

# **Palestine Polytechnic University**



**College of Administrative Science and Informatics  
Information Technology Department**

## **Ministry of Prisoners & Ex-prisoners Affairs**

**(Electronic Rehabilitation program)**

*ERP*

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# *ERP*

**(Electronic Rehabilitation Program)**

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**Graduation Project**

**Submitted to Information Technology Department in the  
College of Administrative Science & Informatics  
Palestine Polytechnic University**

**Approved by chairperson of supervisory community -----**

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**Date -----**



## **Dedication**

*For those who are working and still working till the dawn comes up...*

*For those who looking hopefully for something that seems to be impossible...*

*But their hopes will come true and realize its coming.*

*For those who will erase the tyranny of the injustice of humans...*

*And replace it with the real light,... light of Allah, the exalted one.*

*For those who spend and sacrifice their souls and blood for the sake of Allah.*

*To our parents, sisters, brothers, friends, teachers...*

*and every one granted us the encouragement and support.*

*To our Supervisor Dr. Muhammad Dasht.*

## **Teamwork**

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## Abstract

The Rehabilitation Centers for Prisoners and Ex-prisoners that belongs to Ministry of Prisoner and Ex-prisoner Affairs serve more than 15000 Palestinian people in Palestine, and because more Palestinian people have been arrested every day by IDF "the so called Israeli Defense Forces", so they need a high performance system that serves the growing requirements and facilitates the operation of adding, deleting, modifying, searching and other operation into the relatively big database.

Our system tries to provide an advanced look for the database that we will build about Palestinian prisoners and ex-prisoners; the system normalized the overall layout of the database to the third normalization to increasing performance and saving much and much valuable time and money.

In addition to meeting prisoners, ex-prisoners, employees, guest, and administrators transactions, then our system support administrator and employee functions to make all processes consistent and integrated. administrator can provide prisoners, ex-prisoners and other users with their information.

We conclude that the system provide many of services online by using internet technology, such as special information to each one that own special account, general information such as advertising about prisoners and ex-prisoners, and many services also gives employees in the rehabilitation centers ability to insert, delete, update, and preparation reports, all of this over internet by web-based technology.



## **Project Problems**

**T**he exceptional security circumstances caused several serious problems affected the process of designation the system and delivering it in the optimal form, some of problems can be summarized in the following points:

- a. Owing to the security circumstances the center restricts designers from having real time information about Prisoners and Ex-prisoners.
- b. The reduction of time (Semester time only) caused a reduction in the system.
- c. Testing period affected by reduction of time and by not gaining real information from the center.

Those problems could be described as exceptional like the causative bringing about them; also some traditional problems were perceived like:

- a. Wasting the majority of time collecting useless information or working about trivial problems.
- b. Contradiction of view points between designers caused some breakdown from time to time.

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## 1.1. Introduction

Recently advances in technology have been leading to exist a new applications in database system specially on web, Every day many companies using data warehousing and on-line processing (OLAP) systems are used in many companies to extract and analyze useful information from very large database for decision-making, databases and database system have become essential component on every modern society, in fact; it should be used a high language to establish a new projects to achieve objectives of companies, such as when used a web based developing by ASP and other languages.

In this chapter; the our system called *Ministry of Prisoners & Ex-Prisoners Affairs* is described precisely for its requirements, constraints and objectives, topics that are covered in this chapter:

- ⇒ System objectives.
- ⇒ Functional requirements description.
- ⇒ Non-Functional requirements description.
- ⇒ Project constraints.
- ⇒ Feasibility study by details.
- ⇒ Economic study and costs for development and implementation.
- ⇒ Time Schedules for development.
- ⇒ Task allocation vs. time.
- ⇒ Allocation of roles of system developers.

## 1.2. System Objectives

In our system we designing and creating an integrated application for the prisoners and ex-prisoners rehabilitation centers in the affairs ministry of prisoners and ex-prisoners, that manages the operation of the centers in order to ease its work and enhance integrity and reliability; in our project the objectives will include:



### **1.2.1. Prisoners & Ex-prisoners Rehabilitation Centers Objectives**

1. Establishing a computerized system to facilitate the work in the rehabilitation centers in the Ministry for Prisoners and Ex-prisoners Affairs in Palestine.
2. Interconnect the centers in different regions in Palestine and automate the operations to ease transfer of information between centers.
3. Use the computer technology in the ministry of prisoners and ex-prisoners affairs, to improve the administrative tasks in the ministry.

### **1.2.2. Employees, Users and Guest Objectives**

1. Finding a central source on web to provide information to all users.
2. Provide a useful way and easy access on-line system and information sources via the web.
3. Save time and efforts because users and employees can browse information from anywhere.
4. To know the new data and information about prisoners/ex-prisoner and other users.

### **1.2.3. Administrator Objectives**

1. To enable the administrator to make and manage the most components over the system and to authorize and authenticate all tasks via the system.
2. To build the databases and analyses the features of the system and all relations between components via the system.
3. To enable the administrator a way to log in pages and databases to supporting a good security over the system.

### **1.2.4. Development Objectives**

1. *Using Visual Studio.NET* as an evolutionary, more successor to active server Pages.



2. *Using ADO.NET technology* that provides a set of classes for working with data and it is evolutionary and more flexible version of active data objects and it provides:

- ⇒ Designed for disconnected environments.
- ⇒ Programming model with XML support.
- ⇒ Provides a set of classes, interfaces, structures that manage data access from the *.NET framework*.
- ⇒ Enable us to connect to *SQL server database*.

3. *Using stored procedures* that facilitate the manipulation process of data by crating SQL queries and for the following benefits:

- ⇒ Modular Programming.
- ⇒ Distribution of work.
- ⇒ Increased database security.
- ⇒ Faster Execution.
- ⇒ Reduces network traffic.
- ⇒ Provides flexibility.

4. *Using Multimedia programs* for the following:

- ⇒ Create interactive and tolerant interface that provide friendly relationship between the prisoners, ex-prisoners, rehabilitation centers, families, employees, guest and prisoners and ex-prisoners web based system.
- ⇒ Create a user guidance interface to provide clarity and assistance by using appropriate colors.



### **1.2.5. Interactivity Objectives**

1. Increasing the flexibility and exchange data and information within the system from any way and more easily.
2. Easy to use by a suitable interface to interactive via the system and all their components.
3. Enables to attach and connect with the system and access their data and information from anywhere they can access the World Wide Web.

## **1.3. Functional description**

There are several functions it must be to develop in our project, these functions include the following:

- ⇒ Centers of Prisoners & Ex-prisoners Rehabilitation Description.
- ⇒ Prisoners/Ex-prisoners Function Description.
- ⇒ Employees Function Description.
- ⇒ Administrator function description.
- ⇒ Guest function description.

### **1.3.1. Centers of Prisoners & Ex-prisoners Rehabilitation Description**

1. Describe each center in the Ministry of Prisoners and Ex-Prisoners Affairs.
2. Showing information of prisoners in each prison such as prisoner's names in each prison.
3. Reports form: to provide the offices in the centers with all reports necessary to be issued like reports about prisoners and their wives, reports about prisoners and their work and much more, and the same for ex-prisoner.

### **1.3.2. Prisoners/Ex-prisoners Function Description**

1. Establishing a private account for each Prisoner/Ex-prisoner by his username and password.
2. Display list: allows Prisoner/Ex-prisoner on web based system to list several information by some way.



3. form to gives some guidance and help to employee in cases of misleading if possible.
4. Change Password Form: allow Prisoner/Ex-prisoner to change his password by providing new password and confirm it.
5. Remember Password Form: allow Prisoner/Ex-prisoner to remember his password by providing and filled some fields correctly.

### **1.3.3. Employees Function Description**

6. Establishing a private account for each employee in centers by his username and password.
7. Insert advertising: this process enables employee to insert new advertising for prisoners/ex-prisoners and theirs families and other data.
8. Insert new accounts: this process enables employee to insert new accounts for prisoners/ex-prisoners after some authentication from administrator.
9. Insert, update, and delete processes: this process enables employee to insert, or update, or delete new advertising or information for prisoners/ex-prisoners.
10. Display list: allows employee in rehabilitation office to list some information such as prisoners/ex-prisoners accounts by some way.
11. Reports form: to provide the employee with all reports necessary to be issued like reports about prisoners/ex-prisoners and their wives, reports about their children and much more.
12. form to gives some guidance and help to employee in cases of misleading if possible.
13. Change Password Form: allow employee in rehabilitation office to change his password by providing new password and confirm it.
14. Remember Password Form: allow employee to remember his password by providing and filled some fields correctly.

**1.3.4. Administrator function description**

1. Establishing a private account for each administrator by his username and password.
2. Insert advertising: this process enables administrator to insert new advertising for prisoners, ex-prisoners, prisons names, and other information about it.
3. Delete advertising: enables administrator to delete expired advertising, or delete advertising by selecting its name or type.
4. Update advertising: enables administrator to make some justifications or changes to either deadline date or body.
5. Control panel: this function allow administrator to activate or deactivate links in users or employees main menu or in overall web links.
6. User's accounts: this process aimed at simplifying administrator access to user accounts in all types, prisoners, ex-prisoners, employees and other accounts for other administrator.
7. Display list: allows administrator to list some information such as prisoners/ex-prisoners accounts by some way.
8. Change Password Form: allow administrator to change his password by providing new password and confirm it.
9. Remember Password Form: allow administrator to remember his password by providing and filled some fields correctly.

**1.3.5. Guest function description**

1. Providing user with easy to use and simple forms to input data into the database by authenticated only such as some voting about some questioners.
2. Service form: this process aimed at simplifying user access to search for specific prisoners/ex-prisoners, or specific information about specific category.
3. Form to give some guidance and help to users in cases of misleading if possible.



## 1.4. Non-functional description

There are a standards non-functional description used to most projects such as properties of the system and constraints on the services offered by the system, this features include the following:

1. *Maintainability and scalability*: which enforce the system to coexist with any new changes.
2. *Robustness*: that enables the system to continue its functionality in spite of unexpected problems.
3. *Operability*: simultaneous operations are allowed to take place in the site and are managed to not allow interruption or what ever type of corruption or errors and users should be allowed freely to view and navigate contents of the site without time, cost, or load limitations.
4. *Reliability*: of the system so, processes designed in such a way that prevent errors occurrence before they causing large problems.
5. *Safety*: the prisoners/ex-prisoners rehabilitation web based system must have the ability to prevent illegal or incorrect operations from users or employees by using certain tools such as validation controls.
6. *Secure and private* and browser independent and operate on windows platform environment
7. *Compatibility*: all types of browsers (clients) can access and brows the site.
8. *Supporting integration*: the prisoners/ex-prisoners rehabilitation web based system developed for the purpose of supporting integration between existing traditional and future systems, and it must have then ability to work with old traditional systems for some period of time.

## 1.5. Project constraints

There are some standards of constraints must execute to any project, it will include the following.

1. The system is to be developed within a fixed time interval; just fifteen weeks are available for developing the system.



2. Since Prisoners/Ex-Prisoners Rehabilitation System is a new idea, employees and users will not really trust with this idea, exactly in Palestine, otherwise; may be prisoner look is possible.
3. Lack of information about using internet regarding to the prisoner and other users.
4. The inability of telecommunication infrastructure in Palestine.
5. Each prisoner/ex-prisoner must have an ID and password.
6. Employee must have username and password.
7. Administrator must have username and password.
8. Password must be encrypted.
9. Password must be more than six characters (alpha numeric mixture is preferred).
10. Only the administrator has the ability to add, delete, and update data related to him specially with database, and may be give some authentication to employee to some features.
11. The system must be flexible and adaptable with any preferred future expansion.
12. End user, guest and employee must have suitable browser and applications to see and browse the web page in the best manner.

## **1.6. Feasibility study**

It can develop a new techniques to save and keep data and information of Ministry of Prisoners/Ex-prisoners Affairs; because the rehabilitation centers in this ministry now in Palestine uses a traditional systems like papers, folders, files and CDs caused a lose of many valuable information especially in the recent exceptional situation by Israeli damage.

We can say that traditional systems are hard come, easy go; i.e. it's hard to update and insert data through the traditional systems but it so easy to damage or erase it by IDF (Israeli Defense Forces), then it must be develop a special program to keep data and information, so feasibility study contains:



- ⇒ *Economical study.*
- ⇒ *Technical study.*
- ⇒ *Alternatives.*
- ⇒ *Legal study.*
- ⇒ *Cost benefits analysis.*
- ⇒ *Risk evaluation.*

### **1.6.1. Economical study**

The environment of the system is WindowsXP with Visual Studio.NET, FrontPage and Microsoft2003 installed, microsoft office visio 2003, adobe photoshope, and other applications; these packages are products typically installed on a traditional medium cost Pc's so the system is feasible, in fact; to legal issues we must applied a legal versions of product.

### **1.6.2. Technical study**

This system requires 16 weeks to be complete to achieve the aimed goals, in addition; users must have a strong background on computers and traditional operating systems and Microsoft office to facilitate of interactivity between the system and other users.

### **1.6.3. Alternatives**

1. To developing our prisoners/ex-prisoners rehabilitation system; these two approaches about the type of network technology that we will choose one of it:
  - a. Intranet methodology. (*hint>> there are some advantages and disadvantages...it shows in appendices partition*).
  - b. Using the Internet and World Wide Web. (*hint>> there are some advantages and disadvantages... it shows in appendices partition*).

After comparing and analyzing these two approaches we choose to work with the web-based methodology to enable prisoner/ex-prisoner and other users to see their information from the Ministry of Prisoner and Ex-prisoner Affairs.



2. To deal with data we have two alternatives which are:
  - a. SQL server 2000: is a full featured relational database management system for data storage and manipulation with support for robust server side development and data replication. (*hint>> there are some advantages and disadvantages... it shows in appendices partition*).
  - b. Microsoft Access: Access is a database management program that allows you to store, retrieve, analyze, and print. (*hint>> there are some advantages and disadvantages... it shows in appendices partition*).

After previous analysis we choose to work with SQL server 2000, and only using Microsoft Access to make the reports after import suitable data from ASP.NET.

3. for implementing and developing the system we have two available alternatives which are:
  - a. Visual Studio.NET: simplifies the development of powerful, reliable enterprise web solutions and increases developer efficiency by providing a familiar, shared development environment. (*hint>> there are some advantages and disadvantages... it shows in appendices partition*).
  - b. Microsoft front page: used to create traditional static web pages. (*hint>> there are some advantages and disadvantages... it shows in appendices partition*).
  - c. Oracle language in other way if possible. (*hint>> there are some advantages and disadvantages... it shows in appendices partition*).

After analysis the first choice Visual Studio.NET will be selected.

#### **1.6.4. Legal study**

The exceptional situation of this country forces us to put some restrictions and obligations at some ways on the web page and the database; however; we must develop a legal systems and use a legal applications and versions in the projects.



### **1.6.5. Cost benefit analysis**

The system includes the following aspects for cost-benefit analysis:

1. Economic aspect: it will be discussed later in the same chapter.
2. Technology aspect: it will be discussed later in the same chapter.
3. Legislation aspect: this project will be developed for Prisoners/Ex-prisoners Rehabilitation Centers and Ministry, and the Rehabilitation Center in hebron and our university agrees on this project.

### **1.6.6. Risk evaluation**

In fact; any project contain some or more risks, here we explain some risks that may face the Prisoners/Ex-prisoners Rehabilitation System:

1. Our system may attacked by viruses.
2. The security issue and the lack of reliability on computer networks that may be invaded illegally.
3. The fear of Ministry infrastructure to deal financially by electronic means such as the internet.
4. Many users and specially most of prisoners in the prisons may not have internet service.
5. Insufficient telecommunication data rate (network speed).
6. Users and Employees may resist our Prisoners/Ex-prisoners Rehabilitation System and reverse to uses the traditional system.
7. Heavy load on the main server may occur.
8. The occasional damage of the system hardware.
9. The need for special Web servers and other infrastructures, in addition to the network servers (additional cost).

**1.6.7. Proposed solution**

We explain some proposed solutions to avoid risk evaluation that may face the Prisoners/Ex-prisoners Rehabilitation System.

1. Installing antivirus programs versions continuously to protect the system.
2. The Ministry and human organizations that help prisoners can provide them with internet service.
3. Make some training programs to make trainers persons familiar with our system.
4. We can use multiple servers as a distributed processing.
5. The proposed solution: the use of backup copies of data.
6. Implementing reliable methods for financial transactions for Ministry of Prisoner and Ex-prisoner Affairs and other Ministries, These methods will overcome the risks of the security issue and fear from dealing with internet for financial transactions.
7. Encouraging the public class to use the internet applications using media.
8. Educate the managers and employees with new modern applications means to cope with latest technology.
9. Increase the quality of telecommunication services, increase the data rate speed.



## 1.7. Economic Study

### 1.7.1. for development

The table below shows and compare the legal total cost between the hardware and software *development* in our project.

|  | Item  | Number of units | Cost per unit | Cost of units        |
|--|---|-----------------|---------------|----------------------|
| <i>Hardware</i>  | Desktop computer P4, 512MB RAM, HD 80 GB, CPU with 3.0 GHz speed.               | 2               | \$500         | \$1000               |
|  | Laptop (Mobile centrino), 512MB RAM, HD 60 GB, CPU with 1.6 GHz speed (double). | 1               | \$1000        | \$1000               |
|  | Laser HP printer  | 1               | \$120         | \$120                |
|  | Scanner   | 1               | \$140         | \$140                |
|  | Flash Memory 256MB  | 1               | \$30          | \$30                 |
| <b><i>Total Cost for Hardware to developing</i></b>            |   |                 |               | <b><i>\$2290</i></b> |
| <i>Software</i>  | Microsoft Windows XP (Service Pack 2).  | 1               | \$120         | \$120                |
|  | Visual Studio.Net   | 1               | \$900         | \$900                |
|  | Microsoft Office 2003   | 1               | \$240         | \$240                |
|  | Adobe PhotoShop 7.0   | 1               | \$70          | \$70                 |
|  | Flash MX 2004   | 1               | \$70          | \$70                 |
|  | Photo Impact  | 1               | \$60          | \$60                 |
|  | SQL Server 2000   | 1               | \$120         | \$120                |
| <b><i>Total for Software to developing</i></b>                 |   |                 |               | <b><i>\$1580</i></b> |
| <b><i>Total Cost Hardware &amp; Software to developing</i></b> |   |                 |               | <b><i>\$3870</i></b> |

Table (1.1) Development Hardware & Software Cost.



### 1.7.2. For Implementation

The table below shows and compare the legal total cost between the hardware and software *implementation* in our project.

|   | Item                  | Number of units | Cost per unit | Cost of units |
|---|-----------------------|-----------------|---------------|---------------|
| <i>Hardware</i>   | Server                | 1               | \$1750        | \$1750        |
|   | Monitor 17inch        | 1               | \$110         | \$110         |
|   | Peripherals           | 1               | \$90          | \$90          |
| <b>Total Cost for Hardware to Implementation</b>            |                       |                 |               | <b>\$1950</b> |
| <i>Software</i>   | Windows Server 2003   | 1               | \$450         | \$450         |
|   | MS SQL Server 2003    | 1               | \$230         | \$230         |
|   | Norton Antivirus 2003 | 1               | \$180         | \$180         |
| <b>Total for Software to Implementation</b>                 |                       |                 |               | <b>\$860</b>  |
| <b>Total Cost Hardware &amp; Software to Implementation</b> |                       |                 |               | <b>\$2810</b> |

Table (1.2) Implementation Hardware & Software Cost.

### 1.7.3. Development cost for human

The table below shows the human cost in our project when developing.

| Employee                | Cost/month    |
|-------------------------|---------------|
| Web designer            | \$650         |
| Database developer      | \$650         |
| System programmer       | \$650         |
| <b>Total Cost/Month</b> | <b>\$1950</b> |
| <b>Total Human Cost</b> | <b>\$7312</b> |
| <b>[15 week]</b>        |               |

Table (1.3) Development Costs for Human Resources.



#### 1.7.4. Implementation cost for human

The table below shows the human cost in our project when implementation.

| Employee                | Cost/month    |
|-------------------------|---------------|
| Two Administrators      | \$2000        |
| Three Assistance        | \$2000        |
| Controler Person        | \$500         |
| <b>Total Cost/Month</b> | <b>\$4500</b> |

Table (1.4) Implementation Cost for Human Resources.

In fact; there are some costs for efforts, training and other traveling and it takes **[approximately 200 \$]** developing for team in this project.

### 1.8. Time Schedules

All tasks of the Prisoners/Ex-prisoners Rehabilitation System should be finished within the specified period in fifteen weeks; These tasks shown by parallel time below:

| Task #    | Work Weeks Description    | Time in Weeks   |
|-----------|---------------------------|-----------------|
| <b>T1</b> | Information collection    | <b>1 week</b>   |
| <b>T2</b> | System specification      | <b>2 weeks</b>  |
| <b>T3</b> | Software requirements     | <b>4 weeks</b>  |
| <b>T4</b> | System design             | <b>6 weeks</b>  |
| <b>T5</b> | Coding and Implementation | <b>8 weeks</b>  |
| <b>T6</b> | System testing            | <b>3 weeks</b>  |
| <b>T7</b> | Maintenance               | <b>2 weeks</b>  |
| <b>T8</b> | Documentation             | <b>15 weeks</b> |

Table (1.5) Time Schedule in Weeks.



### 1.9. Task allocation vs. time

All tasks of the Prisoners/Ex-prisoners Rehabilitation System should be finished within the specified period in fifteen weeks, the figure below shown the parallel and overlap time between the different tasks by gantt chart way for time schedual:

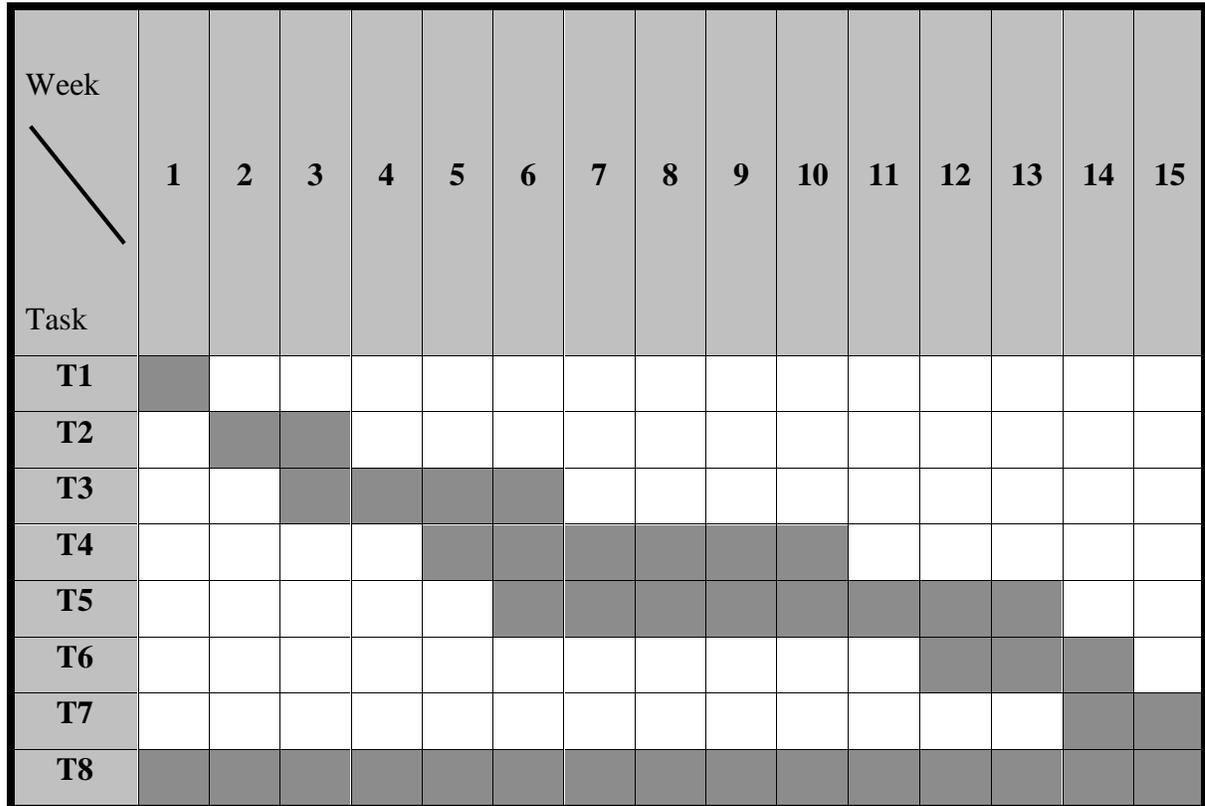


Figure (1.1) Gantt Chart for Time Schedule.

### 1.10. Allocation of Roles of System Developers

1. *Leader*: responsible of planning, scheduling and controlling flow of system development processes.
2. *Programmer*: responsible of the system programming, implementation testing so he must have enough experiences in the ASP.NET development environment.
3. *Software engineer*: responsible for the documentation and tracing of the development stages of the software.
4. *Interface designer*: responsible of the web design and user interface of the system (GUI).



## 2.1. Introduction

This system will be designed to help the responsible of the prisoners and ex-prisoners and offices employees in the centers for Ministry of Prisoners & Ex-prisoners Affairs about their daily work on the database, and provides good features of errors checking and avoiding redundant data; to make the database as optimum as possible.

We will explore in detail the system requirements specifications, functional description, validation criteria that contain data flow diagram (DFD), data structure presentation, data dictionary and database requirement.

## 2.2. Requirements Specifications

### I. Prisoners Requirements Specifications

- ☒ The Prisoner requests the prisoners/ex-prisoners affairs web site from web server using internet explorer.
- ☒ The Prisoner insert his ID number and password at log in area in the log in prisoner Page.
- ☒ If the Prisoner inserts a valid ID number and password he will see the Prisoner main menu that contains the following items:

#### 1. The Prisoner's Profile:

In this stage Prisoner profile should be contains:

- ⇒ Name information: first, father, grandfather and family name.
- ⇒ ID Card Number (identity No.).
- ⇒ The date of birth.
- ⇒ Marital status information.
- ⇒ The education and academic information.
- ⇒ Job before arrest
- ⇒ Arrest date
- ⇒ Prison name.



- ⇒ Expected release date.
- ⇒ Address information: City, house etc.
- ⇒ Damages and losses (psychologist and physiologist damages).
- ⇒ Outside supporter provided to the prisoner (quantity or kind).
- ⇒ UN cards.
- ⇒ Prison name.
- ⇒ Gender.
- ⇒ Passport Number.

## 2. *The Prisoner's Children*

This stage should be contain this information:

- ⇒ Children name.
- ⇒ The date of birth of prisoner's children.
- ⇒ The marital status of each one.
- ⇒ Number of children.
- ⇒ The job.
- ⇒ The monthly income.

## 3. *The Bank Account*

This stage should be contain this information:

- ⇒ Number of account.
- ⇒ The name of bank.
- ⇒ The branch of this bank.

## 4. *The Prisoner's Wives*

This stage should be contain this information:

- ⇒ Name information: first, father, grandfather and family name.
- ⇒ ID card Number.
- ⇒ The date of birth.
- ⇒ Job information: The job, Address of job.
- ⇒ Telephone Number.



5. *The Prisoner's Supporters:*

This stage should be contain this information:

- ⇒ Name information: first, father, grandfather and family name.
- ⇒ Relatives or Kind of kinship (proximity or relation).
- ⇒ The date of birth.

6. *The Prisoner's Agent(representative)*

This stage should be contain this information:

- ⇒ Name information: first, father, grandfather and family name.
- ⇒ The date of birth.
- ⇒ Account Number.

7. *Arrest Information:*

This stage should be contain this information:

- ⇒ The number of prison.
- ⇒ Prison name.
- ⇒ Arrest type.
- ⇒ Arrest date.
- ⇒ Expected Release date.

8. *prisons*

This stage should be contain this information:

- ⇒ Prison number.
- ⇒ Prison name.
- ⇒ Prison situation(location).



## II. The Ex-prisoner(freedman) Requirements Specifications

- ☒ The ex-prisoner requests the prisoners/ex-prisoner web site from web server using internet explorer.
- ☒ He can insert his ID number and password in his homepage web site to log in ex-prisoner page.
- ☒ If the ex-prisoner inserts a valid ID number and password he will switch to the main menu that contains the following items:

### 1. The Ex-prisoner's Profile:

In this stage the ex-prisoner's profile should be contains:

- ⇒ Name information: first, father, grandfather and family name.
- ⇒ ID Card Number (identity No.).
- ⇒ The date of birth.
- ⇒ Marital status information.
- ⇒ The education and academic information.
- ⇒ Address information: City, house etc.
- ⇒ Prison name.
- ⇒ Release date.
- ⇒ The current job after freedom, or his Skills.
- ⇒ Passport Number.
- ⇒ Telephone Number.
- ⇒ Damages and losses after prison (psychologist and physiologist damages).
- ⇒ Outside supporter provided to the ex-prisoner (quantity or kind).
- ⇒ UN cards.
- ⇒ Job after release.

### 2. Ex-prisoner's losses(if exist)

This stage should be contain this information

- ⇒ Number and kind of losses.
- ⇒ Damages description and notes.
- ⇒ Damages date.



### 3. *Diseases (if exist)*

This stage should be contain this information:

- ⇒ Number and kind of diseases.
- ⇒ Illness Date.
- ⇒ Disease description.

### 4. *Ex-prisoner's Wives:*

This stage should be contain this information:

- ⇒ Name information: first, father, grandfather and family name.
- ⇒ ID card Number.
- ⇒ The date of birth.
- ⇒ The education and academic information.
- ⇒ Job information: The job, Address of job.
- ⇒ Telephone Number.

### 5. *Advance Ex-prisoner's Services:*

This stage should be contain this information:

- ⇒ Display number of service.
- ⇒ Display kind of service.
- ⇒ Start date of the service.
- ⇒ Service location.
- ⇒ Other Supported sides if exists.

### 6. *Ex-prisoner's Loans:*

This stage should be contain this information:

- ⇒ Display the ID card number.
- ⇒ Kind or name of project.
- ⇒ Project address.
- ⇒ Project finance or kind of loan taken.
- ⇒ Participate loans with another prisoners.



### 7. Arrest Information:

This stage should be contain this information:

- ⇒ The number of prison.
- ⇒ Prison name.
- ⇒ Arrest type.
- ⇒ Arrest date.
- ⇒ Release date.

### 8. Prisons:

This stage should be contain this information:

- ⇒ prison number.
- ⇒ prison name.
- ⇒ prison address.

## III. Administrator Requirements Specifications

In this stage must be developing the system and contains this functions and information:

### 1. Insert New Users' Accounts:

Provide administrator the ability to insert accounts for employees, prisoners, ex-prisoners, in this section we must uses many tools to facilitate the insertion process.

### 2. Control Panel:

From this link the administrator gain control over all the prisoners/ex-prisoners web site processes, links and forms, he can activate or deactivate any link or control in the prisoners web system.

### 3. Insert & Edit Information about Prisoners/Ex-prisoners, Supporters and children...etc :

Provides the administrator the ability to Insert Information about Prisoners/Ex-prisoners and so on, and edit it.



#### 4. *Insert Advertising/Information about Users:*

Provide administrator the ability to insert advertisings or other information about users, in this section we must uses many tools to facilitate the insertion process, In this section the administrator can insert new advertising by providing the primary advertising data that include the following:

- ⇒ Date.
- ⇒ advertising title.
- ⇒ advertising number.
- ⇒ The advertising text.
- ⇒ The advertising attachment.

#### 5. *Delete Advertising/Information about Users:*

Provides administrator the ability to delete advertising or information about users. This form specialized to enable the administrator to delete some information about users and delete expired advertising that exceeded the specified due-to date.

#### 6. *Update Advertising/Information about Users:*

Provides the administrator the ability to update advertising or information about users.

#### 7. *Voting Edit:*

From this link the administrator gain some editing for voting questioners about prisoners/ex-prisoners and general questioners.

#### 8. *Change Password:*

From this area the administrator has the ability to insert his ID number and change his password and replace it by a new one and confirm it. Then click update button to complete the changing process.



#### IV. Employee Requirements Specifications

In this stage must be developing the system and contains this functions and information:

##### 9. *Insert New Prisoners/Ex-prisoners Accounts:*

Provide employee the ability to insert accounts for prisoners, ex-prisoners after get this authenticate from administrator, in this section we must uses many tools to facilitate the insertion process.

##### 10. *Insert Advertising/Information about Users:*

In this form the employee after get this authenticate from administrator provide employee the ability to insert advertisings or other information about users, in this section we must uses many tools to facilitate the insertion process, In this section the administrator can insert new advertising by providing the primary advertising data that include the following:

- ⇒ Date.
- ⇒ advertising title.
- ⇒ advertising number.
- ⇒ The advertising text.
- ⇒ The advertising attachment.

##### 11. *Delete Advertising/Information about Users:*

In this form the employee after get this authenticate from administrator provides employee the ability to delete advertising or information about users. This form specialized to enable the administrator to delete some information about users and delete expired advertising that exceeded the specified due-to date.



*12. Update Advertising/Information about Users:*

In this form the employee after get this authenticate from administrator provides the employee the ability to update advertising or information about users.

*13. Insert & Edit Information about Prisoners/Ex-prisoners, Supporters and children...etc :*

Provides the administrator the ability to Insert Information about Prisoners/Ex-prisoners and so on, and edit it.

*14. Display Voting:*

From this link the employee display the results for voting questioners about prisoners/ex-prisoners and general questioners.

*15. Change Password:*

From this area the administrator has the ability to insert his ID number and change his password and replace it by a new one and confirm it. Then click update button to complete the changing process.

## **V. Guest Requirements Specifications**

This requirement does not depend on the prisoners/ex-prisoners or employees or administrator accounts on other words it is visible and accessed to any prisoners/ex-prisoners web site system visitor.

This requirement includes:

*1. Login Area Devoted for Administrators and Prisoners/Ex-prisoners:*

that enter the prisoners/ex-prisoners web site system by using valid ID number and password; in addition to that these can remember their password and ID number by clicking forget my password link.



2. *Prisoners/Ex-prisoners Web Site Links:*

about advertising: this link leads the user to view all public prisoners/ex-prisoners advertisings, and he can show details about each advertising by clicking on read link, and show other information and news.

3. *Search Engine:*

This search engine limited to prisoners/ex-prisoners at the first, the user should select what he going to search from dropdown list then type a word or statement who looking for. Finally click on prisoners/ex-prisoners web site search button, this search limited on system database.

4. *Prisoners/Ex-prisoners Voting:*

This link used to serve prisoner/ex-prisoner with the voting and result of questioners.



### 2.3. Functional description

This section determines and explain all the Administrators, Employees, Prisoners/Ex-prisoners, and guests users functions in the Electronic Rehabilitation Web Based System by detail.

#### 1. The User Requests The Web Based System for The Ministry of Prisoners and Ex-prisoners Affairs Home Page From Web Server

**Function:** public user requests the home page from web server.

**Description:** this function provides ability to browse the Prisoners/Ex-prisoners Rehabilitation Ministry Web Site.

**Input:** the Prisoners/Ex-prisoners Rehabilitation Ministry Web URL.

**Source:** public user.

**Output:** Prisoners/Ex-prisoners Rehabilitation Ministry Home Page.

**Destination:** web server.

**Require:** insert correct site address.

**Pre-condition:** availability of internet service.

**Post-condition:** displaying the Prisoners/Ex-prisoners Rehabilitation Ministry Home Page.

Figure (2.1) request home page.



## 2. Login As Prisoner or Ex-prisoner

**Function:** prisoner/ex-prisoner login.

**Description:** enabling the prisoner/ex-prisoner to access his account, see his information and use the prisoner/ex-prisoner menu using valid ID and password.

**Input:** prisoner/ex-prisoner ID and password

**Source:** prisoner/ex-prisoner and log in form.

**Output:** The prisoner/ex-prisoner main menu.

**Destination:** SQL database server.

**Require:** valid log in and correct ID and password.

**Pre-condition:** Home Page and disconnected prisoner/ex-prisoner (prisoner/ex-prisoner logout).

**Post-condition:** connected prisoner/ex-prisoner and menu displayed.

Figure (2.2) prisoner/ex-prisoner login.



### **3. Login As Administrator or Employee**

**Function:** login as administrator/employee.

**Description:** identifying the administrator/employee by using valid ID and password.

**Input:** administrator/employee ID and password

**Source:** administrator/employee and login form.

**Output:** administrator/employee main menu.

**Destination:** SQL database server.

**Require:** valid log in and valid ID and password.

**Pre-condition:** Home Page and disconnected administrator/employee.

**Post-condition:** connected administrator/employee and menu displayed.

Figure (2.3) administrator/employee login.



#### **4. The Prisoner/Ex-prisoner Profile**

**Function:** displaying the prisoner/ex-prisoner profile information.

**Description:** by clicking the my profile link from the prisoner/ex-prisoner main menu a new page will be displayed and contained the prisoner/ex-prisoner information

**Input:** clicking my profile link from prisoner/ex-prisoner main menu.

**Source:** the prisoner/ex-prisoner and prisoner/ex-prisoner menu web form.

**Output:** the prisoner/ex-prisoner profile.

**Destination:** SQL database server.

**Require:** valid log in and single click on my profile item.

**Pre-condition:** Home Page and no prisoner displayed in main menu.

**Post-condition:** the prisoner/ex-prisoner can see his profile.

Figure (2.4) prisoner/ex-prisoner profile.



### **5. Children of Prisoner/Ex-prisoner**

**Function:** display prisoner/ex-prisoner children information.

**Description:** this function displaying the children of prisoner/ex-prisoner information by clicking on children information.

**Input:** clicking children link from prisoner/ex-prisoner main menu.

**Source:** the prisoner/ex-prisoner and prisoner/ex-prisoner menu web form.

**Output:** the children of prisoner/ex-prisoner information.

**Destination:** SQL database server.

**Require:** valid login and single click on children item.

**Pre-condition:** Home Page and no children information displayed in main menu.

**Post-condition:** connected and can see the children of prisoner/ex-prisoner information.

Figure (2.5) children of prisoners/ex-prisoners.



## 6. The Agent(representative) of Prisoner and His Bank

### Account

**Function:** display agent of prisoner and his bank account information.

**Description:** this function displaying the agent of prisoner and his bank account information by clicking on the agent link.

**Input:** clicking the agent link from prisoner main menu.

**Source:** the prisoner and prisoner menu web form.

**Output:** the prisoner agent and bank account information.

**Destination:** SQL database server.

**Require:** valid log in and single click on the agent item.

**Pre-condition:** Home Page and no agent or bank account information displayed in main menu.

**Post-condition:** connected and can see the prisoner agent and his bank account information.

Figure (2.6) agent(representative) and bank account.



## **7. Wives of Prisoner/Ex-prisoner**

**Function:** display wives information for prisoner/ex-prisoner.

**Description:** this function displaying wives of prisoner/ex-prisoner information by clicking on wives item.

**Input:** clicking the prisoner/ex-prisoner wives link from the prisoner/ex-prisoner main menu.

**Source:** the prisoner/ex-prisoner and prisoner/ex-prisoner menu web form.

**Output:** the wives information for prisoner/ex-prisoner.

**Destination:** SQL database server.

**Require:** valid login and single click on prisoner/ex-prisoner wives item.

**Pre-condition:** Home Page and no wives information displayed.

**Post-condition:** connected and can see the wives information for prisoner/ex-prisoner.

Figure (2.7) wives of prisoner/ex-prisoner.



## **8. Edit Information**

**Function:** edit information for prisoner/ex-prisoner ...etc.

**Description:** this function enable administrator or (employee after take authorization) to edit information about prisoner/ex-prisoner and other users.

**Input:** clicking the edit link from main menu.

**Source:** the prisoner/ex-prisoner or users edit and edit menu web form.

**Output:** the edit information.

**Destination:** SQL database server.

**Require:** valid log in and id card and single click on edit item.

**Pre-condition:** Home Page and no edit information displayed in main menu.

**Post-condition:** connected and can edit the information.

Figure (2.8) edit the information.



### **9. losses for Prisoner/Ex-prisoner**

**Function:** displaying the losses information for prisoner/ex-prisoner.

**Description:** by clicking the losses link from the prisoner/ex-prisoner main menu a new page will be displayed and contained the losses information for prisoner/ex-prisoner.

**Input:** clicking losses link from prisoner/ex-prisoner main menu.

**Source:** the prisoner/ex-prisoner and prisoner/ex-prisoner menu web form.

**Output:** the losses information for prisoner/ex-prisoner.

**Destination:** SQL database server.

**Require:** valid log in and single click on losses item.

**Pre-condition:** Home Page and no losses information for prisoner/ex-prisoner displayed in main menu.

**Post-condition:** the prisoner/ex-prisoner can see his losses information.

Figure (2.9) losses for prisoner/ex-prisoner.



## **10. Advance Services for Ex-prisoner**

**Function:** displaying the advance services information.

**Description:** by clicking the advance services link from the main menu a new page will be displayed and contained the advance services information.

**Input:** clicking advance services link from ex-prisoner main menu.

**Source:** the ex-prisoner and ex-prisoner menu web form.

**Output:** the training information.

**Destination:** SQL database server.

**Require:** valid login and single click on advance services item.

**Pre-condition:** Home Page and no advance services information displayed in main menu.

**Post-condition:** the ex-prisoner can see his advance services information.

Figure (2.10) advance services.



## **11. Loans for Ex-prisoner**

**Function:** displaying the loans information for ex-prisoner.

**Description:** by clicking the loans link from the main menu a new page will be displayed and contained the loans information.

**Input:** clicking loans link from ex-prisoner main menu.

**Source:** the ex-prisoner and ex-prisoner menu web form.

**Output:** the loans information.

**Destination:** SQL database server.

**Require:** valid login and single click on loans item.

**Pre-condition:** Home Page and no loans information displayed in main menu.

**Post-condition:** the ex-prisoner can see his loans information.

Figure (2.11) loans.



## **12. Change Password**

**Function:** prisoner/ex-prisoner , administrator and employee (users)  
change password.

**Description:** In this function the user has the ability to change his password by inserting the old password and replace it by a new one and confirm it. Then click update button to complete the changing process.

**Input:** click on change password in user main menu.

**Source:** user and his main menu web form.

**Output:** change my password web form that contains a small frame including textboxes to insert old password, new password and then confirm it.

**Destination:** change my password web form.

**Require:** valid log in and single click on change password item in the user main menu.

**Pre-condition:** single click on change password item in user main menu.

**Post-condition:** change password web form.

Figure (2.12) change password.



### **13. Insert Advertising by Administrator or Employee**

**Function:** Insert advertising by administrator or employee.

**Description:** this function provides administrator or (employee after authorization) the ability to insert advertising, in this section the administrator or employee can insert new advertising by providing the primary advertising data.

**Input:** click on insert advertising link from administrator or employee main menu and fill Date, Due-to date, advertising title and text.

**Source:** Administrator or employee and insert new advertising web form.

**Output:** save the advertising and its information in the database.

**Destination:** SQL database server.

**Require:** choose advertising body location type new one in body text.

**Pre-condition:** fill all textboxes and check advertising body radio button, then type the advertising body and click insert button.

**Post-condition:** saved advertising in database.

Figure (2.13) insert advertising by administrator or employee.



#### **14. Delete Advertising by Administrator or Employee**

**Function:** Delete advertising by administrator or employee.

**Description:** this function Provides administrator or employee the ability to delete advertising, this form specialized to enable the administrator to delete expired advertising that exceeds the specified due-to date, and enable the employee to delete after take authorization from administrator.

**Input** click on delete advertising link from administrator or employee main menu and check the radio button to define the delete condition.

**Source:** Administrator or employee and delete advertising web form.

**Output:** deleted advertising and its information from database.

**Destination:** SQL database server.

**Require:** select advertising type.

**Pre-condition:** get advertising in target advertising drop down list and then specify which expired advertising to delete.

**Post-condition:** deleted advertising from database.

Figure (2.14) delete advertising by administrator or employee.



## **15. Update Advertising by Administrator or Employee**

**Function:** Update advertising by administrator or employee.

**Description:** Provides the administrator or (employee after take authorization) the ability to update advertising; this form used to make some editing to existing advertising.

**Input:** click on update advertising link from administrator or employee menu.

**Source:** administrator or employee and update advertising form.

**Output:** updated advertising.

**Destination:** SQL database server.

**Require:** administrator or employee should identify what he going to update and specify the advertising location if it exist.

**Pre-condition:** select advertising name from all available advertising.

**Post-condition:** confirm the process by pressing on change button.

Figure (2.15) update advertising by administrator or employee.



## **16. Add New Employee by Administrator**

**Function:** add new account for new employee by administrator.

**Description:** provides the administrator the ability to insert new account for new employee in the E-Rehabilitation System.

**Input:** click on add employee link from administrator menu.

**Source:** administrator and add new account form.

**Output:** added new account for new employee.

**Destination:** SQL database server.

**Require:** administrator should identify what he going to add and specify the employee account.

**Pre-condition:** replay adding and no new account.

**Post-condition:** confirm the process by pressing on add button.

Figure (2.16) add new employee account by administrator.



## 17. Add New Account & Information for

### **Prisoner/Ex-prisoner by Administrator or Employee.**

**Function:** add new account & information for new prisoner/Ex-prisoner.

**Description:** provides the administrator or (employee after take authorization) the ability to add new account for new prisoner/ex-prisoner in the E-Rehabilitation System.

**Input:** click on add prisoner/ex-prisoner link from menu.

**Source:** administrator or employee and add new account form.

**Output:** added new account for new prisoner/ex-prisoner.

**Destination:** SQL database server.

**Require:** administrator or employee should identify what he going to add and specify the prisoner/ex-prisoner account.

**Pre-condition:** replay adding and no new account.

**Post-condition:** confirm the process by pressing on add button.

Figure (2.17) add new prisoner/ex-prisoner account and information.



## **18. Control Panel by Administrator**

**Function:** Control panel by administrator.

**Description:** From this link the administrator gain control over all the prisoners/ex-prisoners rehabilitation web processes, links and forms, he can activate or deactivate any link or control in the objects of system.

**Input:** centers, prisoners, ex-prisoners or prisoners/ex-prisoners rehabilitation web settings.

**Source:** administrator and control panel web form.

**Output:** activate or deactivate centers, prisoners, ex-prisoners and other settings links and processes.

**Destination:** prisoners/ex-prisoner main menus and other system settings

**Require:** choose setting by select checkboxes.

**Pre-condition:** select settings.

**Post-condition:** apply selected settings.

Figure (2.18) control panel by administrator.



## 19. Public Help

**Function:** Public help.

**Description:** this link used to conduct the prisoners/ex-prisoners rehabilitation web visitors how to benefit form services and facilities that provides.

**Input:** single click on help link on top of home page.

**Source:** any prisoners/ex-prisoners rehabilitation web visitor.

**Output:** help content.

**Destination:** SQL database server.

**Require:** None.

**Pre-condition:** single click on help link.

**Post-condition:** help content.

Figure (2.19) public help.



## 20. Search Engine

**Function:** search engine.

**Description:** This search engine limited to prisoners and ex-prisoners, this search limited on rehabilitation database.

**Input:** complete or part of the subject name.

**Source:** any prisoners/ex-prisoners rehabilitation web site visitor.

**Output:** table of required search.

**Destination:** SQL database server.

**Require:** complete or part of the subject name.

**Pre-condition:** click prisoners/ex-prisoners rehabilitation web search.

**Post-condition:** search content.

Figure (2.20) Search engine.



## 21.Voting

**Function:** voting questioners.

**Description:** This link used to serve prisoners/ex-prisoners to enable voting about some questions.

**Input:** single click on the yes or no.

**Source:** prisoners/ex-prisoners and voting section of his home page.

**Output:** result form.

**Destination:** SQL database server.

**Require:** None.

**Pre-condition:** click the question option(yes/no).

**Post-condition:** the result.

Figure (2.21)Voting.



## 2.4. Validation Criteria

we must use a lot of validation criteria to avoid errors and to establish a required validation to help the user during his work through the prisoners/ex-prisoners rehabilitation web site, by this list criteria it can obtain maximum benefits:

- ⇒ Passwords must be at least six character length for all prisoner, ex-prisoner, employee and administrator accounts in the web site.
- ⇒ Passwords shouldn't contain any space.
- ⇒ Passwords shouldn't contain any special characters (hyphen, semicolon, etc).
- ⇒ Passwords may be the same for prisoner/ex-prisoner rehabilitation web site users but ID number should be different.
- ⇒ Only administrator have authorization to make changes on prisoners/ex-prisoner rehabilitation web site database.
- ⇒ Each prisoner, ex-prisoner, administrator and employee in the rehabilitation centers should have a unique ID number session at the moment they login to prisoners/ex-prisoner rehabilitation web site.
- ⇒ Login names should not contain special characters (hyphen or semicolon).
- ⇒ Login name shouldn't contain spaces.
- ⇒ Each user input should be checked against all constraints.
- ⇒ forgetting password; all fields must be filled.
  
- ⇒ When issuing new advertising; the following fields is required:
  - ◆ advertising title
  - ◆ due to date.
  - ◆ advertising type.
  - ◆ advertising body.
  - ◆ Destination.
  
- ⇒ When deleting prisoner/ex-prisoner advertising, we have to select deletion criteria we will delete according with.



## 2.5. Information Description

### 2.5.1 Dataflow Diagram

Level 0: System Dataflow Diagram:

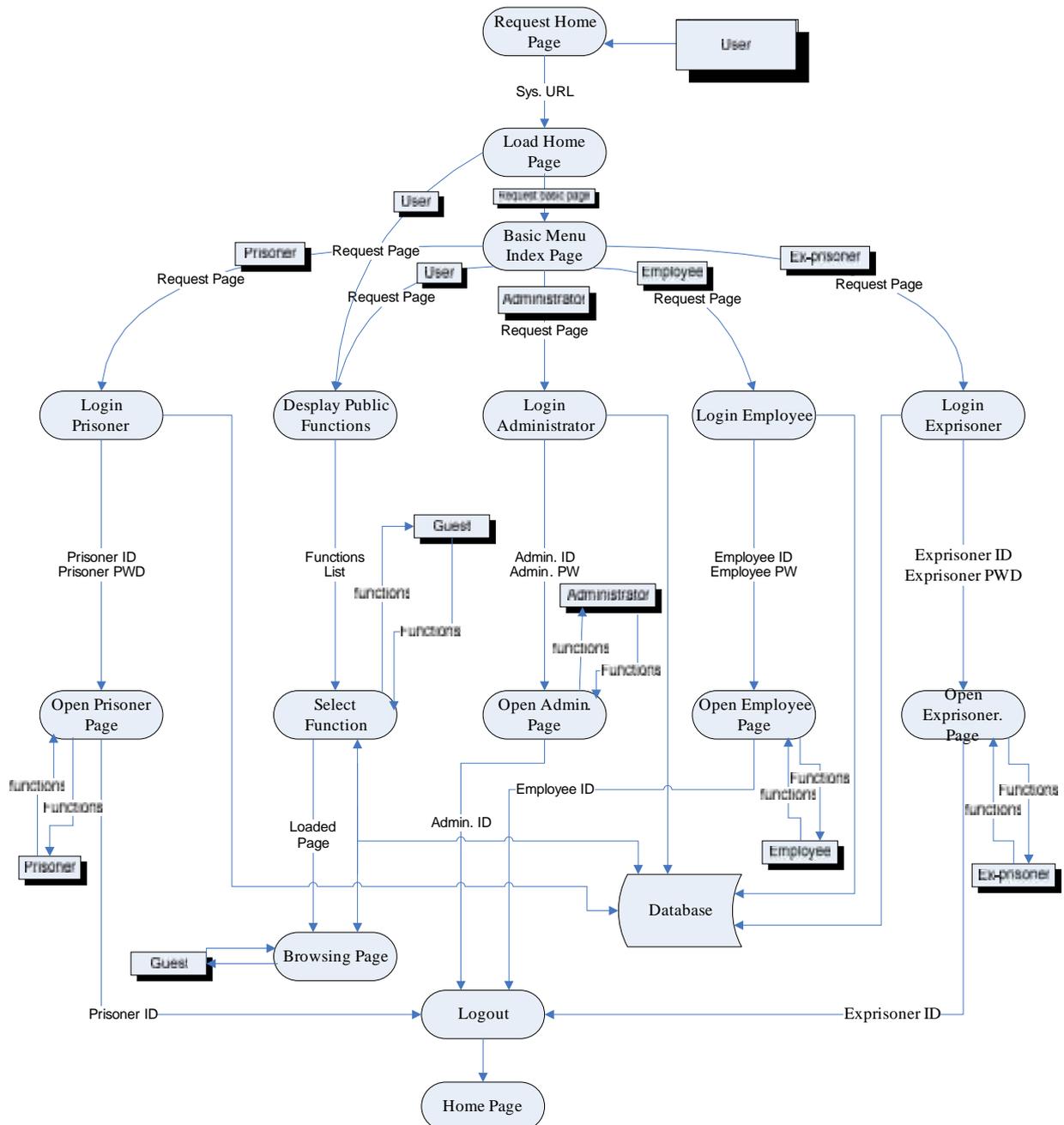


Figure (2.22) Dataflow Diagram Level 0.



## 2.5.2 System Context Model

To explain the all relationship in abstract diagram, the context diagram below explain this relationships between the prisoners/ex-prisoners rehabilitation system and other environment systems:

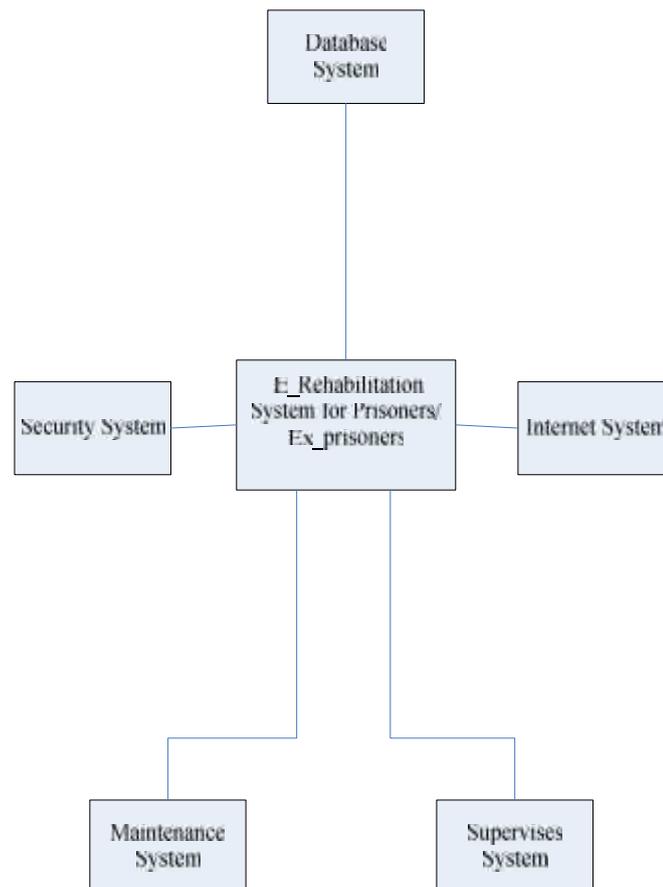


Figure (2.23) System Context Model.



### 2.5.3 Database Requirements

#### a. Tables

1. *Centers:*

- ⇒ Center number.
- ⇒ Center name.
- ⇒ Center location.
- ⇒ Center telephone.

2. *Prison:*

- ⇒ prison number.
- ⇒ prison name.
- ⇒ Address.

3. *Prisoner/Ex-prisoner:*

- ⇒ Prisoner/Ex-prisoner number.
- ⇒ Password.
- ⇒ Status(flag to determine prisoner or ex-prisoner).
- ⇒ First name.
- ⇒ Second name.
- ⇒ Third name.
- ⇒ Last name.
- ⇒ Gender.
- ⇒ ID card number.
- ⇒ Date of birth.
- ⇒ Passport number.
- ⇒ UN Card.
- ⇒ Maritalstatus number.
- ⇒ Center number.
- ⇒ Supporter number.
- ⇒ Address if exist.
- ⇒ Telephone number.
- ⇒ Description.



4. *Children:*

- ⇒ Children number.
- ⇒ Children name.
- ⇒ Date of birth.
- ⇒ Job.
- ⇒ Monthly Income.
- ⇒ Gender.
- ⇒ Maritalstatus number.
- ⇒ Prisoner/Ex-prisoner number.

5. *Wives:*

- ⇒ Wife number.
- ⇒ First name.
- ⇒ Second name.
- ⇒ Third name.
- ⇒ Last name.
- ⇒ ID card number.
- ⇒ Number of children.
- ⇒ Date of birth.
- ⇒ Job.
- ⇒ Prisoner/Ex-prisoner number.

6. *Arrest:*

- ⇒ Arrest number.
- ⇒ Arrest date.
- ⇒ Release date.
- ⇒ Arrest type.
- ⇒ Prisoner/Ex-prisoner number.
- ⇒ Prisons number.



7. *Supporter:*

- ⇒ Supporter number.
- ⇒ First name.
- ⇒ Second name.
- ⇒ Third name.
- ⇒ Last name.
- ⇒ Date of birth.
- ⇒ Relatives.

8. *Agent:*

- ⇒ Agent number.
- ⇒ First name.
- ⇒ Second name.
- ⇒ Third name.
- ⇒ Last name.
- ⇒ Date of birth.
- ⇒ Account Number.
- ⇒ Bank name.
- ⇒ Branch name.
- ⇒ Prisoner/Ex-prisoner number.

9. *losses:*

- ⇒ Losses number.
- ⇒ Losses name.
- ⇒ Losses date.
- ⇒ Notes.
- ⇒ Prisoner/Ex-prisoner number.

10. *Prisoner/Ex-prisoner Diseases:*

- ⇒ Disease number.
- ⇒ Prisoner/Ex-prisoner number.



*11. Diseases:*

- ⇒ Disease number.
- ⇒ Diseases' name.
- ⇒ Illness Date.
- ⇒ Disease description.

*12. Ex-prisoner\_Job:*

- ⇒ Job number.
- ⇒ Job name.
- ⇒ Supporter Institution.
- ⇒ Address.
- ⇒ Start date.
- ⇒ Prisoner/Ex-prisoner number.

*13. Loans:*

- ⇒ Loan number.
- ⇒ Loan name.
- ⇒ Project address.
- ⇒ Project name.
- ⇒ Participate loans.

*14. advertising:*

- ⇒ advertising number.
- ⇒ advertising title.
- ⇒ advertising text.
- ⇒ advertising date.
- ⇒ Due to date.
- ⇒ advertising auther.
- ⇒ Subject.



*15. Education:*

- ⇒ Education number.
- ⇒ Education name.
- ⇒ Education institution.
- ⇒ Address.

*16. Users:*

- ⇒ User number.
- ⇒ Password.
- ⇒ ID number.
- ⇒ User name.
- ⇒ Role.
- ⇒ Center number.

*17. Prisoner/Ex-prisoner\_Prisons:*

- ⇒ prison number.
- ⇒ Prisoner/Ex-prisoner number.

*18. Ex-prisoner\_loans:*

- ⇒ Loan number.
- ⇒ Prisoner/ex-prisoner number.

*19. Maritalstatus:*

- ⇒ Maritalstatus number.
- ⇒ Maritalstatus name.

*20. Services:*

- ⇒ Service number.
- ⇒ Service kind.
- ⇒ Start date.
- ⇒ Service period.
- ⇒ Service location.
- ⇒ Supported sides.



21. *Ex-prisoner service:*

- ⇒ Prisoner/ex-prisoner number.
- ⇒ Service number.

22. *Prisoner/Ex-prisoner education:*

- ⇒ Prisoner/ex-prisoner number.
- ⇒ Education number.

23. *Setting:*

- ⇒ Setting number.
- ⇒ Prisoner/Ex-prisoner.
- ⇒ Employee setting.
- ⇒ Center number.

24. *Vote:*

- ⇒ Vote number.
- ⇒ Vote Body.

25. *Vote result:*

- ⇒ Vote number.
- ⇒ Vote yes.
- ⇒ Vote no.
- ⇒ Vote maybe.
- ⇒ Who.

26. *Advertising Prisoner/Ex-prisoner:*

- ⇒ Prisoner/ex-prisoner number.
- ⇒ Advertising number.



## 2.5.4 System Interface description

The system will have an interface with several users, however; in this section we describe administrator, employee, prisoner, ex-prisoner interfaces and guest user interface.

### *I. Administrator interface*

#### *i. Input:*

All administrator pages must be secure, the administrator will have the accessibility to the data in database tables, and this will be done through input tools to facilitate him to modify records easily and smoothly, otherwise validation techniques are needed to ensure that predefined input types and ranges are not violated.

#### *ii. Output:*

The output for all administrator transactions will be reflected on the system database tables thereby site data contents, so no specified output is to be produced for administrators except reports which should be available.

#### *iii. GUI:*

An administrator should be provided with a login page and others to enable him to modify site database records and site data contents.

### *II. Prisoner interface*

#### *i. Input:*

Prisoner input represented in making queries of information from database, this means that his access to database is restricted. Restricting the prisoner access aimed at keeping and securing data integrity and consistency. He can obtain his information only by providing his ID number and password.



*ii. Output:*

The Rehabilitation System provide prisoner with all of his information such as children, wives, supporters, and prisons...etc.

*iii. GUI:*

The Rehabilitation System supports stronger prisoner interface, this feature applied in many function that enable each prisoner to choose it.

### ***III. Ex-prisoner interface***

*i. Input:*

Ex-prisoner input represented in making queries of information from database, this means that his access to database is restricted. Restricting the ex-prisoner access aimed at keeping and securing data integrity and consistency. He can obtain his information only by providing his ID number and password.

*ii. Output:*

The Rehabilitation System provide ex-prisoner with all of his information such as children, wives, supporters, and prisons...etc.

*iii. GUI:*

The Rehabilitation System supports stronger ex-prisoner interface, this feature applied in many function that enable each ex-prisoner to choose it.

### ***IV. Employee interface***

*i. Input:*

The Rehabilitation System authorize employee to insert part of prisoner or ex-prisoner information, such as insert prisoners or ex-prisoners, supporters, prisons information and families information...etc.

*ii. Output:*

the new inserted advertising by employee appear in the scrolled marquee that visible only in the prisoner or ex-prisoner account, and the employee can prepare a report of his regular prisoner or ex-prisoner.

*iii. GUI:*

The screens that employee use are to be smooth and meaningful.

**V. *guest interface****i. Input:*

Our rehabilitation system using a general inputs to service the other guest users across the system services, such as search and FAQ.

*ii. Output:*

The Rehabilitation System provide guest users with all of prisoners, ex-prisoners, families, prisons, and news information about it.

*iii. GUI:*

The Rehabilitation System support stronger general interfaces.

**2.5.5 Data Dictionary**

The dictionary tables describes system procedures, Applications (Global Functions) and sessions(functions) and it display and explain in the appendices partition (Appendix II) in the end of this documentation.



### 3.1. Introduction

In this chapter we explained the system design, interfaces, flowcharts, constraints(validation and verification), some descriptions and user interface design, I/O design screens, database design show database model and all table constraints, test plan, and program languages and some coding.

### 3.2. Functional design

Functional design for each module in the software system will be described in this section, the description of the interface, the constraints, and the user interface design in which we use diagrams to help understanding:

In our system there are four functions design, described below:

>> *Prisoner or Ex-prisoner Functions Design.*

>> *Administrator Functions Design.*

>> *Employee Functions Design.*

>> *Guest Function Design.*

*Note: prisoner and ex-prisoner functions are similar because any ex-prisoner is prisoner in the past, then it takes the same id and password in his account after released.*



### 3.2.1 . Prisoner/Ex-prisoner Functions Design

#### I. Login Prisoner/Ex-prisoner

⇒ *Login Description:*

This function gives the prisoner/ex-prisoner authentication and enabling them to login to the system.

⇒ *Login Interface:*

- ☒ Input: prisoner/ex-prisoner ID, prisoner/ex-prisoner password
- ☒ Output: prisoner/ex-prisoner home page if id and password is true , error message if id or password is invalid.

⇒ *Login Constraints:*

- ☒ Only prisoner/ex-prisoner and administrator are authenticated to login to this page.
- ☒ Password must be checked. And it considered as a character case.
- ☒ Password must be at least 6 characters.

⇒ *User interface design for prisoner/ex-prisoner login:*

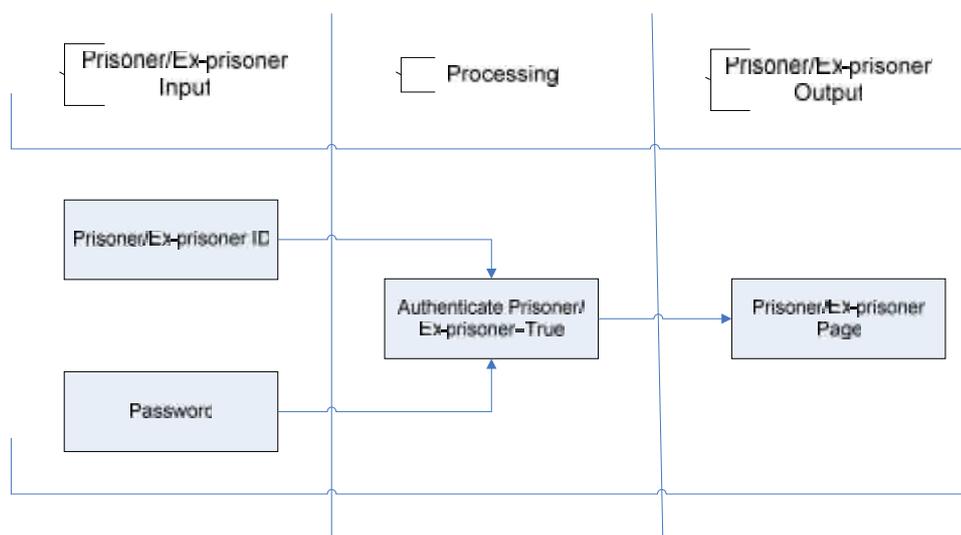


Figure (3.1) prisoner/ex-prisoner login interface.



⇒ Login Flowchart:

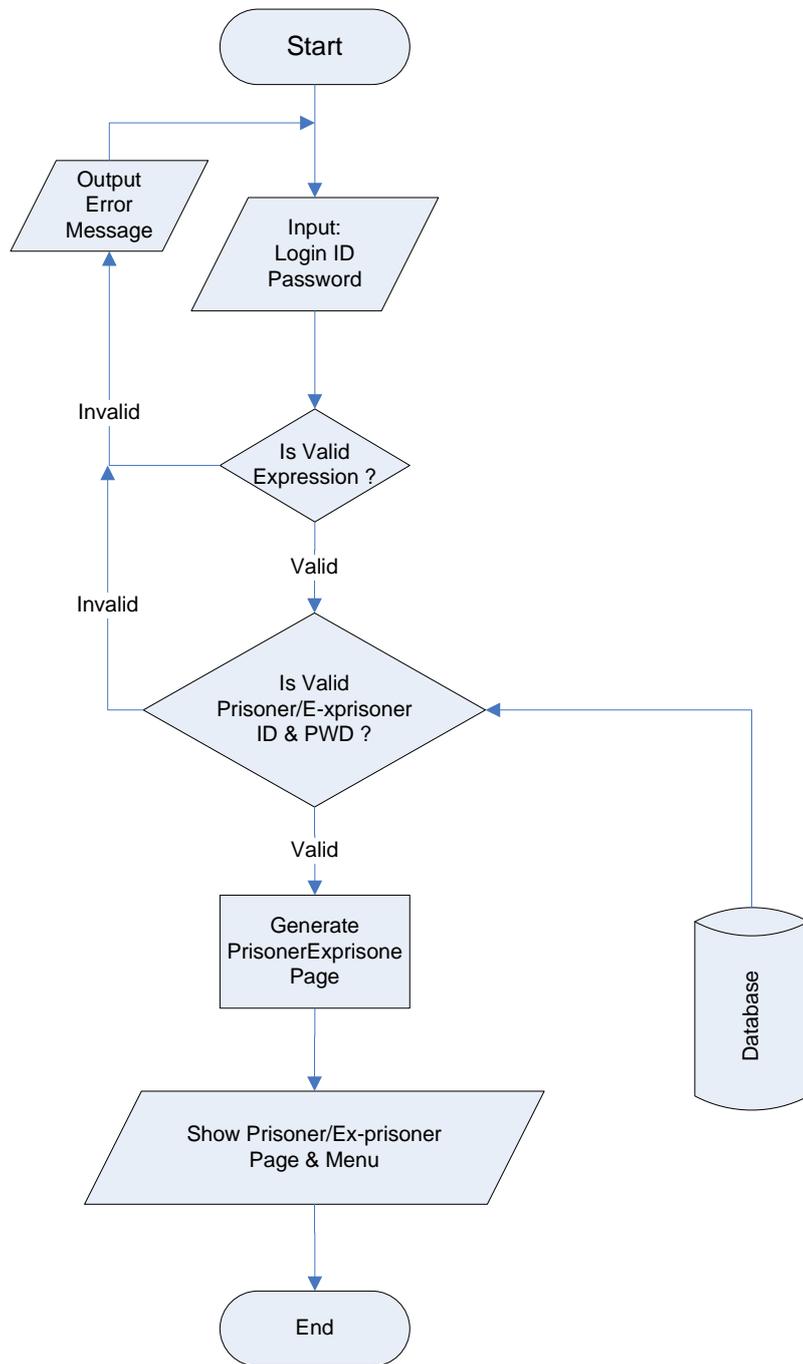


Figure (3.2) Prisoner/Ex-prisoner login operation.



## II. Forgot my Password for prisoner/ex-prisoner

⇒ *Description:* This function is important and allow the prisoner/ex-prisoner to retrieve his password if he forgets, the prisoner/ex-prisoner can get his account after the system checks his username and then asked hem some questions that must be answered correctly.

⇒ *Forgot Interface:*

- ☒ Input: prisoner/ex-prisoner username, to ensure that he has an account on the rehabilitation system.
- ☒ Input: if the previous username is valid then he will be asked about: prisoner/ex-prisoner id, card number, birth of date, and restriction date.
- ☒ Output: if he answered all questions correctly the system will send the prisoner/ex-prisoner account to his e-mail, but in our system he will show his account because there is no connection yet with ministry of prisoner/ex-prisoner affairs mail server, else error message will be appear.

⇒ *Forgot Constraints:*

- ☒ prisoner/ex-prisoner id card must be numbers and 9 digit.
- ☒ Birth date format ( month, day, year).
- ☒ Arrest date format ( month, day, year).

⇒ *User interface design prisoner/ex-prisoner forgot password:*

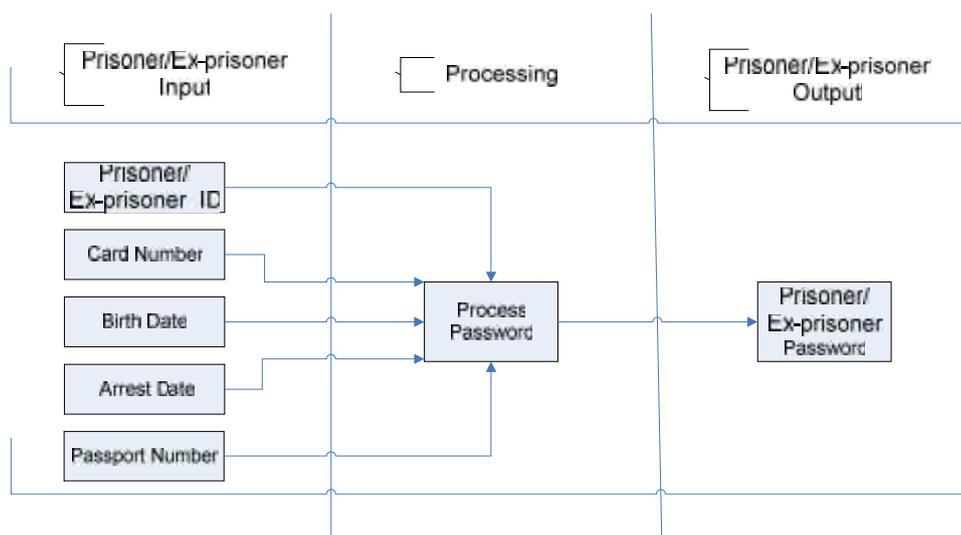


Figure (3.3) forgot my password interface.



⇒ Forgot Flowchart:

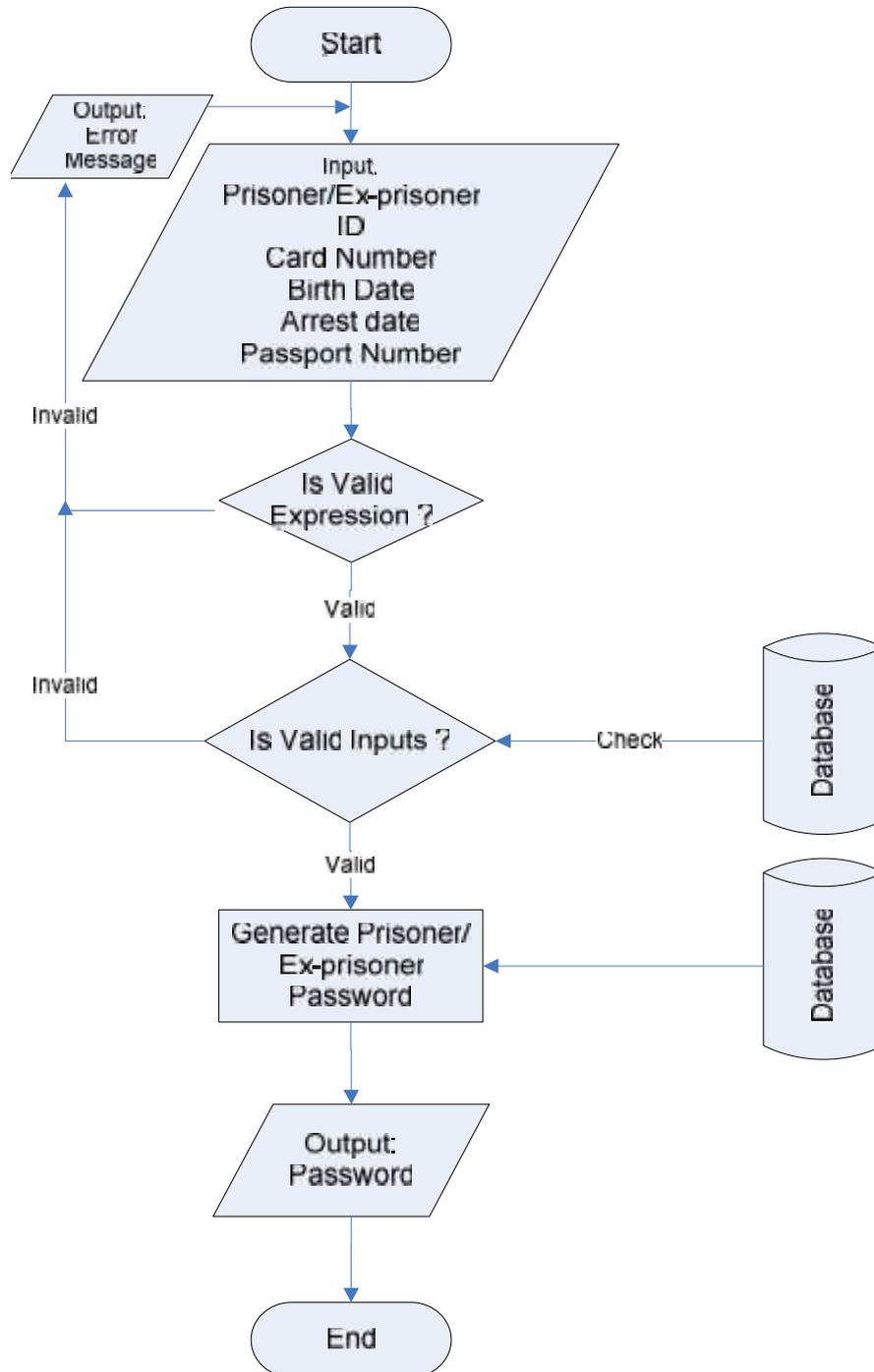


Figure (3.4) forgot my password operation.



### III. Profile of Prisoner/Ex-prisoner

⇒ *Profile Description*: This function shows the prisoner/ex-prisoner profile in the rehabilitation system that has name, address of prisoner/ex-prisoner, and personal information, and allows the prisoner/ex-prisoner to edit his information if he wants, This function depends on the prisoner/ex-prisoner id, the session takes prisoner/ex-prisoner Id and shows his profile.

⇒ *Profile Interface*:

- ☒ Input: Session (prisoner/ex-prisoner Id ).
- ☒ Output: full prisoner/ex-prisoner name, id card, address, telephone, science degree, passport number, maritalstatus, gender, arrest date, and freedom date.

⇒ *Profile Constraints*:

- ☒ Authenticated prisoner/ex-prisoner can only show this page.
- ☒ All information displayed are read only and the prisoner/ex-prisoner can't edit it, except his document or picture(if exist).

⇒ *User interface design for prisoner/ex-prisoner profile*:

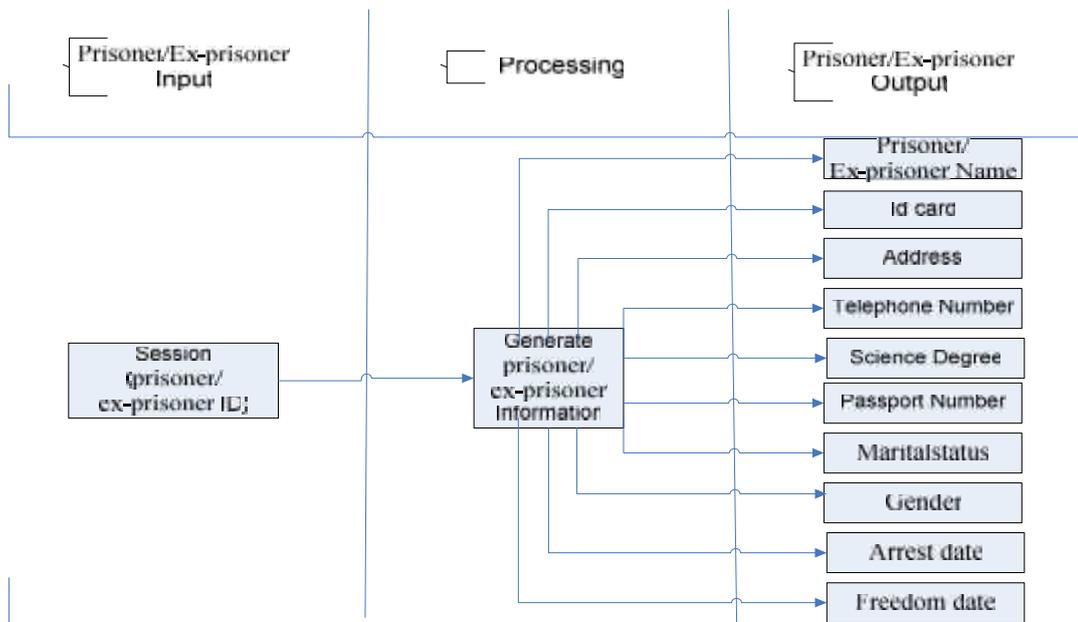


Figure (3.5) prisoner/ex-prisoner profile interface.



⇒ Profile Flowchart:

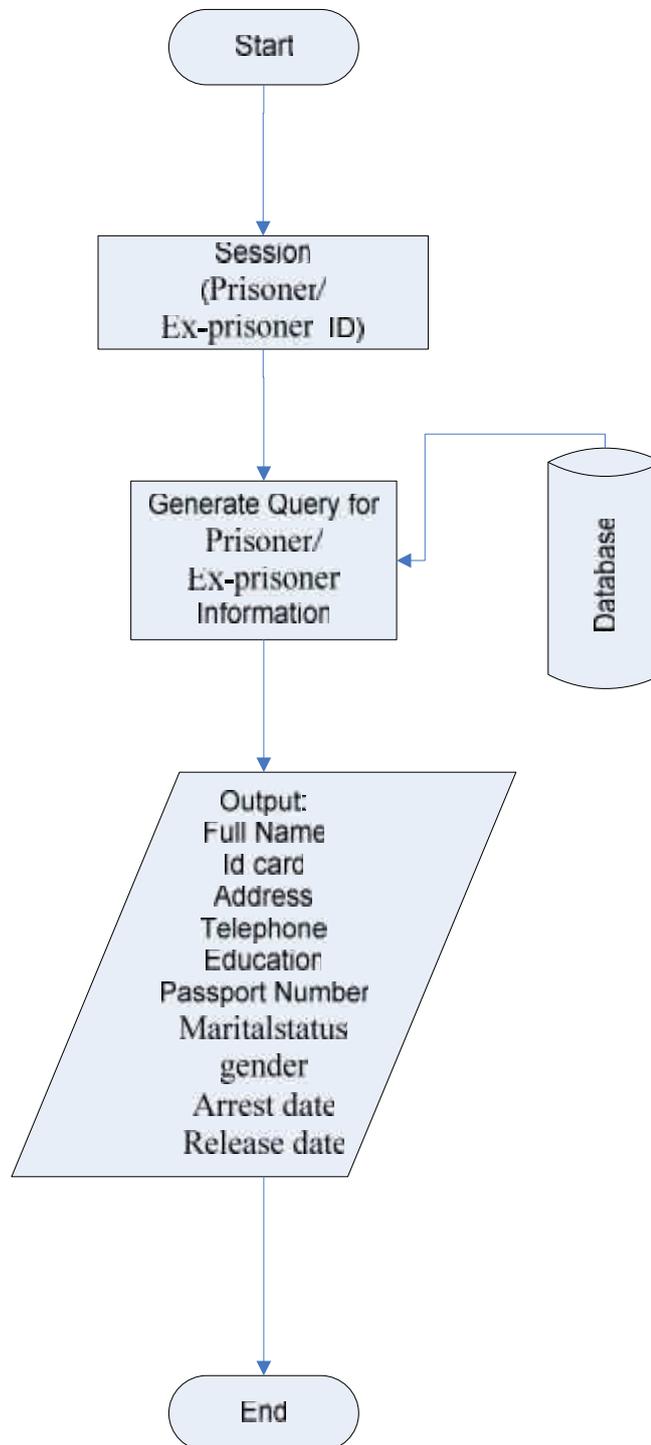


Figure (3.6) prisoner/ex-prisoner profile operation.



#### IV. Children of Prisoner/Ex-prisoner

⇒ *Children Description:* This function shows the children of prisoner/ex-prisoner information, that have full prisoner/ex-prisoner name, number of children, children names, maritalstatus and gender of each one, and monthly income. This function depends on the prisoner/ex-prisoner id, the session take prisoner/ex-prisoner id and show children information.

⇒ *Children Interface:*

- ☒ Input: Session (prisoner/ex-prisoner id).
- ☒ Output: full prisoner/ex-prisoner name, number of children, children names, maritalstatus or gender of each one, and monthly income.

⇒ *Children Constraints:*

- ☒ Authenticated prisoner/ex-prisoner can only show this page.
- ☒ prisoner/ex-prisoner can't edit any information (information of children read only).

⇒ *User interface design for children of prisoner/ex-prisoner:*

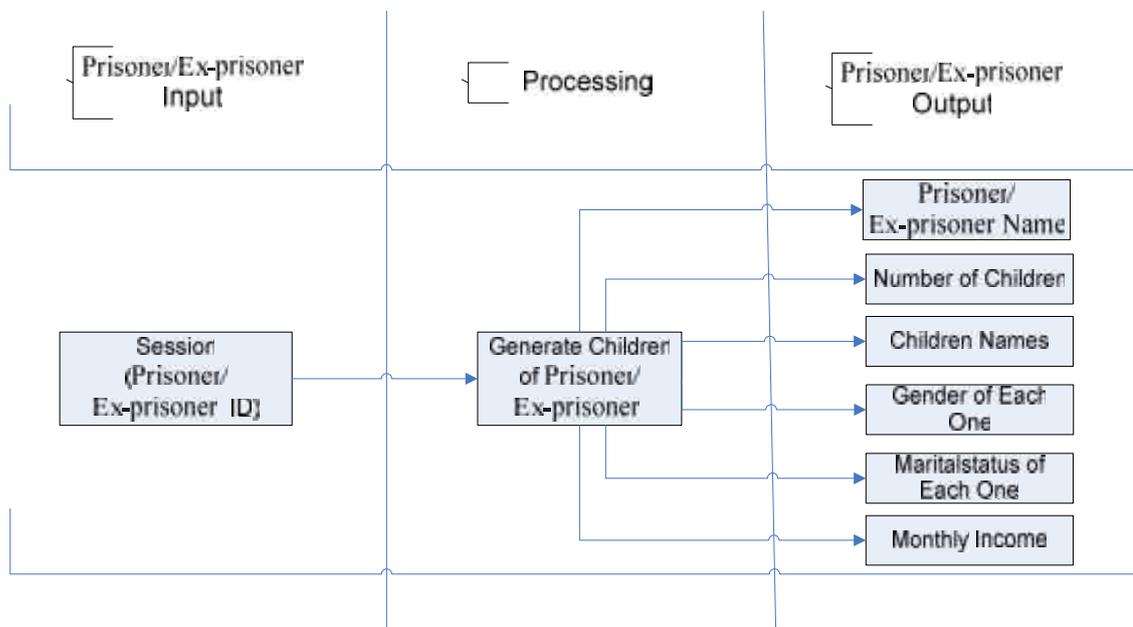


Figure (3.7) children of prisoner/ex-prisoner interface.



⇒ Children Flowchart:

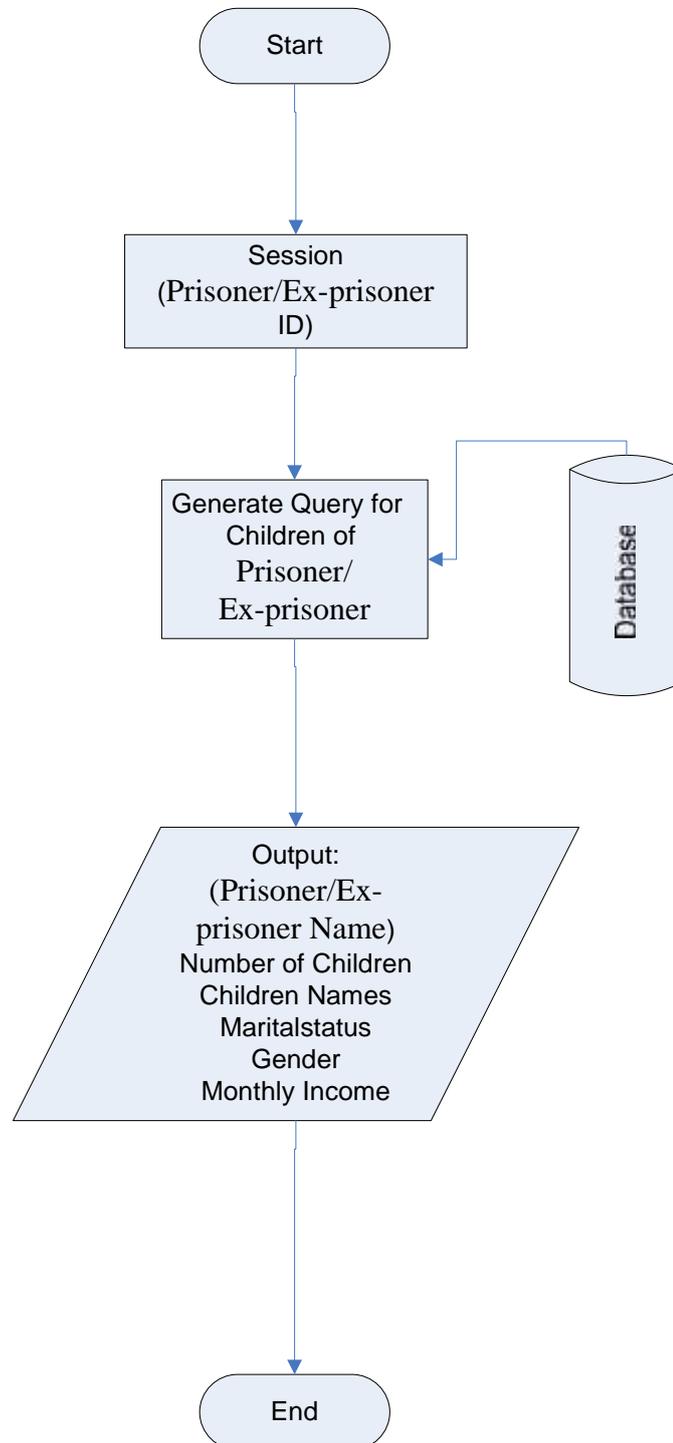


Figure (3.8) children of prisoner/ex-prisoner operation.



## V. Wives of Prisoner/Ex-prisoner

⇒ *Wives Description*: This function show the wife of prisoner/ex-prisoner information, that include full prisoner/ex-prisoner name, wives names, ID card, birth of date, job, address, and telephone. This function dependent on the prisoner/ex-prisoner id, the session inputs prisoner/ex-prisoner id and prisoner/ex-prisoner wives information.

⇒ *Wives Interface*:

- ☒ Input: Session (prisoner/ex-prisoner id).
- ☒ Output: full prisoner/ex-prisoner name, wives names, ID card, birth of date, job, address, and telephone.

⇒ *Wives Constraints*:

- ☒ Authenticated prisoner/ex-prisoner can only show this page.
- ☒ prisoner/ex-prisoner can't change any information (information of wives read only).

⇒ *User interface design for wife of prisoner/ex-prisoner*:

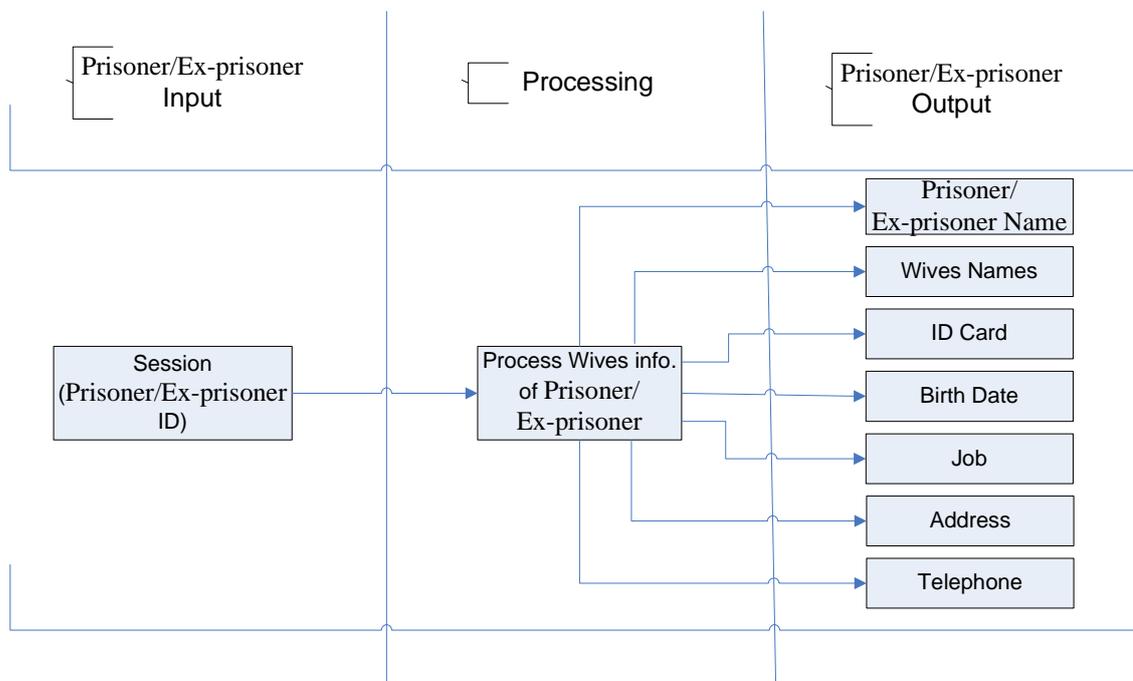


Figure (3.9) wives of prisoner/ex-prisoner interface.



⇒ *Wives Flowchart:*

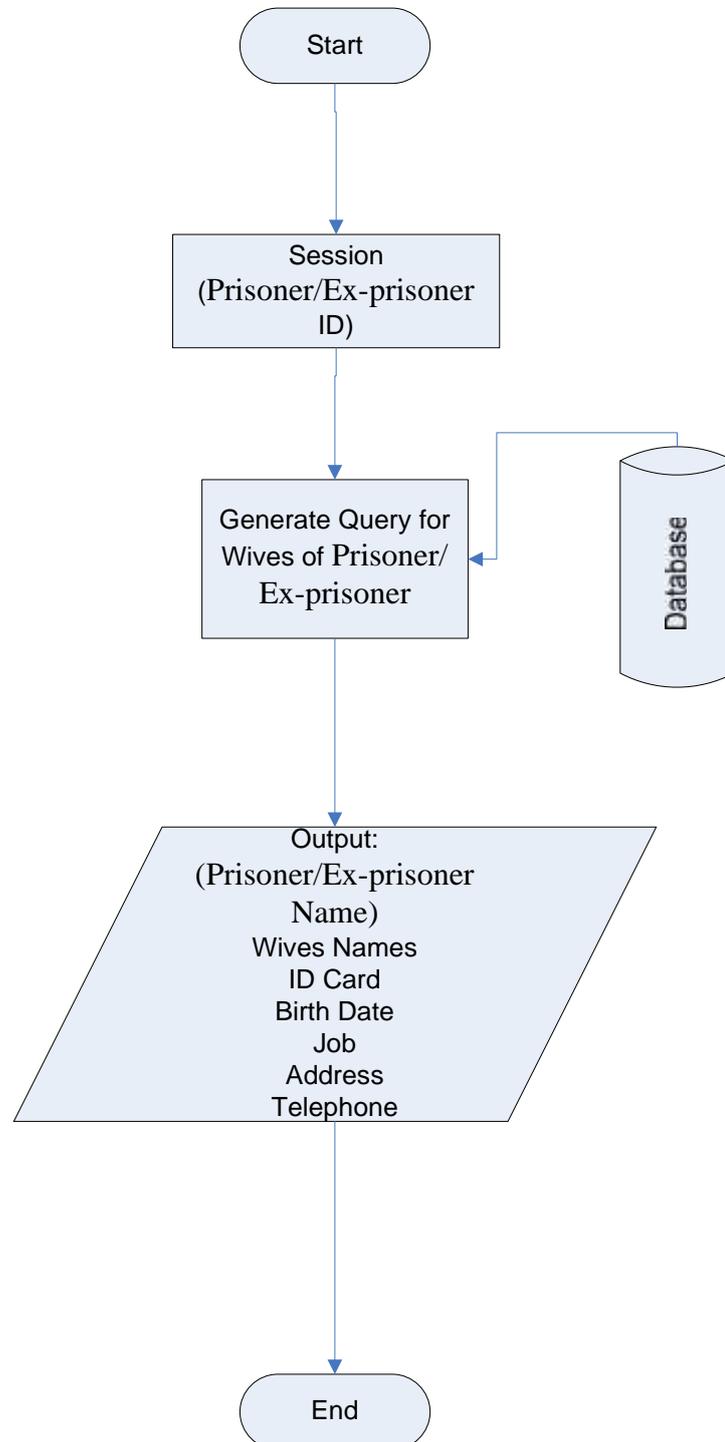


Figure (3.10) wives of Prisoner/Ex-prisoner operation.



## VI. Supporters for Prisoner/Ex-prisoner

⇒ *Supporters Description*: This function shows the supporters of prisoner/ex-prisoner, that include full prisoner/ex-prisoner name, supporters names, birth of date, and relatives. This function dependent on the prisoner/ex-prisoner id, the session input prisoner id and output supporters information.

⇒ *Supporters Interface*:

- ☒ Input: Session (prisoner/ex-prisoner id).
- ☒ Output: full prisoner/ex-prisoner name, supporters names, birth of date, and relatives.

⇒ *Supporters Constraints*:

- ☒ Authenticated prisoner/ex-prisoner can only show this page.
- ☒ prisoner/ex-prisoner can't change any information (information of supporters read only).

⇒ *User interface design for supporters for prisoner/ex-prisoner*:

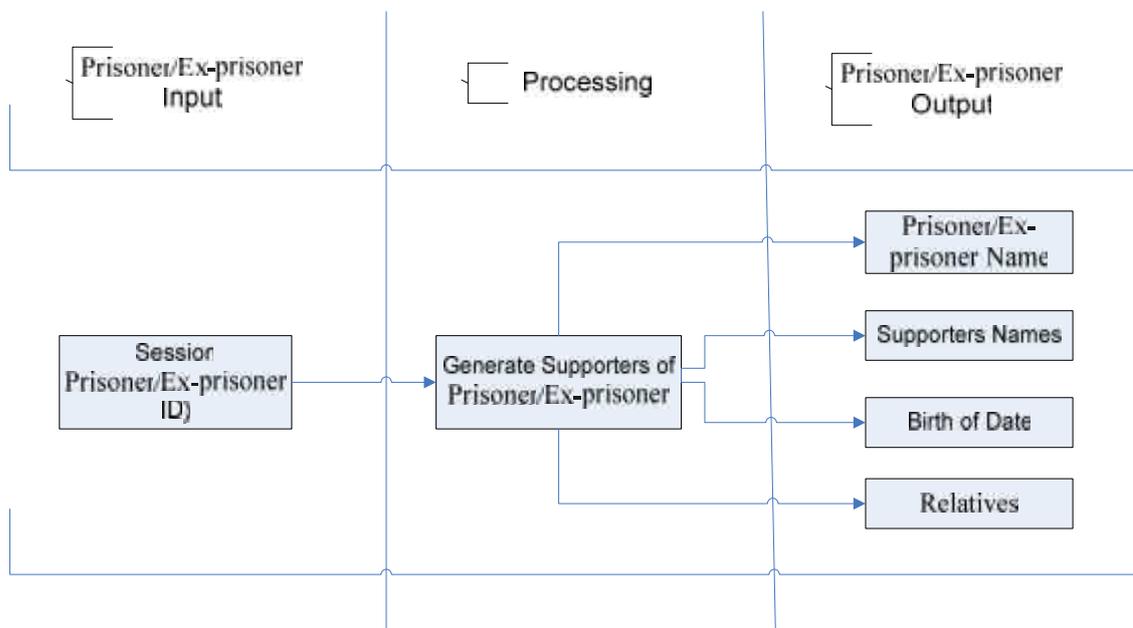


Figure (3.11) supporters for prisoner/ex-prisoner interface.



⇒ *Supporters Flowchart:*

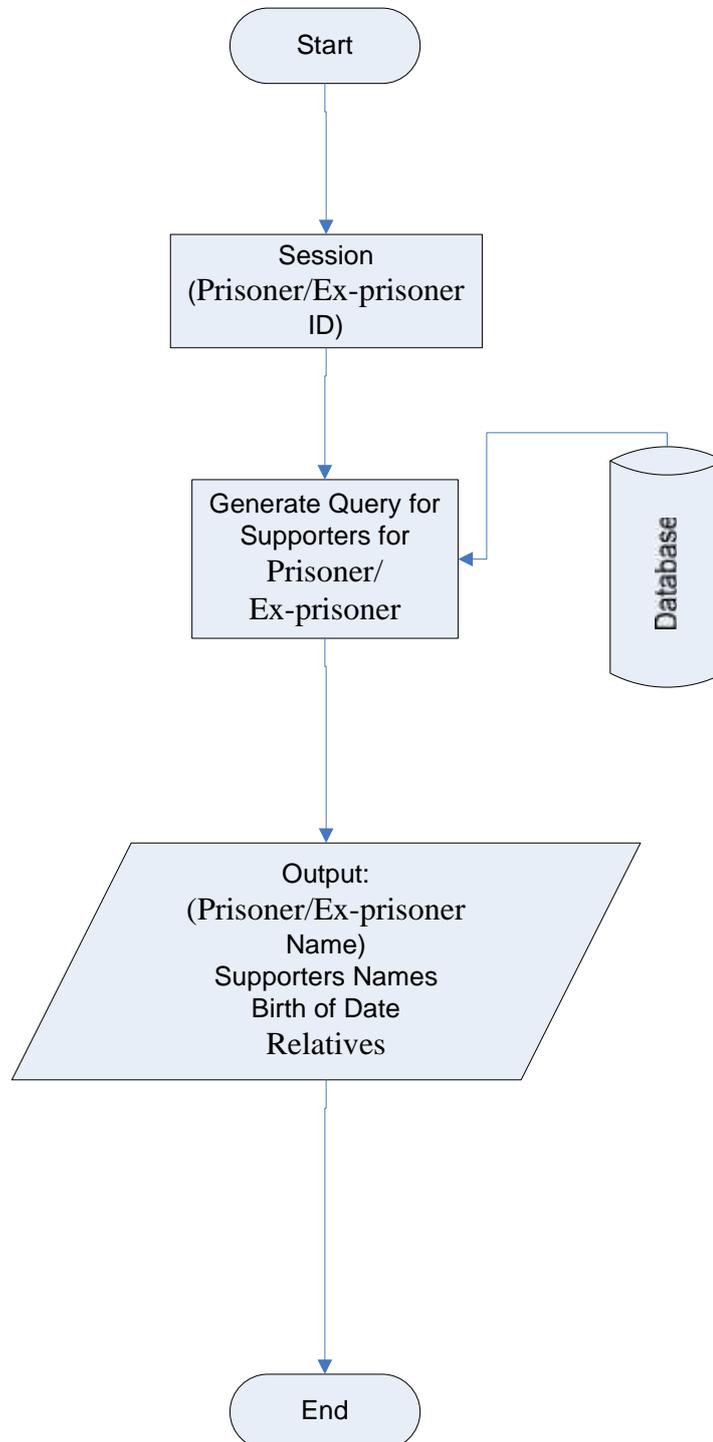


Figure (3.12) supporters for prisoner/ex-prisoner operation.



## VII. Agent (Representative) of Prisoners

⇒ *Agent Description*: This function show the Agent (Representative) of prisoner, that include full prisoner name only (no agent for ex-prisoner), agent name, birth of date, account number, and bank name. This function dependent on the prisoner id, the session input prisoner id and output agent information.

⇒ *Agent Interface*:

- ☒ Input: Session (prisoner id).
- ☒ Output: full prisoner name, agent name, birth of date, account number, and bank name.

⇒ *Agent Constraints*:

- ☒ Authenticated prisoner can only show this page.
- ☒ prisoner can't change any information (information of agent read only).

⇒ *User interface design for agent of prisoner*:

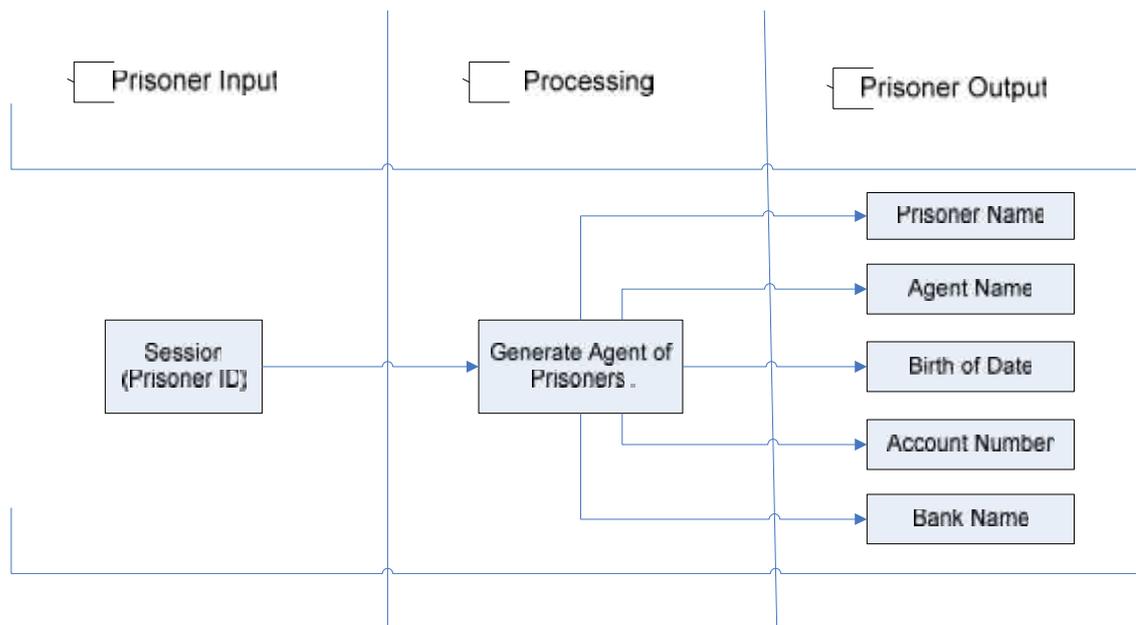


Figure (3.13) agent of prisoner interface.



⇒ Agent Flowchart:

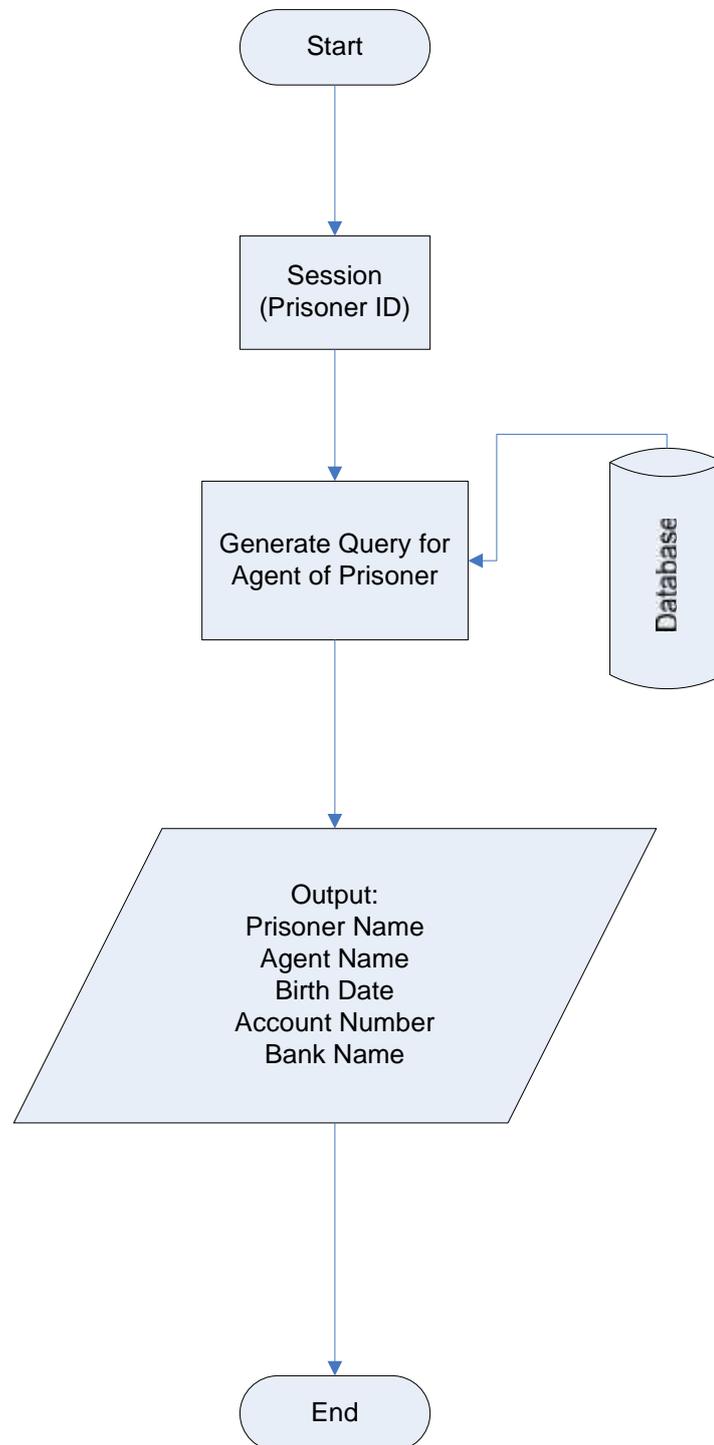


Figure (3.14) agent of prisoners operation.



## VIII. Loans of Ex-prisoner

⇒ *Loans Description*: This function shows the loans for ex-prisoner, that include full ex-prisoner name only (no loans for prisoner), loan name, project address, project name, participate loans, and priority. This function dependent on the ex-prisoner id, the session input ex-prisoner id and show loans information according it.

⇒ *Loans Interface*:

- ☒ Input: Session (ex-prisoner id).
- ☒ Output: full ex-prisoner name, loan name, project address, project name, participate loans, and Priority.

⇒ *Loans Constraints*:

- ☒ Authenticated ex-prisoner can only show this page.
- ☒ ex-prisoner can't change any information (information of loans read only).

⇒ *User interface design for loans of ex-prisoner*:

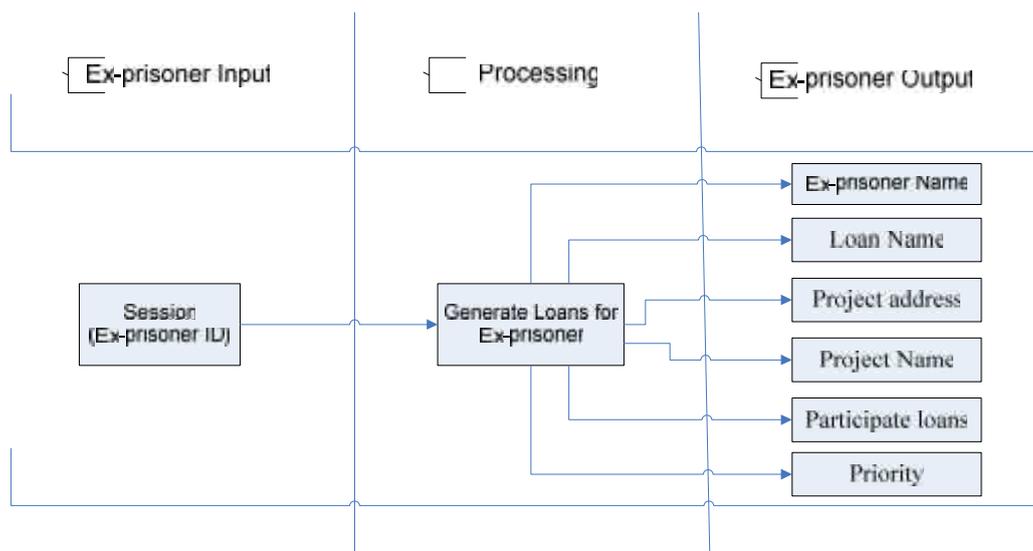


Figure (3.15) loans of ex-prisoner interface.



⇒ Loans Flowchart:

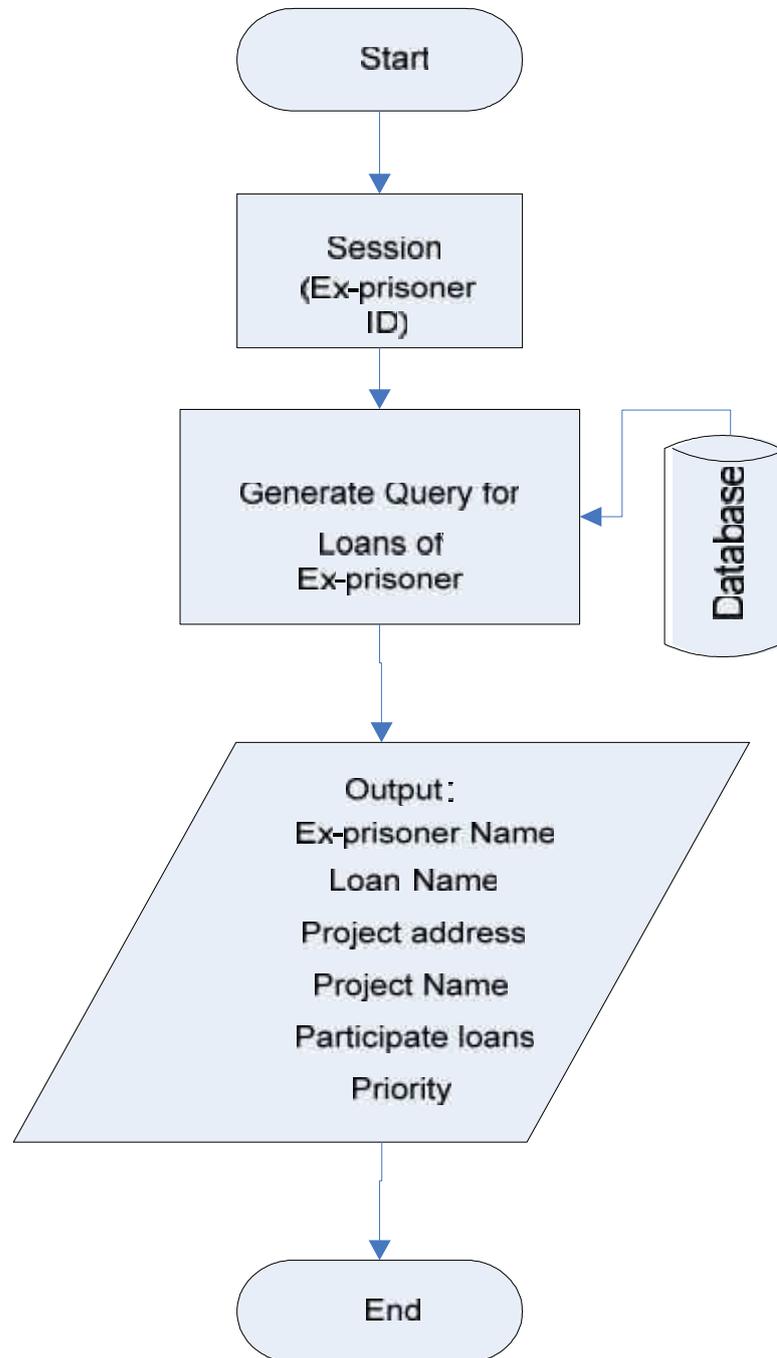


Figure (3.16) loans for ex-prisoner operation.



## IX. Prisoner/Ex-prisoner voting

⇒ description :This function enable the prisoner/ex-prisoner to answer specific question for one time only.

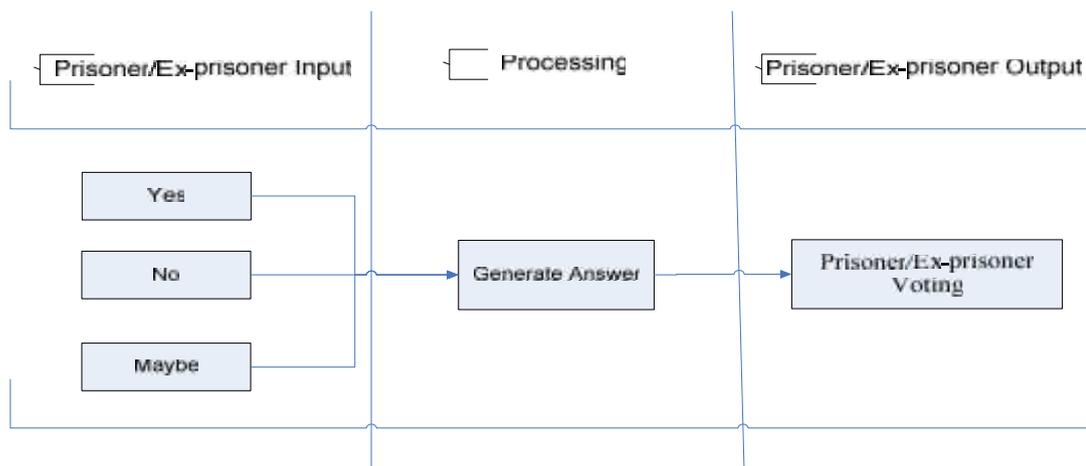
⇒ interface:

- ☒ Input : selection only one answer (yes, or no, maybe)
- ☒ Output : if he vote for first time, message with process done will appeared, else message that tell you that you were voting before will appeared.

⇒ Constraints:

- ☒ Prisoner/ex-prisoner can't voting more than one time for the same question, and only one answer.
- ☒ Prisoner/ex-prisoner only read question and can't edit it.

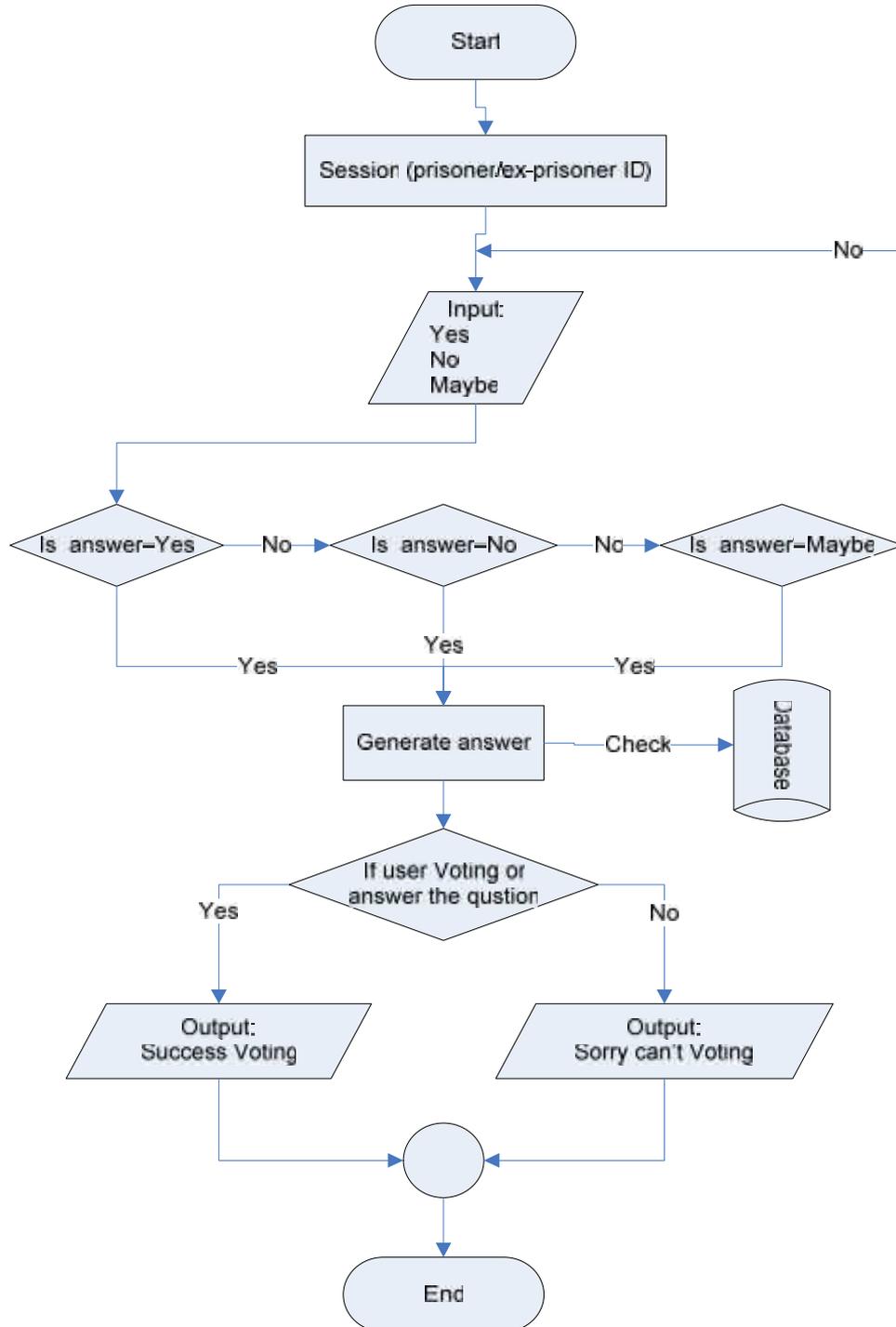
>> User interface design



Figure(3.17) Prisoner/ex-prisoner voting interface design.



⇒ Voting Flowchart:



Figure(3.18) prisoner/ex-prisoner voting operation.



## I. Marquee Advertisings

### a. Description:

Displays all advertisings issued since seven days in a scrolled marquee on top of the prisoner/ex-prisoner page, this marquee contains centers advertisings sent by employees and administrators advertisings.

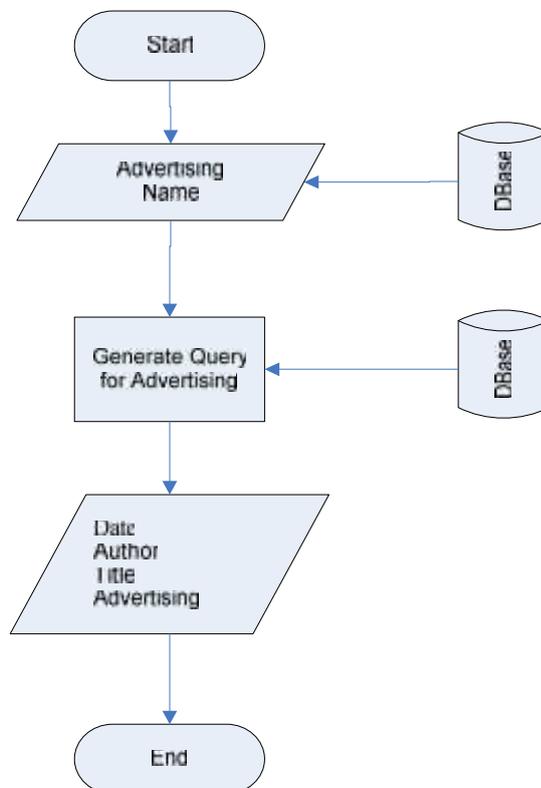
### b. Interface:

- ☒ Input: select advertising name from marquee.
- ☒ Output: advertising body.

### c. Constraints:

- ☒ None.

### d. Flowchart:



Figure(3.19) public marquee advertisings operation.



## X. Chang Password of Prisoner/Ex-prisoner

⇒ *Change Password Description:*

This function enable prisoner/ex-prisoner to change his password .

⇒ *Change Password Interface:*

- ☒ Input: prisoner/ex-prisoner id in session, old password, new password, confirm new password
- ☒ Output: new password ( your password was updated).

⇒ *Change Password Constraints:*

- ☒ New password and its confirmation must match.
- ☒ The new password will take place at the next login .
- ☒ New password must be at least 6 characters.

⇒ *User interface design for change password of prisoner/ex-prisoner:*

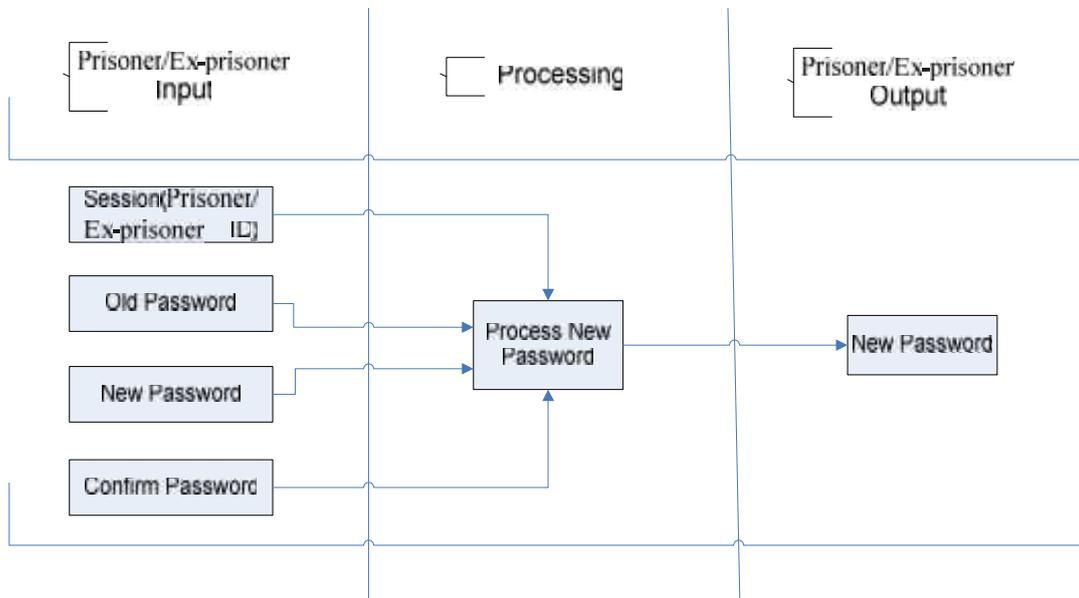


Figure (3.20) change password interface for prisoner/ex-prisoner.



⇒ Change Password Flowchart:

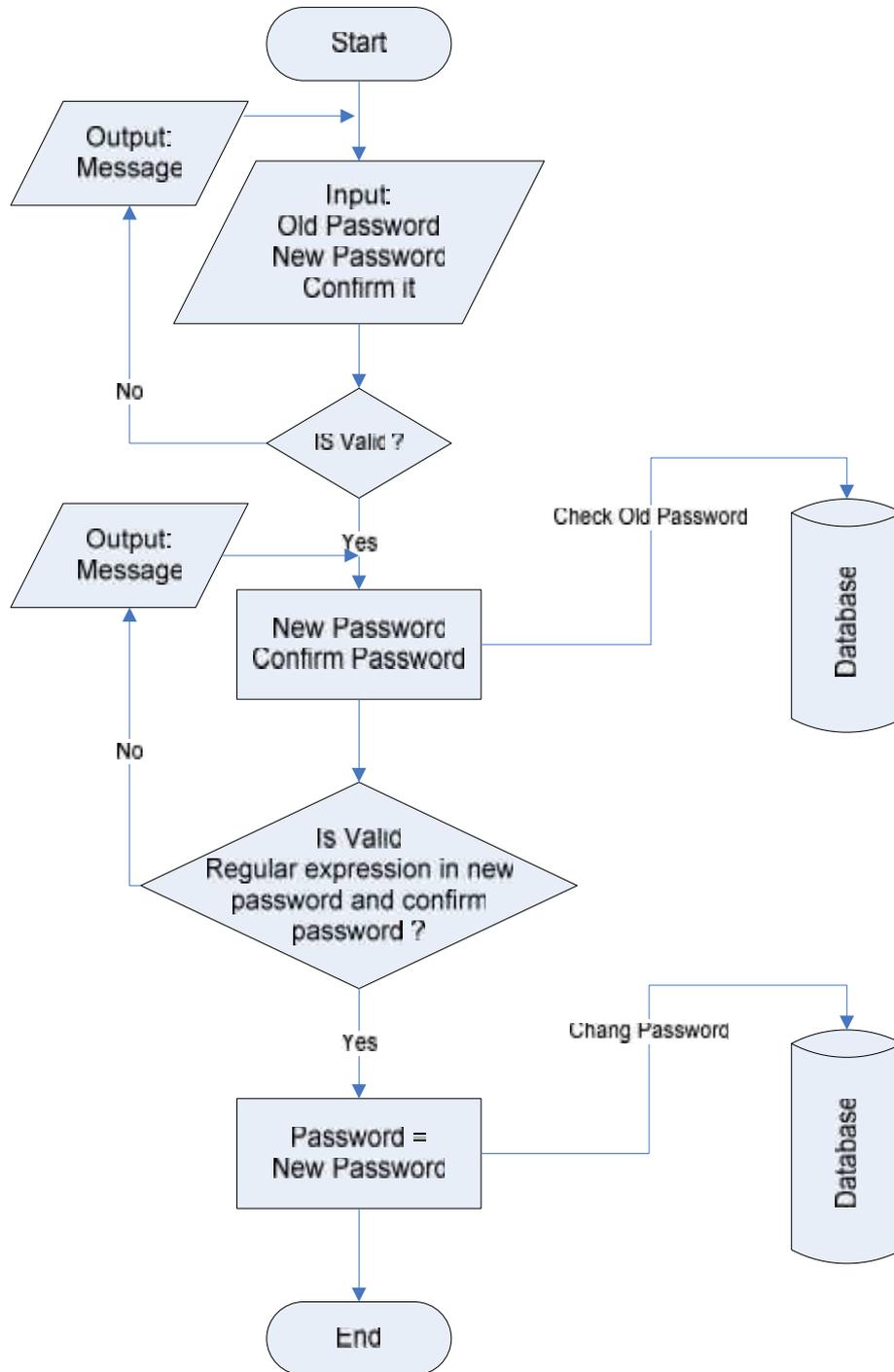


Figure (3.21) change password operation for prisoner/ex-prisoner.



### XI. Logout Prisoner/Ex-prisoner Account

⇒ *Logout Description:* This function logging prisoner/ex-prisoner out of his session, his pass session will expired by take 0 value, and he go back to home page.

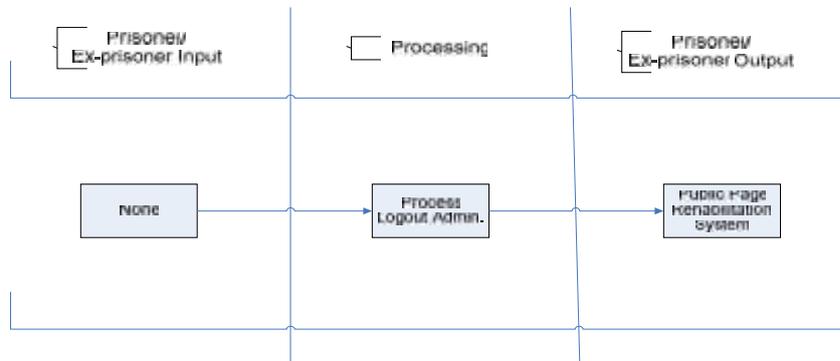
⇒ *Logout Interface:*

☒ Input: Click on logout link.

☒ Output: Home page.

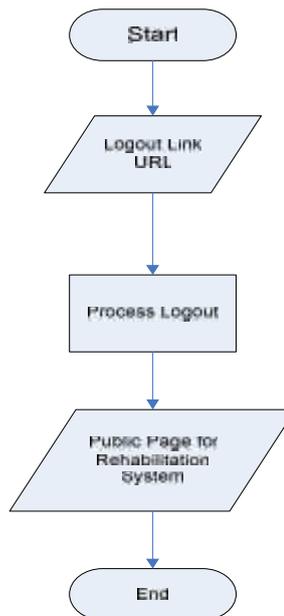
⇒ *Logout Constraints:* None.

⇒ *User interface design for logout prisoner/ex-prisoner account:*



Figure(3.22) prisoner/ex-prisoner logout interface.

⇒ *Logout Flowchart:*



Figure(3.23) prisoner/ex-prisoner logout operation.



### 3.2.2 . Administrator/Employee Functions Design

#### I. Login Administrator/Employee

⇒ *Login Administrator Description:*

This function enable Administrator/Employee to login to the prisoner/ex-prisoner rehabilitation system, and login to the employee system.

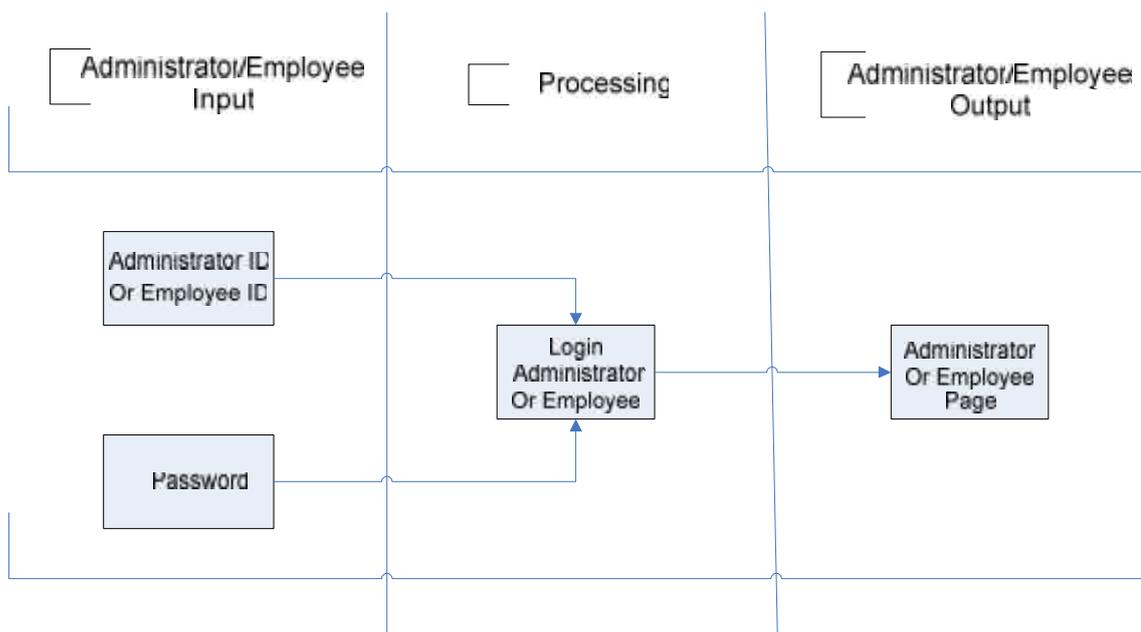
⇒ *Login Administrator Interface:*

- ☒ Input: login id, password.
- ☒ Output: Administrator/Employee desktop (home page).

⇒ *Login Administrator/Employee Constraints:*

- ☒ The password should be a character with at least 6 characters.
- ☒ The password must be encrypted.

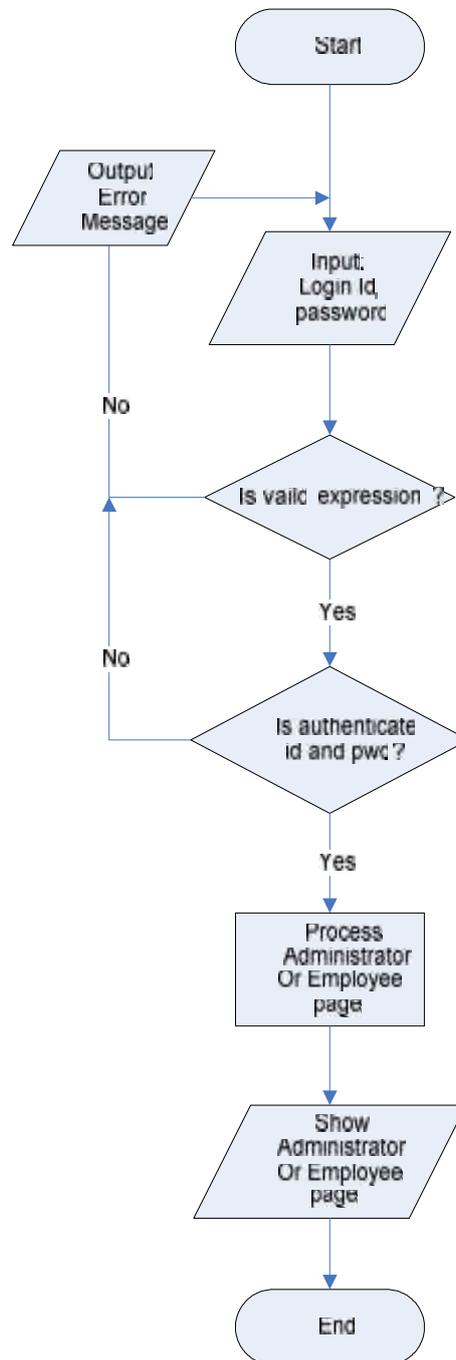
⇒ *User interface design for administrator/employee login:*



Figure(3.24) login administrator/employee interface.



⇒ Login Administrator/Employee Flowchart:



Figure(3.25) login administrator/employee operation.



## II. Insert Advertising Forms About Prisoner/Ex-prisoner

⇒ *Insert Advertising Description:*

This function enables rehabilitation center administrator/employee to upload or retrieve new records, reports and advertising for prisoner information enrolled and ex-prisoner information after release.

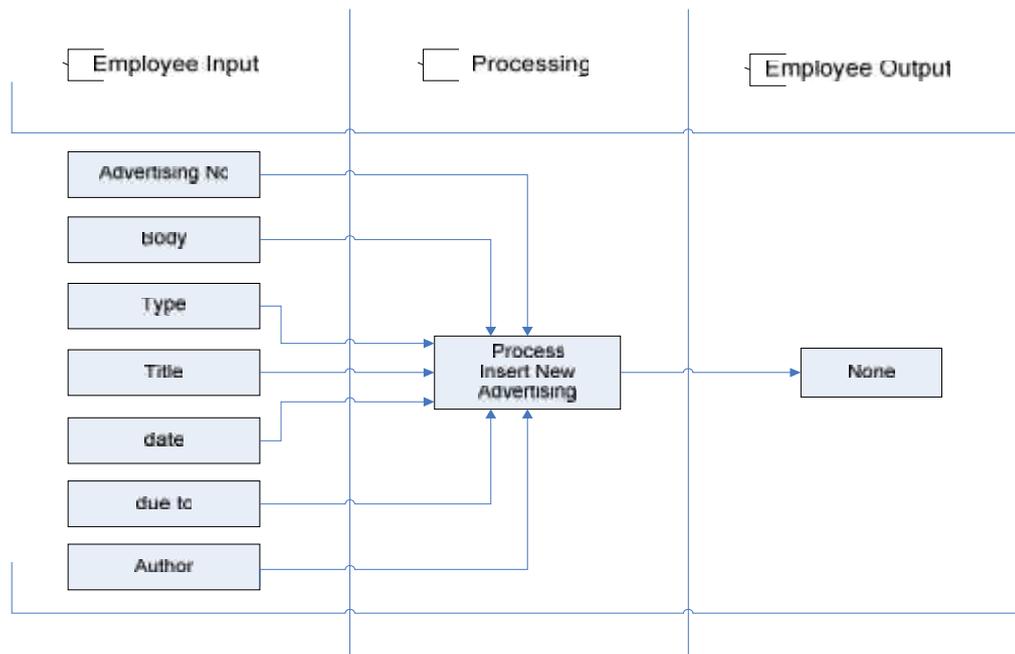
⇒ *Insert Advertising Interface:*

- ☒ Input: advertising no, body, type, title, issue date, due to date, author, destination.
- ☒ Output: new advertising.

⇒ *Insert Advertising Constraints:*

- ☒ Administrator/Employee can only upload prisoners/ex-prisoners information advertisings.
- ☒ Administrator/Employee can only upload advertising forms.
- ☒ Employee have no authorization to insert advertising forms, in fact; he claim authorization from administrator.

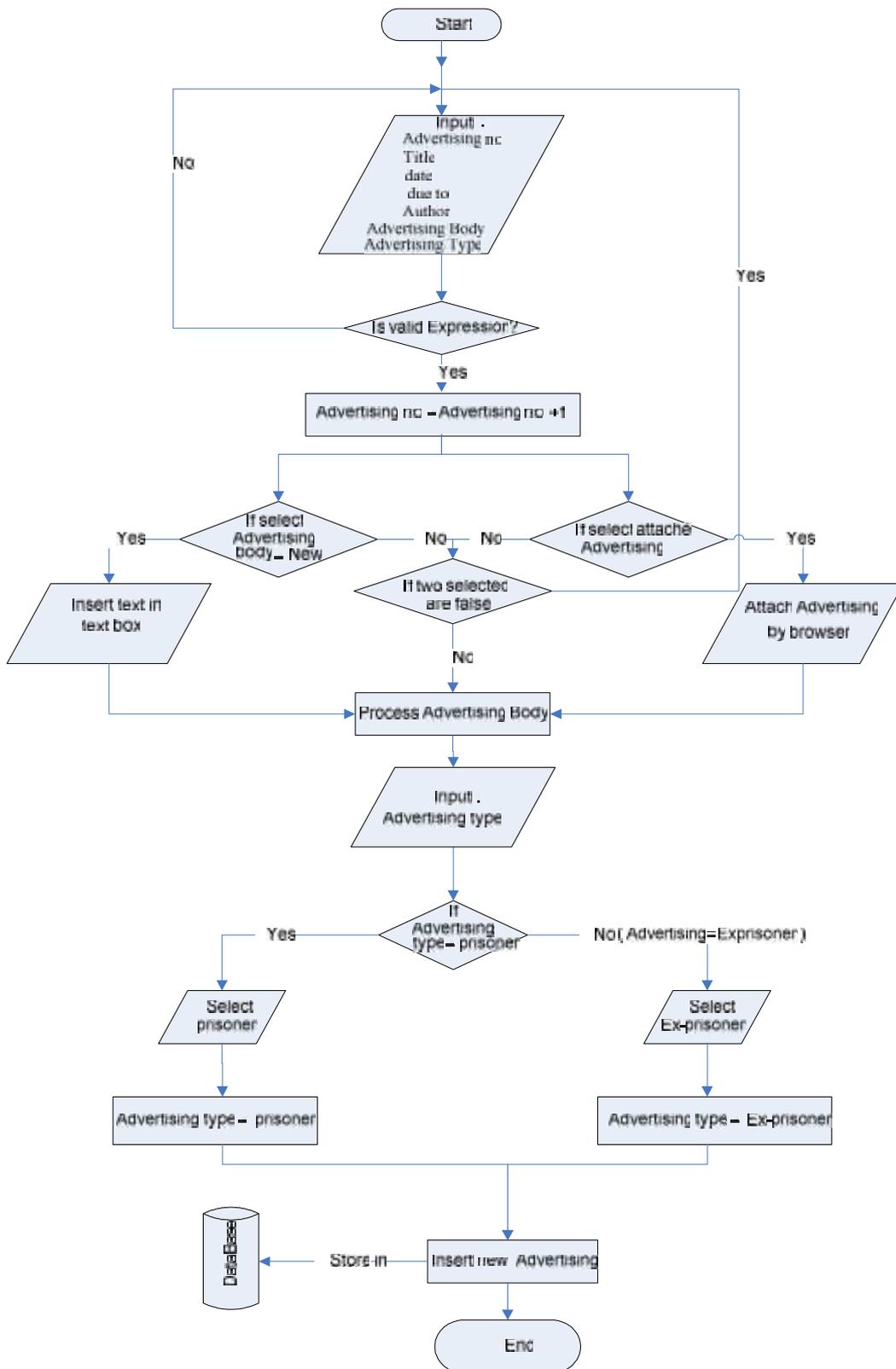
⇒ *User Interface Design for Administrator/Employee Insert Advertising:*



Figure(3.26) administrator/employee insert advertising interface.



⇒ Insert Advertising Flowchart:



Figure(3.27) administrator/employee insert advertising operation.



### III.Delete Advertisings

⇒ *Description:*

This function allow the Administrator or Employee after takes the delete authorization from administrator to delete advertisings according several criteria (expired advertisings, by name, advertisings type) .

⇒ *Interface:*

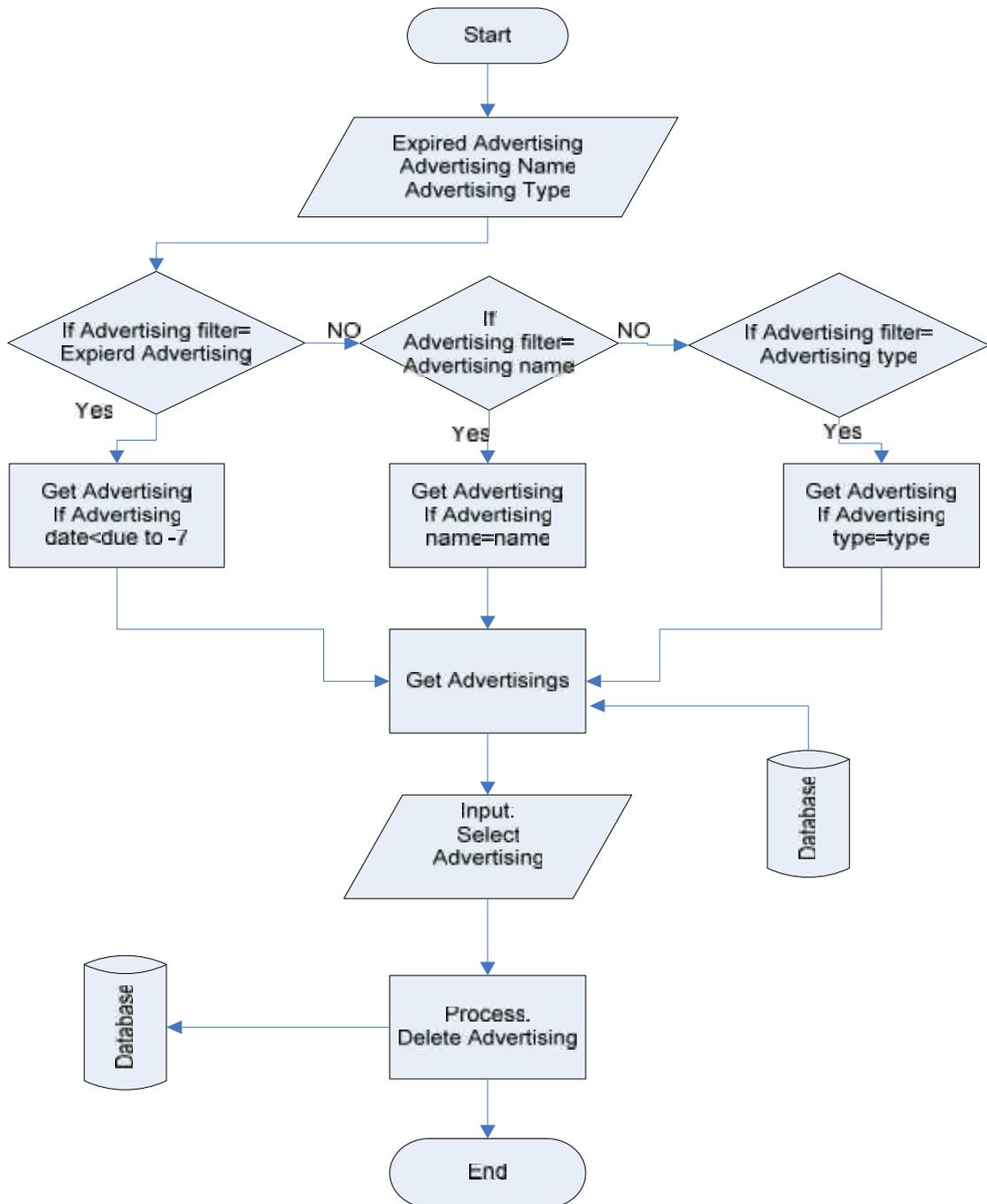
- ☒ Input: expired advertising ,advertising name ,advertising type then select advertising name to be deleted, put it in recycle bin, click delete button.
- ☒ Output: deleted advertising .

⇒ *Constraints:*

- ☒ Authenticated administrator/employee only can delete advertisings.
- ☒ Advertisings can be deleted manually by administrator/employee or automatically by the system (further work).
- ☒ Employee have no authorization to delete advertising forms, in fact; he claim authorization from administrator.



⇒ Flowchart:



Figure(3.28) administrator/employee delete advertisings operation.



#### IV. Update Advertisings

⇒ Description:

This function allow the Administrator or Employee after takes the update authorization from administrator to update the existing advertising body or advertising due to date or both.

⇒ Interface:

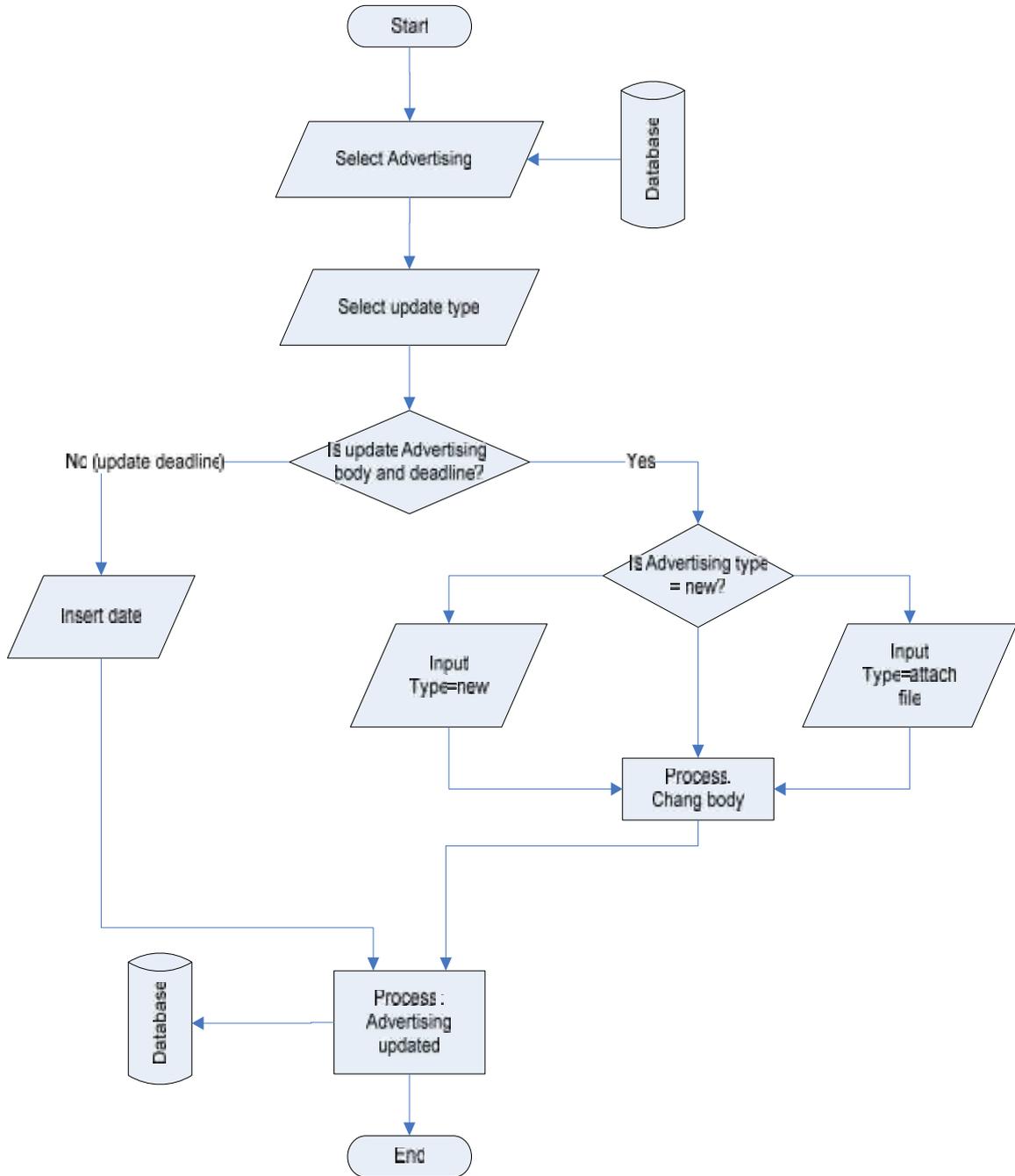
- ☒ Input: advertising name, advertising title, advertising type(exit, or new), new advertising dead line, or new advertising body, or both.
- ☒ Output: updated advertising

⇒ Constraints:

- ☒ Advertisings that can be updated generated automatically in drop down list when page request.
- ☒ Only authenticated administrator/employee can update advertisings.
- ☒ Updated advertisings will be appeared after refresh the page.
- ☒ Advertising due to date must be in correct format (month/day/year).
- ☒ Employee have no authorization to update advertising forms, in fact; he claim authorization from administrator.



⇒ Flowchart:



Figure(3.29) administrator/employee update advertisings operation.



## V. Editing Information

⇒ Description:

This function allow the Administrator or Employee after takes the editing authorization from administrator to edit the prisoner/ex-prisoner information in the system and the same way for supporters, children and so on.

⇒ Interface:

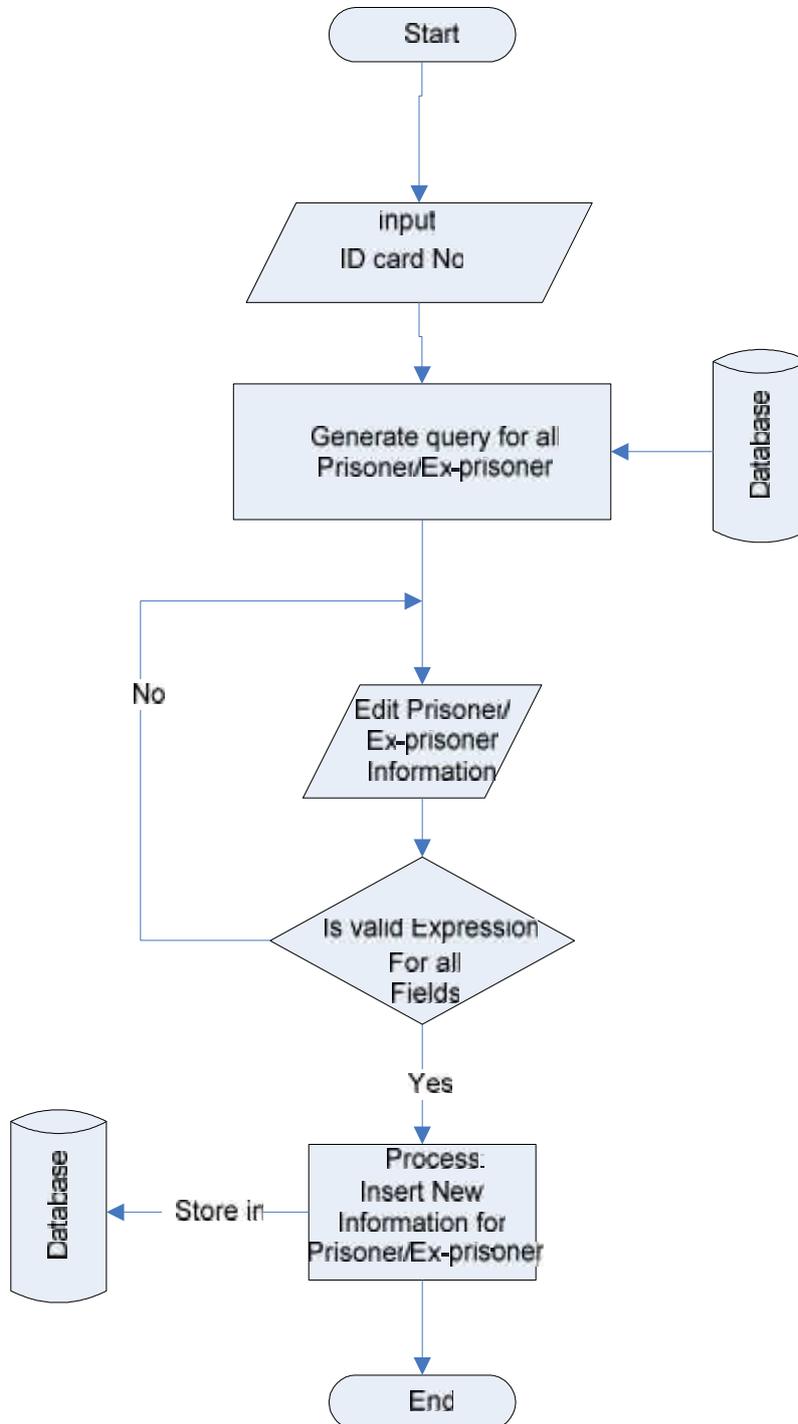
- ☒ Input: id card number.
- ☒ Output: edit the information.

⇒ Constraints:

- ☒ Only authenticated administrator/employee can edit the information.
- ☒ Edit information will be appeared after refresh the page.
- ☒ Insert information must be in correct format.
- ☒ Employee have no authorization to edit information forms, in fact; he claim authorization from administrator.



⇒ Flowchart:



Figure(3.30) administrator/employee edit Information operation.



## VI. Change Password

⇒ *Description:*

This function enable administrator/employee to change his password.

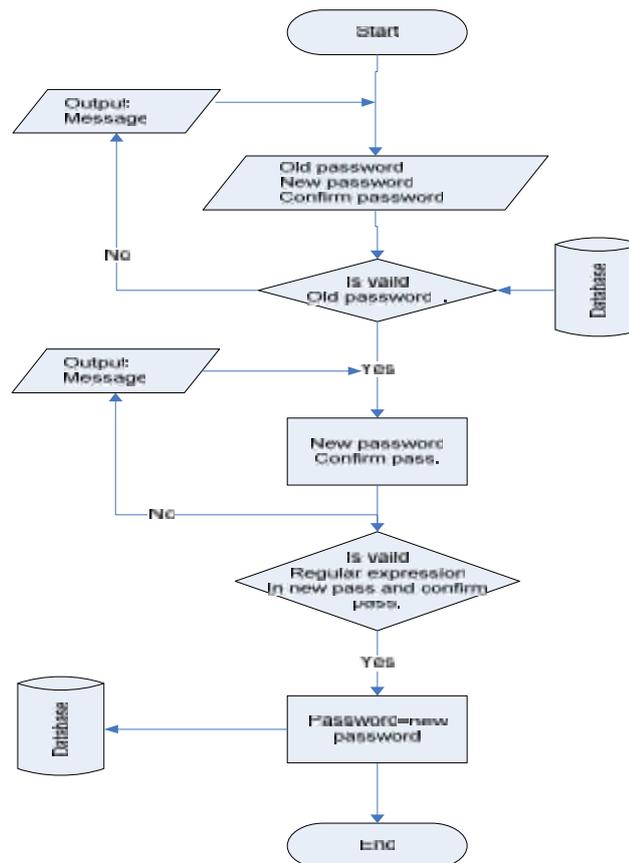
⇒ *Interface:*

- ☒ Input: administrator/employee id, old password, new password, confirm password.
- ☒ Output: new password.

⇒ *Constraints:*

- ☒ New password and its confirmation must match.
- ☒ The new password will take place at the next login .
- ☒ New password must be in character and at least with 6 character.

⇒ *Flowchart:*



Figure(3.31) change password for administrator/employee.



## VII. Logout administrator/employee

⇒ *Description:*

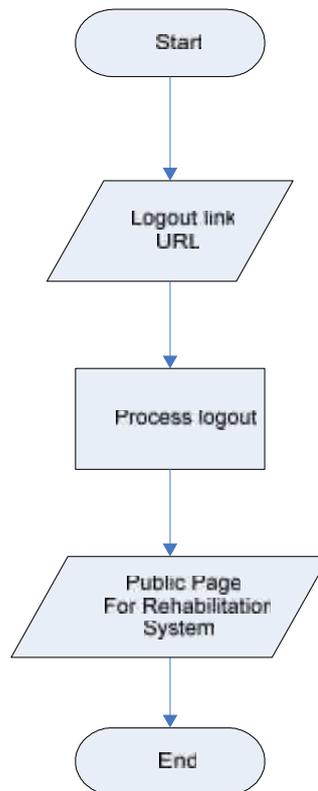
This function enable administrator/employee logging out from his session work, and terminate his pass session, and go back to home page .

⇒ *Interface:*

- ☒ Input: click on logout link.
- ☒ Output: home page.

⇒ *Constraints: None.*

⇒ *Flowchart:*



Figure(3.32) administrator/employee logout operation.



### 3.2.4 . Guest Functions Design

#### II. Public search

a. *Description:*

Search that devoted to all visitors to the web site, this search restricted on rehabilitation database for prisoners, ex-prisoners, and it possible for centers, advertisings, news and employees if it make all coding.

e. *Interface:*

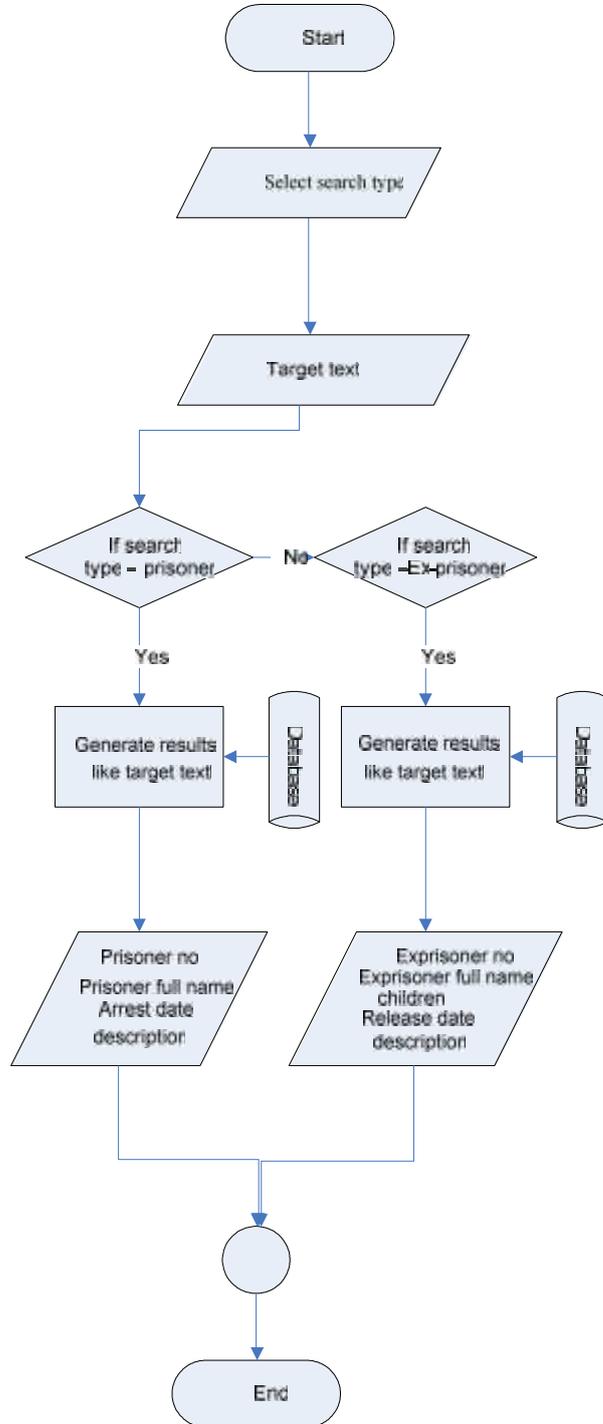
- Input: search type, target search prefix.
- Output: desired search item.

f. *Constraints:*

- None.



g. Flowchart



Figure(3.33) Public search operation.



### 3.3. Input/Output design

In this section we design I/O user interface design of screens, the designed forms shows how function works and shows how user can interact with it, however; these steps can be led to implementing and testing of the software in the rehabilitation system, note that all of screens designed by *Microsoft Office Visio 2003* to reflect vision about our work in the programming.

#### 3.3.1. Prisoner/Ex-prisoner Interface Design

##### I. Prisoner/ex-prisoner Input Design

⇒ *Prisoner/ex-prisoner Login:*

This screen below used to enable Prisoner, Ex-prisoner, Administrator, or Employee to login to his account in the Electronic Rehabilitation System.

The screenshot shows a login window with a title bar containing four radio buttons: 'Prisoner' (selected), 'Ex-prisoner', 'Administrator', and 'Employee'. Below the title bar is a text prompt 'Please Insert Your ID And Password'. The main area contains two input fields: 'User ID' and 'Password', each with a corresponding text box. Below the input fields is a 'Login' button. At the bottom of the form is a 'Forgot My Password?' link.

Figure (3.34) prisoner/ex-prisoner login screen.

The ex-prisoner login screen is the same design of prisoner login screen, and it's the same for administrator or employee and you can chose any one by the flag when chose it by radio button.



⇒ *Prisoner/ex-prisoner Main Menu:*

This screen below used to enable prisoner to displayed all menu services in his account in the rehabilitation system.



Figure (3.35) prisoner main menu screen.

At the similar screen below but by some different used to enable ex-prisoner to displayed all menu services in his account in the rehabilitation system by some different.



Figure (3.36) ex-prisoner main menu screen.



⇒ *Change Password for Prisoner/Ex-prisoner:*

This screen below used to enable prisoner/ex-prisoner to change his password to his account in the rehabilitation system.

Change My Password

Please Insert Your ID And Password

Prisoner/Ex-prisoner ID

Old Password

New Password

Confirm it

Update Password

Back Home

Figure (3.37) change password for prisoner/ex-prisoner screen.

⇒ *Remember Password for Prisoner/Ex-prisoner if Forgot:*

This screen below used to enable prisoner/ex-prisoner to remember his password to his account if he forgot his password in the rehabilitation system.

Get my account Form for Prisoner/Ex-prisoner

Please Fill this Fields To Remember your Password

Card Number

First Name

Birth of Date Month  Day

Get My Account

Back Home

Figure (3.38) remember password for prisoner/ex-prisoner screen.



⇒ *Input Questioner* :

The Prisoner/Ex-prisoner can input the opinion about questioners that displays in him accounts.

The screenshot shows a web interface titled "Questioner". It features a central form with a message "You can vote one time only" at the top. Below this is a text input field labeled "Enter Text" with a vertical scrollbar. Underneath the input field are three radio button options: "Yes" (which is selected), "No", and "Maybe". A "Show Result" button is positioned below the radio buttons. At the bottom of the form area is a "Submit" button. Below the form area, there are two buttons: "Back" and "Home".

Figure (3.39) Input Questioner screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



## II. Prisoner/Ex-prisoner Output design

⇒ *My Profile for Prisoner/ex-prisoner:*

This screen shows some of prisoner/ex-prisoner profile information such as his name, personality information, and other information.

Welcome My Profile for [Prisoner/Ex-prisoner Name]

Full Name

| First Name           | Father Name          | Grandfather Name     | Family Name          |
|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Profile Information

| ID Card No. | Gender | Mareta/status | Arrest Date | Release Date | Telephone |
|-------------|--------|---------------|-------------|--------------|-----------|
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |
|             |        |               |             |              |           |

Back Home

Figure (3.40) prisoner/ex-prisoner profile screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Children Information for Prisoner/ex-prisoner:*

This screen shows some of prisoner/ex-prisoner children information such as his name, his children names, maritalstatus and gender of each one, and other information.

**Children' Information for [Prisoner/Ex-prisoner Name]**

**Full Name**

|                      |                      |                      |                      |
|----------------------|----------------------|----------------------|----------------------|
| First Name           | Father Name          | Grandfather Name     | Family Name          |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

**Children Information**

| Name | Maritalstatus | Gender | Monthly Balace |
|------|---------------|--------|----------------|
|      |               |        |                |
|      |               |        |                |
|      |               |        |                |
|      |               |        |                |
|      |               |        |                |
|      |               |        |                |
|      |               |        |                |

**aggregation**

|                    |                      |                |                      |
|--------------------|----------------------|----------------|----------------------|
| Number of children | <input type="text"/> | Monthly income | <input type="text"/> |
|--------------------|----------------------|----------------|----------------------|

[Back](#) [Home](#)

Figure (3.41) children information of prisoner/ex-prisoner screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Wives Information for Prisoner/ex-prisoner:*

This screen shows some of prisoner/ex-prisoner wives information such as his name, his wives names, id card, birth of date, address, and other information.

**Wives' Information for [Prisoner/Ex-prisoner Name]**

**Full Name**

|                      |                      |                      |                      |
|----------------------|----------------------|----------------------|----------------------|
| First Name           | Father Name          | Grandfather Name     | Family Name          |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

**Wives Information**

| Name | ID Card | Birth of Date | Job |
|------|---------|---------------|-----|
|      |         |               |     |
|      |         |               |     |
|      |         |               |     |

Figure (3.42) wives information of prisoner/ex-prisoner screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Supporters Information for Prisoner/ex-prisoner:*

This screen shows some of prisoner/ex-prisoner supporters information such as his name, supporters names, and other information.

**Supporters' Information for [Prisoner/Ex-prisoner Name]**

**Full Name**

|            |             |                  |             |
|------------|-------------|------------------|-------------|
| First Name | Father Name | Grandfather Name | Family Name |
|            |             |                  |             |

**Supporters' Names**

| Name | Relatives | Birth of Date |
|------|-----------|---------------|
|      |           |               |
|      |           |               |
|      |           |               |
|      |           |               |
|      |           |               |
|      |           |               |
|      |           |               |

Figure (3.43) supporters information of prisoner/ex-prisoner screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *My Advertising Information for Prisoner/ex-prisoner:*

This screen shows some of prisoner/ex-prisoner my advertising information such as advertising since, number of days, date of publish, author, subject and the body of advertising by read or save it.

| Date | Author | Subject | Body        |
|------|--------|---------|-------------|
|      |        |         | Read / Save |

Figure (3.44) advertising information of prisoner/ex-prisoner screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Agent Information for Prisoner Only:*

This screen shows some of agent information for prisoner such as his name, agents names, and other informations.

Figure (3.45) agent information for prisoner screen.

Note; the agent information only for prisoner.

⇒ *Losses Information for Prisoner/ex-prisoner:*

This screen shows some of losses information for prisoner/ex-prisoner such as his name, and losses informations.

Figure (3.46) losses information for prisoner/ex-prisoner screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *loans Information for Ex-prisoner Only:*

This screen shows some of loan information for ex-prisoner such as his name, and loan informations.

**Loan Information for [Ex-prisoner Name]**

Full Name

First Name      Father Name      Grandfather Name      Family Name

Loan Information

| Loan Kind | Project Name | Project Address | Participate |
|-----------|--------------|-----------------|-------------|
|           |              |                 |             |
|           |              |                 |             |
|           |              |                 |             |
|           |              |                 |             |
|           |              |                 |             |

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Figure (3.47) loan information for ex-prisoner screen.

⇒ *Services Information for Ex-prisoner Only:*

This screen shows some of services information for ex-prisoner such as his name, service kind, start date and period of service, location and support side, and other informations.

**Services Information for [Ex-prisoner Name]**

Full Name

First Name      Father Name      Grandfather Name      Family Name

Services Information

| Service Kind | Start Date | Period of Service | Location | Support Sides |
|--------------|------------|-------------------|----------|---------------|
|              |            |                   |          |               |
|              |            |                   |          |               |
|              |            |                   |          |               |
|              |            |                   |          |               |
|              |            |                   |          |               |

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Figure (3.48) services information for ex-prisoner screen.

The loans and services information only for ex-prisoner, and designed at the same on ASP.NET.



⇒ *Output Questioner Results :*

The Prisoner/Ex-prisoner can shows the result of questioners that in him accounts.

**Questioner Results**

| Result Statistics          | Result Percentage          | Result Chart               |
|----------------------------|----------------------------|----------------------------|
| Yes <input type="text"/>   | Yes <input type="text"/>   | Yes <input type="text"/>   |
| No <input type="text"/>    | No <input type="text"/>    | No <input type="text"/>    |
| Maybe <input type="text"/> | Maybe <input type="text"/> | Maybe <input type="text"/> |

**Questioner Text**   **Total Sharing**

How the prisoners and ex-prisoners in the prisons?

[Back](#)   [Home](#)

Figure (3.49) output questioner results screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



### 3.3.2. Administrator & Employee Interfaces Design

#### ☒ Administrator/Employee Input and Output Screen Design

⇒ *Administrator Login:*

We discussed this screen in the prisoner/ex-prisoner section, so by the same way the screen below used to enable Prisoner, Ex-prisoner, Administrator, or Employee to login to his account in the Electronic Rehabilitation System.

The screenshot shows a login interface with a header bar containing four radio buttons:  Prisoner,  Ex-prisoner,  Administrator, and  Employee. Below the header is a central box with the title "Please Insert Your ID And Password". Inside this box, there are two input fields: "User ID" and "Password". Below the "Password" field is a "Login" button. At the bottom of the box is a link that says "Forgot My Password?".

Figure (3.50) User login screen.

The ex-prisoner login screen is the same design of prisoner login screen, and it's the same for administrator or employee and you can chose any one by the flag when chose it by radio button.



⇒ *Remember Password for Administrator or Employee if Forgot:*

This screen below used to enable administrator/employee to remember his password to his account if he forgot his password in the Electronic Rehabilitation System.

Get my Account Form for Administrator/Employee

Please Fill this Fields To Remember your Password

Card Number

First Name

Center Name

Get My Account

Back Home

Figure (3.51) remember password for administrator/employee screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Main Menu for Administrator Only:*

This screen enable the administrator to gain select over the rehabilitation ministry system by click on buttons after he insert the center number and center name.

The screenshot shows a web interface titled "Main Menu for Administrator". At the top, it says "Welcome, [Mr/s Administrator Name]". Below this, there are two input fields: "Center Number" and "Center Name". Underneath the input fields is a grid of buttons for various administrative functions:

|                    |                              |
|--------------------|------------------------------|
| Adding Advertising | Determine the Authentication |
| Update Advertising | Update Users Information     |
| Change Password    | Adding Prisoners/Ex-prisoner |
| Delete Advertising | Update Arrest Information    |
| Adding Employee    | Insert Voting                |

Below the grid is a "Reports" button. At the bottom of the screen are "Back" and "Home" buttons.

Figure (3.52) administrator main menu screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Main Menu for Employee Only:*

This screen enable the employee to gain select over the rehabilitation ministry system by click on buttons after he insert the center number and center name.

**Main Menu for Employee**

Welcome, [Mr/s Employee Name]

Center Number  Center Name

Update Users Information    Adding Prisoners/Ex-prisoner

Adding Advertising    Update Advertising

Change Password    Delete Advertising

Result of Voting    Reports

Back    Home

Figure (3.53) employee main menu screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Control Panel by Administrator Only:*

This screen enable the administrator to gain control over the rehabilitation ministry system by activate or deactivate some controls in prisoner, ex-prisoner, and employee accounts, and other options.

**Determine authenticate for  
Prisoners, Ex-prisoners and Employees**

| Prisoners Authentications   | Employees Authentications   | Ex-prisoners Authentications  |
|---|---|---|
| <input checked="" type="checkbox"/> Disable Login                                     | <input checked="" type="checkbox"/> Disable Login                                     | <input checked="" type="checkbox"/> Disable Login                                     |
| <input checked="" type="checkbox"/> Disable Voting                                    | <input checked="" type="checkbox"/> Disable Voting                                    | <input checked="" type="checkbox"/> Disable Voting                                    |
| <input checked="" type="checkbox"/> Disable Change Password                           | <input checked="" type="checkbox"/> Disable Insert Advertising                        | <input checked="" type="checkbox"/> Disable Change Password                           |
| <input checked="" type="checkbox"/> Don't Display Advertising                         | <input checked="" type="checkbox"/> Disable Delete Advertising                        | <input checked="" type="checkbox"/> Don't Display Advertising                         |
| <input type="button" value="Select All"/> <input type="button" value="Deselect All"/> | <input checked="" type="checkbox"/> Disable Update Advertising                        | <input type="button" value="Select All"/> <input type="button" value="Deselect All"/> |
|   | <input checked="" type="checkbox"/> Disable Passwords Change                          |   |
|   | <input checked="" type="checkbox"/> Disable Adding New Prisoner                       |   |
|   | <input type="button" value="Select All"/> <input type="button" value="Deselect All"/> |   |

Figure (3.54) administrator control panel screen.

There are number of employee functions that the same some of administrator functions, but the administrator give this authorizations to employee from control panel.



⇒ *Add New Employee by Administrator Only :*

Here the administrator insert a new employees by adding new employee accounts.

The screenshot shows a web interface for adding a new employee. The main heading is "adding new employee". Below this is a form titled "Insert Employee". The form contains three input fields: "Employee Number" (with the value "2"), "Employee Name", and "ID Card Number". Below the form are two buttons: "Add" and "Cancel". Below the form are two more buttons: "Back" and "Home".

Figure (3.55) adding new employee account screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Insert Questioner Text by Administrator Only :*

The administrator only can insert the text of questioners to prisoners/ex-prisoners in the system.

The screenshot shows a web interface for inserting questioner text. The main heading is "Insert Questionner Form". Below this, there are three columns for data entry: "Result Statistics", "Result Percentage", and "Result Chart". Each column contains three rows of input fields labeled "Yes", "No", and "Maybe". Below these columns, there are two more input fields: "Questioner Text" and "Total Sharing", followed by "Upload" and "New" buttons. A large text area for "Enter Text" is positioned below these fields, with a vertical scrollbar on the right. At the bottom of the form, there are "Back" and "Home" buttons.

Figure (3.56) insert questioner text screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Insert Advertisings by Administrator or Employee:*

this screen enables the administrator or employee to insert advertisings to the database and can determine the advertising destination such as center advertisings, prisoner advertisings, ex-prisoner advertisings or news advertisings.

The screenshot shows a web form titled "Insert New Advertising Form". At the top right, there is a "Year" dropdown menu. The form is organized into several sections:

- Board Data:** A section containing six input fields: "Date", "Due To", "Advertising Number", "Author", "Title", and another "Advertising Number".
- Advertising body:** A section with two checked checkboxes: "Exit" and "New".
- Select advertisng type:** A section with three radio button options: "To All" (selected), "To Prisoner Only", and "To Ex-prisoner Only".
- User Number:** A dropdown menu.
- Advertising text:** A large text area with a "Browse" button to its right.
- Buttons:** At the bottom of the form, there are two buttons: "New" and "Upload the Advertising".

Figure (3.57) insert new advertisings screen.

Notes;

The employee don't able to insert any thing without get an authorization from administrator.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Delete Advertisings by Administrator or Employee:*

Here the administrator or employee can delete advertisings depending on some criteria such as expired advertisings.

The screenshot shows a web application interface for deleting advertisements. At the top, there is a title bar labeled "Delete Advertising Form". Below this, a confirmation dialog asks "Are You Certain Deleting?" with "Yes" and "No" buttons. The main content area features a "Get Advertising" button, a radio button group for "Advertising Type" (with "Prisoner" selected), two empty list boxes with navigation arrows, and a "Delete" button. At the bottom, there are "Back" and "Home" buttons.

Figure (3.58) delete advertisings screen.

Notes;

The employee don't able to delete any thing without get an authorization from administrator.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Update Advertisings by Administrator or Employee:*

This screen enable the administrator or employee to edit and update the advertising body or deadline or both.

The screenshot shows a web form titled "Updates Advertising Form". At the top, there is a header with the title. Below the header, the form is organized into several sections. On the left, there is a section for "Available Advertising Titles" with a dropdown menu. Below this is an "Update" section with two radio buttons: "Prisoner" (which is selected) and "Ex-prisoner". To the right of this is an "Advertising Type" section with two checked checkboxes: "Exist" and "New". Below these is an "Advertising Deadline" section with a text input field and a "Change" button. On the right side of the form is a large text area for the advertising body, with a "Browse" button below it. At the bottom right of the form is an "Update" button. At the bottom center, there are two buttons: "Back" and "Home".

Figure (3.59) update advertisings screen.

Notes;

The employee don't able to update any thing without get an authorization from administrator.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Update Prisoner/Ex-prisoner Information by Administrator or Employee:*

This screen enable the administrator or employee to edit and update the prisoner/ex-prisoner information.

### Update Prisoner/ex-prisoner Information

Search and Display

ID Card Number 999999999

| First Name | Father name | Family Name | ID Card | Address | Telephone |      |
|------------|-------------|-------------|---------|---------|-----------|------|
|            |             |             |         |         |           | Edit |
|            |             |             |         |         |           | Edit |
|            |             |             |         |         |           | Edit |

| First Name | Father name | Family Name | ID Card   | Address | Telephone |               |
|------------|-------------|-------------|-----------|---------|-----------|---------------|
| Al         | Muhammed    | Hamedia     | 999999999 | Hebror  | 1111111   | Update/Cancel |
|            |             |             |           |         |           | Edit          |
|            |             |             |           |         |           | Edit          |

Back
Home

Figure (3.60) update the prisoner/ex-prisoner information screen.

Notes;

The employee don't able to update any thing without get an authorization from administrator.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Update Arrest Information by Administrator or Employee:*

This screen enable the administrator or employee to edit and update the arrest information in the system.

**Update Arrest Information**

ID Card Number

| Arrest Number | Arrest Date | Release Date |      |
|---------------|-------------|--------------|------|
|               |             |              | Edit |
|               |             |              | Edit |
|               |             |              | Edit |

| Arrest Number | Arrest Date | Release Date |               |
|---------------|-------------|--------------|---------------|
| 1             | 1/1/2000    | 10/2/2004    | Update/Cancel |
|               |             |              | Edit          |
|               |             |              | Edit          |

Figure (3.61) update arrest information screen.

Notes;

The employee don't able to update any thing without get an authorization from administrator.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Display Reports by Administrator or Employee:*

This screen display some reports about supporters and arrest information, families, and all prisoners and ex-prisoners lists .

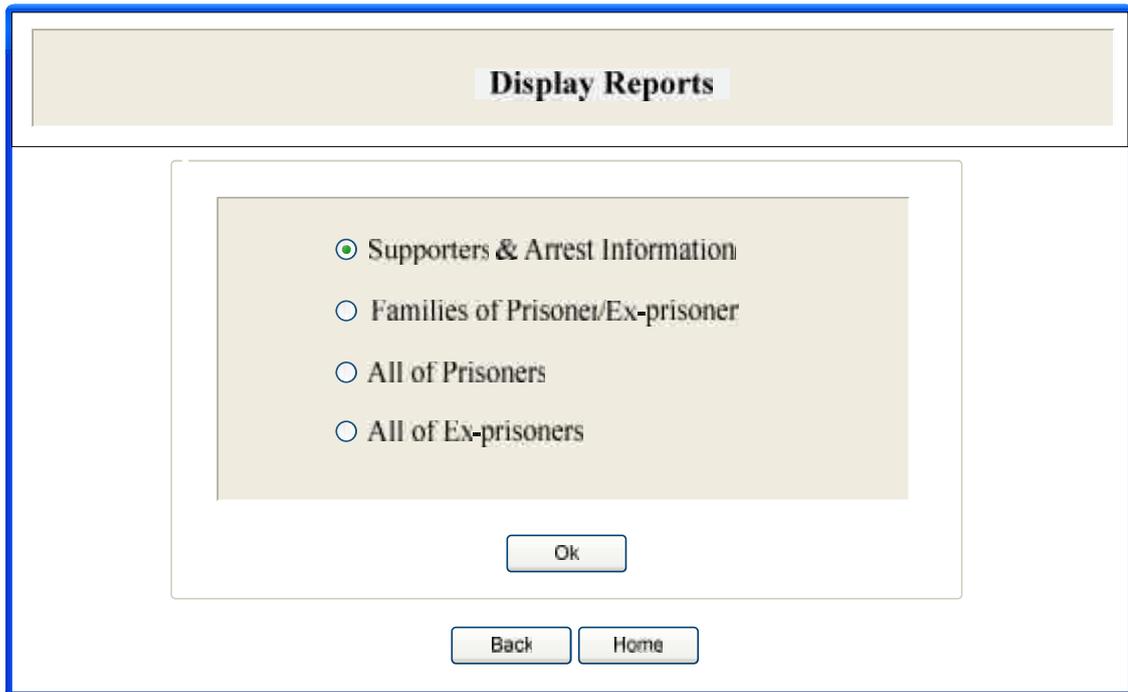


Figure (3.62) display reports screen.

Notes;

The employee don't able to displsy any thing without get an authorization from administrator.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



⇒ *Insert Information to Prisoners/Ex-prisoners:*

The administrator or employee if tack the authorization from administrator can insert the Prisoner/Ex-prisoner information to the rehabilitation database from here.

Figure (3.63) insert prisoner/ex-prisoner information.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.





⇒ *Display Advertisings:*

The administrator, employee, Prisoner/Ex-prisoner and guest can display the advertising (special advertising for each one in him account or public advertising to all).

**Display Advertising**

| Title | Author | Advertising Date | Time |              |
|-------|--------|------------------|------|--------------|
|       |        |                  |      | Save/Display |

Figure (3.65) Display advertising screen.

At the same way we make a similar interface by ASP.NET and it can using other techniques to establish this interface but the same attributes.



### 3.4. Database design

#### 3.4.1 Database Tables:

1... Adv\_Pf Table:

| Field         | Data Type   | Required | key       | References                    | Description                        |
|---------------|-------------|----------|-----------|-------------------------------|------------------------------------|
| pris_freer_no | Numeric (9) | Yes      | PK,<br>FK | Pris_freer<br>(pris_freer_no) | Prisoner/ex-<br>prisoner<br>number |
| brd_no        | Numeric (9) | Yes      | PK,<br>FK | advertising<br>(brd_no)       | advertising<br>number              |

Table (3.1) Adv\_Pf Table.

2... Agent Table:

| Field         | Data Type   | Required | Key | References                    | Description                        |
|---------------|-------------|----------|-----|-------------------------------|------------------------------------|
| agent_no      | Numeric(9)  | Yes      | PK  |                               | Agent<br>Number                    |
| fname         | Varchar(50) | Yes      |     |                               | Agent first<br>name                |
| sname         | Varchar(50) | Yes      |     |                               | Agent second<br>name               |
| tname         | Varchar(50) | Yes      |     |                               | Agent third<br>name                |
| lname         | Varchar(50) | Yes      |     |                               | Agent family<br>name               |
| BOD           | Datetime(8) | No       |     |                               | Birth of Date                      |
| gender        | Bit(1)      | Yes      |     |                               | gender                             |
| Account_no    | Numeric(9)  | Yes      |     |                               | Account<br>number                  |
| Bank_name     | Varchar(50) | Yes      |     |                               | The name of<br>bank                |
| Branch        | Varchar(50) | Yes      |     |                               | The name of<br>bank branch         |
| pris_freer_no | Numeric(9)  | Yes      | FK  | Pris_freer<br>(pris_freer_no) | Prisoner/ex-<br>prisoner<br>number |

Table (3.2) Agent Table.



## 3... Advertisings Table:

| Field              | Data Type   | Required | key | References | Description            |
|--------------------|-------------|----------|-----|------------|------------------------|
| brd_no             | Numeric (9) | Yes      | PK  |            | Advertising number     |
| advertising_title  | Varchar(50) | Yes      |     |            | Advertising Title      |
| advertising_text   | Varchar(50) | No       |     |            | Text in advertising    |
| advertising_date   | Datetime(8) | Yes      |     |            | Advertising issue date |
| advertising_auther | Varchar(50) | No       |     |            | Auther name            |

Table (3.3) Advertisings Table.

## 4... Arrest Table:

| Field         | Data Type   | Required | key | References                 | Description                 |
|---------------|-------------|----------|-----|----------------------------|-----------------------------|
| arrest_no     | Real (4)    | Yes      | PK  |                            | arrest number               |
| arrest_date   | Datetime(8) | Yes      |     |                            | The date of restriction     |
| freeing_date  | Datetime(8) | Yes      |     |                            | The date of release         |
| arest_type    | Varchar(50) | No       |     |                            | The type of restriction     |
| Prison_no     | Numeric (9) | Yes      | FK  | Prison (prison_no)         | prison number               |
| pris_freer_no | Numeric(9)  | Yes      | FK  | Pris_freer (pris_freer_no) | Prisoner/ex-prisoner number |

Table (3.4) arrest table.

## 5... Centers Table:

| Field           | Data Type   | Required | key | References | Description         |
|-----------------|-------------|----------|-----|------------|---------------------|
| center_no       | Numeric (9) | Yes      | PK  |            | Center number       |
| center_name     | Varchar(50) | Yes      |     |            | Center name         |
| center_location | Varchar(50) | No       |     |            | Place of center     |
| center_tel      | numeric(9)  | Yes      |     |            | Telephone of center |

Table (3.5) Centers Table.



## 6... Children Table:

| Field         | Data Type   | Required | key | References                 | Description                 |
|---------------|-------------|----------|-----|----------------------------|-----------------------------|
| children_no   | Numeric (9) | Yes      | PK  |                            | Children number             |
| children_name | Varchar(50) | Yes      |     |                            | Children name               |
| DOB           | Datetime(8) | No       |     |                            | The Date of Birth           |
| gender        | Bit(1)      | Yes      |     |                            | The gender                  |
| job           | Char(10)    | No       |     |                            | The job                     |
| income_bal    | Money(8)    | No       |     |                            | Monthly Balance of income   |
| marital_no    | numeric(9)  | Yes      | FK  | Maritalstatus (marital_no) | Maritalstatus number        |
| degree_no     | numeric(9)  | Yes      | FK  | Degree (degree_no)         | Science degree number       |
| pris_freer_no | numeric(9)  | Yes      | FK  | Pris_freer (pris_freer_no) | Prisoner/ex-prisoner number |

Table (3.6) Children Table.

## 7... Diseases Table:

| Field           | Data Type   | Required | key | References | Description         |
|-----------------|-------------|----------|-----|------------|---------------------|
| disease_no      | Numeric (9) | Yes      | PK  |            | Disease number      |
| disease_name    | Varchar(50) | Yes      |     |            | Disease name        |
| illness_date    | Datetime(8) | No       |     |            | The date of illness |
| dis_description | Varchar(50) | No       |     |            | Disease description |

Table (3.7) Diseases Table.



8... Edu\_PF Table:

| Field         | Data Type   | Required | key       | References                        | Description                        |
|---------------|-------------|----------|-----------|-----------------------------------|------------------------------------|
| pris_freer_no | Numeric (9) | Yes      | PK,<br>FK | Pris_freer<br>(pris_freer_no<br>) | Prisoner/ex-<br>prisoner<br>number |
| edu_no        | Numeric (9) | Yes      | PK,<br>FK | education<br>(edu_no)             | education<br>number                |

Table (3.8) Edu\_PF Table.

9... Education Table:

| Field      | Data Type   | Required | Key | References | Description            |
|------------|-------------|----------|-----|------------|------------------------|
| edu_no     | Numeric(9)  | Yes      | PK  |            | Education<br>Number    |
| edu_name   | varchar(50) | Yes      |     |            | Education<br>name      |
| edu_instit | varchar(50) | No       |     |            | Education<br>institute |
| address    | varchar(50) | No       |     |            | address                |

Table (3.9) Education table.

10... F\_Service Table:

| Field         | Data Type   | Required | key       | References                        | Description                        |
|---------------|-------------|----------|-----------|-----------------------------------|------------------------------------|
| pris_freer_no | Numeric (9) | Yes      | PK,<br>FK | Pris_freer<br>(pris_freer_no<br>) | Prisoner/ex-<br>prisoner<br>number |
| service_no    | Numeric (9) | Yes      | PK,<br>FK | Freer_services<br>(service_no)    | service<br>number                  |

Table (3.10) F\_Service Table.



## 11... Freer\_Job Table:

| Field            | Data Type   | Required | key | References                 | Description              |
|------------------|-------------|----------|-----|----------------------------|--------------------------|
| job_no           | Numeric (9) | Yes      | PK  |                            | Job number               |
| job_name         | Varchar(50) | Yes      |     |                            | The name of Job          |
| supp_institution | Varchar(50) | No       |     |                            | Support institution      |
| address          | Varchar(50) | No       |     |                            | The address job of freer |
| start_date       | Datetime(8) | No       |     |                            | Start date of job        |
| pris_freer_no    | Numeric (9) | Yes      | FK  | Pris_freer (pris_freer_no) | free number              |

Table (3.11) Freer\_Job Table.

## 12... Freer\_Loans Table:

| Field         | Data Type   | Required | key    | References                 | Description             |
|---------------|-------------|----------|--------|----------------------------|-------------------------|
| loan_no       | Numeric (9) | Yes      | PK, FK | Loans (loan_no)            | Loan number             |
| pris_freer_no | Numeric (9) | Yes      | PK, FK | Pris_freer (pris_freer_no) | Prisoner or free number |

Table (3.12) Freer\_Loans Table.

## 13... Freer\_Services Table:

| Field         | Data Type    | Required | key | References                 | Description           |
|---------------|--------------|----------|-----|----------------------------|-----------------------|
| service_no    | Numeric (9)  | Yes      | PK  |                            | Service number        |
| service_kind  | Varchar(50)  | Yes      |     |                            | The name of service   |
| start_date    | Datetime(8)  | Yes      |     |                            | Start date of service |
| serv_period   | Nvarchar(50) | Yes      |     |                            | The period of service |
| serv_location | Varchar(50)  | Yes      |     |                            | The place of service  |
| supp_sides    | Varchar(50)  | No       |     |                            | Supported sides       |
| pris_freer_no | Numeric (9)  | Yes      | FK  | Pris_freer (pris_freer_no) | free number           |

Table (3.13) Freer\_Services Table.



## 14... Loans Table:

| Field        | Data Type   | Required | key | References | Description                |
|--------------|-------------|----------|-----|------------|----------------------------|
| loan_no      | Numeric (9) | Yes      | PK  |            | Loan number                |
| loan_name    | Varchar(50) | Yes      |     |            | The name of loan           |
| proj_address | Varchar(50) | Yes      |     |            | The address of project     |
| proj_name    | Varchar(50) | Yes      |     |            | The name of project        |
| participate  | Varchar(50) | No       |     |            | The participate in project |

Table (3.14) Loans Table.

## 15... Losses Table:

| Field         | Data Type   | Required | key | References                  | Description                 |
|---------------|-------------|----------|-----|-----------------------------|-----------------------------|
| losses_no     | Numeric (9) | Yes      | PK  |                             | Loss number                 |
| loss_name     | Varchar(50) | Yes      |     |                             | The name of loss            |
| loss_date     | Datetime(8) | Yes      |     |                             | The date of loss            |
| notes         | Varchar(50) | No       |     |                             | Notes about notes           |
| pris_freer_no | Numeric (9) | Yes      | FK  | Pris_freer (pris_freer_no ) | Prisoner/ex-prisoner number |

Table (3.15) Losses Table.

## 16... Prison Table:

| Field       | Data Type   | Required | key | References | Description       |
|-------------|-------------|----------|-----|------------|-------------------|
| prison_no   | Numeric (9) | Yes      | PK  |            | prison number     |
| prison_name | Varchar(50) | Yes      |     |            | prison name       |
| address     | Varchar(50) | Yes      |     |            | The place of jail |

Table (3.16) prison table.



17... Maritalstatus Table:

| Field        | Data Type   | Required | key | References | Description          |
|--------------|-------------|----------|-----|------------|----------------------|
| marital_no   | Numeric (9) | Yes      | PK  |            | Maritalstatus number |
| marital_name | Numeric (9) | Yes      |     |            | Maritalstatus kind   |

Table (3.17) Maritalstatus Table.

18... P\_F\_Diseases Table:

| Field         | Data Type   | Required | key    | References                 | Description                 |
|---------------|-------------|----------|--------|----------------------------|-----------------------------|
| pris_freer_no | Numeric (9) | Yes      | PK, FK | Pris_freer (pris_freer_no) | Prisoner/ex-prisoner number |
| disease_no    | Numeric (9) | Yes      | PK, FK | Diseases (disease_no)      | Disease number              |

Table (3.18) P\_F\_Diseases Table.

19... P\_F\_Prison Table:

| Field         | Data Type   | Required | key    | References                 | Description                 |
|---------------|-------------|----------|--------|----------------------------|-----------------------------|
| prison_no     | Numeric (9) | Yes      | PK, FK | Prison (prison_no)         | Prison number               |
| pris_freer_no | Numeric (9) | Yes      | PK, FK | Pris_freer (pris_freer_no) | Prisoner/ex-prisoner number |

Table (3.19) P\_F\_prison table.



20... Pris\_Freer Table:

| Field         | Data Type      | Required | Key | References                 | Description                      |
|---------------|----------------|----------|-----|----------------------------|----------------------------------|
| pris_freer_no | Numeric(9)     | Yes      | PK  |                            | Prisoner/ex-prisoner number      |
| pwd           | Nvarchar(50)   | Yes      |     |                            | Password                         |
| status        | Bit(1)         | Yes      |     |                            | Flag signal                      |
| fname         | Varchar(50)    | Yes      |     |                            | Prisoner/ex-prisoner first name  |
| sname         | Varchar(50)    | Yes      |     |                            | Prisoner/ex-prisoner second name |
| tname         | Varchar(50)    | Yes      |     |                            | Prisoner/ex-prisoner third name  |
| lname         | Varchar(50)    | Yes      |     |                            | Prisoner/ex-prisoner family name |
| BOD           | Datetime(8)    | Yes      |     |                            | The date of birth                |
| gender        | Bit(1)         | Yes      |     |                            | gender                           |
| id_card       | Numeric(9)     | Yes      |     |                            | ID Card number                   |
| Pass_no       | Numeric(9)     | No       |     |                            | Passport number                  |
| un_card       | Bit(1)         | No       |     |                            | UN Card                          |
| address       | Varchar(50)    | No       |     |                            | The address if exist             |
| marital_no    | Numeric (9)    | Yes      | FK  | Maritalstatus (marital_no) | Maritalstatus number             |
| supp_no       | Numeric (9)    | Yes      | FK  | Supporters (supp_no)       | supporter number                 |
| tel_no        | Numeric (9)    | No       |     |                            | telephone                        |
| Center_no     | Numeric (9)    | Yes      | FK  | Centers (center_no)        | center number                    |
| descr         | nvarchar (500) | No       |     |                            | Description                      |

Table (3.20) Pris\_Freer Table.



## 21... Setting Table:

| Field      | Data Type  | Required | Key | References          | Description          |
|------------|------------|----------|-----|---------------------|----------------------|
| set_no     | int(4)     | Yes      | PK  |                     | Setting Number       |
| pris_freer | Numeric(9) | Yes      |     |                     | Prisoner/ex-prisoner |
| e_s        | int(4)     | Yes      |     |                     | Employee setting     |
| center_no  | Numeric(9) | Yes      | FK  | Centers (center_no) | Center number        |

Table (3.21) setting table.

## 22... Supporter Table:

| Field     | Data Type   | Required | key | References | Description           |
|-----------|-------------|----------|-----|------------|-----------------------|
| supp_no   | Numeric (9) | Yes      | PK  |            | supporter number      |
| fname     | Varchar(50) | Yes      |     |            | supporter first name  |
| sname     | Varchar(50) | Yes      |     |            | supporter second name |
| tname     | Varchar(50) | Yes      |     |            | supporter third name  |
| lname     | Varchar(50) | Yes      |     |            | supporter family name |
| BOD       | Datetime(8) | No       |     |            | The Birth of Date     |
| relatives | Varchar(50) | No       |     |            | supporter relatives   |

Table (3.22) Supporter Table.



## 23... Users Table:

| Field     | Data Type    | Required | Key | References              | Description     |
|-----------|--------------|----------|-----|-------------------------|-----------------|
| u_no      | Numeric(9)   | Yes      | PK  |                         | User Number     |
| pwd       | nvarchar(50) | Yes      |     |                         | User Password   |
| Id_no     | Numeric(9)   | Yes      |     |                         | Identity number |
| U_name    | Numeric(9)   | Yes      |     |                         | User name       |
| role      | Bit(1)       | Yes      |     |                         | Flag signal     |
| Center_no | Numeric(9)   | Yes      | FK  | Centers<br>(centyer_no) | Center number   |

Table (3.23) users table.

## 24... Vote Table:

| Field     | Data Type   | Required | key | References | Description     |
|-----------|-------------|----------|-----|------------|-----------------|
| vote_no   | Numeric (9) | Yes      | PK  |            | vote number     |
| vote_body | varchar(50) | Yes      |     |            | Vote text ..etc |

Table (3.24) vote table.

## 25... Vote Result Table:

| Field   | Data Type   | Required | key | References        | Description |
|---------|-------------|----------|-----|-------------------|-------------|
| vote_no | Numeric (9) | Yes      | PK  |                   | vote number |
| v_yes   | int(4)      | No       |     |                   | Vote allow  |
| v_no    | int(4)      | Yes      | FK  | Vote<br>(vote_no) |             |
| v_maybe | int(4)      | No       |     |                   |             |

Table (3.25) vote result table.



26... Wife Table:

| Field          | Data Type   | Required | key | References                 | Description                 |
|----------------|-------------|----------|-----|----------------------------|-----------------------------|
| wife_no        | Numeric (9) | Yes      | PK  |                            | wife number                 |
| fname          | Varchar(50) | Yes      |     |                            | wife first name             |
| sname          | Varchar(50) | Yes      |     |                            | wife second name            |
| tname          | Varchar(50) | Yes      |     |                            | wife third name             |
| lname          | Varchar(50) | Yes      |     |                            | wife family name            |
| id_card        | Numeric (9) | Yes      |     |                            | ID Card number              |
| BOD            | Datetime(8) | No       |     |                            | The Birth of Date           |
| No_of_children | Real (4)    | No       |     |                            | Number of children          |
| job            | Char(10)    | No       |     |                            | The job of wife             |
| pris_freer_no  | Numeric(9)  | Yes      | FK  | Pris_freer (pris_freer_no) | Prisoner/ex-prisoner number |

Table (3.26) wife table.

### 3.4.2 Database Model

In the next page we display the database model by SQL Server2000.





### 3.5. Test Plan

Here we describe briefly the methodology that we have adapted to test the system, steps that will be followed in the system testing are described below:

#### **Testing steps:**

##### *1- Unit and Module testing:*

We will use the white and black test Box testing to ensure that each function or module will operate as expected, by inserting valid and invalid inputs to show how the system will handle it.

##### *2- Sub-system testing:*

In this stage we will test each sub-system individually to ensure that each sub-system is operates as expected and meet its requirements.

##### *3- Integration testing:*

The integration of all sub-systems will be tested so that to ensure that the subsystems work together properly as expected, and meets its requirements.

##### *4- System testing:*

The system with all subsystems and functions will be tested to ensure that it functions properly, it meets its specification, and show if there defects throw system running.



### 3.6. Programming Language and Coding

There are many languages that can be used to develop a system such ours, but the most two effective languages are JAVA language and ASP.NET using Microsoft Visual Studio .NET as the development tool, here we describe the advantages of each, and why our selection was on the ASP.NET ( we describe the ASP.NET technology in details in chapter 1) :

#### 1- *Device Independent:*

Both Java and ASP.Net are a device independent languages, this means that any user can open the page that written using theses two languages from any explorer without any additional components or drivers, because he will just receive an HTML code.

#### 2- *Security*

Java and ASP.Net have a high level of security during transmitting data; they provide us with many algorithms and techniques.

In the ASP.NET there are a build in valuator that ensure the user's input before any generation on the server, so if there any unusual input the webpage it self will not return to the server.

In Java the programmer must do all algorithms and validations manually.

#### 3- *Server side*

One of the most powerful advantages of the ASP.NET technology is that it do not need to make any efforts on the client side, all operations and functions will work on the server.



## 4.1. Introduction

This chapter focuses on the coding and implementation of PFM (Prisoner/Ex-prisoner or Freedmen Ministry) project, the coding refers to the process of writing the necessary program, which implements the main procedures and functions of the project.

We will describe and explain the process of coding and implementation of the Prisoner/Ex-prisoner Rehabilitation System in this chapter, we will display the environment that must be to use in these processes.

There are some points must be considered when beginning the implementation:

1. This system is an internet application that depends on a number of technologies that need to be installed, maintained, and updated, continuously.
2. There exist a large number of software development packages that belong to different companies such as Microsoft.
3. This system is built basically on a group of Microsoft technologies such as the Microsoft Office 2003, MS SQL server 2000 and ASP.NET 2003, IIS, Microsoft internet explorer 6.0, and Microsoft windows XP.
4. We also included some other applications that serve for the user interface design such as Microsoft Office Visio 2003, Macromedia Flash MX, Adobe Photoshop 8.0, and PhotoImpact XL.

We will describes the packages of software and hardware used in the system for the operation phase and how they are installed and prepared for work, the database and web interfacing, and the user interface implementation.

In our system we must work the software to meet its predetermined requirements on the internet architecture needs to be suitable for the deployment process in the implementation.



## 4.2. Establishment of development environment

We will explained the hardware environment, and we describe here the establishment of development environment.

### ⇒ Hardware Environment

In the Prisoner/Ex-prisoner Rehabilitation System development we use the following hardware:

1. Two Desktop computer P4, 512MB RAM, HD 80 GB, CPU with 3.0 GHz speed.
2. One Laptop (Mobile centrino), 512MB RAM, HD 60 GB, CPU with 1.6 GHz speed (double).
3. Flash Memory 256MB.
4. Scanner.
5. Laser HP printer.

### ⇒ Software Environment

We explained in the first chapter the software costs, and we describe here the establishment of development environment.

1. *Microsoft Windows XP Professional edition with IIS web server and server extensions, (Service Pack 2).*

we use this platform or operating system because our system is built on Microsoft visual studio.NET technology , and this type of operating system is the best platform for this technology we can use.

2. *Microsoft visual studio.NET 2003 with ADO.NET.*

From this package we use ASP.NET technology which is a new powerful technology designed to create web applications, making complete error handling, and provide data access tools



### ⇒ Why we use ASP.NET technology?

We use it because of:

- ❖ Ease of use.
- ❖ Reduce development time.
- ❖ Multiple languages within a project.
- ❖ Integrated browser.
- ❖ Debugging support.
- ❖ Customizable interface.
- ❖ High compatibility with windows environment.
- ❖ High compatibility with database.

To show the compatibility to several environment, the figure below display a new application window with rehabilitation database connection, rehabilitation server name, and PFM (Prisoner and Ex-prisoner or "Freedmen" Rehabilitation Ministry) Project.

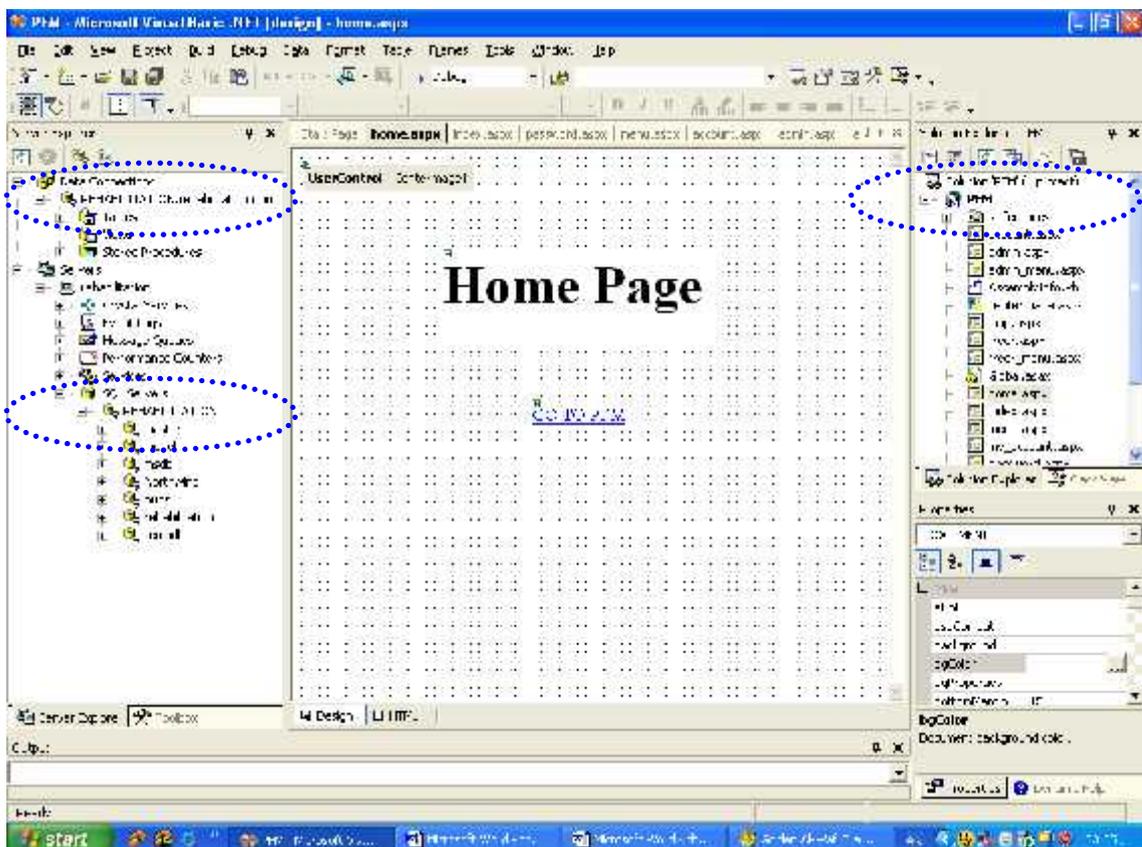


Figure (4.1) ASP.NET New Application Window for PFM Project.



To install visual studio.NET frame work, we need firstly to install a windows component which named IIS (Internet Information Services) on the windows by following these steps:

- a. Open control panel.
- b. Double click on add/remove programs icon.
- c. Click on add/remove windows components icon.
- d. Check the internet information system (IIS).
- e. Click on details button.
- f. Check options.
- g. Insert CD that labeled Windows XP Professional.
- h. Click next.
  - ❖ Setup will started to copy the required files to the hard disk.
- a. Click finish to close the windows components wizard.
- b. Close the add/remove programs window.

After IIS installation you can be able to install visual studio.NET program by using flexible integrated wizard.

### 3. *Microsoft SQL server 2000.*

An enterprise edition of the Microsoft SQL server 2000 is a good system to creating, accessing, and managing the database system of our application.

#### ⇒ **Why we use SQL server 2000?**

- ❖ Ease of use.
- ❖ High compatibility with ASP.NET.
- ❖ High flexibility.
- ❖ High security.
- ❖ Ease of make a connection, query, and retrieve data.

4. Microsoft Office 2003.
5. Adobe PhotoShop 7.0 and Photo Impact.
6. Flash MX 2004.



To determine by quick installation of the previous programs, the next figures shows the specific steps of installing.

- ❖ Purchase the computers and the software required for developing the system.
- ❖ Install windows XP.
- ❖ Install the required utilities.
- ❖ Install FrontPage 2002 Server Extension and IIS; from the control panel, choose add remove programs then choose windows components then add the IIS component and by choosing its check box then click Ok as shown next.

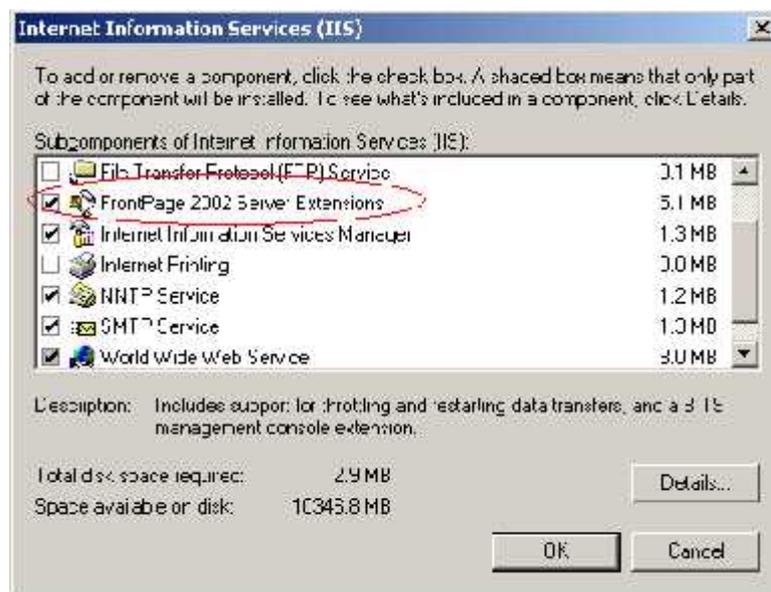


Figure (4.2) Installing FrontPage 2002 Server Extension.... Step One.

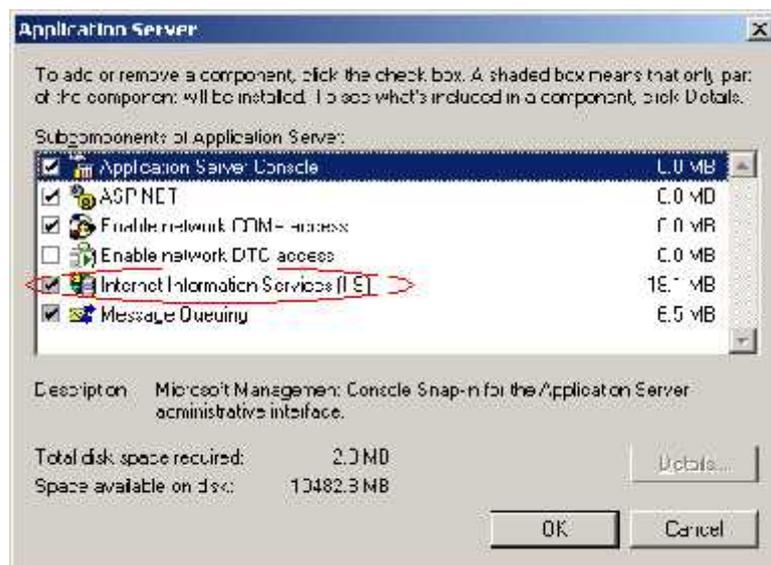


Figure (4.3) Installing IIS .... Step Two.



❖ To Install Visual Studio .NET 2003

- ⇒ Close all open applications to prevent additional reboots during setup.
- ⇒ Insert the disc labeled Visual Studio .NET 2003 CD1.
- ⇒ Autorun starts Setup.exe. If Autorun is disabled, run Setup.exe from the root of the installation CD.
- ⇒ The setup program scans your disk for installed components. If the scan determines that the system requires a component update, Step 1: Install Visual Studio .NET 2003 Prerequisites is available in the Installation dialog box. Select Step 1: to update the system components. If a component update is not required, this option is not available. After updating the system components, the Installation dialog box enables Step 2: Install Visual Studio .NET 2003. Select Step 2 to install Visual Studio .NET 2003. As shown in figure below.

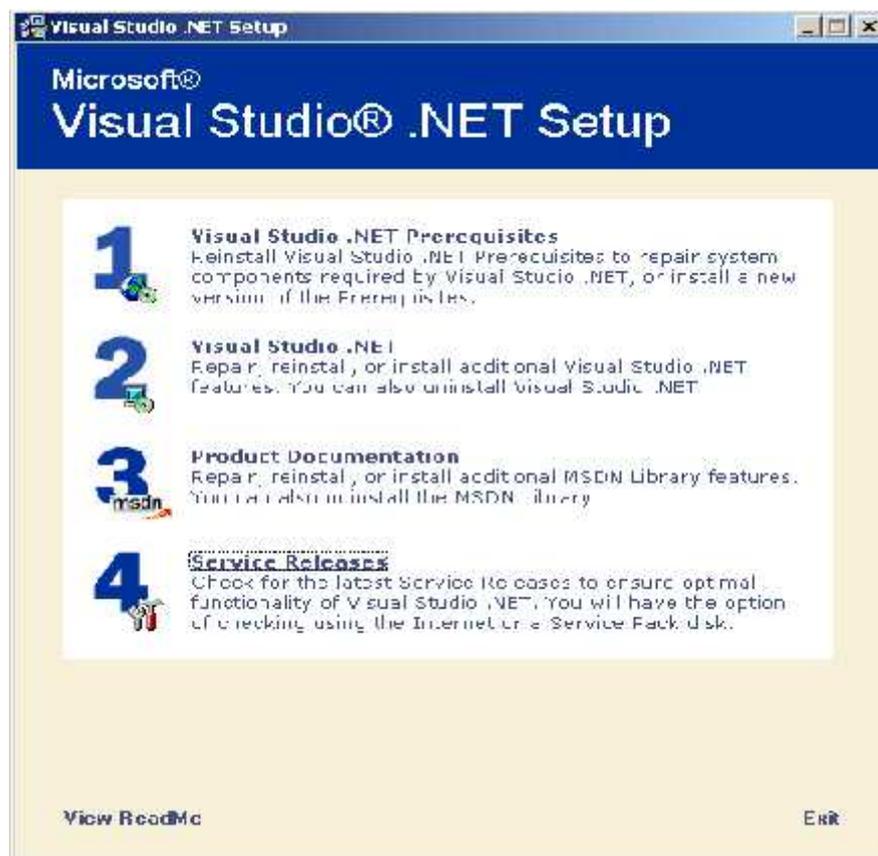


Figure (4.4) Install Visual Studio .NET 2003





In SQL server 2000 we can create new user or administrator and give him a specific privileges to access the database, in order to control the database resources.

Also in SQL server 2000 we can build a stored procedures that we can use it from ASP.NET application by calling it, which provide a high security , ease of use, and high speed accessing data with database, and we can use a views.

### ⇒ **How Configuration of SQL server 2000?**

When using .NET technology ADO.NET is used for database connections, ADO.net which is a new technology that is based on the usefulness of Microsoft ActiveX Data Object (ADO), however. It is a new technology for manipulating data, it contains numerous improvements over the previous version of ADO, and it is greatly simplifies the process of connecting a web application to a database.

Unlike ADO, ADO .NET is specifically designed for data connections located in a disconnected environment, so it the best choice when developing and implementing internet based applications, the major point here is that why SQL server 2000? And how to configure it after installation?

As we described in this section, that the connectivity and manipulation of the database in the .Net is provided by the ADO.Net technology, now because SQL server 2000 is integrated with the .NET technology tools, it certainly should be compatible for the access by ADO.NET. However, this integration appears to be more efficient and secure especially in such systems (web applications).

By configuring the SQL server 2000 to the windows only authentication mode, which is the preferred method to use when connecting a web application to SQL server 2000 DBMS, this method does not need any user name or password to be transferred back and forth between servers, only the confirmation that the user has been authenticated by trusted sources is required to process the database request, but it can used other options.



The last configuration of the SQL server 2000 is to work effectively and ensuring that the integration more comfortable is to add a new account in the login group of the SQL server. This account (ASPNET) is created by the .NET framework and it should be added to the login group of the SQL server. Figure (4.7) shows how to add this account to the logins group of the SQL Server.

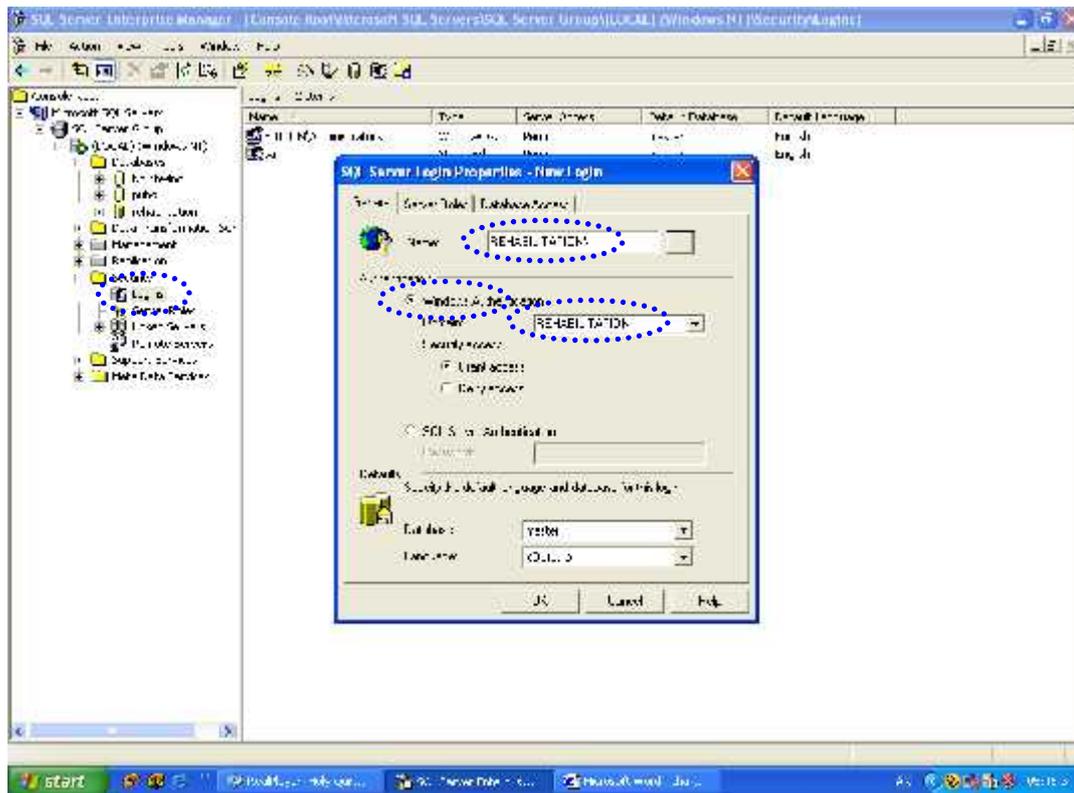


Figure (4.7) Adding ASPNET account on SQL Server logins group

### 4.3. Database implementation

The system database is implemented using the SQL server 2000 enterprise manager with the following properties:

- a. *SQL server 2000 database name*: rahabilitation.
- b. *Database normalization*, it normalized to insure that all tables and relations are not contained redundancy data and other database problems, so that it make it correct.
- c. *Database creation*: all keys which include, primary and foreign are created to ensure database consistency and correct relations.
- d. *Database connection*: At this stage, the path to the data stored in the database could be opened and used as a two channel path.



In fact, to configure a connection, it is better to do it programmatically i.e. by coding, but using wizards that create connections is preferred at the starting point of the database connection establishment process.

In the next part here is whether a connection secure or not, but in configuring the SQL server 2000 we have chosen the windows only authentication, now in this stage we have to integrate the connection security with the SQL server 2000 security mode, thereby making the connection secure, this could done by wizard, as it appears in figure (4.8) shown bellow, we select the integrated security option to be used when creating a connection to the database using Visual Studio.NET.

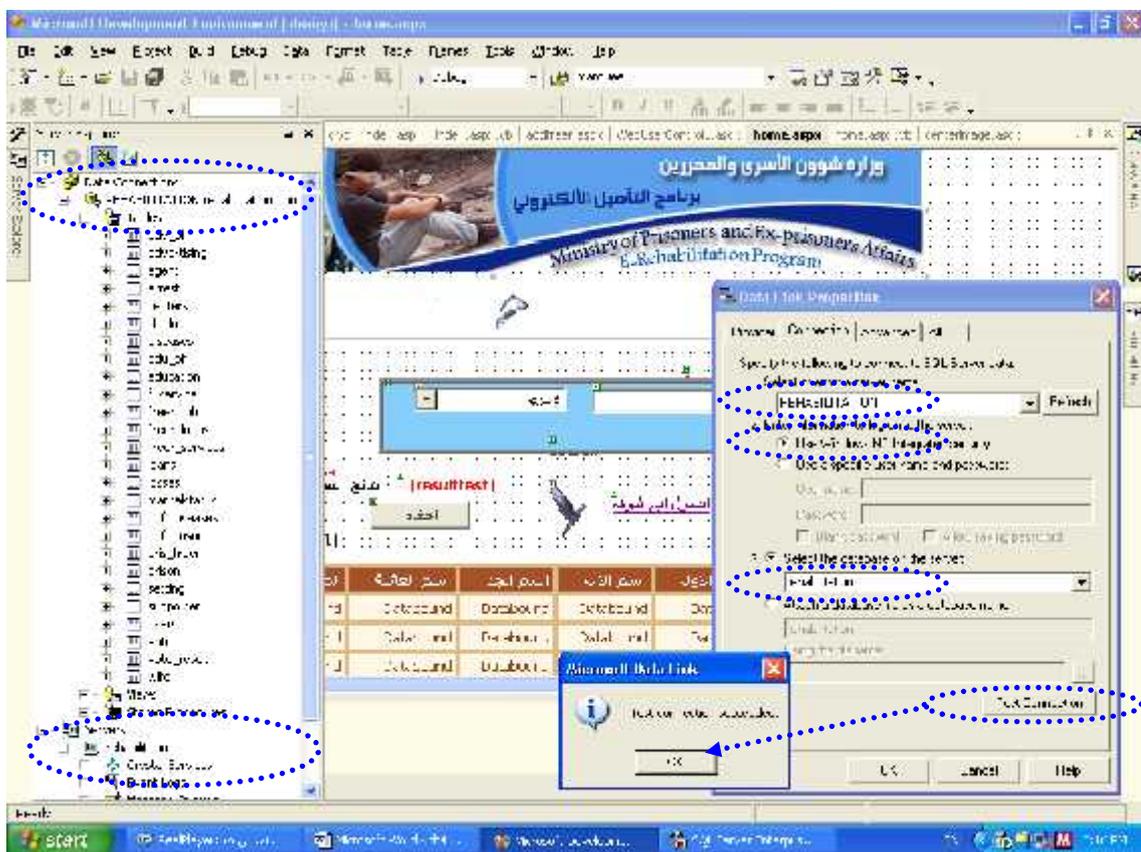


Figure (4.8) Creating Integrated Widows Security Data Link.

After connect with database we can add, delete, update, and select data from database.

Particular example after making connection with database:

This example to write data to database:



⇒ **Code writes at ASP.NET code behind page**

☒ *Create SQL connection string:*

```
Me.SqlConnection1.ConnectionString "workstation
id=REHABILITATION;packet size=4096;integrated
security=true;data source=REHABILITATIO" &
"N;persist security info=False;initial
catalog=rehabilitation"
```

☒ *Definition of SQL command:*

```
Dim cmd1 As New
SqlCommand("insertcolb",SqlConnection1)
cmd1.CommandType = CommandType.StoredProcedure
```

☒ *Definition parameters:*

```
Dim p1 As New SqlParameter("@col_no",
SqlDbType.NVarChar)
Dim p2 As New SqlParameter("@brd_no",
SqlDbType.NVarChar)

p1.Direction = ParameterDirection.Input
p2.Direction = ParameterDirection.Input

cmd1.Parameters.Add(p1)
cmd1.Parameters.Add(p2)

cmd1.Parameters("@col_no").Value =
Session("colno")
cmd1.Parameters("@brd_no").Value = brdno.Text
```

☒ *Execute command:*

```
SqlConnection1.Open()

cmd1.ExecuteNonQuery()

SqlConnection1.Close()
```



☒ *Code write at SQL server 2000*

```
CREATE PROCEDURE [dbo].[insertcolb]
@col_no numeric (9),@brd_no numeric (9)
AS
insert into brd_col values (@col_no,@brd_no)
GO
```

#### **4.4. Supporting software**

Many other software tools were required to improve our system, these are used to support the appearance of GUI of our web application. So we used macromedia Flash 6.0, adobe Photoshop 8.0, and Microsoft Office Visio 2003. All of these software's are described precisely in chapter two (Software Requirements Specifications).

#### **4.5. Operating the system**

To operate the system properly. Many steps should be executed before the system operates as expected in its environment:

- ⇒ Configuring the network (physical connection).
- ⇒ Assigning appropriate IP addresses to the computer in the network.
- ⇒ Setting up the .NET framework.
- ⇒ Building the system Database.
- ⇒ Creating the Database connection with security options.
- ⇒ Setting up the system on the server (publishing through IIS).

To operate the system from development environment follow the below steps:

- ⇒ From start menu select Microsoft Visual Studio.NET 2003.
- ⇒ Then will appear window that ask you either to open existing project or open new project, select open existing project.
- ⇒ Double click on project that named " PFM ".
- ⇒ Then you can make running and brows the web.

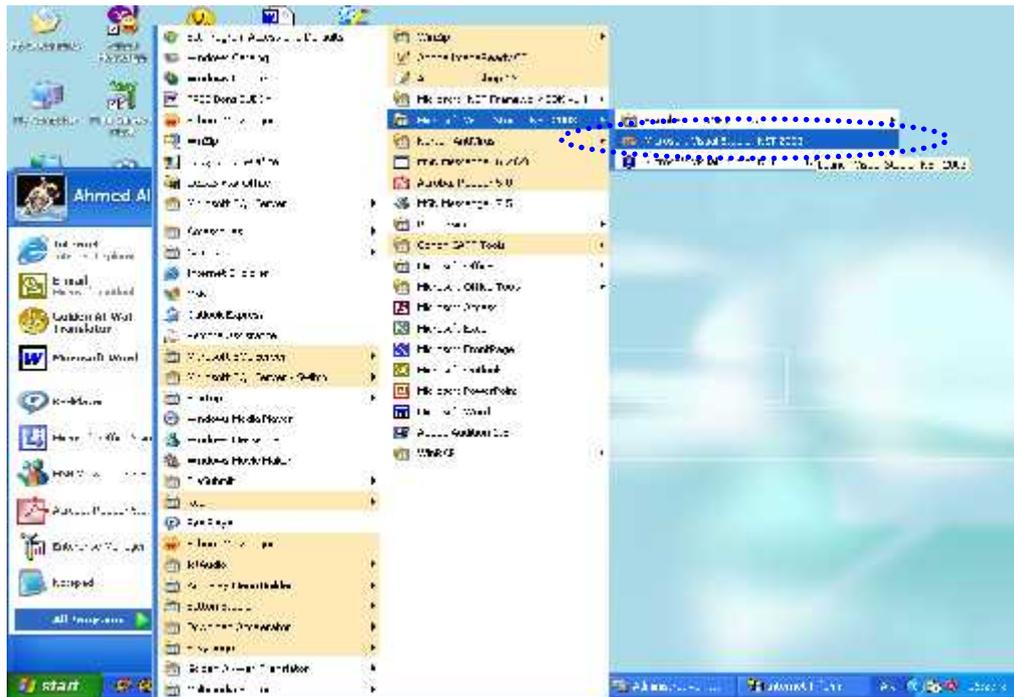


Figure (4.9) Select Microsoft Visual Studio.NET 2003

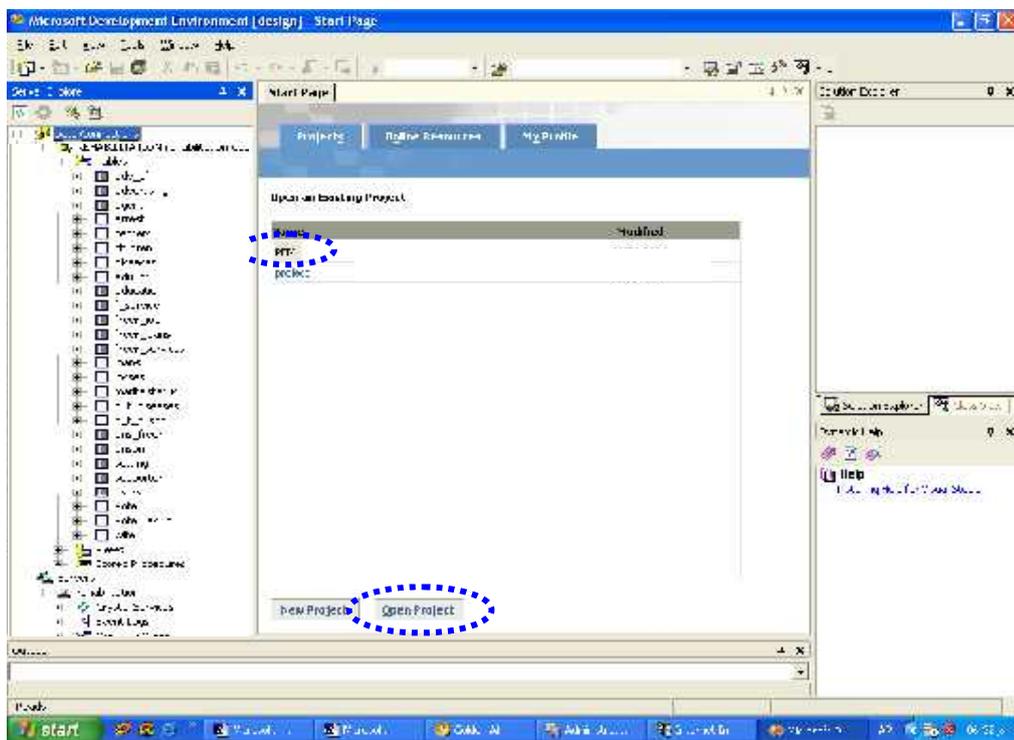


Figure (4.10) Select Open Project

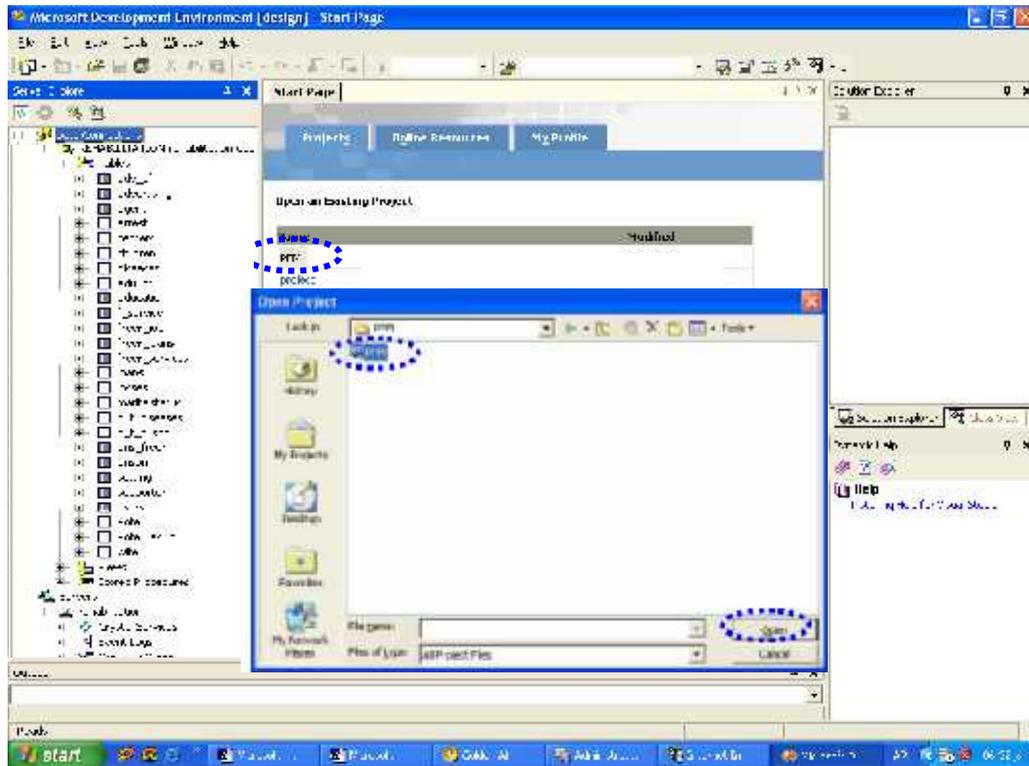


Figure (4.11) Select PFM project

Or you can brows the web direct from Microsoft Internet Explorer 4.0 or later (6.0 is recommended).

Write the following URL on address text box in explorer then click enter:

*<http://localhost/PFM/index.aspx>*



## 4.6. Coding Programming Language

When using Visual Studio.Net as a programming environment we gain the benefits of the separation between writing the logical code (the program functionality) from one side and the design of the appearance and graphical user interface (GUI) from the other side.

This application occurs by the new way that enables the programmer not to spend his time or determining programmatically where each control on a page should appear, however he could write the code that make the logic of each control operation in separate page called code behind page. We have appended the source code written manually for the main functionalities in our application.

## 4.7. Development process implementation

In our system any developer first created by going to Microsoft visual studio.NET development environment and named as PFM.

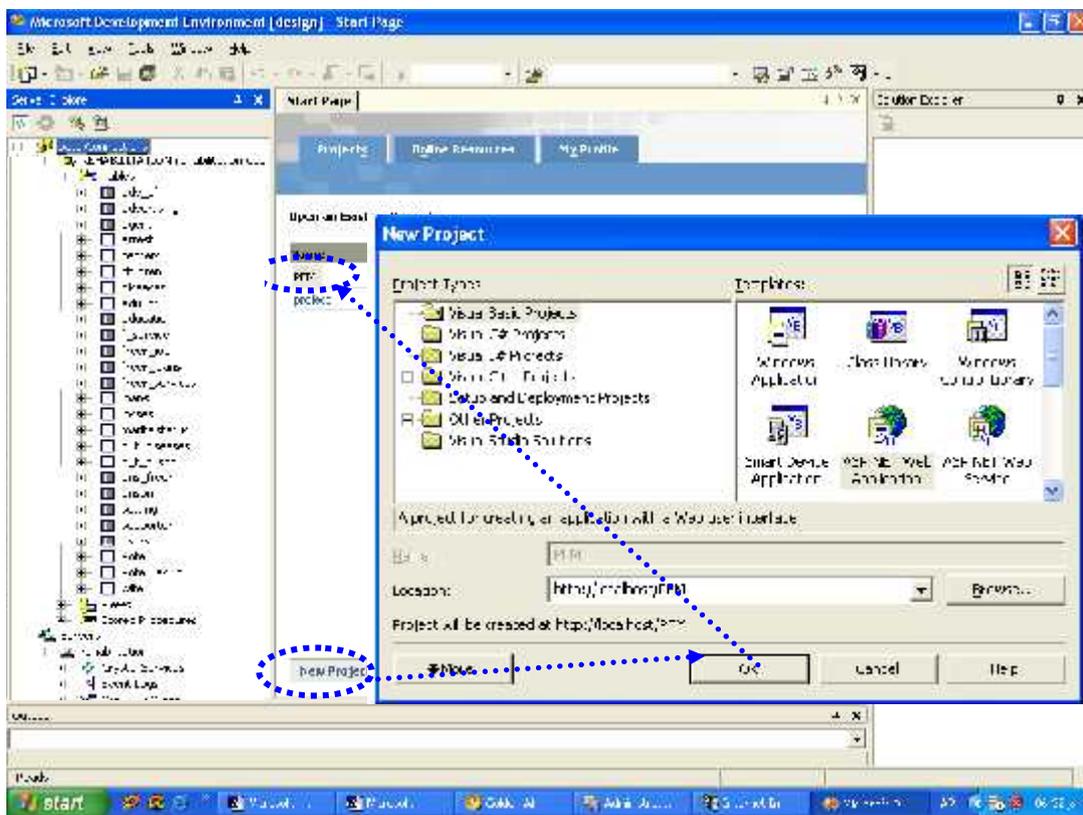


Figure (4.12) Development Process ( create new project).



## 5.1. Introduction

Testing the system to ensure that it meets its specifications is one of the most important stages in the software system development, also testing process is divided into number of successive stages or levels that will be implemented to ensure form system validation.

For the purpose of delivering a system that works properly as expected, certain testing procedures should be performed on system and its components; accordingly with an acceptance testing that may be stated as a result for the success of the testing process.

This chapter covers the testing for:

- ⇒ System units testing.
- ⇒ Module testing.
- ⇒ Subsystems testing
- ⇒ Integration testing.
- ⇒ System testing.
- ⇒ Acceptance testing.

Testing will take place in a time space that was assigned for the testing process, table below shows the testing schedule:

| <i>Time in week</i><br><i>Testing process</i> | <i>1st week</i> | <i>2<sup>nd</sup> week</i> | <i>3<sup>rd</sup> week</i> |
|---|-----------------|----------------------------|----------------------------|
| <b>Unit and module testing</b>                |                 |                            |                            |
| <b>Sub-system testing.</b>                    |                 |                            |                            |
| <b>Integration testing.</b>                   |                 |                            |                            |
| <b>Acceptance testing.</b>                    |                 |                            |                            |

Figure (5.1) Testing Schedule.



## 5.2. System Unit Testing

At this stage of testing process we separate or divided the system into subsystems and components that will be tested separately to ensure that they operate correctly and meet its specification.

We have tested the units and modules using the whit *box testing method*, by using the path testing on each function in the system. In this section we describe some of these testing procedures on a number of selected functions that are classified as units and modules, these testing procedures are described here according with a certain snapshots that were captured from the real operating system interface.

In our system the administrator and employee operations is the most operations that affect the system and database , so we will test login, delete advertising, and change password process, and for the Users operations we will test change password, and voting process.

### ☒ **Tested Function:**

- *Login for Administrator, Employee, User(prisoner/ex-prisoner):*

Method: path testing.

Test cases: each test case covers the set of input values in a certain execution path as shown in the function flowchart figure [5.1].



This is a general flowchart determine the specific paths can uses to implement the box testing method for administrator, employee, prisoner or ex-prisoner, we using the below flowchart in box testing because the login operation very important in the our system.

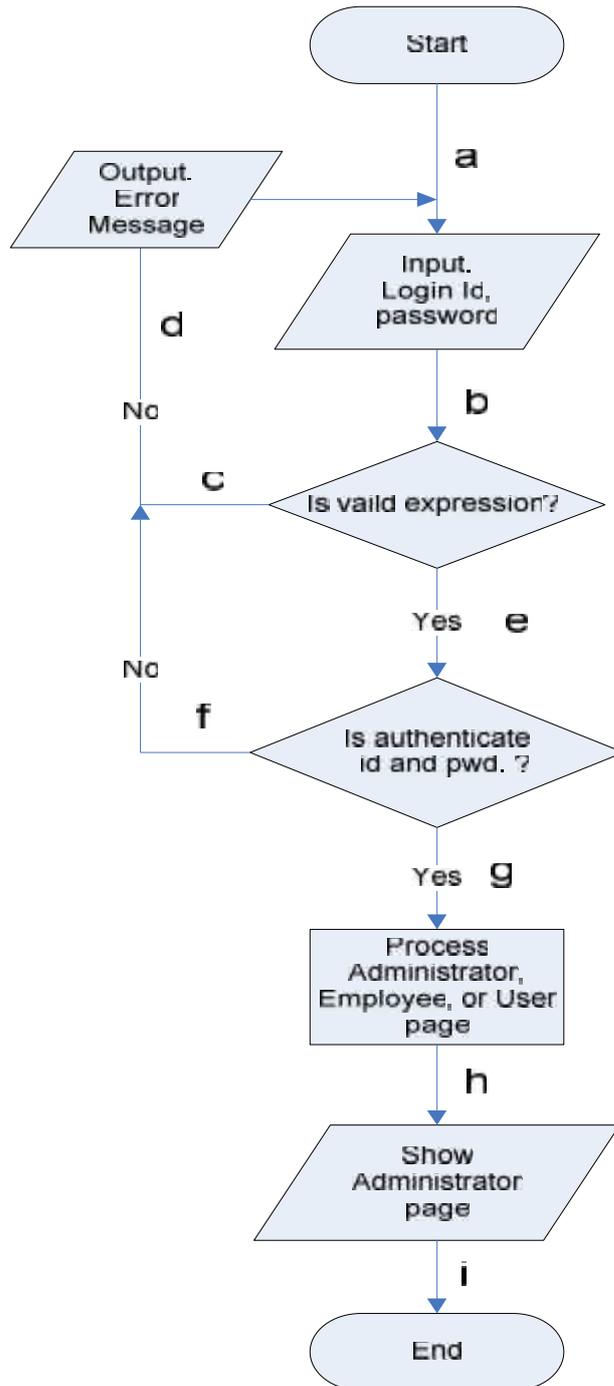




Figure (5.2) Login Administrator, Employee or Users Execution Paths.

We will insert valid inputs one time, and invalid another time, and we will see the system responding result

| <i>Test Cases<br/>Path</i> | <i>Test Data</i> |          | <i>Expected Output</i>                            | <i>Actual Output</i>                              |
|----------------------------|------------------|----------|---|---|
|                            | Login ID         | Password |   |   |
| a-b-e-g-h-i                | 222333           | ahmed    | Valid login ID and Password<br>(Accepted User).   | Valid login ID and Password<br>(Accepted User).   |
| a-b-c-d                    | ahmed            | 222333   | User ID and Password Invalid<br>or not filled in. | User ID and Password Invalid<br>or not filled in. |
| a-b-e-f-d                  | 2581             | Moham345 | Invalid login ID or Password.                     | Invalid login ID or Password.                     |

Table (5.1) Login Administrator, Employee or Users Test Cases.

**Conclusion:** function confirms to its specifications.



By other way we will testing change password process for every user, so the following table illustrate it:

| <i>Unit testing process case</i>                     | <i>Input data testing</i> |          |            | <i>Expected result</i>                        | <i>Actual result</i>                          |
|--|---------------------------|----------|------------|---|---|
|  | Login ID                  | Password | Confirm it |   |   |
| Valid login ID and password and confirm it correctly | 111                       | 678952   | 678952     | Password updated successfully                 | Password updated successfully                 |
| Wrong ID or password expression                      | Gfr342                    | Efr&4\$  | Efr&4\$    | Invalid inputs format                         | Invalid inputs format                         |
| Invalid login ID                                     | Frd324                    | 678952   | 678952     | Error alert appear, return to change pwd page | Error alert appear, return to change pwd page |
| Wrong in password confirmation                       | 111                       | 678952   | 678925     | Error alert, "Confirm password correctly"     | Error alert, "Confirm password correctly"     |

Table (5.2) Change password process testing



Now we will testing delete advertising process, the following table show the process:

| <i>Unit testing process case</i>   | <i>Input data testing</i>          |                                       | <i>Expected result</i>  | <i>Actual result</i>  |
|--|------------------------------------|---------------------------------------|---|---|
|  | Select type of deleted advertising | Select advertising you want to delete |   |   |
| Select deleted advertising type, then select the advertising from dropdown list to delete it, then click delete button | Expired advertising                | Advertising title                     | The advertising was deleted successfully                                  | The advertising was deleted successfully                                  |
| Doesn't select advertising type to be deleted, and click on delete button  | Not selected                       | Empty list                            | Error alert, "Please select the advertising type first"                   | Error alert, "Please select the advertising type first"                   |
| Select advertising type, doesn't select the advertising to delete, and click on delete button                          | Advertising Name                   | Not selected                          | Error alert, "Please select the advertising you want to delete from list" | Error alert, "Please select the advertising you want to delete from list" |



Table (5.3) Delete advertising process testing

The table below show the testing of change password for users process in sessions:

| <i>Unit testing process case</i>                     | <i>Input data testing</i> |          |            | <i>Expected result</i>                        | <i>Actual result</i>                          |
|--|---------------------------|----------|------------|---|---|
|  | Login ID                  | Password | Confirm it |   |   |
| Valid login ID and password and confirm it correctly | Session("user_id")        | 111222   | 111222     | Password updated successfully                 | Password updated successfully                 |
| Wrong password expression                            | Session("user_id")        | Efr&4\$  | Efr&4\$    | Invalid inputs format                         | Invalid inputs format                         |
| Invalid login password                               | Session("user_id")        | \$j\7@   | \$j\7@     | Error alert appear, return to change pwd page | Error alert appear, return to change pwd page |
| Wrong in password confirmation                       | Session("user_id")        | 111222   | 222111     | Error alert, "Confirm password correctly"     | Error alert, "Confirm password correctly"     |

Table (5.4) Change users password process testing in sessions.



The following table illustrate the Prisoner/Ex-prisoner voting process testing:

| Unit testing process case                                      | Input data testing |              |              | Expected result                                     | Actual result                                       |
|--|--------------------|--------------|--------------|---|---|
|  | Yes                | No           | Maybe        |   |   |
| Doesn't select any choice, then click submit button            | Not selected       | Not selected | Not selected | Error alert, "select at least one choice from list" | Error alert, "select at least one choice from list" |
| Select yes, no, or maybe " first time"                         | ✓                  | Or ✓         | Or ✓         | Thanks, process done successfully.                  | Thanks, process done successfully.                  |
| Select yes, no, or maybe at another time for the same question | ✓                  | Or ✓         | Or ✓         | Error alert , " Sorry, you were voting"             | Error alert , " Sorry, you were voting"             |

Table (5.5) Answer question (voting) process testing.

### 5.3. System Module Testing



At this level we test the modules which encapsulated related components, so it can be tested without other system modules. Procedures, functions, and system interface are tested.

#### **5.4. Sub-system Testing**

Our system include mainly three subsystems or clusters there are:

##### **I. Administrator subsystem**

We tested all functions and procedures that operate through administrator pages to ensure that they are work correctly and meet its specification.

And we tested the data flow and transfer between procedures and functions, and interfaces and how data and information layout on pages and how they are appearance.

And we tested security side, to ensure that the system is secure and is safe from hacking.

##### **II. Employee subsystem**

We tested employee subsystem as we do at administrator subsystem, we tested all functions and procedures to ensure that they work correctly and meet its specification and its behave as we expected.

And we tested the interface, and how the information are layout and appearance on screen, in addition we tested security to prevent any attempt to harmful or destroy the system, and we tested data transfer between functions and procedures to ensure that all data are correctly flowed and used.

##### **III. Prisoner/Ex-prisoner subsystem**



As the previous subsystems we tested all functions and procedures, and in every page we tested the data flow between the user and database to ensure that they are transfer correctly and in correct way.

And we tested user interface, and how information layout on pages, and we take in our consideration the interface colors that affect user, so we tested it and we use suitable color for user, and we tested security to ensure that the system is secure and safely.

### **5.5. Integration Testing**

All module, and units are integrated and this integration is tested to show if there were defects that appear upon the integration of them. We have tested the integration using top-down testing. Testing here demonstrates on the interfaces between all modules, and the functionality of the integrated parts.

After testing the integration of all subsystems, the result indicated that they work together properly.

### **5.6. System Testing**

The system was tested under several conditions, some errors were detected, and upon these results, we have solved these problems and we imposed the system another time to testing techniques to ensure that it disposed all types of defects and problems.

### **5.7. Acceptance Testing**

The system was tested against its requirements, we conclude that it achieves its functional requirements, and could operate soon in the real environment.

### **5.8. Sample Snapshots**



We have selected some program snapshots to be displayed here to show how the real program behaves when working under certain situations and these snapshots are describe the main functions of our web based system as shown bellow:

### 5.8.1. Home Page Testing





Figure (5.3) valid display home page by valid URL.

Figure (5.4) no output data display with some search results.



Figure (5.5) output data display with some search results.



Figure (5.6) output links display with some links home page.

### 5.8.2. Index (login) Page Testing





Figure (5.7) valid display index (login) page by valid URL.

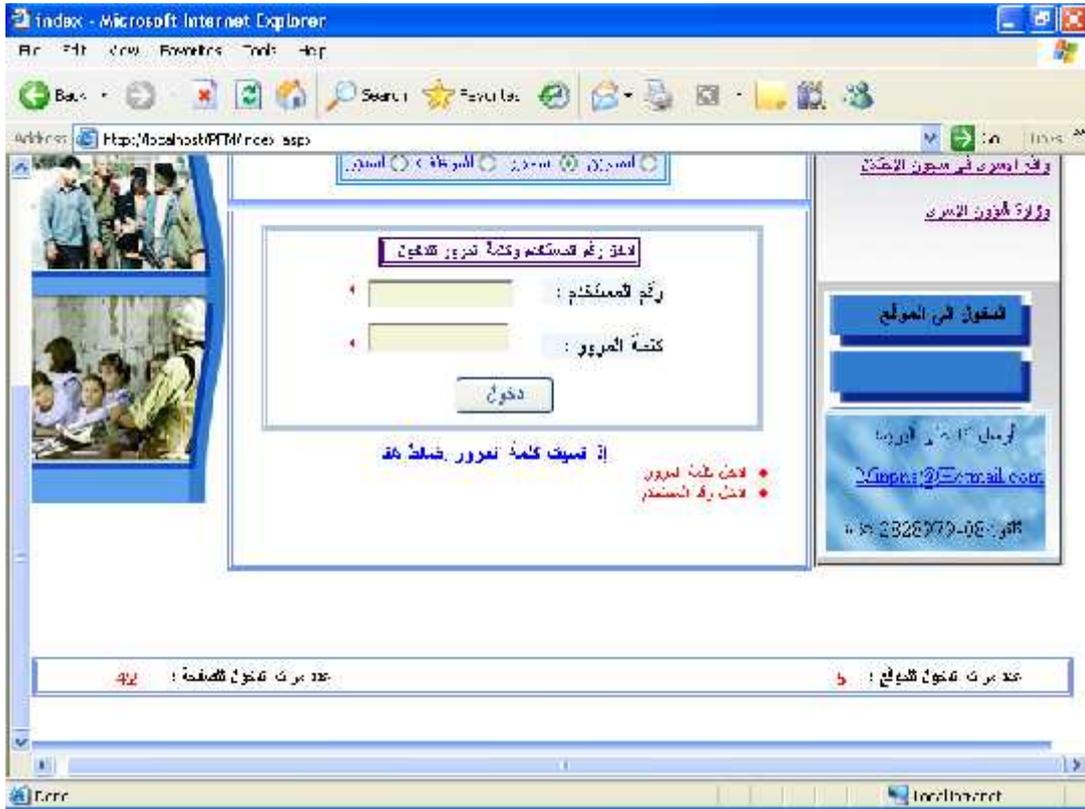


Figure (5.8) no input fields for login ex-prisoner., and the same for other users.

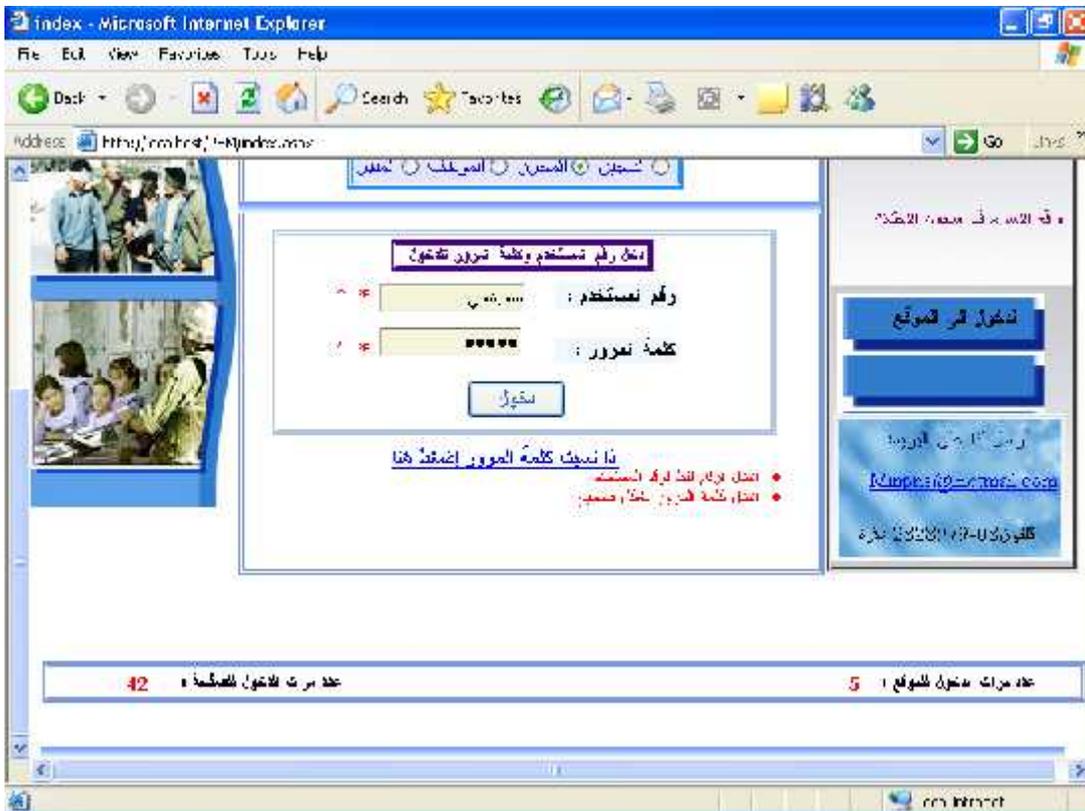


Figure (5.9) invalid input for login ex-prisoner., and the same for other users.



Figure (5.10) valid input for login administrator., and the same for other users

### 5.8.3. Sample Pages Testing

This page appeared after insert valid data in login page as administrator., and the same testing for other users.





Figure (5.11) Administrator home page and similar page for employee.



Figure (5.12) valid link input in session to display control panel for administrator.



Figure (5.13) valid link in session to input questions to voting for administrator



Figure (5.14) valid link in session to output reports for administrator and the same for employee.

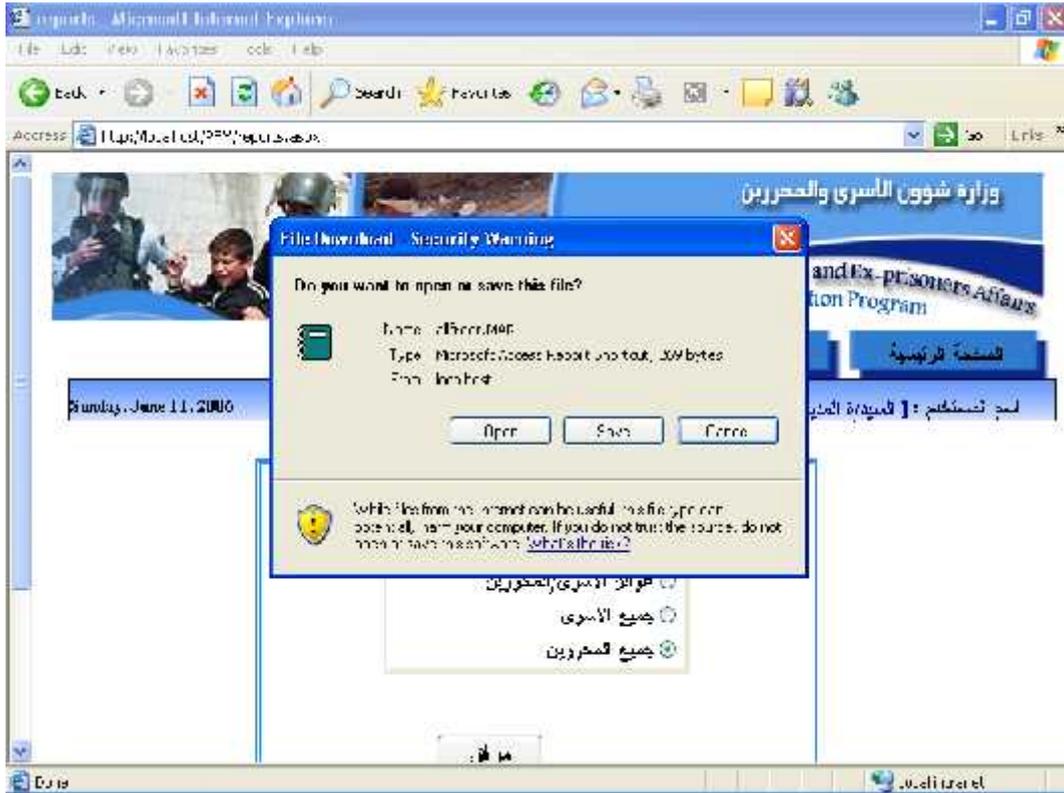


Figure (5.15) valid output reports message for administrator or employee.



Figure (5.16) invalid input field message to change password for users.



Figure (5.17) valid input field message to change password for users.

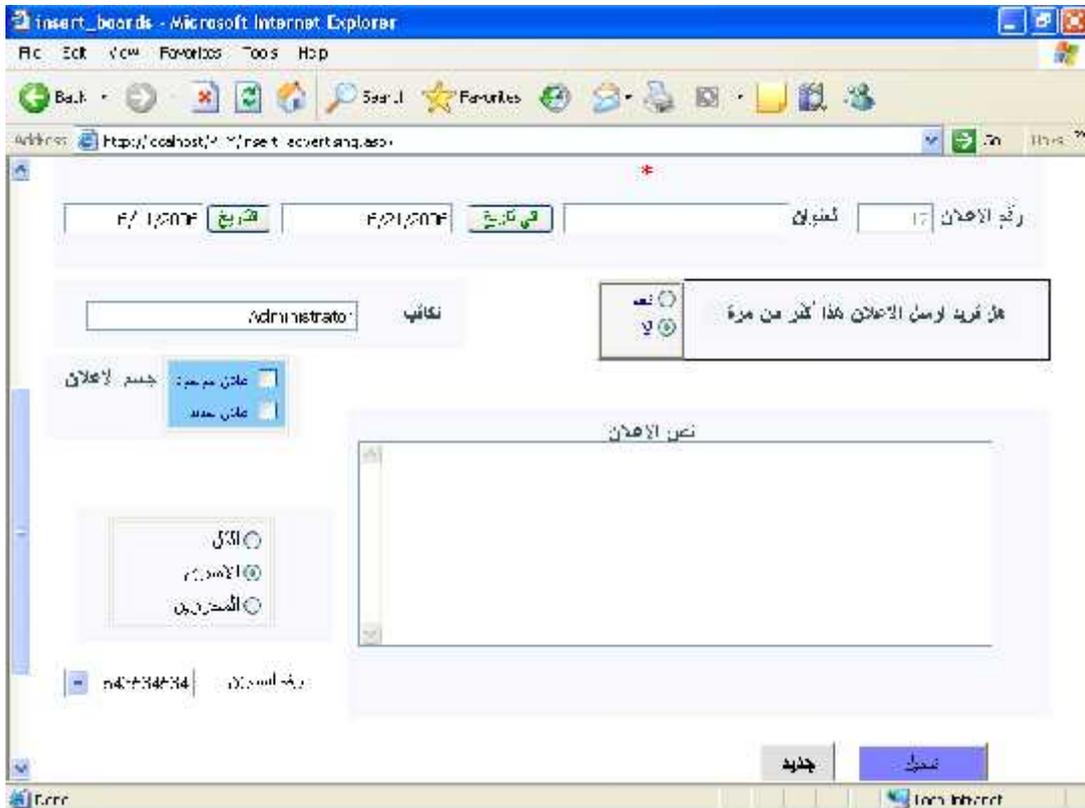


Figure (5.18) invalid input format testing for insert new advertising

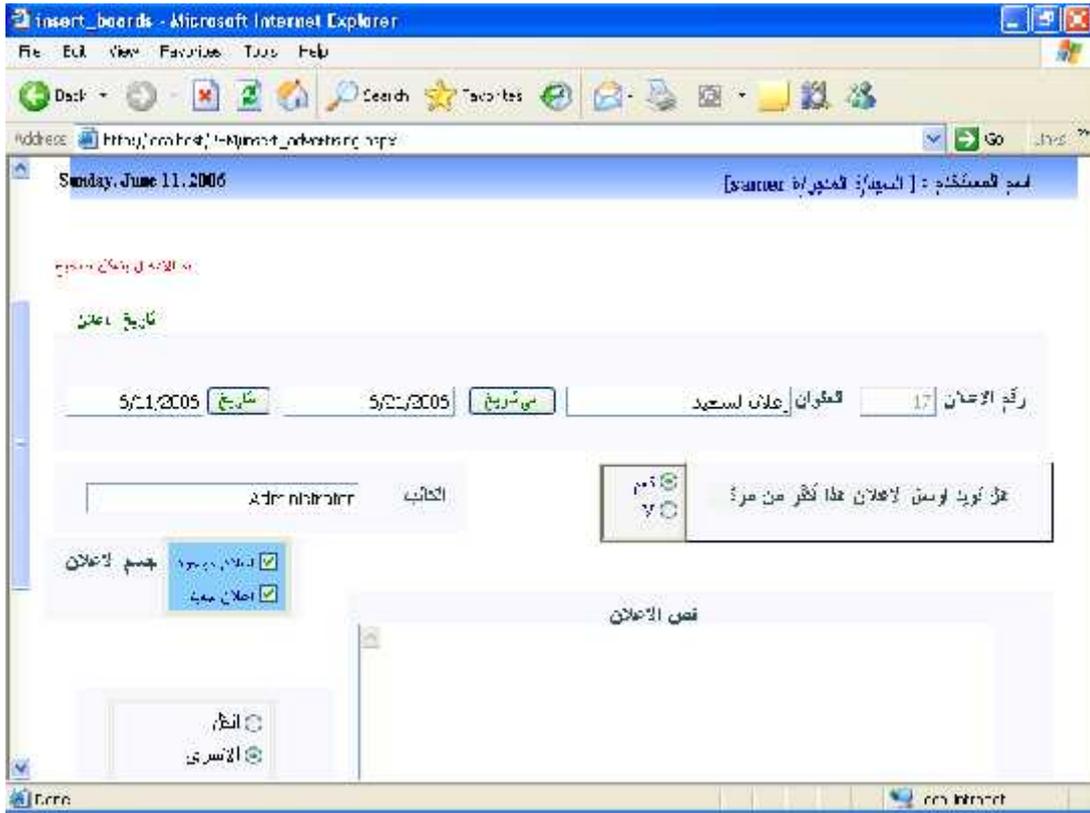


Figure (5.19) insert all fields and valid inputs for insert new advertising



Figure (5.20) valid loading advertising to deleting for administrator and the same way for employee.

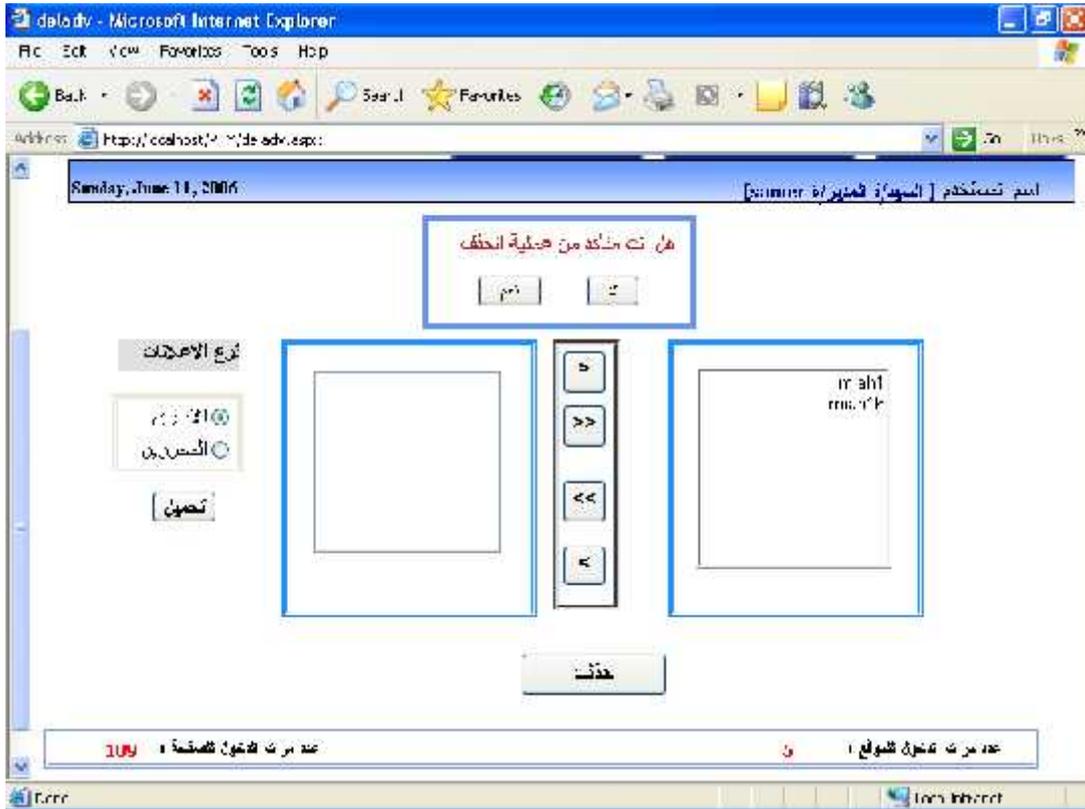


Figure (5.21) valid message to delete advertising for administrator or employee.





Figure (5.22) valid input data to insert new employee for administrator.



Figure (5.23) invalid input data to insert new employee for administrator only.





Figure (5.24) valid output message after insert valid data.



Figure (5.25) valid output page after valid link to display remember your password if forgot for users.





Figure (5.26) valid display fields for prisoner/ex-prisoner to remember id and password.

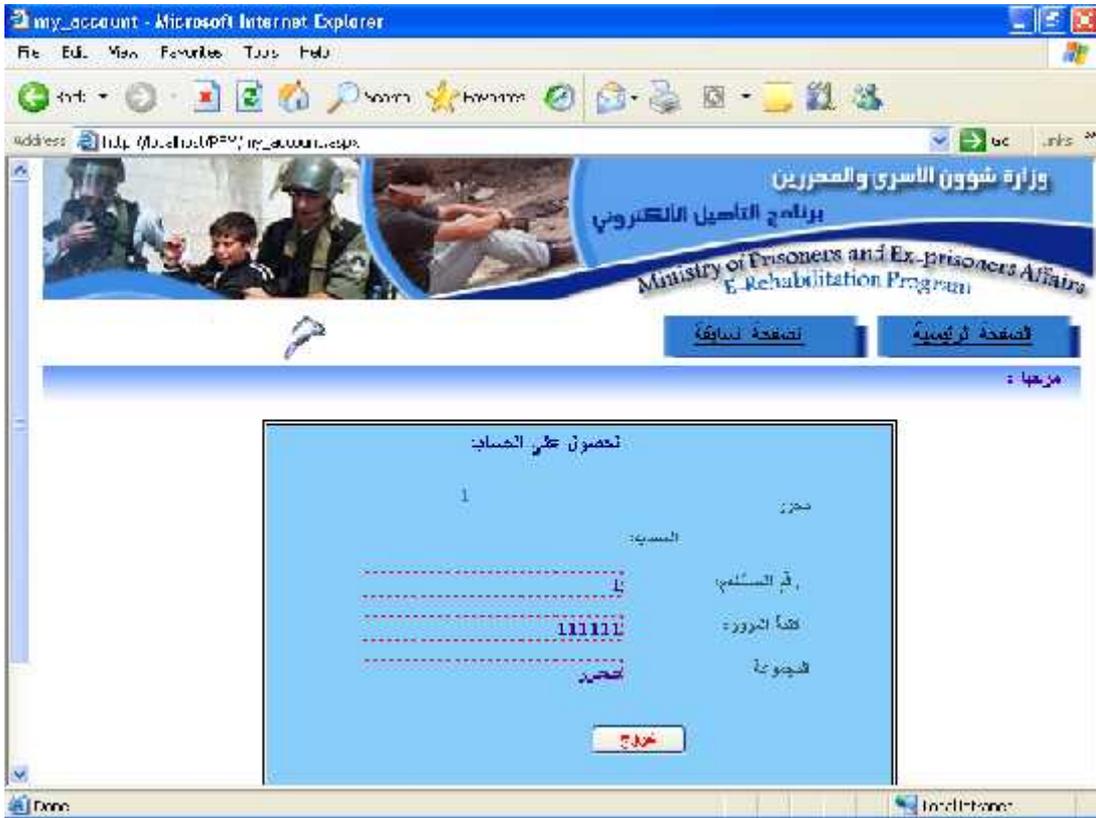


Figure (5.27) valid display fields id and password after insert true fields for prisoner/ex-prisoner.

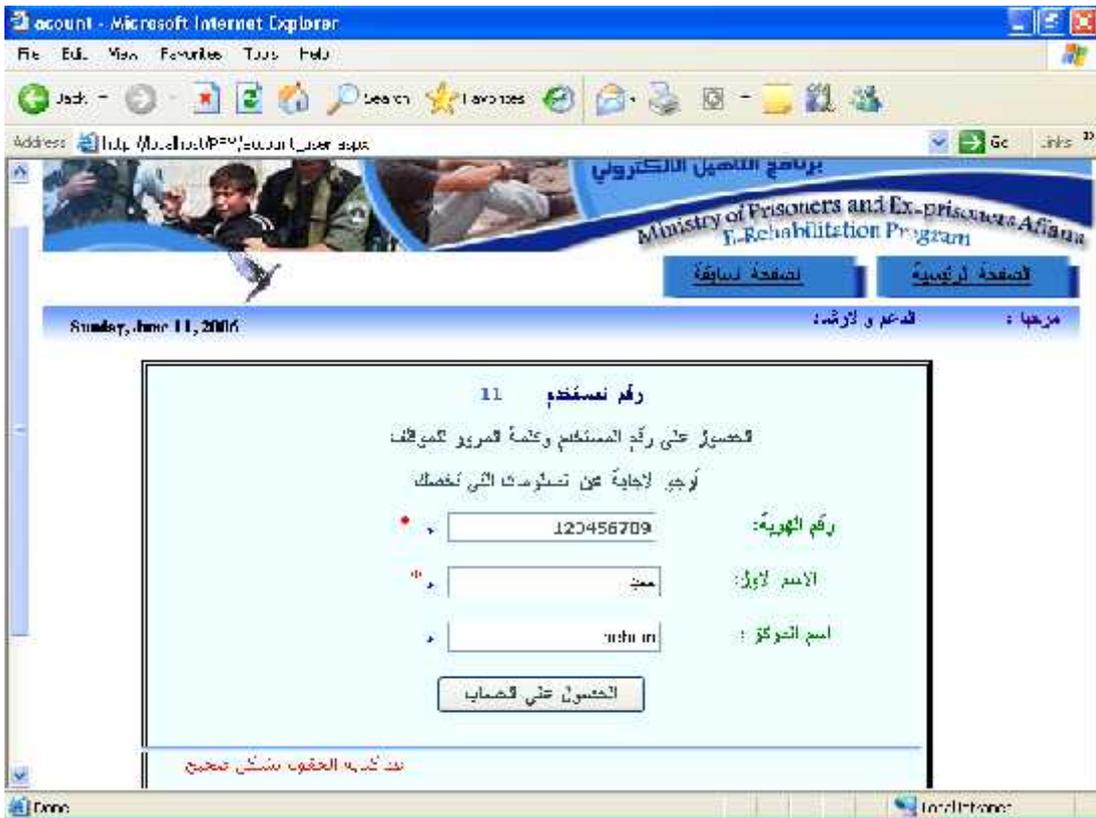




Figure (5.28) invalid input fields for administrator/employee to remember id and password

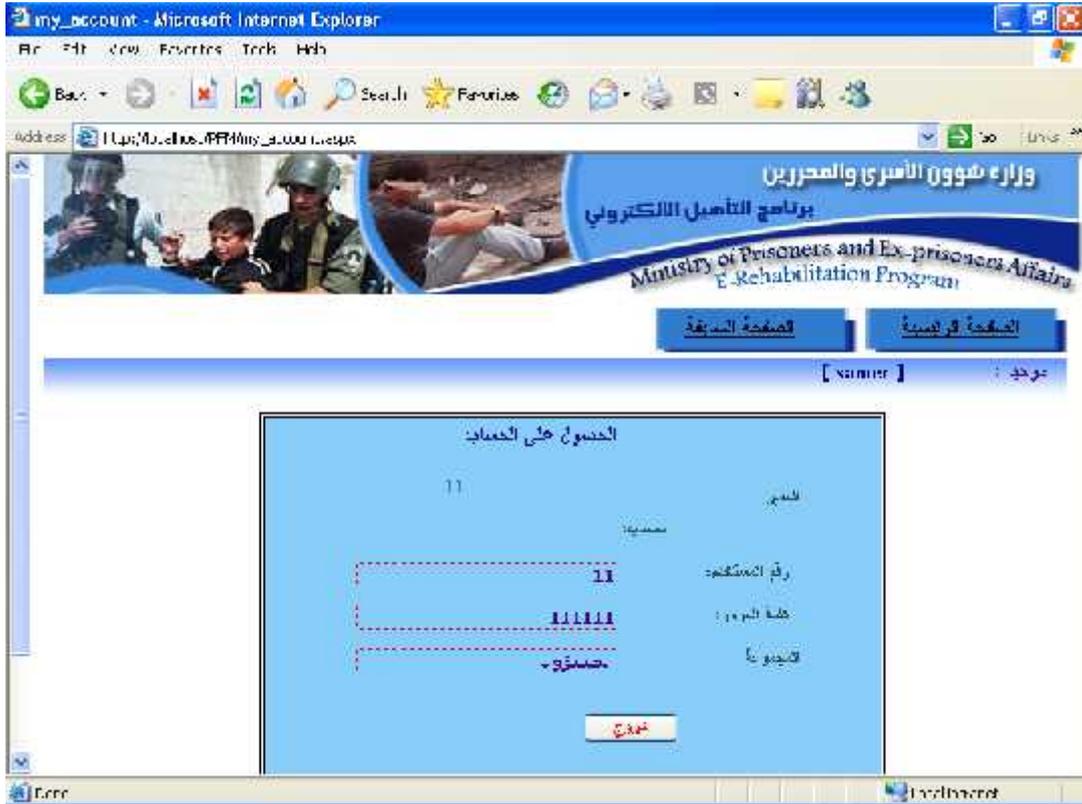


Figure (5.29) valid display fields id and password after insert true fields for administrator/employee.

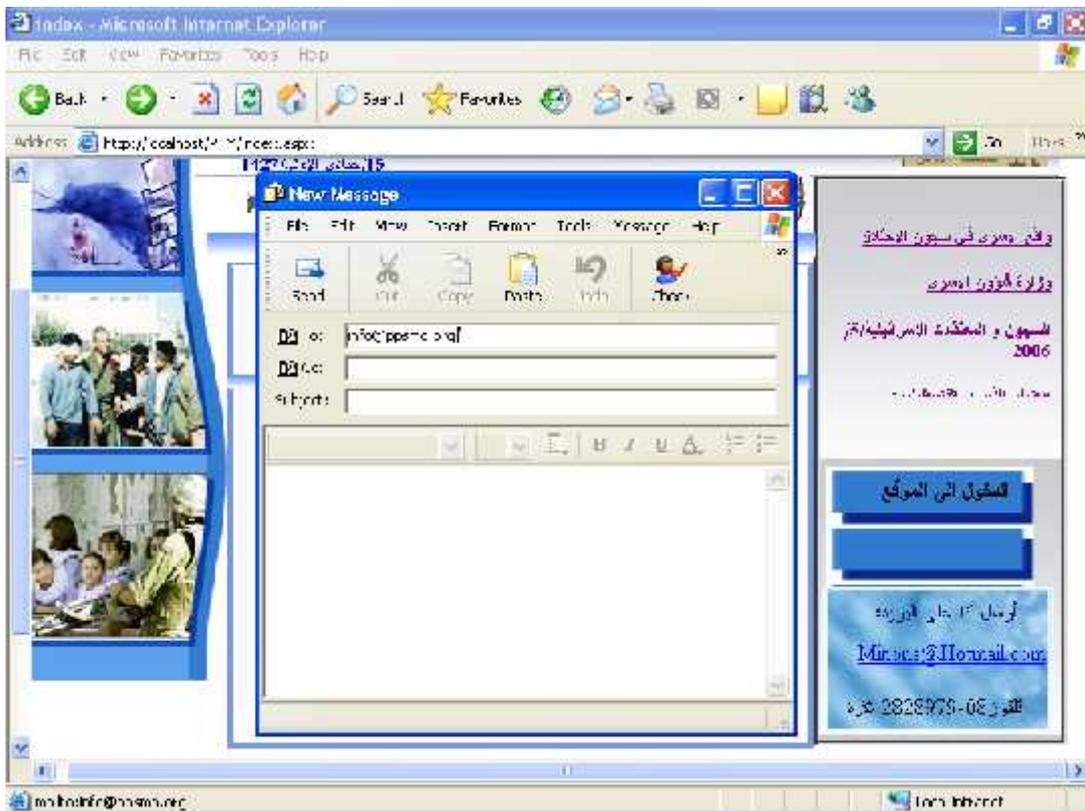




Figure (5.30) valid connect outlook E-Mail to send messages to ministry.



Figure (5.31) valid input to update prisoner/ex-prisoner information.





Figure (5.32) enable edit to update prisoner/ex-prisoner information.



Figure (5.33) valid input to update arrest information.





Figure (5.34) enable edit to update arrest information.

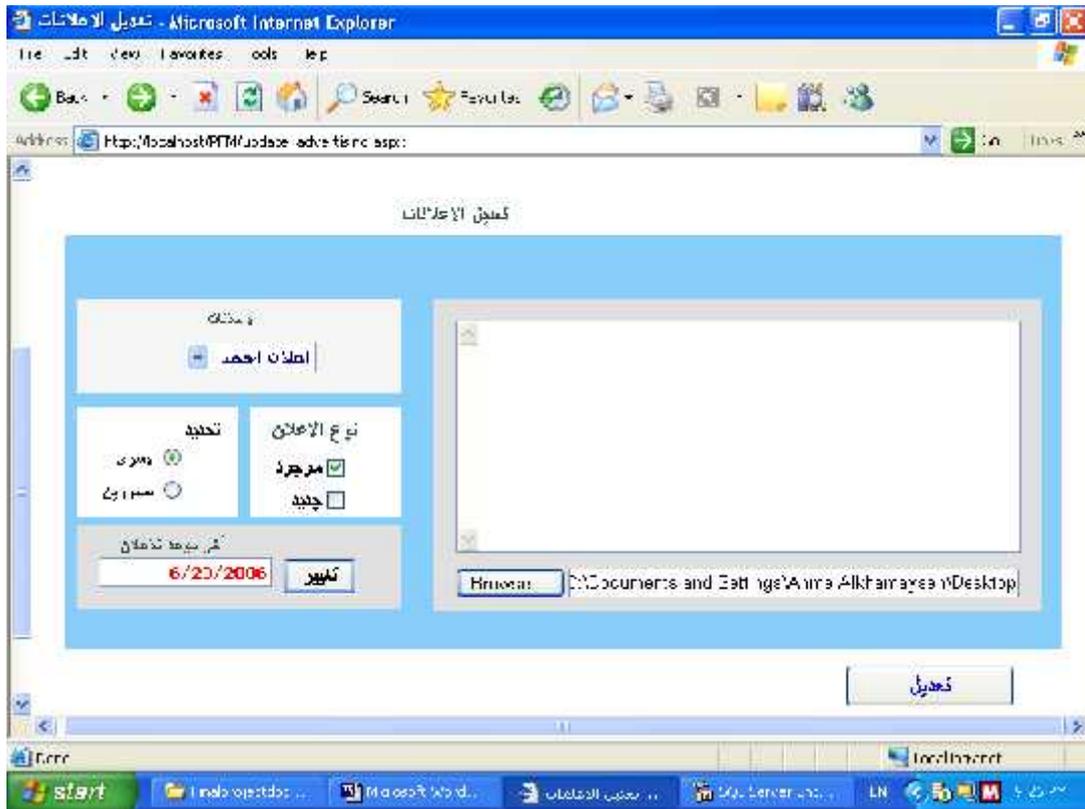


Figure (5.35) valid input to update advertising information.

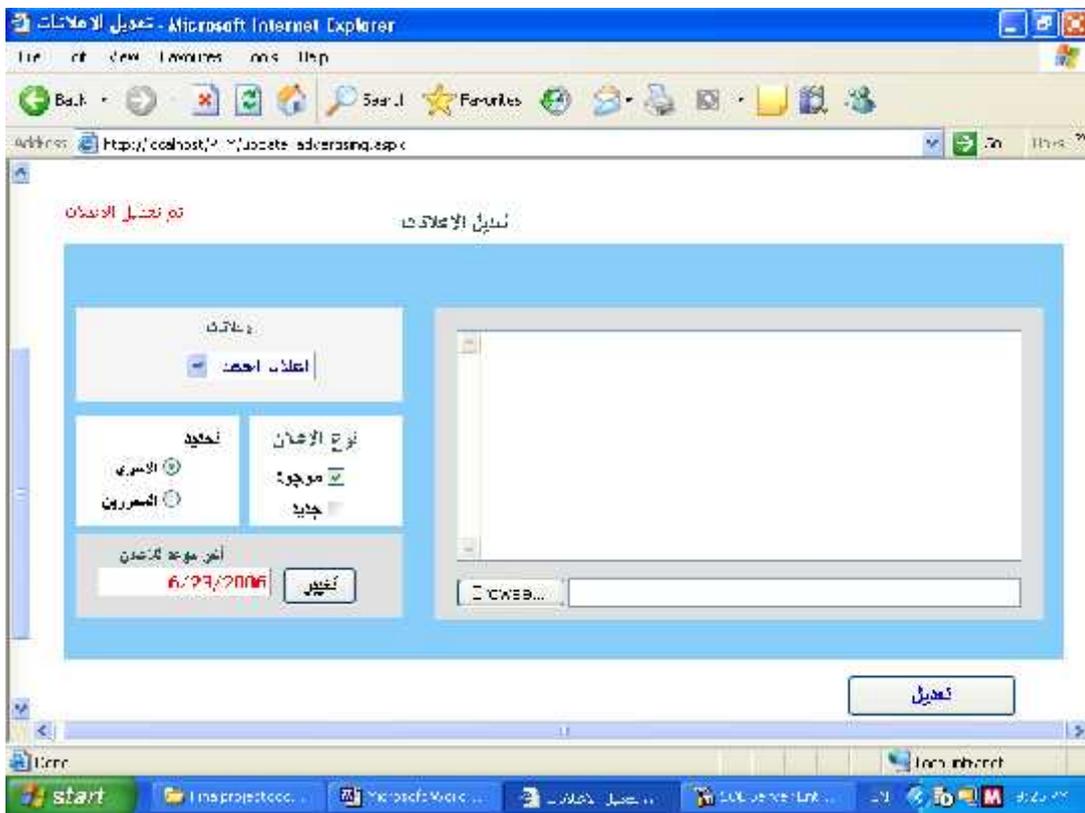




Figure (5.36) success output message to update advertising.



Figure (5.37) the main page for prisoner/ex-prisoners.

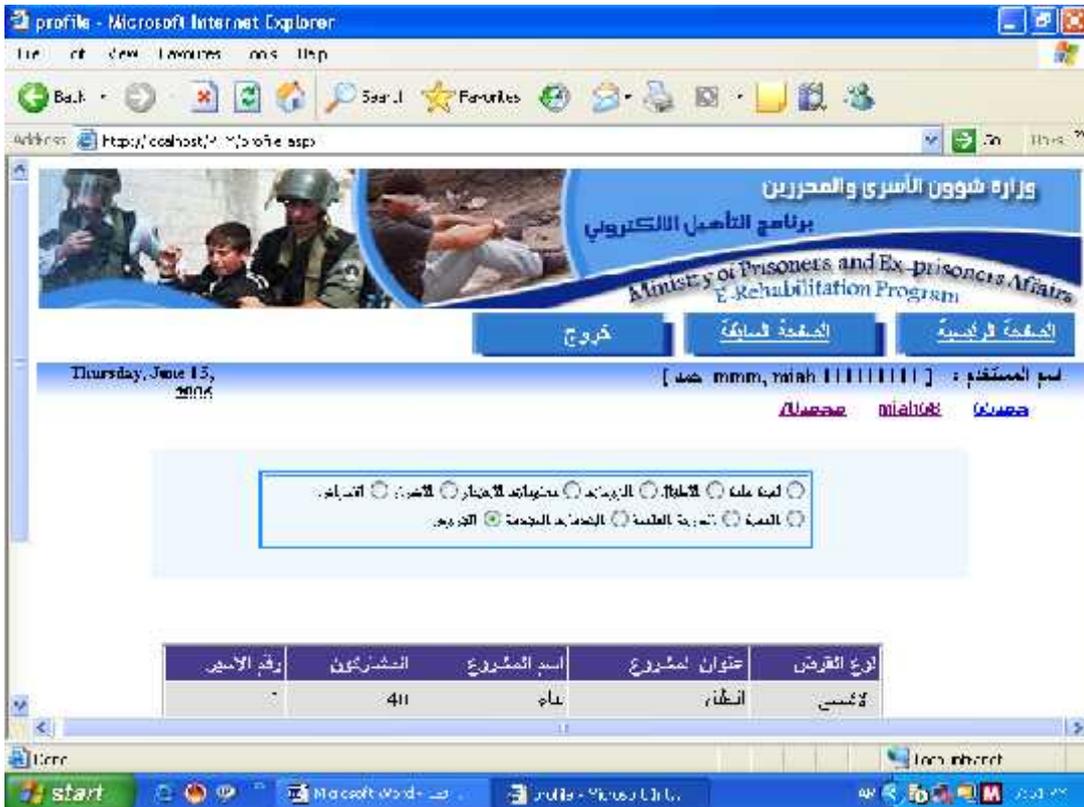




Figure (5.38) the screen that display the prisoner/ex-prisoner information.



Figure (5.39) the advertising special for prisoner/ex-prisoner.





Figure (5.40) the true message for true voting.

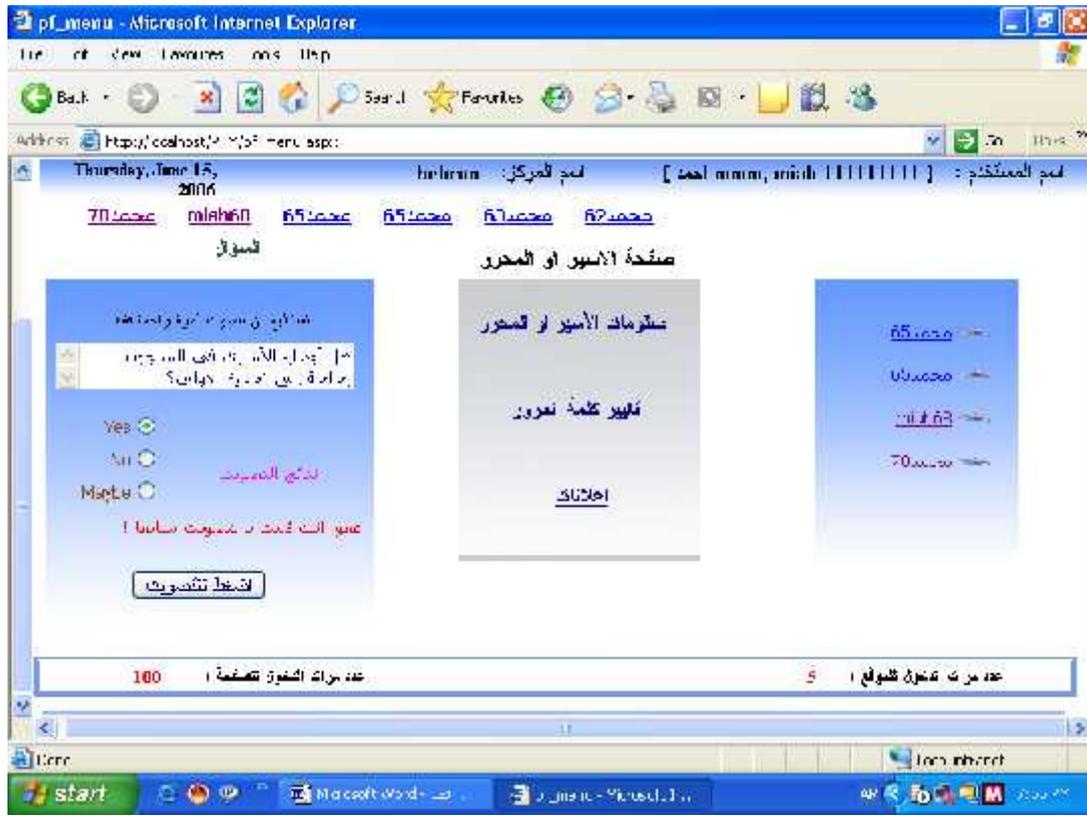


Figure (5.41) the sorry message for false voting more than one time.



Figure (5.42) the percentage display for voting.



## 6.1. Introduction

This chapter describes how to start working with the system; the establishment of the environment that the system will work in, what is the process of deployment, and the maintenance plan, also; we explain the process and techniques that guidelines the system administrator to keep tracing and maintaining the system after running it.

In this chapter we will describe basically:

- ☒ Maintenance plan.
- ☒ Migration.

## 6.2. Maintaining the system

When running the system there is always a possibility for failure, errors, and other types of problems that may appear. We describe here the maintenance plan that covers some of the actions that is to be taken when certain situations occur, also; we will talk about system maintenance which we divided to:

- ☒ IIS maintenance.
- ☒ SQL server 2000 maintenance.

However; in this sections we describe the real working environment within which the system will operate, as well how it could be established, how it could be migrated, and how it is maintained.

### ⇒ **Backup:**

This is an issue where the adaptation of the backup methodology [type and time interval] is determined and implemented by the company working on the system itself. The backup on the system database could be configured by means that are provided by the producer company of the DBMS that we have used in our software system which is Microsoft© on its DBMS product [SQL Server 200].





⇒ **Upgrade:**

This process is to be carefully implemented if it is essential and by considering the software producers, Upgrading to the new system doesn't need a previous operating software, all what it needs is the production environment that was described earlier in this chapter.

⇒ **Error reporting:**

When errors occur, certain actions are to be taken as the contract agreement describes the conditions and situations of the maintenance and the responsibility allocation on the contract sides.

In fact; any upgrade and error reporting needs System Service Request (SSR) which take some forms in many cases, however; See Appendices to view a sample form by using System Service Request SSR

### 6.3. Migration

The deployment of the system must be built by certain steps so that to work properly within its environment; the production environment has to be established, configured, and a decision of operating on the new system must be taken considering all constrains and risks of the process of migration to the new system, Toward deploying and migrating to the new system we describe here the steps that must be done by standards in any software:

⇒ **Establishment of the production environment:**

By standards; the minimal requirements of deploying the system are described in chapter one [system specification], and the needed configurations for the machine running the system are described in chapter four [Coding and implementation]. For example, we say that our software system will not operate on a machine that doesn't have the .NET Framework, so that the company that decides to work on our system must have all of the production environment elements available.



⇒ **Deciding to deploy the new system:**

we say that our system was tested and we found that it works well as it should be, the system can operate immediately whenever a suitable production environment is created, but we say that our software is an integrated system that must run with its all parts integrated, nevertheless the system may not work properly, Now, the way of migration to it depends on the technicians and managers recommendations in the Ministry (special in the Prisoners and Ex-prisoners Ministry) that wishes to deploy this new system.

⇒ **Running the system:**

The aim of having the new system is to work on it, after it was being designed and tested during the development process, and whenever the Ministry buys it, decides to migrate to it, and deploy it, the system will operate and run, and we wish to decide it.

## **6.4. Internet Information Services maintenance**

IIS is the core of web server components ,since without it the server cannot be consider as web server, so it must be maintained to make system operate correctly, because IIS represent a gateway for the application to be published over the internet.

Without IIS we can't publish the web over the internet, so success publish process is dependent on the consistency, security, and make a correct configuration for IIS, however; the main steps to Internet Information Services maintenance describes in the next two figures in the next page.

In the first from the control Panel we chose the administrative tools then click in the Internet Information Services, and it shown in the figuer (6.3) then display the PFM project properties in figure (6.4).

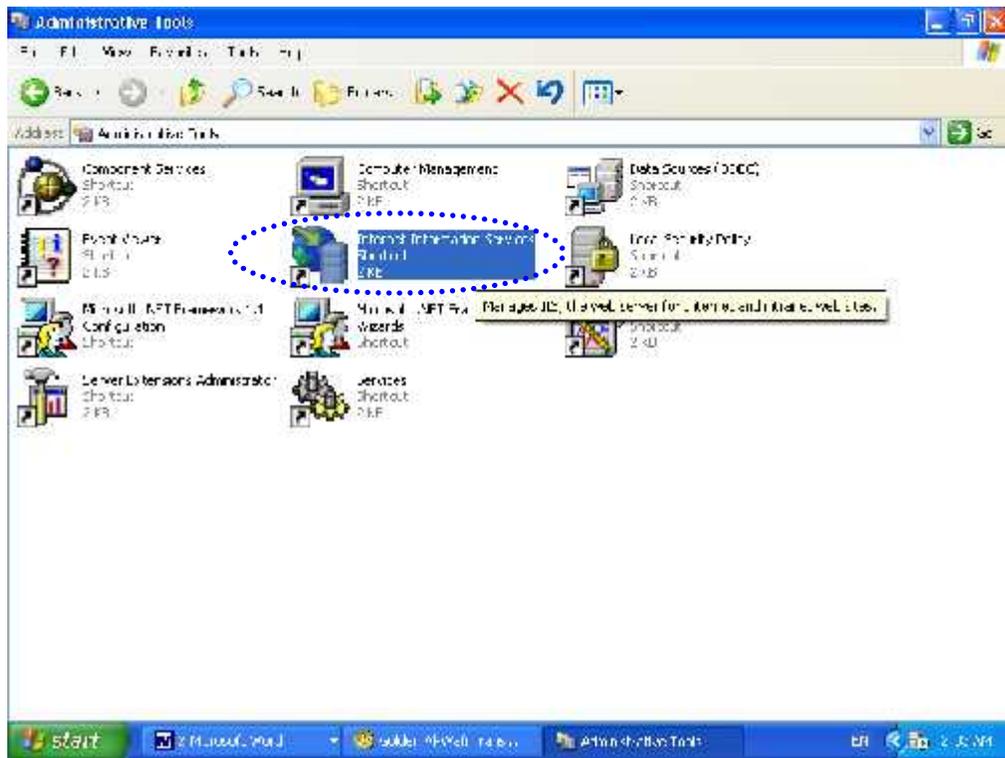


Figure (6.3) administrative tools options... step 1.

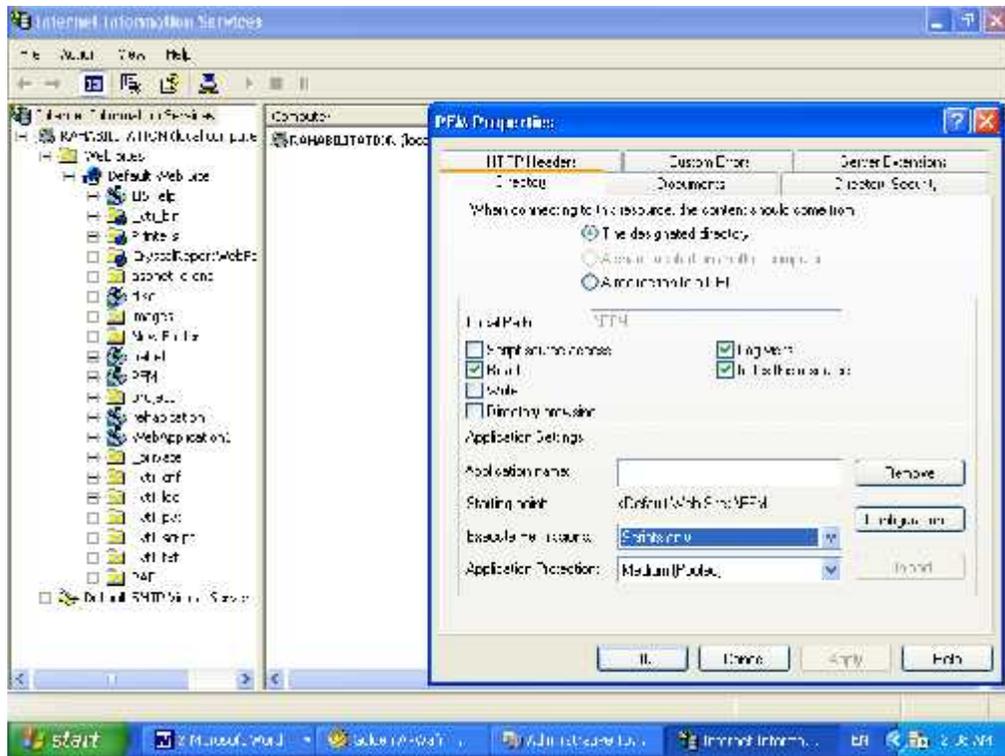


Figure (6.4) IIS Window and PFM Properties description ... step 2.





## 7.1. Introduction

The system designed to cover most of center needs in the Prisoners and Ex-prisoners Ministry in Palestine, so we will provide Future works, Conclusions, and Recommendations that results during our system development and implementation processes.

## 7.2. Future works

The future work may not take place on the design of the database but maybe by using the database in future scalability functions such like:

- ☒ English language interface supported by PFM system and other languages if possible.
- ☒ Strengthen the security during users connections, by using more encryption algorithm techniques.
- ☒ Programmers can change the interface of the system using newer programming code to link the database.
- ☒ Online help for potential problems that system users might face.
- ☒ The PFM system is subject to the expansion of new ideas and enrichment features such as new services.

## 7.3. Conclusions

We concluded the following:

- ☒ The PFM system web-based systems reduced the time and efforts for users and increase the efficiency of services.
- ☒ PFM system must provide suitable and strong interface to attract attention and minimize user potential errors by providing appropriate validation messages to keep track of user actions.
- ☒ PFM system must be highly secure to reject any evil and hacking attempts.
- ☒ We consider our system as a dynamic system, so it should response as a real time system.



## **7.4. Recommendations**

- ☒ We recommend and wish to publish our system on a new domain by the Prisoners and Ex-prisoners Ministry.
- ☒ We strongly recommend to build e-library database system and connect it with PFM system, in order to simplify users search transactions and reading.
- ☒ Build Prisoners and Ex-prisoners forum that create virtual interactive area for only Prisoners and Ex-prisoners to exchange their opinions and ideas about given problem.
- ☒ Integrate our Prisoners and Ex-prisoners web-based system with other systems in the Palestine Ministries.
- ☒ We wish to implement this work in the future in a real environment, and we wish to complete our work in the future s.



## Advantages and Disadvantages Categories:

### ☒ Alternatives in Feasibility study:

#### I. The type of network technology that we will choose one of it:

##### a. Intranet methodology:

*There are some advantages and disadvantages:*

⇒ Advantages:

- Support High level of security and reliability could be achieved.
- High speed.
- Shares software between peripherals.
- Provides backup in a real time systems.
- Decentralization.

⇒ Disadvantages:

- More expensive, because it's required special hardware and software.
- The existence of networking problems, such as communication problems.
- Internal access only within the organization.
- More time is needed to install and configure the system.
- Coverage area is limited.

##### b. Using the Internet and World Wide Web:

*There are some advantages and disadvantages:*

⇒ Advantages:

- Cover the entire world without geographical restrictions.
- there is no limit on size.
- No networking problems, by developing new reliable communication protocols.
- More scalable.



⇒ Disadvantages:

- Duplication of information.
- Rational:
  - ✓ No clear web standards.
  - ✓ Anyone can publish anything.
- Accuracy:
  - ✓ Information does not reliable all the time.
  - ✓ There is no editor or someone who checks information.
- The problem of authority and security.
  - ✓ Security issue is the major challenge, there is no web based system until now achieve full secure environment.

## **II. To deal with data we have two alternatives which are:**

### *a. SQL server 2000:*

*There are some advantages and disadvantages:*

⇒ Advantages:

- Each data item is stored in a central location where all users can work with it.
- Business and security rules can be defined one time on the server and enforced equally among all users.
- A relational database server optimizes network traffic by returning only the data an application needs
- Hardware costs can be minimized.
- Maintenance tasks such as backing up and restoring data are simplified because they can focus on the central server.
- The capability to search and sort data and find information quickly.

⇒ Disadvantages:

- A License needs to be purchased for SQL Server.
- If data is not stored on an existing server; an additional server will need to be purchased to run SQL Server.



b. Microsoft Access:

*There are some advantages and disadvantages:*

⇒ Advantages:

- The capability to search and sort the data and find information quickly.
- Easy for beginners to work with it.
- Need low level of computer resources.

⇒ Disadvantages:

- Low security level when compared with SQL server 2000.
- Updating data is complex process.

**III. For implementing and developing the system we have two available alternatives which are:**

a. Visual Studio.NET:

*There are some advantages and disadvantages:*

⇒ Advantages:

- ASP.NET make web developing much easier as developing windows applications.
- One IDE for multiple languages and multiple project types.
- If you have any experience in visual basic or access you will see how familiar in the ASP.NET
- Multiple languages within a project.
- Multiple project types within a solution.
- Integrated browser.
- Debugging support.
- Customizable interface.
- High security supported.
- Deals with XML format.



⇒ Disadvantages:

- You had a lot of related technologies from HTML, Script, Data access, etc.
- Requires high processor and memory speeds.
- Difficult for beginner programmers to work with it.
- The tools were terrible.
- Expensive cost.

*b. Microsoft front page:*

*There are some advantages and disadvantages:*

⇒ Advantages:

- Ease of use.
- Requires low level of computer capabilities.

⇒ Disadvantages

- Low security level when compared with ASP.NET as a huge technology.
- Creates a static web based.

*c. Oracle language in other way if possible:*

*There are some advantages and disadvantages:*

⇒ Advantages:

- Ease of use for small projects.
- More security level when compared with other languages.

⇒ Disadvantages

- Complex of use for huge projects.
- Creates a static development and complex implement online.
- For general It can use in application not web based.



## Data Dictionary:

This dictionary tables describes system procedures, Applications (Global Functions) and sessions(functions).

| <i>Stored procedures</i> |  |
|--------------------------|--|
| <u>Entity Name</u>       | <u>Description</u>   |
| updatepwd_pf             | This procedure update the password for Prisoner/Ex_prisoner                        |
| updatepwd_user           | This procedure update the password for User (employee, administrator).             |
| updateduetodate          | This procedure update the due to date of the advertising.                          |
| updateadvt               | This procedure update the advertising text body.                                   |
| updateadvb               | This procedure update the advertising attachment body.                             |
| returnnewadv             | This procedure retrieve all new advertising number according specific period.      |
| returnlikepris           | This procedure return all prisoners info. That like the inserted prisoner name.    |
| returnlikefreer          | This procedure return all prisoners info. That like the inserted Ex_prisoner name. |
| returnduetodate          | This procedure return the due to date for the advertising.                         |
| returnadvname            | This procedure return all advertising names  |
| returnadv_name           | This procedure return the advertising name for the advertising number inserted.    |
| returnadvnoo             | This procedure return advertising number according advertising name.               |

Return to chapter 2 [table (2.1) Stored procedures].



| <b><u>Entity Name</u></b> | <b><u>Description</u></b>  |
|---------------------------|--|
| myaccount                 | This procedure return the prisoner\Ex-prisoner password.   |
| listpf_no                 | This procedure retrieve all prisoner\Ex-prisoner numbers or IDs.   |
| isinpadv                  | This procedure check if the specific advertising in prisoner advertising or not, return 1 or 0.                      |
| insertpfadv               | This procedure insert advertising number to adv_pf table.  |
| insertbb                  | This procedure insert into advertising table new advertising with attachment body.                                   |
| insertbt                  | This procedure insert into advertising table new advertising with text body.   |
| Infoverify1               | This procedure return the id_card,DOB and full name for verify.  |
| deletepfadv               | This procedure delete advertising from adv_pf table.   |
| chktextnull               | This procedure check if the advertising text body is null or not, return 1 or 0.                                     |
| chkresultpris             | This procedure check if the prisoner that inserted to search about it is exist in database or not, return 1 or 0.    |
| chkresultfreer            | This procedure check if the Ex-prisoner that inserted to search about it is exist in database or not, return 1 or 0. |
| checkadv                  | This procedure check if the advertising is exist in advertising table or not.  |



| <u>Entity Name</u> | <u>Description</u>  |
|--------------------|---|
| chkattachmentnull  | This procedure check if the advertising attachment body in advertising table is null or not.  |
| chkvoting          | This procedure check if the prisoner\Ex-prisoner already voting befor or not , return 1 or 0. |
| Vote_maybe         | This procedure insert in vote_result table value 1 for maybe and 0 for no and yes.            |
| Vote_yes           | This procedure insert in vote_result table value 1 for yes and 0 for no and maybe.            |
| Vote_no            | This procedure insert in vote_result table value 1 for no and 0 for yes and maybe.            |
| Updatevote         | This procedure insert new question and its number in vote table                               |

Return to chapter 2 [table (2.1) Stored procedures. Continue...]

| <i>Applications (Global Functions)</i> |   |
|--|---|
| <u>Entity Name</u>                     | <u>Description</u>                        |
| Application("count")                   | Counter that count the web site activity. |
| Application("count1")                  | Counter that count the page activity.     |

Return to chapter 2 [table (2.2) Applications].



| <i>Sessions (Functions)</i> |  |
|-----------------------------|--|
| <u>Entity Name</u>          | <u>Description</u>   |
| Session("user_id")          | Function that keep the prisoner\Ex-prisoner number(user_id) between pages.                     |
| Session("a")                | Function that keep the prisoner\Ex-prisoner,and employee and administrator name between pages. |
| Session("pass_pris")        | Function that check if the prisoner is login successful.                                       |
| Session("pass_freer")       | Function that check if the Ex-prisoner is login successful                                     |
| Session("pass_admin")       | Function that check if the administrator is login successful.                                  |
| Session("pass_emp")         | Function that check if the employee is login successful.                                       |
| Session("selected")         | Function that checked if value from drop down list is selected or not.                         |

Return to chapter 2 [table (2.3) Sessions].



## SSR Sample Form

| <b>System Service Request</b>  |  |
|--|--|
| REQUESTED BY -----   | DATE -----   |
| CENTER -----   |  |
| LOCATION-----  |  |
| CONTACT-----   |  |
| <b>TYPE OF REQUEST</b><br><br><input type="checkbox"/> New system<br><input type="checkbox"/> System enhancement.<br><input type="checkbox"/> System error correction.   | <b>URGENCY</b><br><br><input type="checkbox"/> Immediate, operations are impaired or opportunity lost.<br><input type="checkbox"/> Problems exist, but can be worked around.<br><input type="checkbox"/> Business losses can be tolerated until new system is installed. |
| <b>PROBLEM STATEMENT</b>   |  |
| -----  |  |
| -----  |  |
| -----  |  |
| <b>SERVICE REQUEST</b>   |  |
| -----  |  |
| -----  |  |
| <b>IS LIAISON</b> -----  |  |
| <b>SPONSER</b> -----   |  |
| ----- <b>TO BE COMPLETED BY SYSTEMS PRIORITY</b>   |  |
| <input type="checkbox"/> Request approved<br><br><input type="checkbox"/> Recommend revision<br><input type="checkbox"/> Suggest user development.<br><input type="checkbox"/> Reject for reason -----<br>-----<br>----- | Assigned to -----<br>Start date -----  |

Return to chapter 6 [Figure (6.7) System Service Request].



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