to archive and store files and documents ,one for received files and one for sent files.
Conditions before implementation	The manager has the authority to archive files.
Conditions after implementation	The file is stored in the database
Procedures	Enter the file or data and store them in the database in a section determined by the user

Table (6, 3) describing archiving files and documents.

- **Enable the manager to retrieve the files & documents stored in the database.**

Function	Retrieve File
Description	Enable the manager to retrieve files & documents from database.
Input	Source Number or date
Source	Special page in retrieving files and documents.
Output	Display data and files and documents.
Goal	Retrieving file or document.
Requirements	There is a table in the database ,one for sent files and one for received files, we use them according to the needed file or document.
Conditions before implementation	File or document stored in DB
Conditions after implementation	Retrieve the desired file
Procedures	Entering the file or document data of the file or document to be retrieved from files that were archived ,the file or document is displayed to the user.

Table (7.3) Description of retrieving files and documents that have been archived.

- **Enable manager to issue reports:**

Function	Report about the file or document
Description	Enable the manger to make report of the files or documents.
Input	Source Number or date
Source	Special page in report file.
Output	Display data about file.
Goal	Report file.
Requirements	Data about files that are stored in DB.
Conditions before implementation	Data about File stored in DB
Conditions after implementation	Display report.
Procedures	After Enter the data about file that was Archived, a report about file is being displayed

Table (8.3) Description of the presentation of the reports

- **Enable the manager to approve all files and documents and sign it electronically .**

Function	Approving & signing documents electronically
Description	A manager can approve all received and sent files and sign it electronically.
Input	Approving word or electronic sign (it could be check) .
Source	Special page for confirmation.
Output	Approved or signed file & document and then stored in Database.
Goal	Keeping manager informed about every sent or received file, to keep the work accurate.
Requirements	A specified place in a file or document for signing or confirmation, and the approving word or signing.
Conditions before implementation	A place for signing.
Conditions after implementation	Signed and confirmed file or document.
Procedures	Every sent or received file and document will be routed automatically to the manager , and the manager will sign it and approve it , then if it is received file it will be archived in database ,and if it is sent file it will be sent .

Table (9.3) describing signing or approving electronically.

4.2.3.3 Describes the functional requirements for System administrator:

- Enable the administrator to enter the system and work on it.

Function	Login to the system
Description	An administrator can access to the system to gain access to his page and doing his job.
Input	User name and password.
Source	Administrator page
Output	display the requested page.
Goal	Enable the administrator to access to his own page
Requirements	Enter the correct administrator name and password.
Conditions before implementation	The administrator has a special account to enter the system.
Conditions after implementation	Administrator access to his own page.
Procedures	The administrator enters the user name and password and is being compared with data stored in the database, if the data is entered correctly ,then the administrator can access to his own page and benefits from the content.

Table (10.3) describing the administrator logs on to the system.

- **Enable the Administrator to add and delete any user of this system.**

Function	Add and delete user.
Description	Enable system administrator to add and delete user.
Input	Username and password
Source	Page for add & delete users through the system.
Output	Users that are added and delete from system
Goal	The system administrator can add and delete user data.
Requirement	Username and password.
Condition before implementation	Having a system administrator account.
Conditions after implementation	Add and delete user data.
Procedure	Added and delete data user.

Table (11.3) Description of add and delete data user by system administrator.

- **Enable the administrator to search about the files & documents stored in the database.**

| Function	Search for Files & documents
Description	Enable the administrator to search about files & documents in database.
Input	Source Number or date
Source	Special page in searching for files and documents.
Output	Display data and files and documents.
Goal	Searching for file or document.
Requirements	There is a table in the database ,one for sent files and one for received files, we use them according to the needed file or document.
Conditions before implementation	File or document stored in DB
Conditions after implementation	Retrieve the desired file
Procedures	Entering the file or document data of the file or document to search from files that were archived ,then the file or document is displayed to the administrator.

Table (13.3) Description of searching files and documents that have been archived.

- **Enable the administrator to retrieve the files & documents stored in the database.**

Function	Retrieve File
Description	Enable the administrator to retrieve files & documents from database.
Input	Source Number or date
Source	Special page in retrieving files and documents.
Output	Display data and files and documents.
Goal	Retrieving file or document.
Requirements	There is a table in the database ,one for sent files and one for received files, we use them according to the needed file or document.
Conditions before implementation	File or document stored in DB
Conditions after implementation	Retrieve the desired file
Procedures	Entering the file or document data of the file or document to be retrieved from files that were archived ,the file or document is displayed to the administrator.

Table (13.3) Description for retrieving files and documents that have been archived.
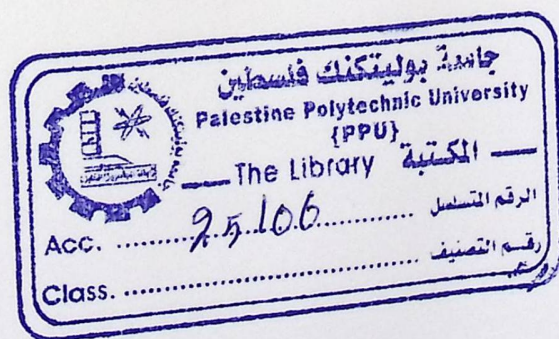
- **Enable administrator to issue reports:**

Function	Report about the file or document
Description	Enable the administrator to make report of the files or documents.
Input	Source Number or date
Source	Special page in report file.
Output	Display data about file.
Goal	Report file.
Requirements	Data about files that are stored in DB.
Conditions before implementation	Data about File stored in DB
Conditions after implementation	Display report.
Procedures	After Enter the data about file that was Archived, a report about file is being displayed

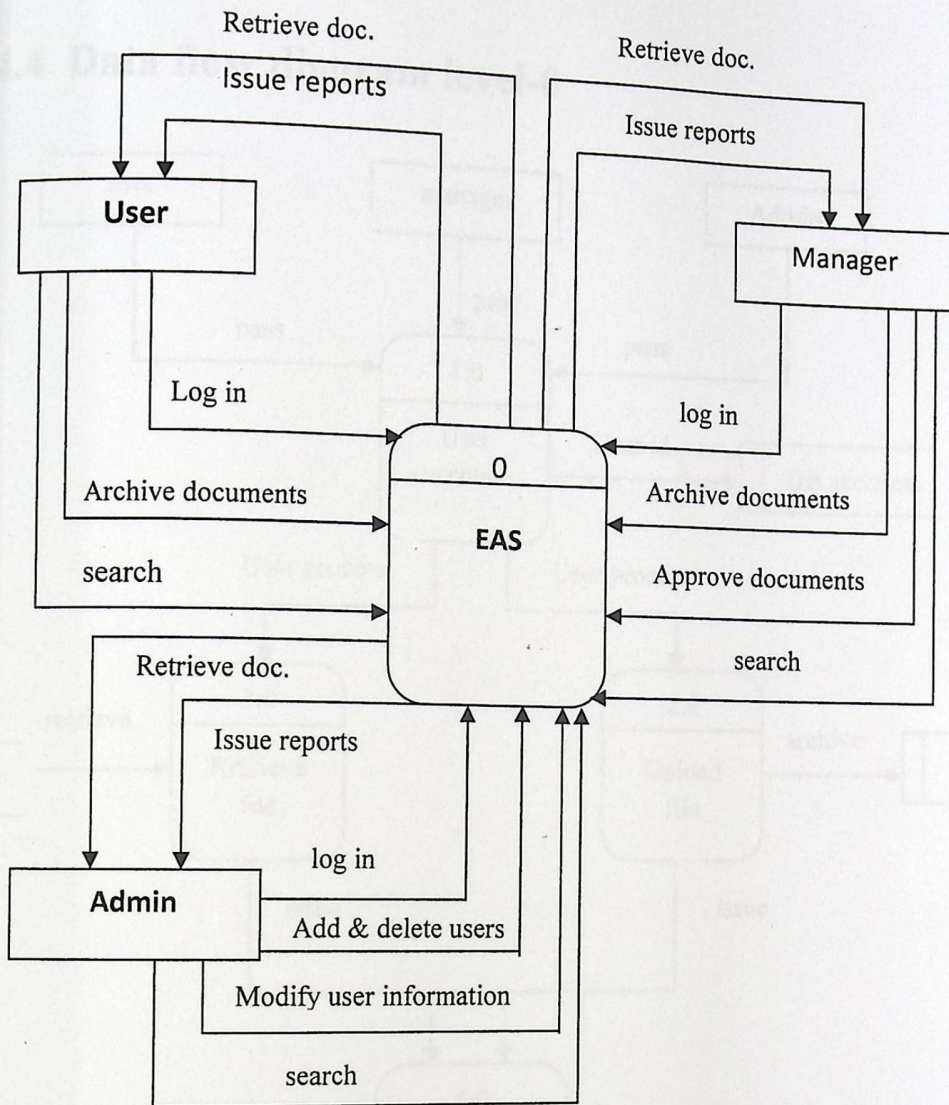**Table (14.3)** Description of the presentation of the reports

4.3 Context diagram

- **Enable administrator to Modify user information.**

Function	Modifying user information.
Description	Enable system administrator to modify user information.
Input	Username and password
Source	Table for user account.
Output	Modified information about users.
Goal	The system administrator can modify user data.
Requirement	Username and password.
Condition before implementation	having a system administrator account.
Conditions after implementation	Modified information.
Procedure	The administrator modifying and changing the personal data about users.

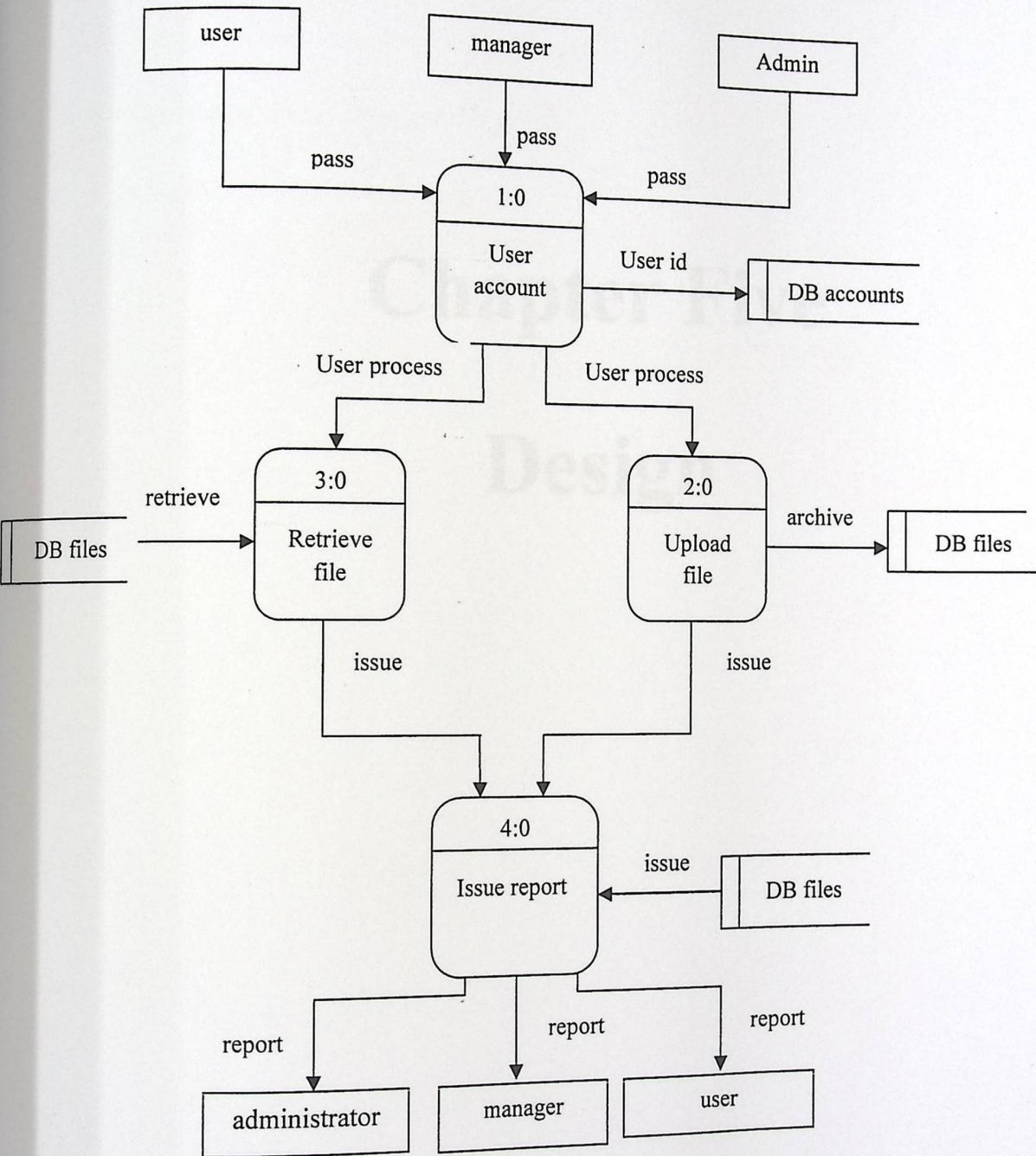**Table (15.3)** Description of modifying users data.

4.3 Context diagram

Retrieve doc.

Issue reports

Retrieve doc.

Issue reports

User

Manager

Log in

log in

Archive documents

Archive documents

search

Approve documents

Retrieve doc.

search

Issue reports

log in

Admin

Add & delete users

Modify user information

search

0

EAS

4.4 Data flow diagram level-0

Chapter Five

Design

5.1 Introduction:

In this chapter we will describe the design of the system, and functional design of each part of the system in addition to the database design.

This chapter contains :

- Flow diagram of the system (Flowchart).

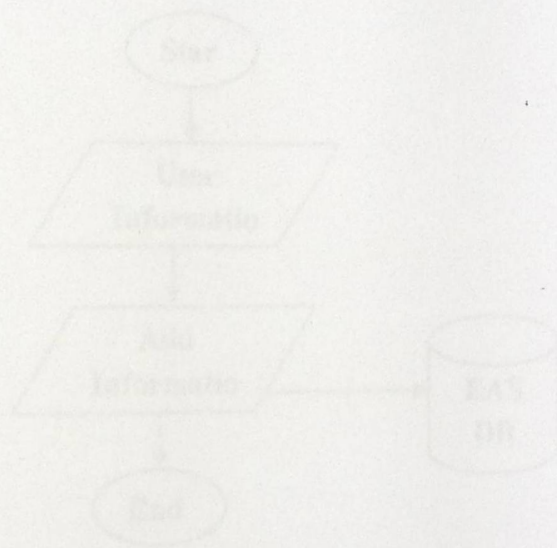- Description of the database.

- Plan examination (Test Plan).

5.2 Flow Chart:

5.2.1 Registration users in the system:

- **Description:** This method describes the process of adding user to store his account in database until the user can use the system.

- **The user interface:**

    1. **Input:** User Data.

    2. **Output:** User with a special account in the system.

- **Restrictions:** the system administrator must fill the user data correctly.
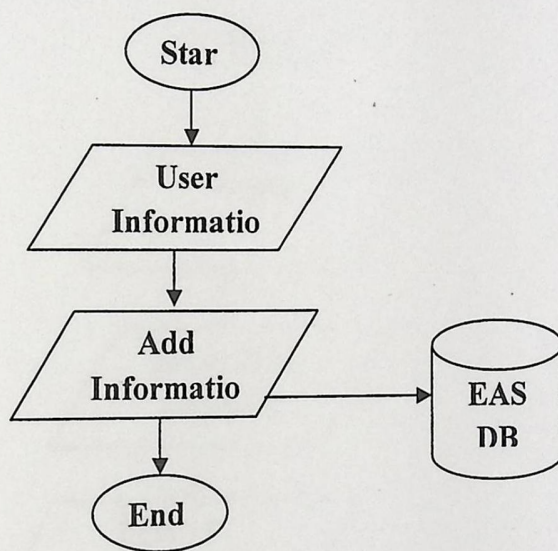
Flow Chart:

Figure (1.4) Registering users in the system.

5.2.2 Archive Files & Documents:

- **Description:** by This function system administrator and users can archive files & Documents into the database. So, users enter the path of the file that they want to archive and then add the file to the database.

- **The user interface:**

  1. **Input:** Data archiving files & documents.

  2. **Output:** Files & Documents is stored in the database.

- **Restriction:** That the files that you want to archive the files in the archived database.
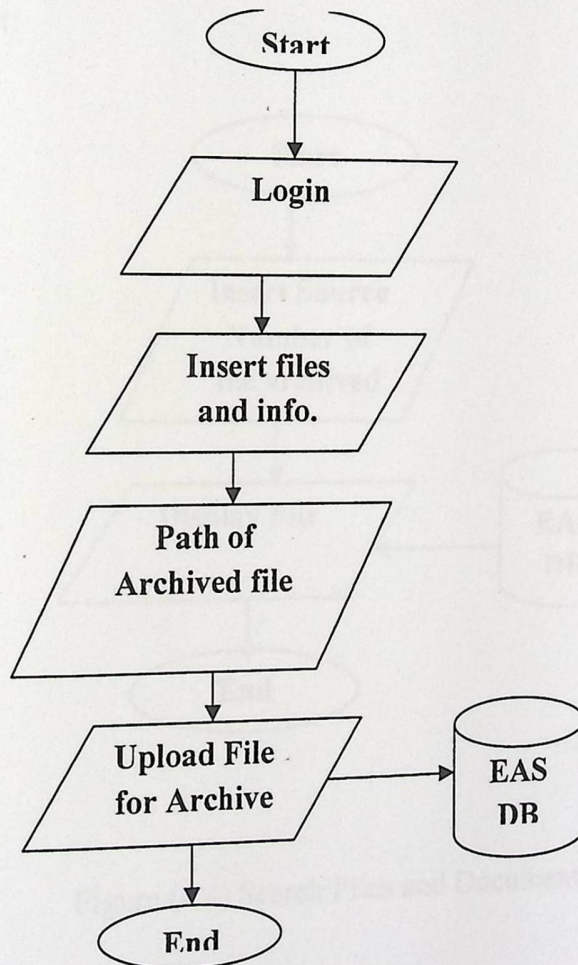
- **Flow chart:**

```
                    ( Start )
                       |
                       v
                   /  Login  /
                       |
                       v
               / Insert files /
               /  and info.   /
                       |
                       v
               /  Path of     /
               / Archived file/
                       |
                       v
          / Upload File /          ___
          / for Archive /  ----->  | EAS |
                       |           | DB  |
                       v           ‾‾‾
                    ( End )
```

Figure (2.4) Archive Files and Documents.

57

5.2.3 Search about Archived Files and Documents:

- **Description:** This system enable user and manager and system administrator to retrieve the files and documents that were archived in the system database, so, the user enter the data of the archived file . then he retrieves files data first, and then the needed file.

- **The user interface:**

    1. **Input:** source Number for file archived.

    2. **Output:** Display archived data file from Database .

- **Restriction:** The file will be added in the database.

- **Flow chart:**

```
                    ( Start )
                        |
                        v
              /  Insert Source  /
             /   Number of     /
            /   file archived  /
                        |
                        v
        /  Display File  / <---- [ EAS DB ]
                        |
                        v
                    ( End )
```
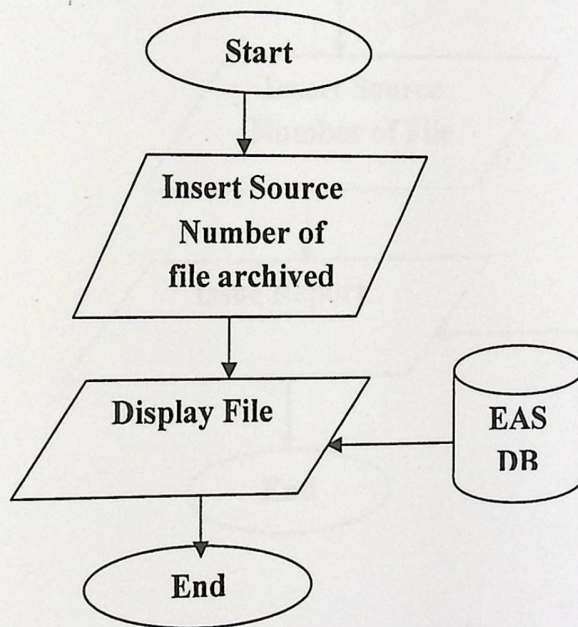
Figure (4.4) Search Files and Documents.

5.2.4 Issue Report:

- **Description:** by This functionality, each of the system administrator and the user can issue and view reports for the archived files.

- **The user interface:**

  1. **Input:** Source Number of files and documents.

  2. **Output:** Display data of files that have been archived.

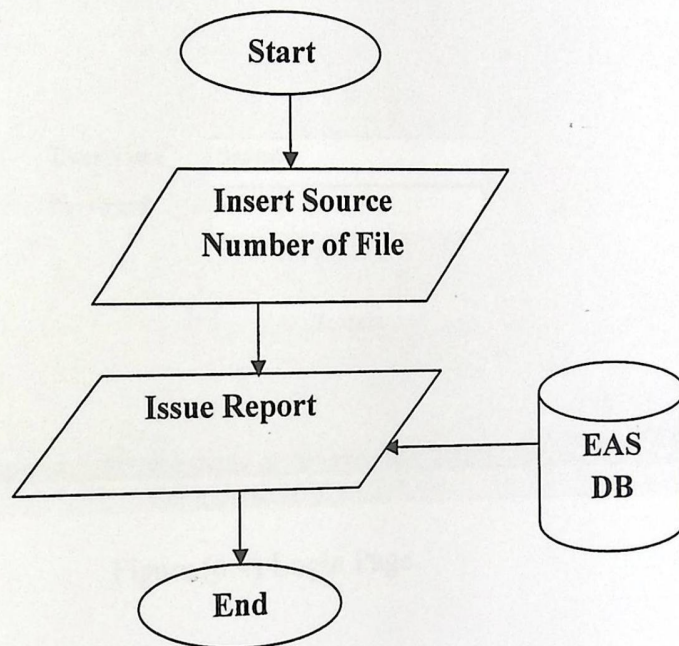- **Restriction:** Store the files and Documents in the database.

Flow chart:

Figure (5.4) Issue Report.

5.3 Design and user interface:

5.3.1 Login page:

This page enable administrator and users to enter the system to be able to use the system.
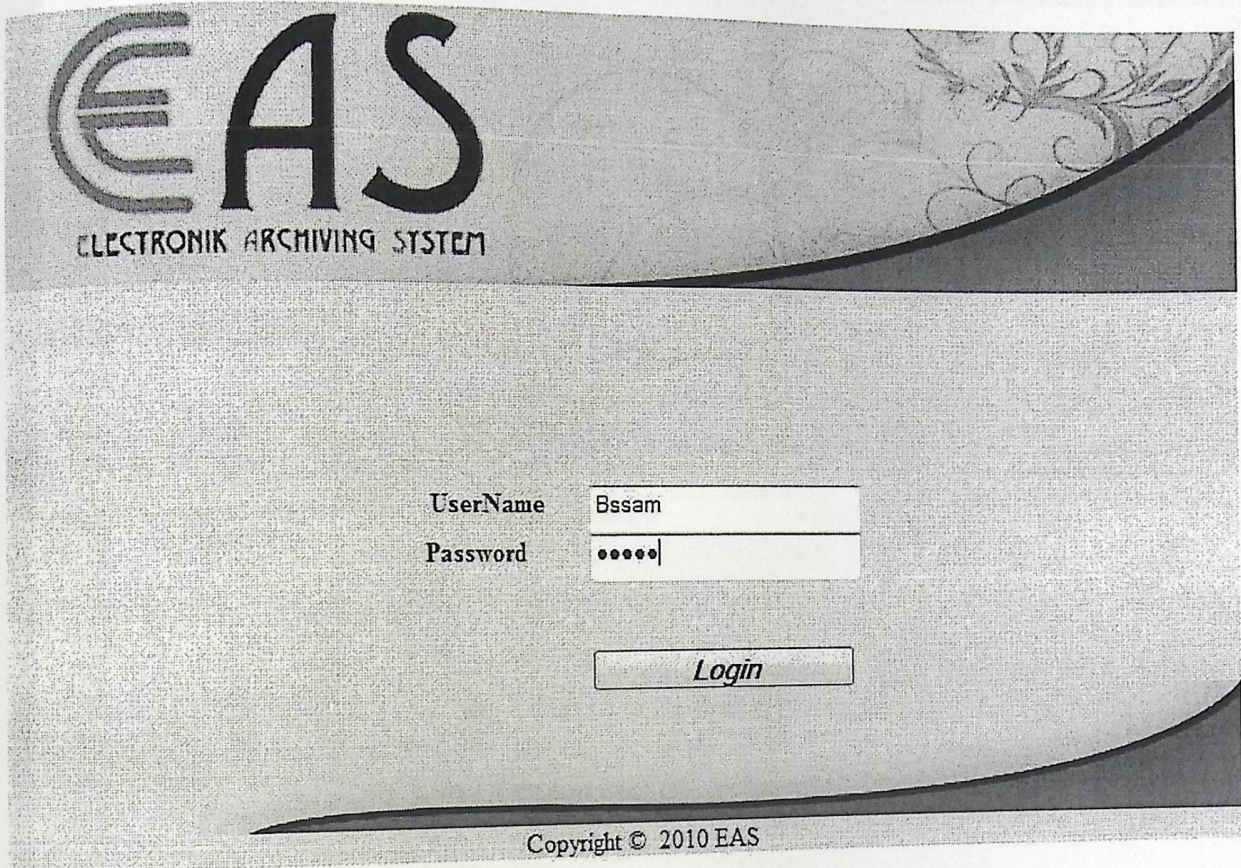
Figure (6.4) Login Page

5.3.2 Create Account For User:

This page allows the administrator to create account for the users to allow user to enter the system and navigate between the pages.

Figure (7.4) Add user by Administrator.

5.3.3 Delete user by Administrator:

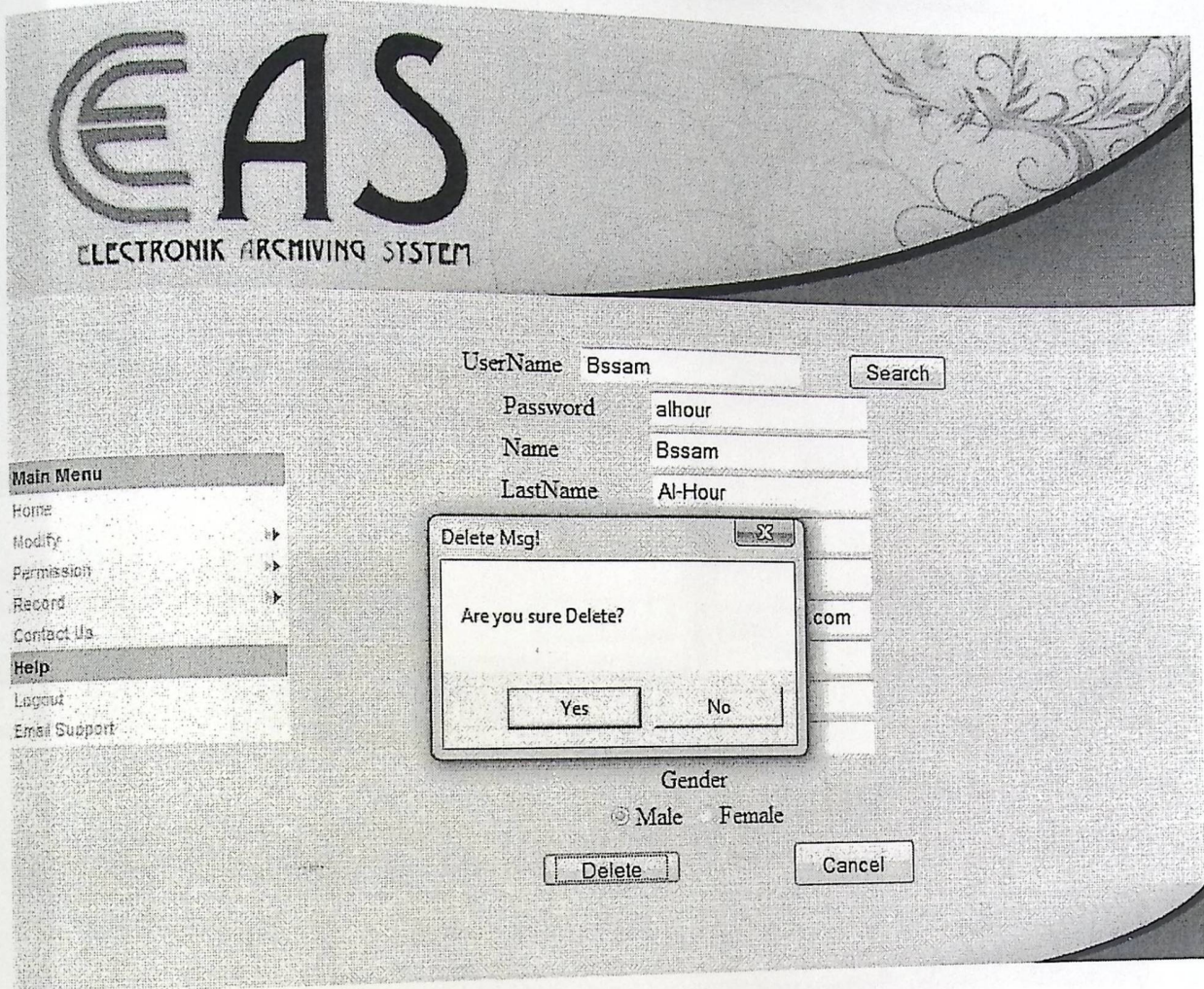This page allows admin to delete user from Database.

Figure (8.4) Delete user by admin.

5.3.4 Modify user data by Administrator:

This page allows admin to modify user info and save it in database.
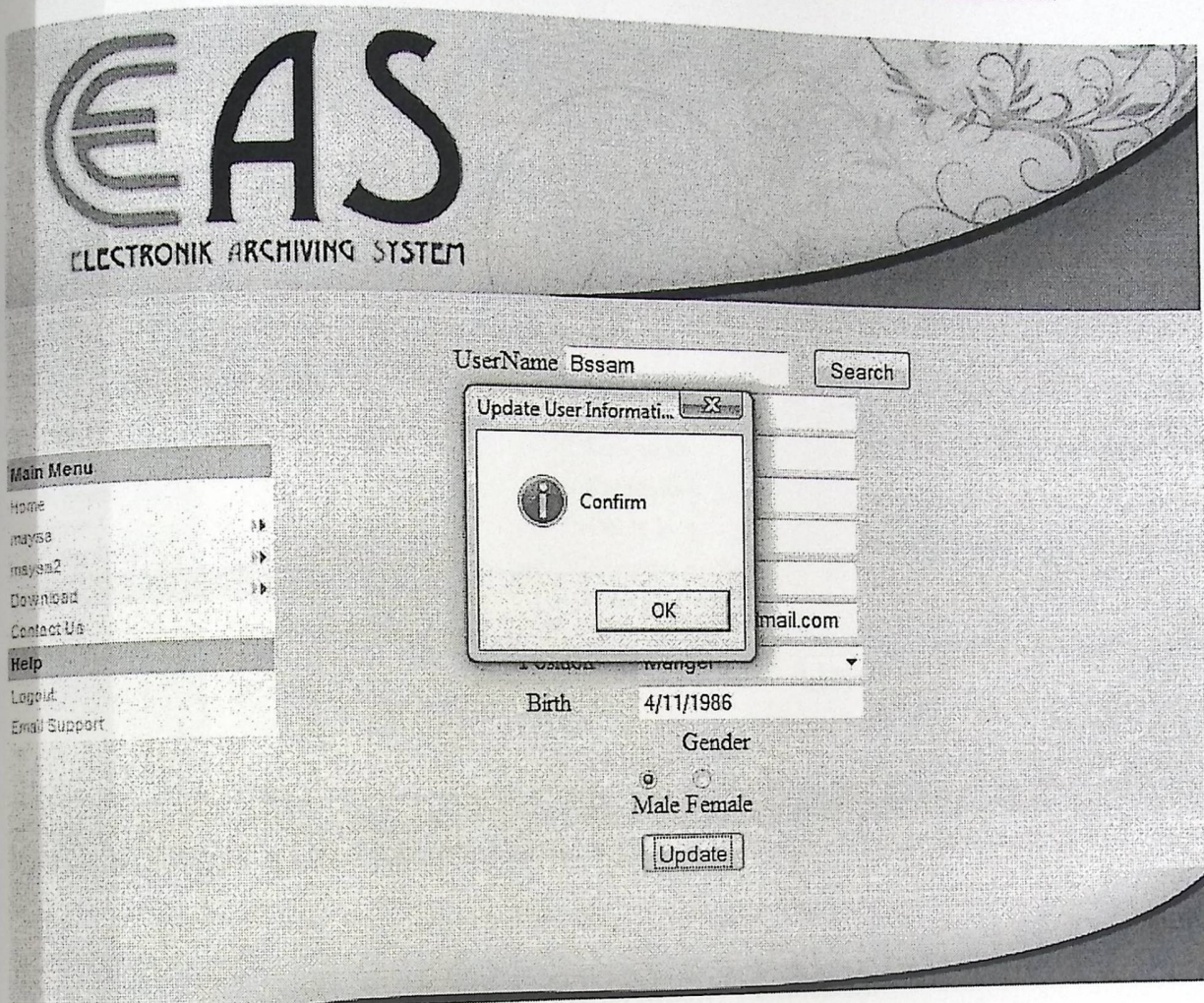

Figure (9.4) Modify user account by admin.

5.3.5 Modify Permissions for users by admin:

This page allows admin to give user permissions to use the system.
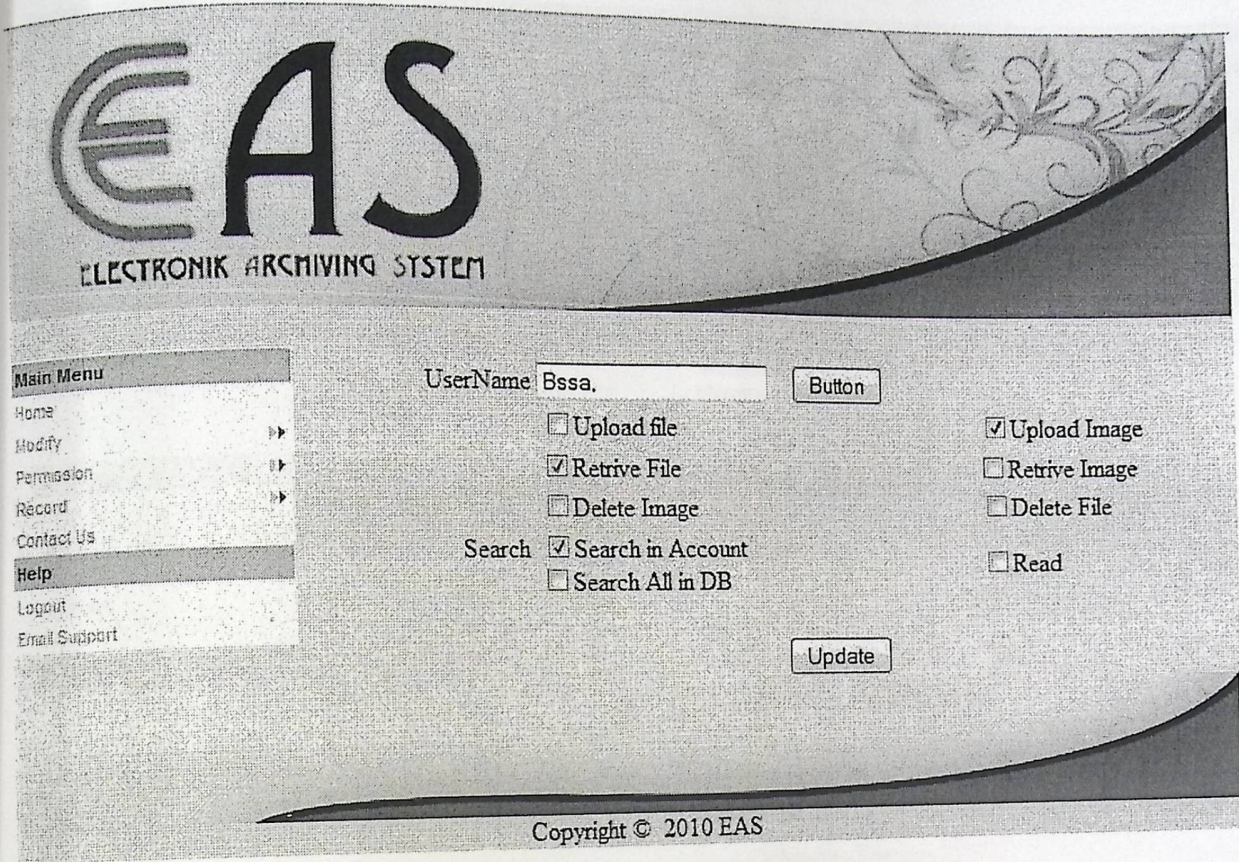

Figure (10.4) Modify Permission.

5.3.6 Delete file by Users & Administrator.

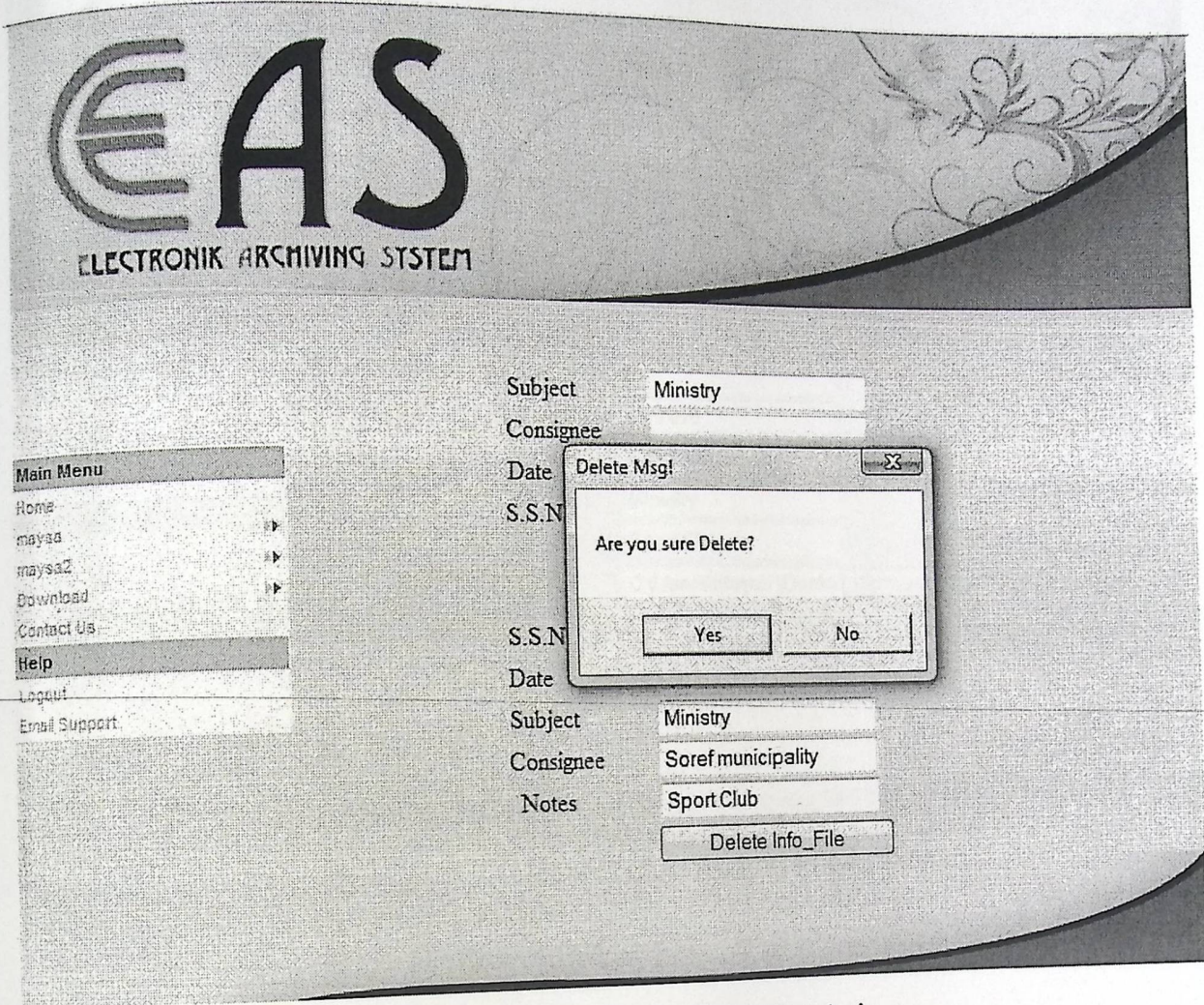This page allows users and admin to delete file archived in database.

Figure (11.4) Delete File by Users & Admin.

5.3.7 Archive File by Administration:

This page Allow Admin to Archive File into Database

Figure (12.4) Archive File by Admin.
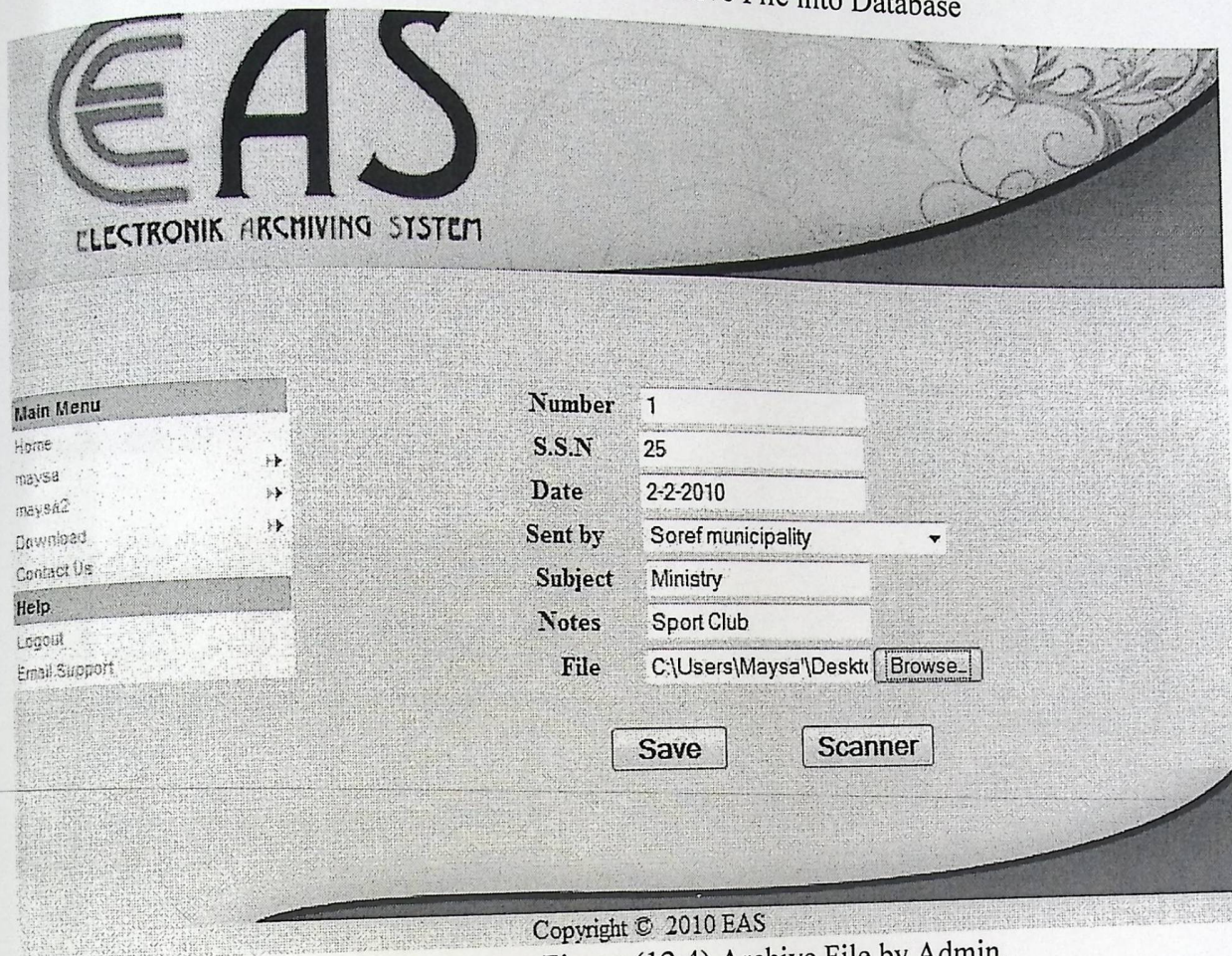
5.3.8 Search for File by Manager:

This page allow manager to search about archived filse in database.
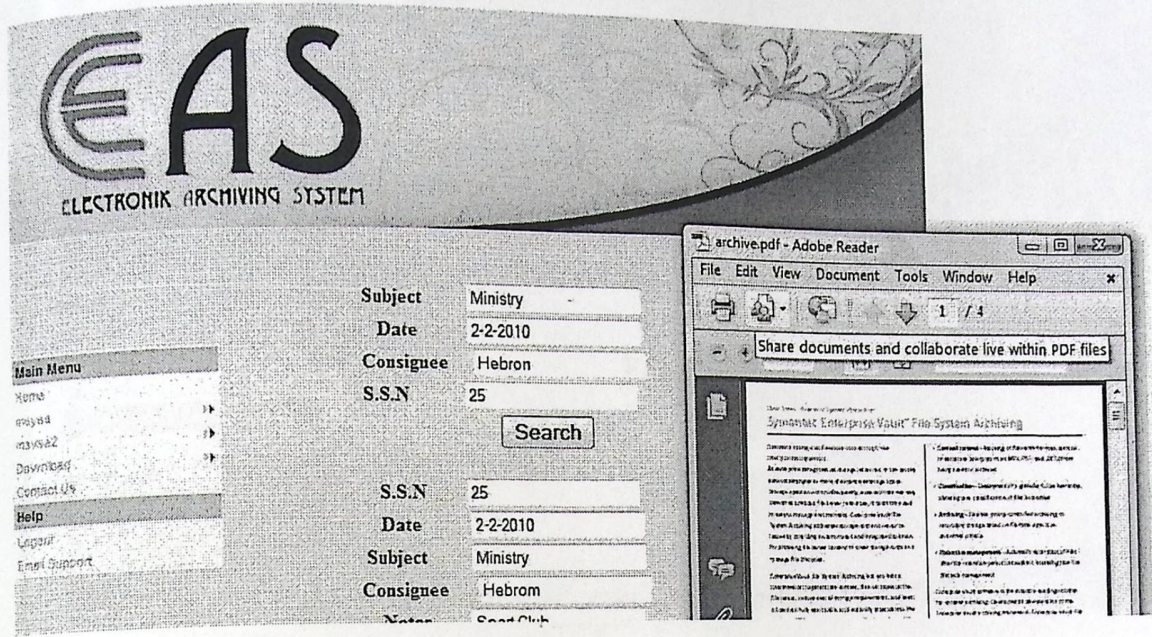
Figure (13.4) search and retrieve Files by User.

5.3.9 Report for User

This page allows users and admin to issue report from some file store in Database.

| 6/7/2010 | 25 | 2/2/2010 12:00:00AM | Soref municipality | Ministry | Sport Club |
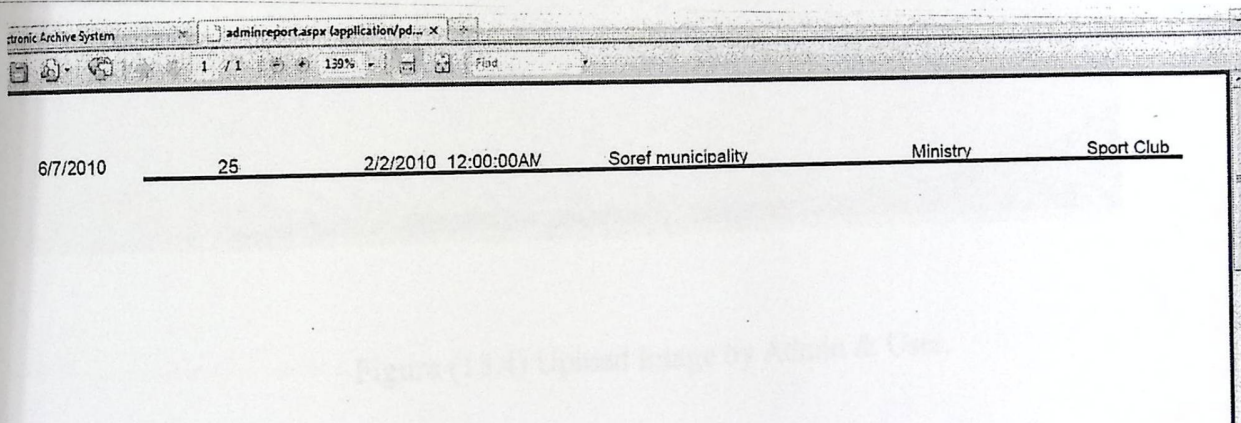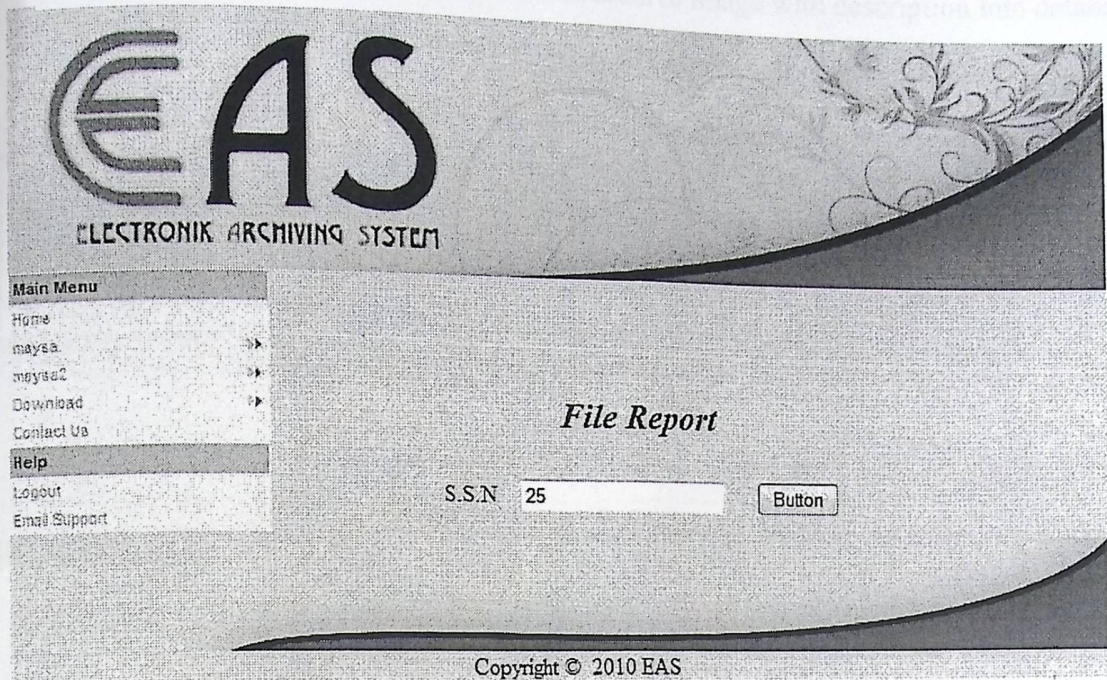
Figure(14.4) Issue report.

5.3.10 Upload Image by Admin & Users:

This page allows users and admin to archive image with description into database.
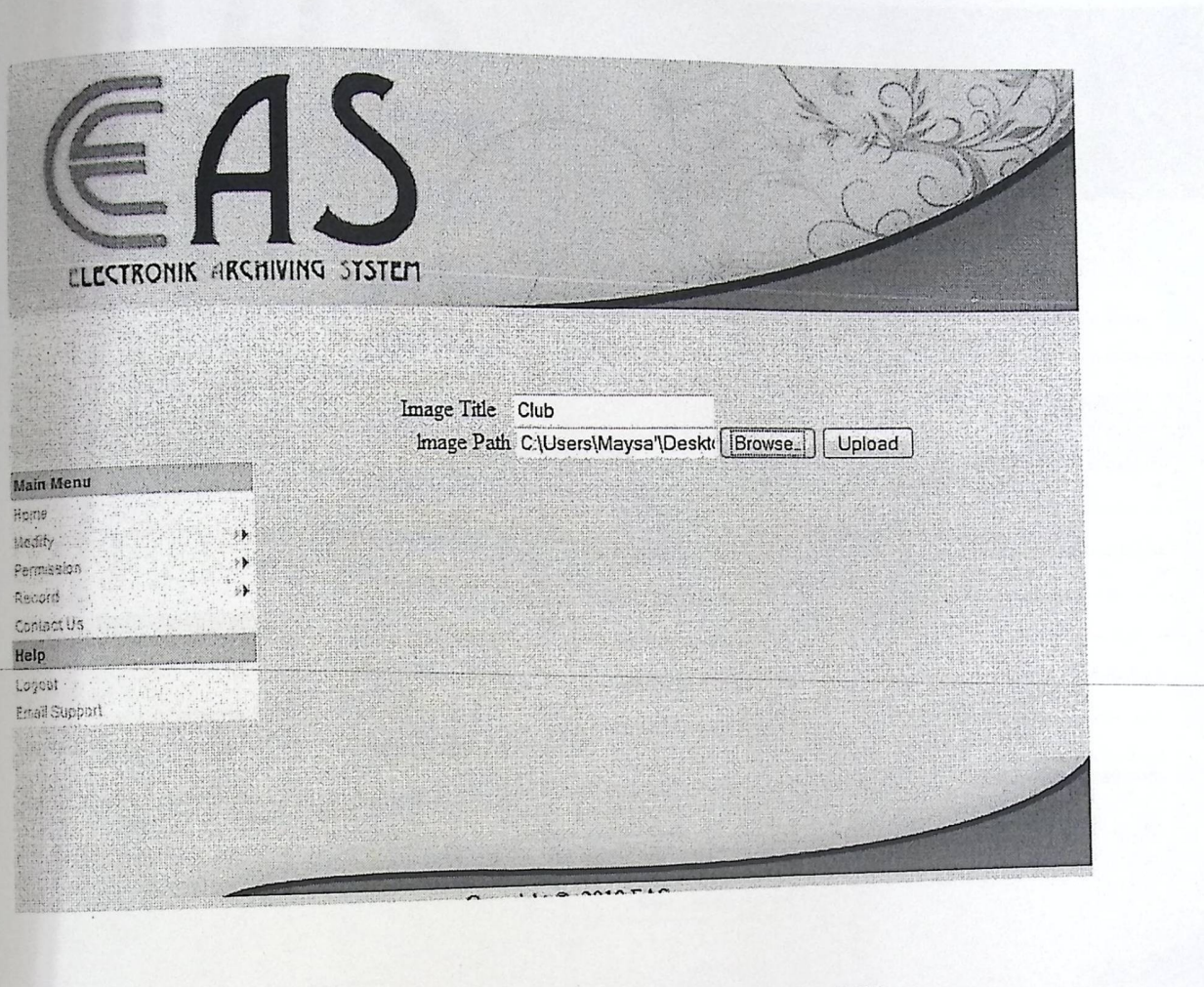
Figure (15.4) Upload Image by Admin & User.

5.3.11 Create Club Info by users:

This page allows users to create club info to be stored in database.

Figure (16.4) Club Info

5.4 Database design:

In this section we will describe the database for this system, through the description of the tables contained in the database, and describes the fields contained in these tables, and clarify the relationships between these tables.

5.4.1 Description of the tables:

1. Table of Administrator Account

| Field Name	Type of Data	Null	Keys	Reference or Link	Length of Field			Description
UserName	nvarchar(50)	No	PK		50			Each user with a user name of his own.
Password				nvarchar(50)	No		50	Each user has a password of his own.
Confirm-Password				Nvarchar(50)	No		50	Each user confirm his own password.
Name				nvarchar(50)	No		50	First name of user
LastName				nvarchar(50)	No		50	Last name of user

Gender	nvarchar(50)	No			50	Sex of user: male or female.
Phone	nvarchar(50)	No			50	Each user has his own phone number .
Address	nvarchar(50)	No			50	Each user has a title of his own.
Email	nvarchar(50)	No			50	Each user has an e-mail of his own.
Posistion	nvarchar(50)	No			50	Each user with the name and career of his own.
BirthDate	Date,time	No				Each user has a history of the birth of his own.
Type	Int	No				Type the user to either system administrator or users.

Upload File	Int	Yes				Permission that allow user to use it
Upload image	Int	Yes				Permission that allow user to use it
Retrive File	Int	Yes				Permission that allow user to use it
Retrieve Image	Int	Yes				Permission that allow user to use it
Search in account	Int	Yes				Permission that allow user to use it
Search in all Database	Int	Yes				Permission that allow user to use it
Delete File	Int	Yes				Permission that allow user to use it
Delete Image	Int	Yes				Permission that allow user to use it
Read	Int	Yes				Permission that allow

					user to use it

Table (1.4) Administrator Account.

2. Table of Archived Information file:

Field Name	Type of Data	Null	Keys	Reference or Link	Length of field	Description
Number	Int	No	PK			Number incoming File
Date	datetime	No				Date time of File.
Num_Source	nvarchar(100)	No			100	Number of sources for files and Documents.
Sentby	nvarchar(100)	No			100	Sending Side file & documents
Subject	nvarchar(100)	No			100	Subject of file & documents
Note	nvarchar(100)	No			100	Note of file

Table (2.4) Data archive files & documents.

3. Table of File Archive:

Field Name	Type of Data	Null	Keys	Reference or Link	Length of field	Description
ID	Int	No	PK,FK	File incoming		Number of source
Name	Nvarchar(50)	No			50	Name Of incoming File with extension
Content Type	nvarchar(300)	No			300	Type of incoming file
Data	Varbinary(MAX)	No			MAX	Binary data

Table (3.4) Archive Files & Documents.

4. Table Archive Image:

Field Name	Type of Data	Null	Keys	Reference or Link	Length of field	Description
ImageID	Int	No	PK			Number of image .
Image	Image	No				Image archived
Title	Nvarchar(50)	No			50	Title of image that be stored
MIMEType	nvarchar(50)	No			300	Type of image archive

Table (4.4) Archive Images.

5. **Table for archiving club:**

Field Name	Type of Data	Null	Keys	Reference or Link	Length of field	Description
Number	Int	No	PK			Number for idenity
BuildingStatus	Nvarchar(50)	No				Status of building .
Owner	Nvarchar(50)	No				Own of building
AreaBuilding	Int	No			50	Size of Building
numRoom	Int	No			300	Number of Room in club
sizearea	nvarchar(50)					Size of Area
Notes	Nvarchar(50)					Notes for Club

Nameorganization	Nvarchar(50)	No			50	Name of Org. that be used
Typeorganization	Nvarchar(50)	No			50	Type of Org.
Yearbuilding	Nvarchar(50)	No			50	Year of building the Org.
Numrigester	Nvarchar(50)	No	PK		50	Number of Register
Daterigester	DateTime	No				Date of register Org.
Statusorganization	nvarchar(50)				50	Status of Org.
Domainorqanization	Nvarchar(50)				50	Domain of work the Org.
Numtarkes	Int					Number of allow building Org.
Datetarkes	DateTime					Date for allow

						Building
City	Nvarchar(50)				50	Name of City
Village	Nvarchar(50)				50	Name of Village
Address	Nvarchar(50)				50	Address of Org.
Telephone	Nvarchar(50)				50	Telephone for Org.
Fax	Nvarchar(50)				50	Fax for Org.
Box	Nvarchar(50)				50	P.O Box for Org.
Email	Nvarchar(50)				50	Email for Org.
WebSite	Nvarchar(50)				50	Website for Org.

Table(5.4) Table for Information Organization.

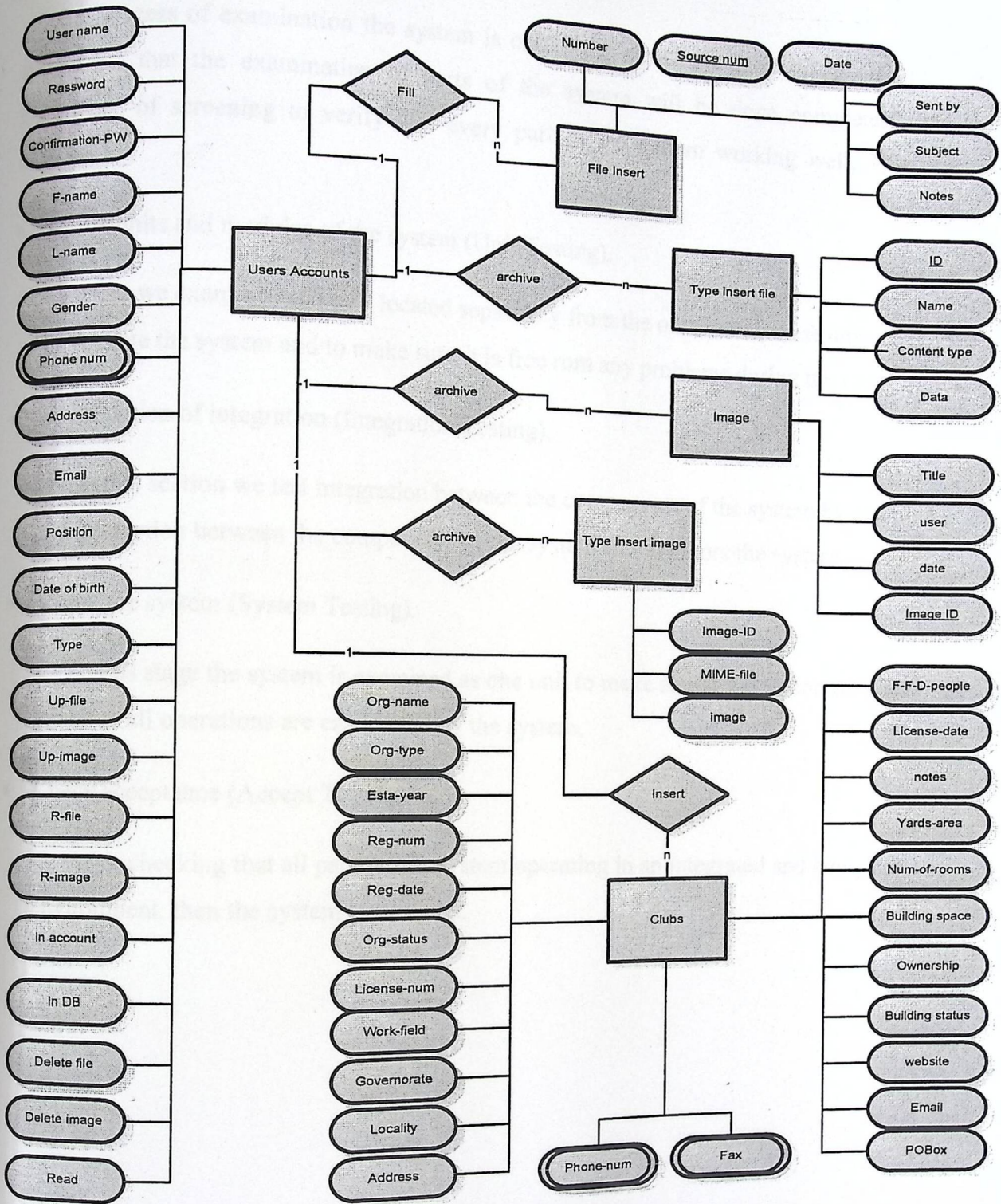## 5.4.2 ERD diagram for the EAS

Figure (17.4) ERD diagram

5.5 Test Plan:

The process of examination the system is one of the most important stages in building the system, so that the examination of parts of the system will be done completely, and the importance of screening to verify that every part of the system working well, This process includes:

- Check units and modules of the system (Unit Testing).

  Here we examine each unit located separately from the other units, these units examined to validate the system and to make sure it is free rom any problems during the boot process.

- Examination of integration (Integration Testing).

  In this section we test integration between the components of the system by examining the interaction between the components of the system and monitors the system.

- Check the system (System Testing).

  In this stage the system is examined as one unit to make sure it works correctly and make sure that all operations are carried out by the system.

- Check acceptance (Accept Testing).

  After checking that all parts of the system operating in an integrated and compatible environment, then the system is accepted.

Chapter six

System Implementation

6.1 Introduction:

Application stage is an important stage in system development, in which we move from the conceptual stage of the analysis and design of the system to the practical stage in which we prepare sources necessary equipment for building the system and programming it. And prepare its structure completely. In this chapter we will clarify the resources , physical equipments and software necessary to implement the system and to build the database, also we will display implementation diagrams that show system tiers.
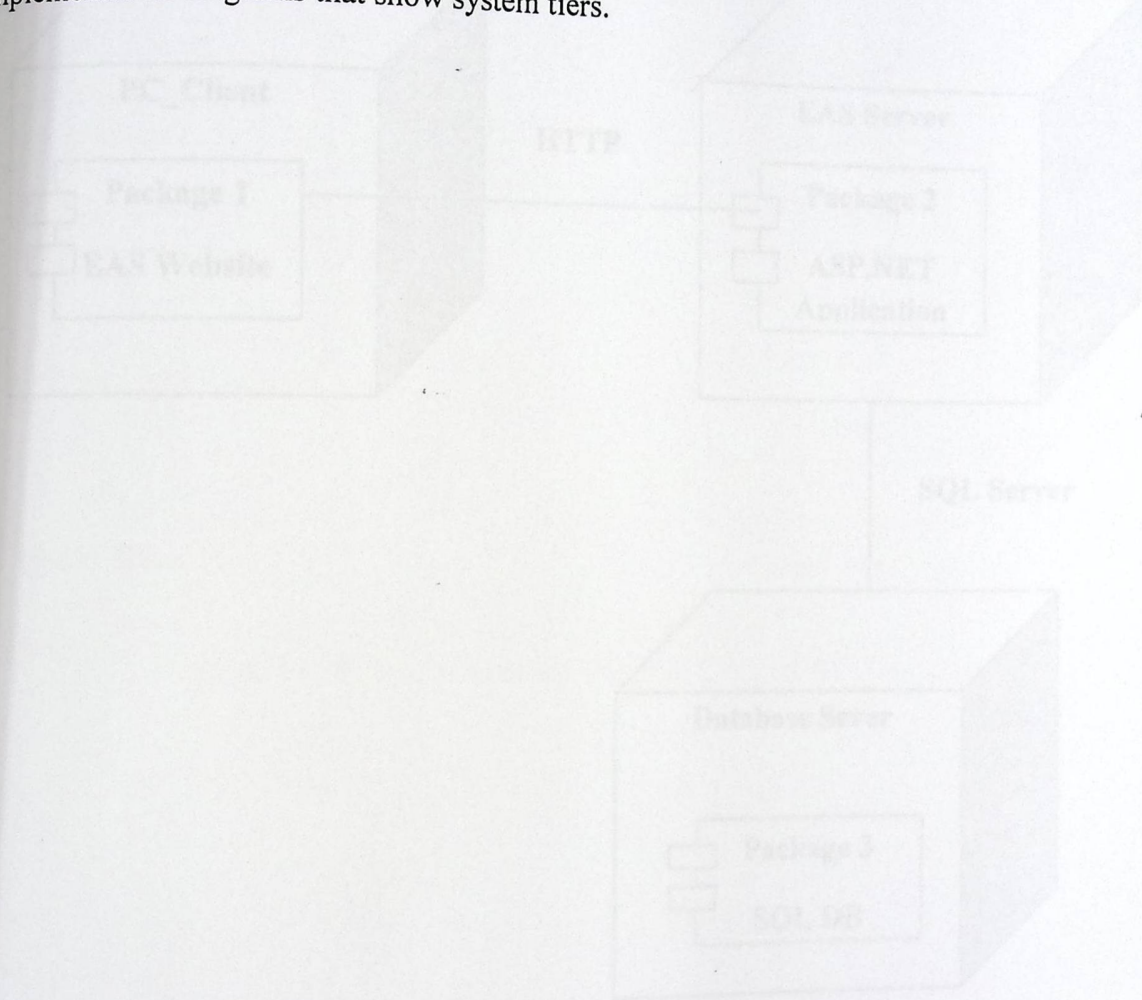
6.2 UML Implementation Diagrams:

6.2.1 Implementation Diagram Divided into Three Tiers:

It shows the division of the system to several levels (Tires), where there is a part (Client), and the other part is (Server) which contains the system, and particularly the last part of the database (DB), and the system is complicated in this case (complex).

PC_Client

Package 1

EAS Website

HTTP

EAS Server

Package 2

ASP.NET
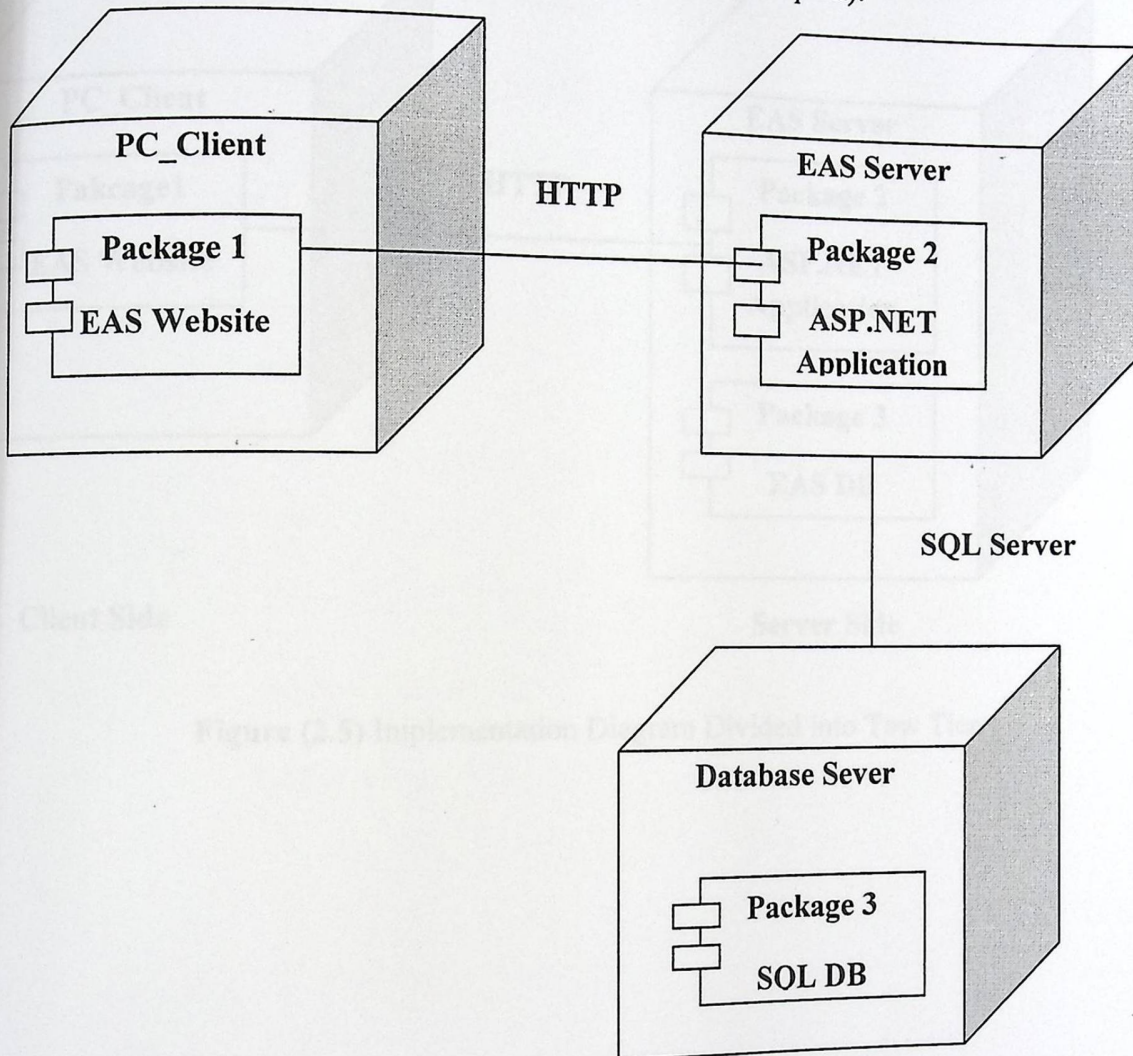Application

SQL Server

Database Sever

Package 3

SOL DB

Figure (1.5) Implementation Diagram Divided into Three Tiers.

6.2.2 Implementation Diagram Divided into Two Tiers:

The system is divided into two levels, the first level is (Client) and the second level is a (Server) that contains the system database, and the system here is in simple case. In this case, the system will be applied at this level, on two tiers.
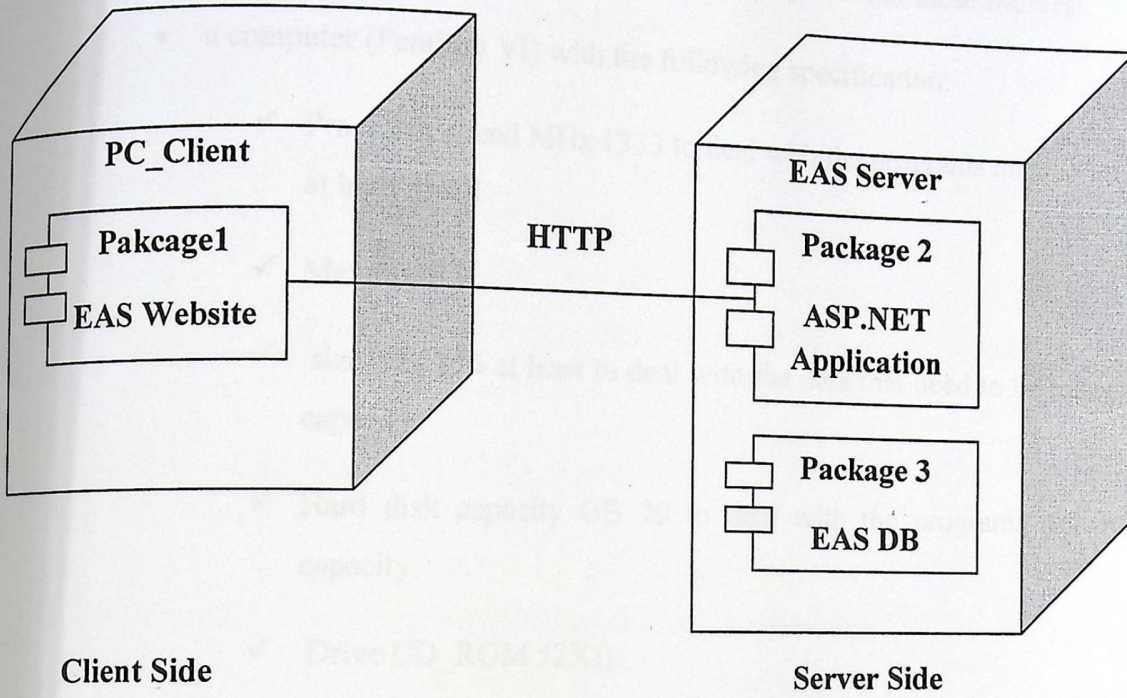
PC_Client

Pakcage1

EAS Website

HTTP

EAS Server

Package 2

ASP.NET Application

Package 3

EAS DB

Client Side

Server Side

Figure (2.5) Implementation Diagram Divided into Tow Tier.

6.3 sources and equipment:

6.3.1 Physical resources required to develop the system:

In this section you must make sure that all sources and appropriate physical specifications meet the requirements of system development, and most important of these sources:

- a computer (Pentium VI) with the following specification:

    ✓ Processor speed MHz 1333 to deal with the programs need to be addressed at high speed.

    ✓ Memory0

    ✓ size MB 256 at least to deal with the data that need to be a large memory capacity.

    ✓ Hard disk capacity GB 20 to deal with the programs you needs high capacity.

    ✓ Drive CD_ROM 52X)).

    ✓ Modem (PCI 56 KB).

    ✓ Screen size of 17 ".

6.3.2 Source code for the development of the system:

In this section we will prepare all software tools and programs that are needed during system development that represents in operating system and multimedia programs, Microsoft Office, Microsoft Visual Studio.Net and database (SQL Server).

1. Windows XP Professional:

This operating system is one if the strong systems with high performance, and it supports many applications, web programs and software, and it contains a security system where the user can browse the Internet without fear of access to personal files, it is also support multimedia programs, in addition to the services that are loaded with this system as a service for IIS Web applications..

2. Microsoft Office 2007:

It includes a word processor (Microsoft Office Word), and used to complete a full authentication, and Microsoft Office Visio, which is used to draw shapes and designs easily and clearly.

3. Microsoft Visual Studio .Net 2008:

In a recent programming language as a Microsoft product, which is one of the most powerful programming languages, add to this features that support dealing with the database required by the system n fast and effective way, and is a development environment, we can complete the work of the design, development and discovery of errors and correct and activate the web applications, as well as it supports a number of languages used to develop. NET environment, including:

• Microsoft VB.NET.

• Microsoft visual C + +.

• Java.

4. ASP.NET:

Is the language that was used for the programming of the system in a Programming framework built on .Net framework and is characterized by this language in ADO.Net, which gives high performance for linking data, and a strong database and using the compiler, alss they provide an easy way to build Web sites.

And the requirements ASP.Net on your computer:

1. Windows XP Professional .
2. Internet Information service (IIS).
3. Microsoft Front Page Extension.
4. Your internet browser (Internet Explorer, Mozilla Firefox).

Here's how and the beginning of a new project in Visual Studio.Net:

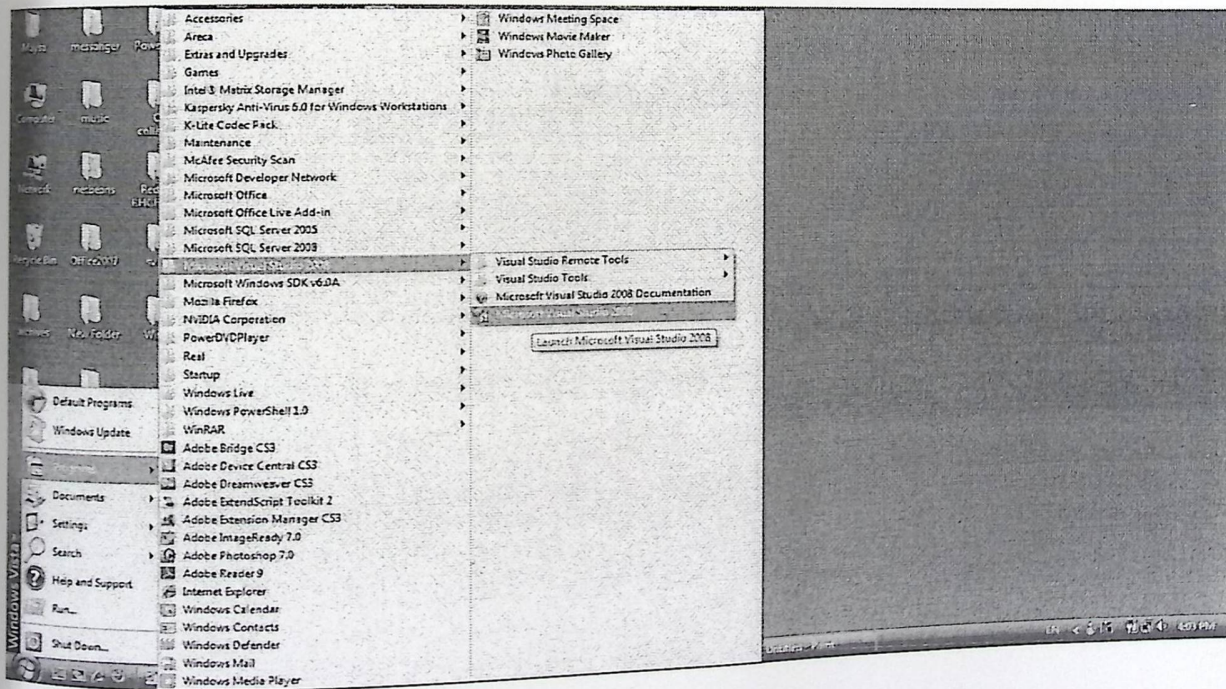- **Begin to run the program from the Start menu.a**

Figure (3.5) Run Visual Studio.NET.

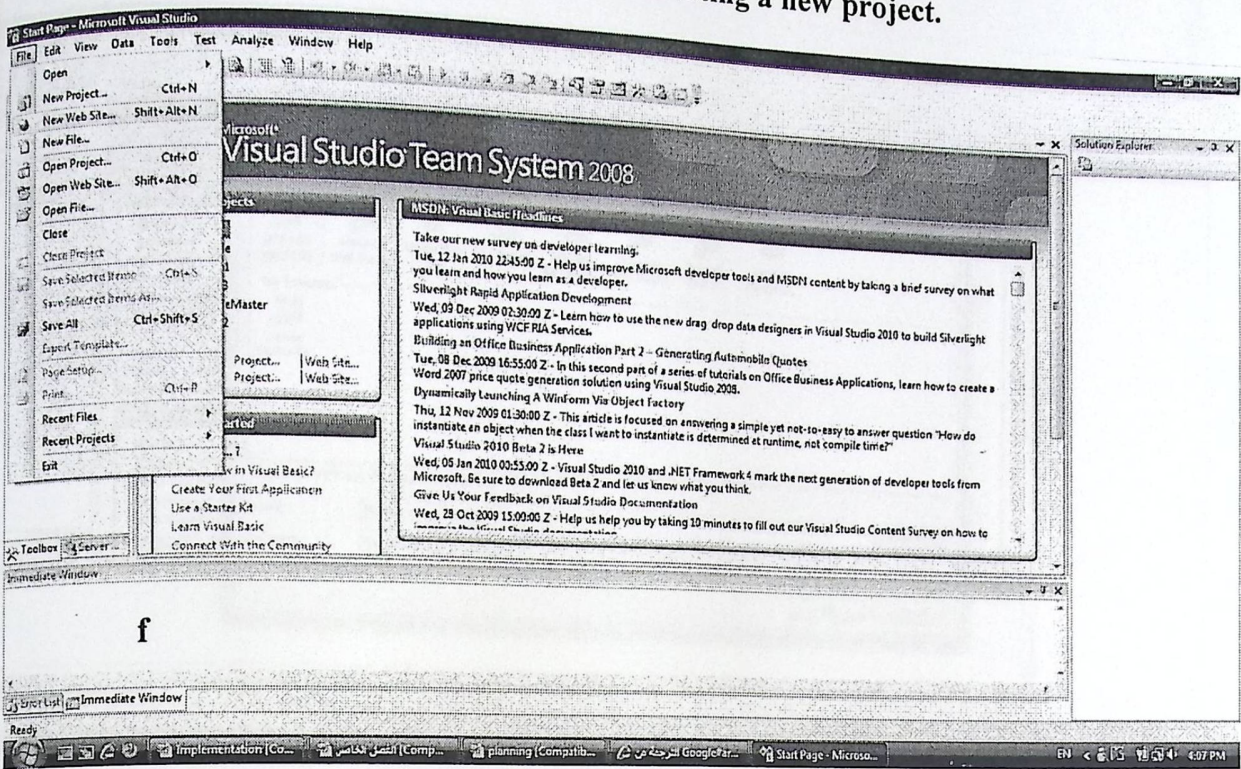- **After running the program, we are creating a new project.**

Figure (4.5) Create New Project.

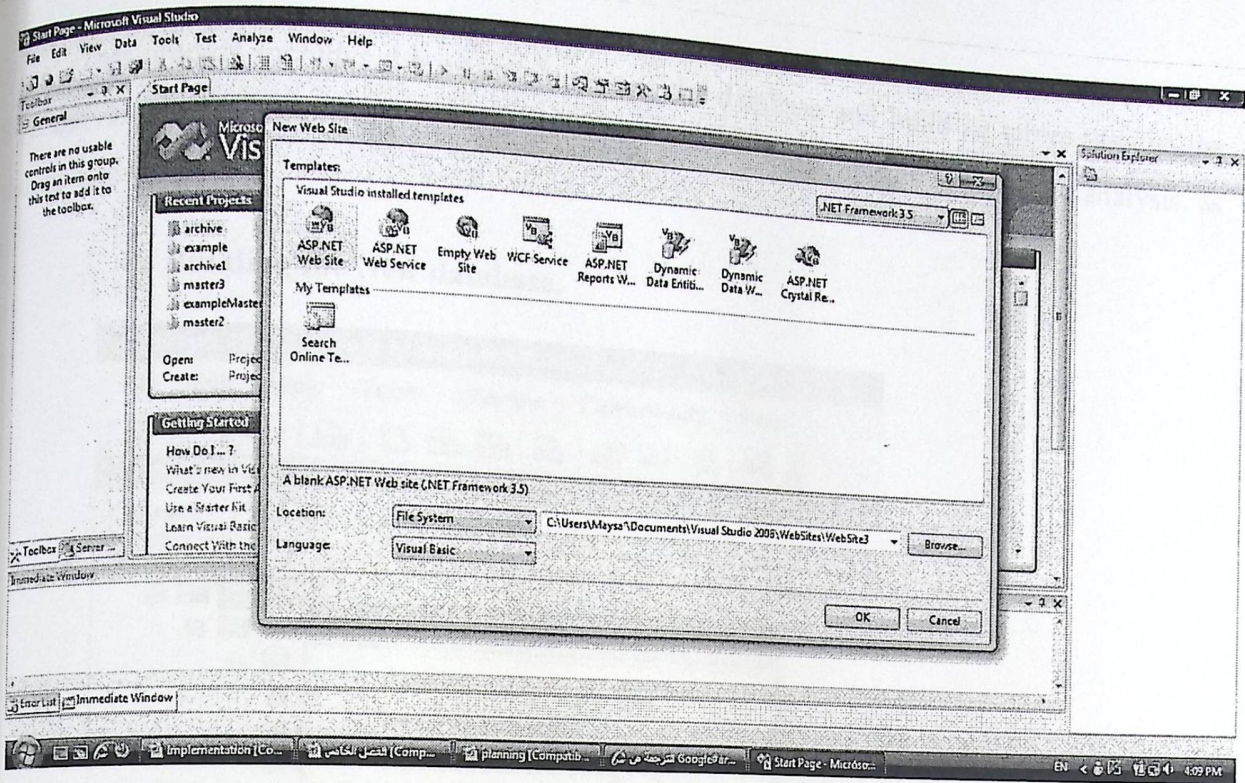- **Create New Web Application:**

Figure (5.5) Create New Web Application.

6.4 Building Database:

This process includes the establishment of the database and build its tables through the SQL Server Management Studio that provides an environment for data storage and analysis, as shown below:
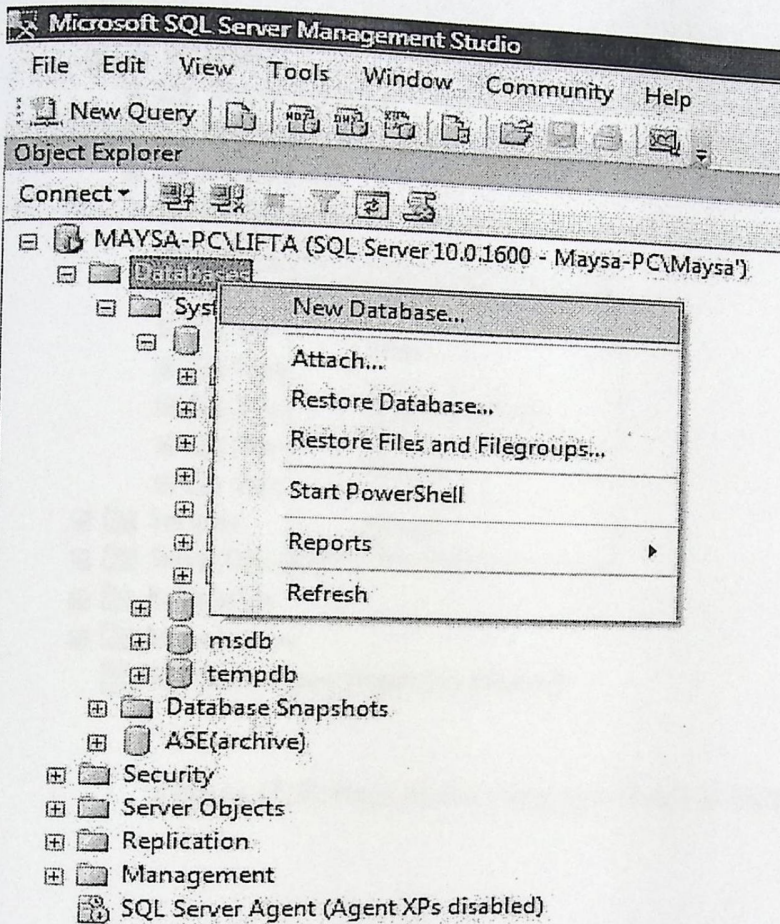
- **Building the New database.**

Figure (6.5) Page building a new database, SQL server management.

- **Create tables to the database.**

Figure (7.5) Page of Building new Table in Database.

Chapter Seven
Maintenance

7.1 Introduction

Maintenance is the last stage in system development life cycle, in this stage we make a complete maintenance & modification for the system to suits its requirements, in this stage the system is ready to work in real world environment or business, there are many things we must consider in order to prevent problems that could occur during transferring the system in this chapter we will clarify how to transfer the system, also we will clarify a proposed plan to maintain the system.

7.2 Transferring the system:

To make the system work at the required level of efficiency and effectiveness ,we must prepare the system environment by supporting the interested party and helping it to execute the system with least amount of functional requirements and make sure it works effectively and correctly ,and then build the system and implement it.

7.3 system's maintenance plan:

When the system is operating in the real work environment there is a possibility for failures and errors that must be avoided ,and as known ,the user don't have enough information to maintain the system if any failure occurs during operating the system. so ,there must be a proposed plan to maintain the system that contains a special procedures to prevent failures.

7.4 back up

A copies of the system and its database must be made periodically,& then store them on external storage media, also we must save the modifications of system in order to return to it in cases of failures. we can store the database using methods provided by the company who makes SQL Server 2008 that we are using in our system ,it provides many alternatives for making back up on external media , and we must make backup regularly to save data from being lost.

7.5 Updating the system

The user might face problems during making some modifications to the system to increase it's efficiency and effectiveness, and we can avoid these problems by using visual studio.net to make any required modifications to the system at any time ,we can modify the form of interfaces by using solution explorer screen that exists in visual studio.net ,in this screen we can see the form that we want to modify .we can make preventive procedures while building the system like using validation control to prevent user from entering invalid values , and using data set to avoid direct access to the database ,and using stored procedures to increase speed of operations.

7.6 Maintenance

7.6.1 maintenance (internet information server(IIS)):

IIS service in windows XP is an important part for distributing applications on the internet ,so the success of distributing applications with the required efficiency ,mainly depends on accuracy ,consistency and security that provided by IIS service. So we must be sure that IIS is efficient and be sure about its settings .
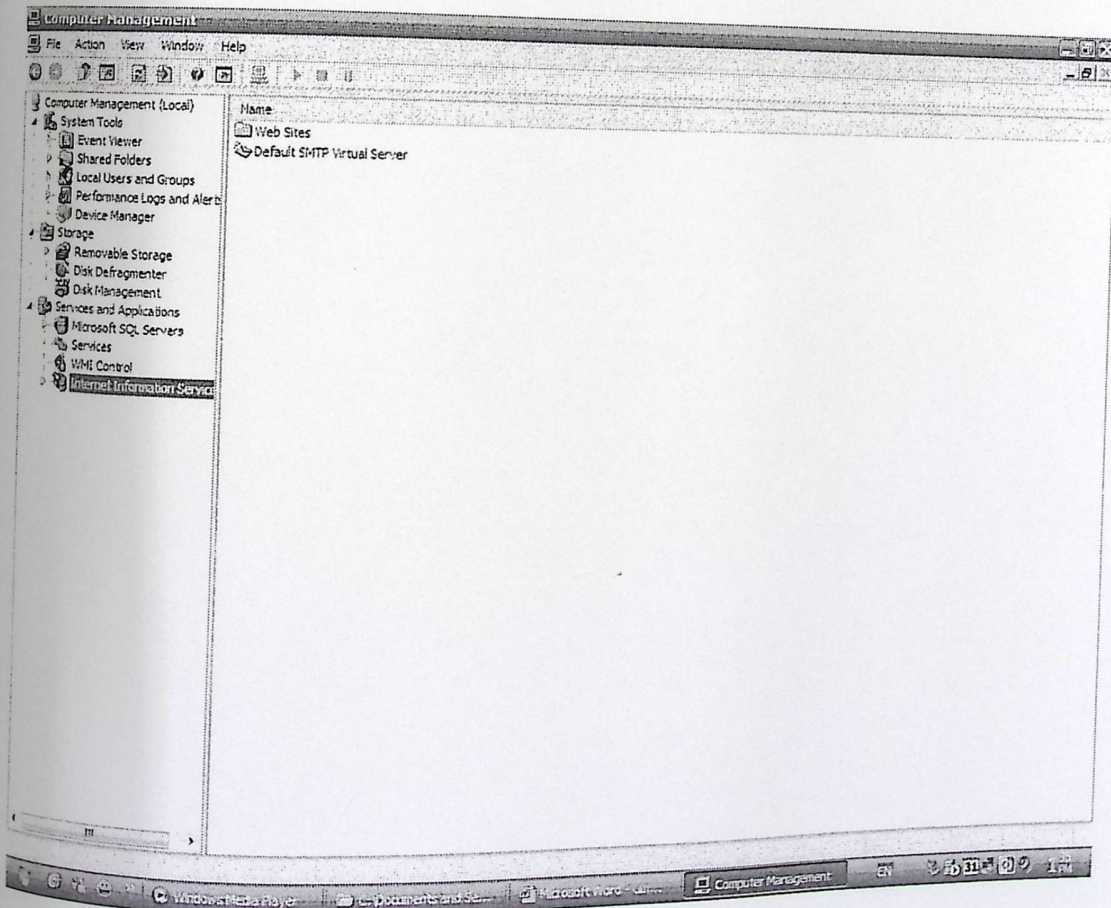
Figure (7.1) hoe to reach IIS service

7.6.2 maintenance (SQL server management 2008)):

Database is an important part of electronic archiving system, it contains all tables and stored procedures used in the system ,security is another important part that is used to determine roles and give authorizations to each user of database