

# SAP Preliminary Design

**Requested by:**

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Fredrick Norton Associated Technologies <sup>TM</sup>

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## Date of Presentation:

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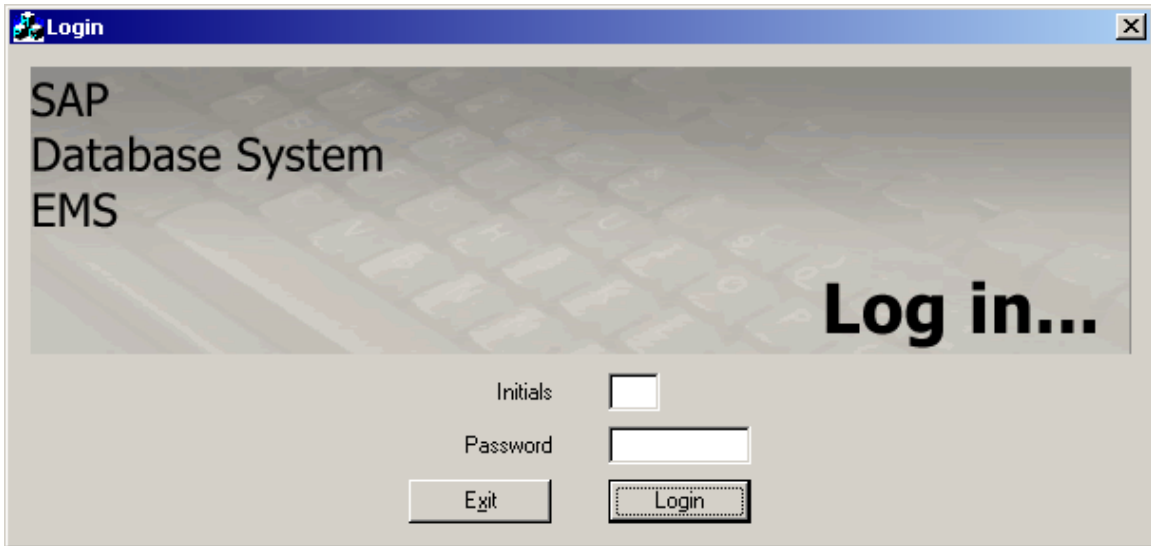
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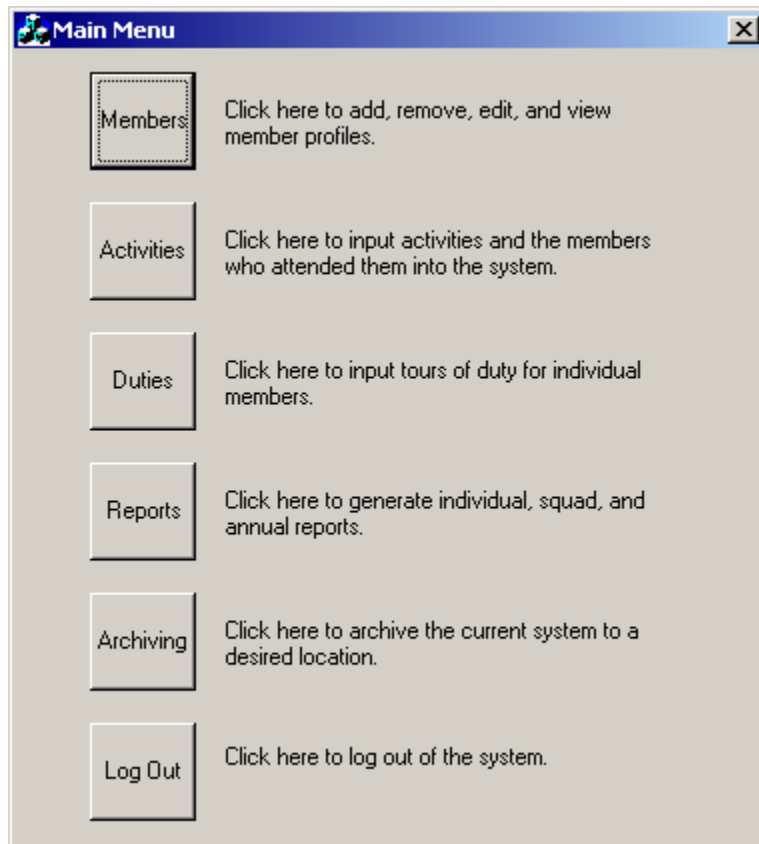
## **Project Overview**

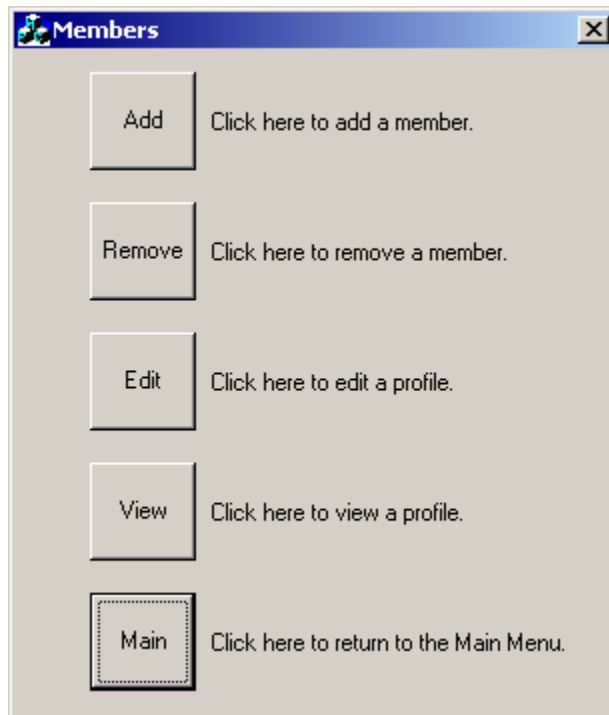
The SAP system will be a software package that works in conjunction with a Microsoft Access database. This package will allow for information to be easily accessible, data entry to be performed more efficiently, and making point calculations an automated task provided by the system. This system is being developed in cooperation with our client, Dr. Timothy Lederman, on behalf of the Castleton Volunteer EMS Station. Operators of the SAP system will interface with menus, forms, and reports. All of these attributes of the system will be developed through the use of Microsoft Visual C++, the Microsoft Foundation Class (MFC) Library, and Microsoft Access. To summarize, this system will make the management of data much easier than was ever possible before, along with creating a product that will be timely and efficient.

**Section 1: External Design Specifications**

**User Displays and Report Formats**







**Profile** [X]

Name

First  MI  Last

Address

Street

City  State  ZIP

Phone

Home (  )  -  Work (  )  -

SSN  -  -  (Optional) DOB  Age

Member Type/Status

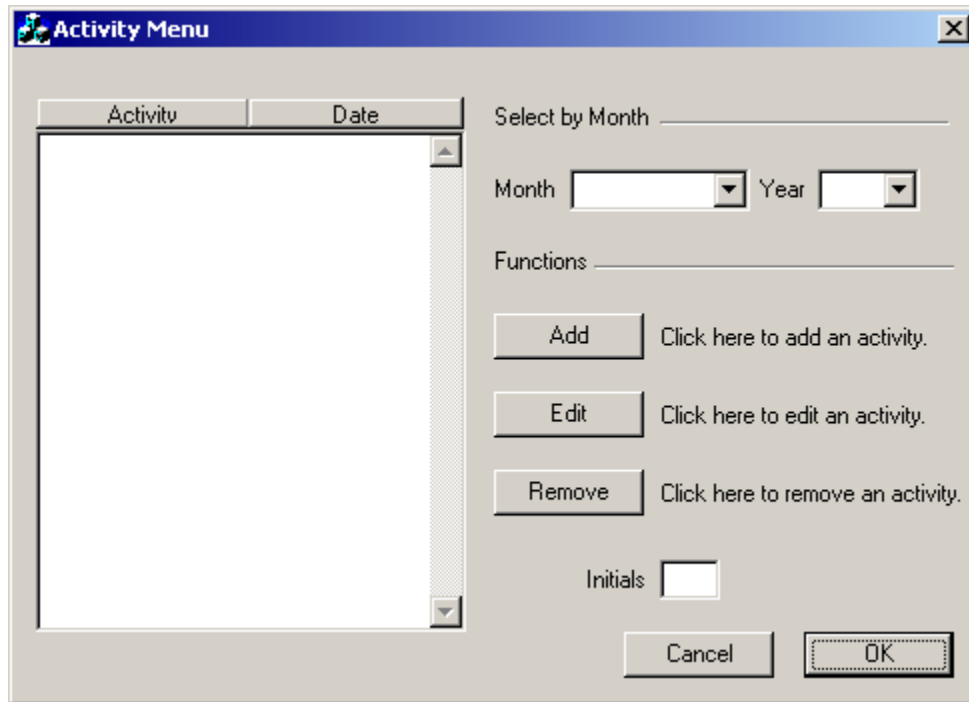
Type  Changed

Status  Changed

Authorization

Initials

Help Cancel OK





Activity

Member Names

Activity

Title

Location

Date/Duration

Single  Multiple

Date: 11/22/2002 Duration: hr(s) min(s)

Click Select All Active to select all active members or click Select All to choose all members.

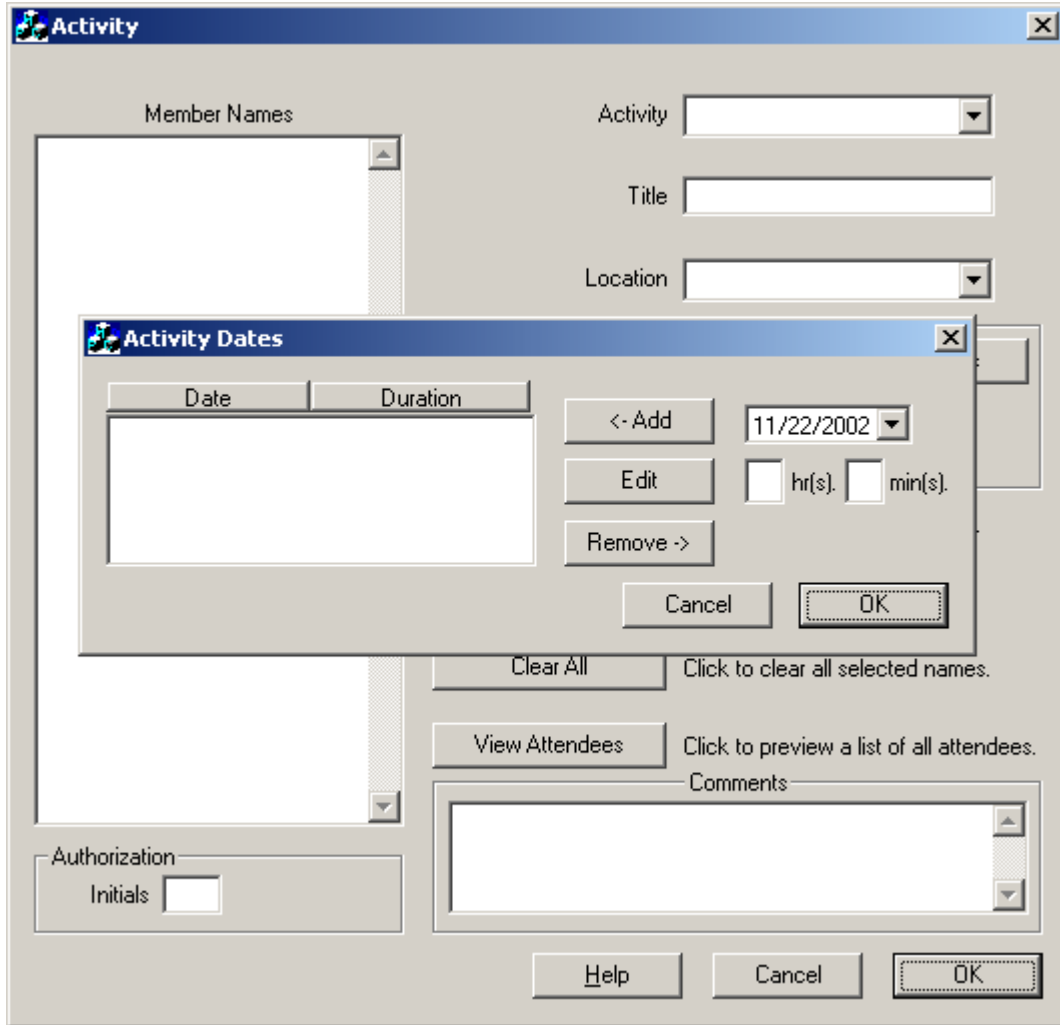
Click to clear all selected names.

Click to preview a list of all attendees.

Comments

Authorization

Initials



The screenshot shows a software window titled "Duty" with a standard Windows-style title bar (blue background, minimize, maximize, close buttons). The window contains the following elements:

- Name:** A dropdown menu.
- Activity:** A button labeled "Activity" with the text "Click here if you would like to add an activity for this member." above it.
- Month:** A horizontal line with a dropdown menu labeled "Month" and a dropdown menu labeled "Year".
- Calls per month:** A text input field.
- Duty Entry:** A horizontal line with a dropdown menu labeled "Day", a button labeled "Add ->", and two text input fields for "Duration" (hr(s)) and "min(s)", followed by a button labeled "<- Remove".
- Update:** A button labeled "Update".
- Authorization:** A group box containing a text input field labeled "Initials".
- Bottom Buttons:** Three buttons labeled "Help", "Cancel", and "OK".
- Table:** A table with two columns: "Date" and "Duration". The table is currently empty.



**Individual Report** [X]

Name

Report Type

Summarized  Detailed

Time Period

Year

Month  Year

Date-to-Date

Month  Day  Year

To

Complete History

Individual Detailed Report				
John Doe				
Report Created : November 18, 2002				
Activity	Date	Duration	Location	Points
<b>Training:</b>				
Ambulance Operations	10-14-02	1 hr(s) 30 min(s)	Castleton Station	1.5
Oxygen Recharging	10-22-02	30 min(s)	Castleton Station	.5
Ambulance Driving	10-25-02	2 hr(s)	Castleton Station	2
<b>Meetings:</b>				
Officer Elections	10-02-02	30 min(s)	Castleton Station	1
<b>Course/Seminar:</b>				
EMT	10-07-02	20 hr(s)	Albany Medical Center	20
CFR	10-29-02	15 hr(s)	Albany Medical Center	15 max
CPR	11-02-02	3 hr(s)	Castleton Station	3 max
<b>Community Event:</b>				
<b>Fund Raiser:</b>				
Car Wash	08-17-02	5 hr(s)	Castleton Station	1
<b>Other/Misc:</b>				
Super Bowl Sub Sale	01-05-02	4 hr(s) 30 min(s)	Castleton Station	1
<b>Calls Attended:</b>				
34	10-02			
29	11-02			
				25
<b>Tour of Duty:</b>				
	10-05-02	8 hr(s)		1
	10-06-02	7 hr(s) 30 min(s)		1
	10-09-02	8 hr(s)		1
	10-10-02	8 hr(s)		1
	10-15-02	8 hr(s)		1

**Squad Report** [X]

Name

Report Type

Summarized  Detailed

Time Period

Year

Month  Year

Date-to-Date

Month  Day  Year

To

Complete History

Summarized Report

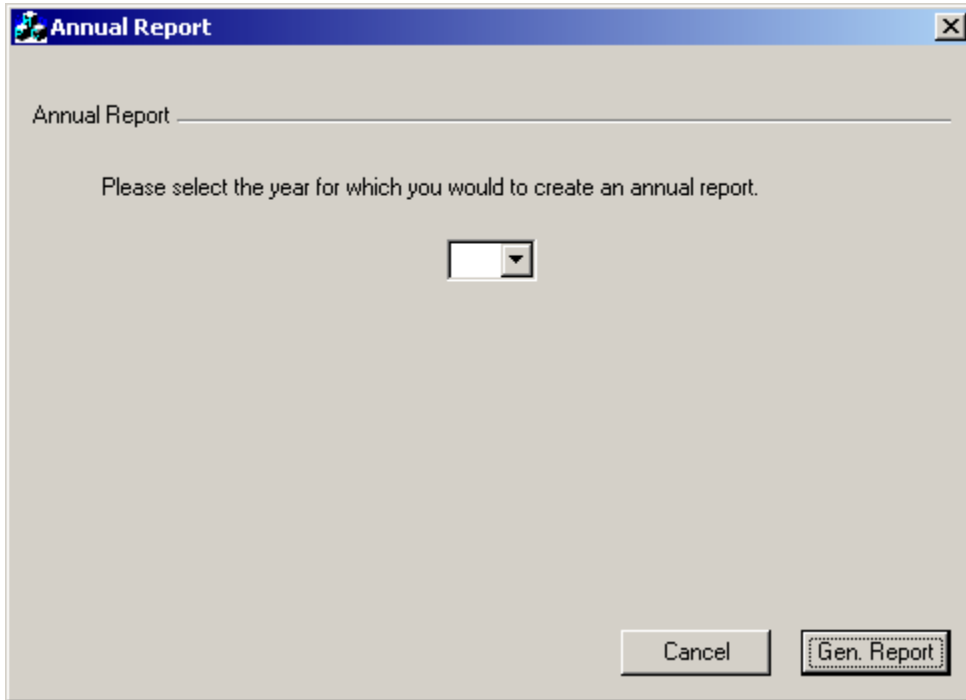
Squad Summary Report

January 1, 2002 to November 18, 2002

Member Name	Accumulated Credits
Beam, Jim	15
Bob, Sponge	20
Bundy, Ted	17
Carlin, George	63
Daniels, Jack	85
Flatland, Robin	37
Flynn, Bryan	46
Hunt, Mike	12
Lalla, Donato	67
Lederman, Timoth	99
Lowell, Christopher	69
Murphy, Courtney	71
Norton, Fredrick	1
Panza, Joe	32
Rizzo, Frank	52
Rollins, Henry	81
St. John, Micheal	57
Stewart, Martha	24
Swarner, Ken	39
Walker, Johnnie	41

Print      Exit





**Archiving Step 1** [X]

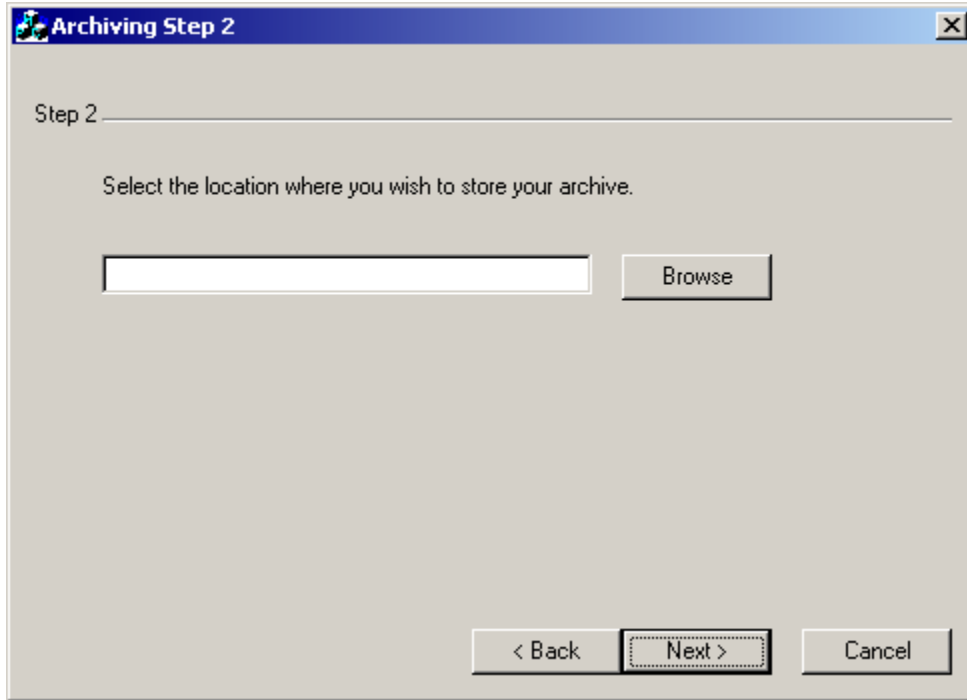
Step 1 \_\_\_\_\_

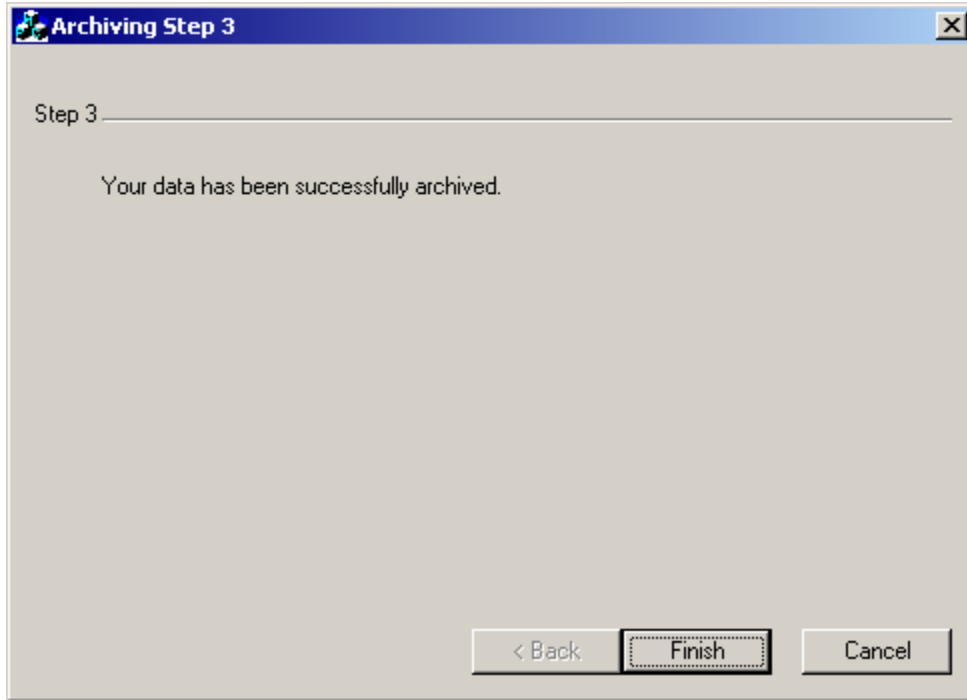
Please select the begin and end dates you wish to archive.

Begin -> End

MM	DD	YYYY	->	MM	DD	YYYY
<input type="text"/>	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>

< Back   **Next >**   Cancel





## **User Command Summary**

### **Log In**

The user may enter in his/her initials along with a valid password and then click ok. He/she will then enter the main menu. If the user opts to click the Exit button, the program will then close.

### **Main Menu**

The user is prompted with several options. He/she may click Members which will bring him/her to the Member profile screen. If the user clicks on the Activities button, it will bring him/her to the Activities Menu. If he/she clicks on Duties, it will bring him/her to the Duty Form. By clicking on Reports, the Report Form will be displayed. If he/she clicks on Archiving, it brings the user to the Archiving screen, and if he/she clicks Log Out, it will bring the user back to the log-in screen.

### **Members**

The user can choose to Add, Remove and Edit Members. He/she can also choose to view a member's profile. If he/she clicks on Add, the user is brought to the add member form. If they click Remove, he/she is brought to the Remove Member screen, and if the user clicks on Edit, he/she will be taken to the Edit User form. The member's profile can be viewed by clicking on the View button. The user may also choose to return to the Main menu by clicking on Main.

### **Activity Menu**

The user will enter his/her initials. If the activity the user wishes to enter information about is not shown in the column displayed to the left of the screen, which is searchable by month, he/she can then choose to Add a new Activity by clicking Add. A new activity form will be displayed.

If the activity is displayed in the column, the user can edit the activity information by selecting the activity and then clicking Edit. The user will be taken to an Existing Activity Form.

If the user wants to remove an activity from the database, they can select the activity and then click remove. After the user is done making changes, he/she will click ok and return to the Main Menu. The user can choose to return to the Main Menu at any time by clicking Cancel.

### **New Activity Form**

The user enters in the activity type, title and location. He/she then selects whether the activity took place over one day or over several. If the user selects a single date, he/she will then enter in that date. If he/she selects multiple, he/she will then select edit dates and enter in the dates the activity took place. After the dates are entered in both instances, the user will then select the member names. He/she has the option of selecting single users by clicking on each individual name, by selecting all members and selecting all active members by clicking on their respective buttons. There is also the option of clearing all names that have been selected by clicking Clear All. He/she may also view the names that have been selected by clicking on View Attendees. The user then enters

his/her initials and when all information has been entered, clicks OK. The user will then be taken back to the Activity Menu. At any point, the user can return to the Activity Menu by clicking Cancel, or receive help by clicking Help.

### **Existing Activity Form**

The user can edit any information pertaining to a specific activity on this form. All steps in the New Activity Form apply to this form as well. At any point, the user can return to the Activity Menu by clicking Cancel, or receive help by clicking Help.

### **Duties**

The user enters in all Duty Data along with his/her initials and then clicks add. The added duty information will be displayed to the user. The user can then enter in more duty data until he/she has entered all the duty for the member. To commit the data to the database, the user will click Update and the database will be updated. The user is sent a verification message and will then return to the duty form. The user can remove any duty data by selecting the duty in the display screen and then clicking Remove. The user will be giving a remove verification and then go back to Duty Data. If the user wants to enter in a full activity, he/she can enter the date in and then select Activity and the user will be taken to the New Activity form.

### **Reports**

The user can request several reports. He/she can request an Individual Report, a Squad Report or an Annual Report. To view an Individual Report, the user will click on Individual and he/she will be taken to the Individual Report Form. If the user would like to request a Squad Report, he/she will click on Squad to be taken to the Squad Report Form. If the user would like an Annual Report, he/she would click on Annual to be taken to the Annual Report Form. The user can return to the Main Menu screen at any time by clicking Main.

### **Individual Report**

The user will enter in all report data and then click Generate Reports to view the Individual Report. After viewing the generated Individual Report, he/she will be brought back to the Generate Reports page. At any time the user can return to Generate Report by clicking Cancel and he/she can also receive help at any time by clicking Help.

### **Squad Report**

The user will enter in all report data and then click Generate Reports to view the Squad Report. After viewing the generated Squad Report, he/she will be brought back to the Generate Reports page. At any time the user can return to Generate Report by clicking Cancel and he/she can also receive help at any time by clicking Help.

### **Squad Report**

The user will select the year in which they wish to generate a report on and then click Generate Reports to view the Annual Report. After viewing the generated Annual

Report, he/she will be brought back to the Generate Reports page. At any time the user can return to Generate Report by clicking Cancel.

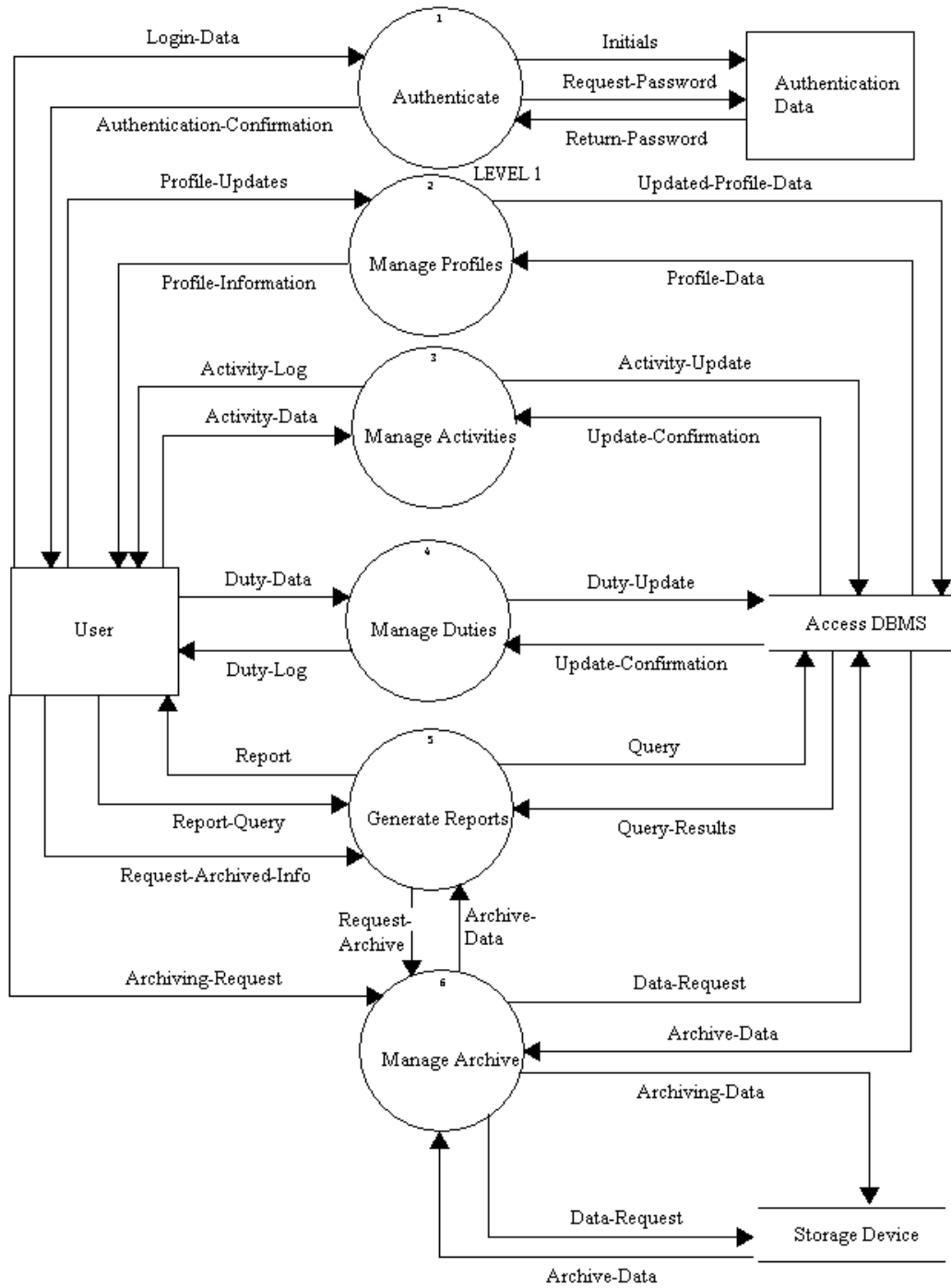
**Archive Date**

The user will enter the dates he/she wishes to archive the database and then click next. The user will then be brought to the locations screen. He/she can return to Main Menu by clicking Cancel.

**Archive Location**

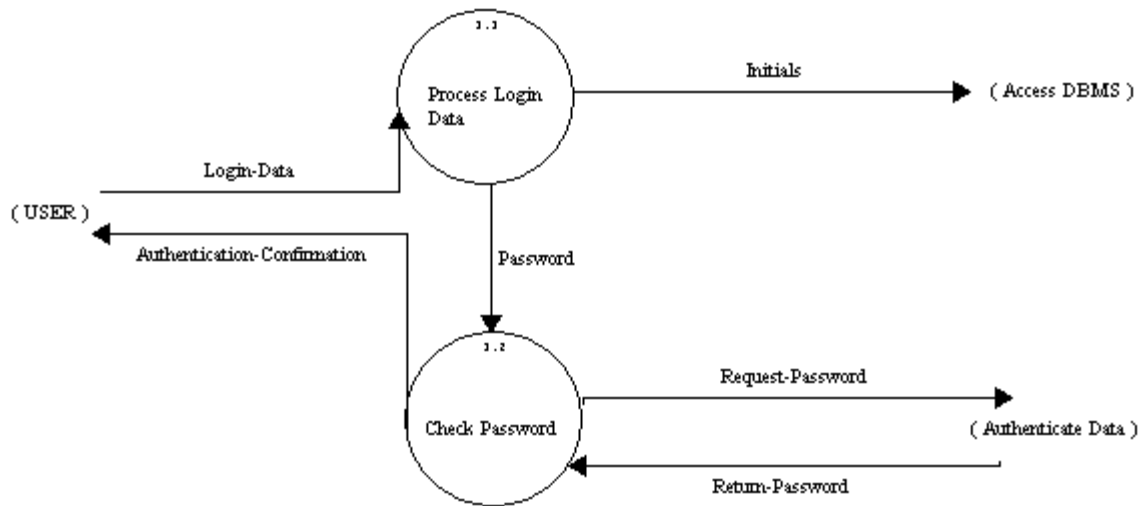
The user can select the location in which he/she wishes to have the archived data stored and then click Next in order to archive. He/she will receive a confirmation screen and then can return to Main Menu. The user can return to the archive date screen by clicking Back or can return to main menu by clicking Cancel.

## Detailed Data Flow Diagrams

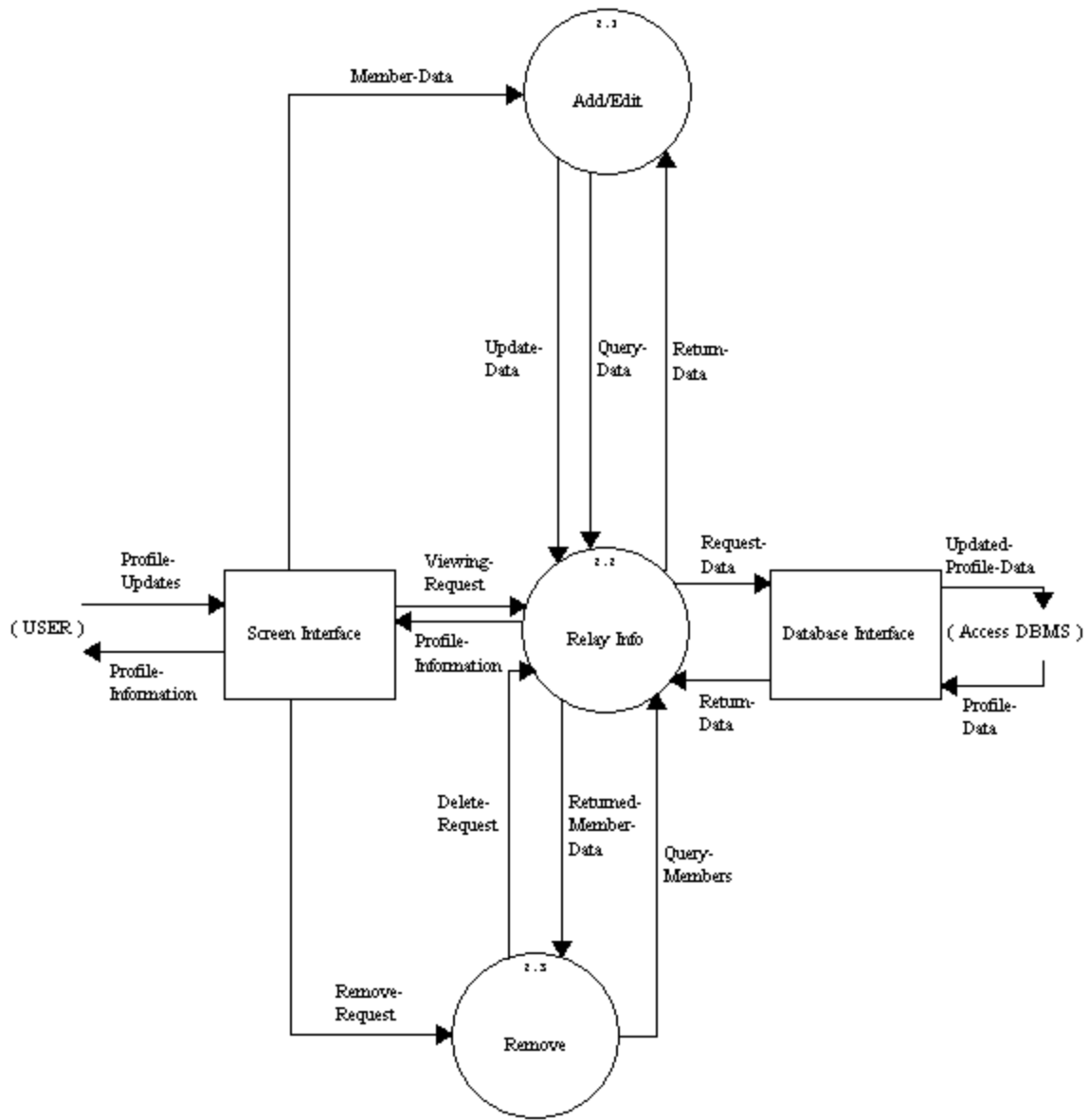




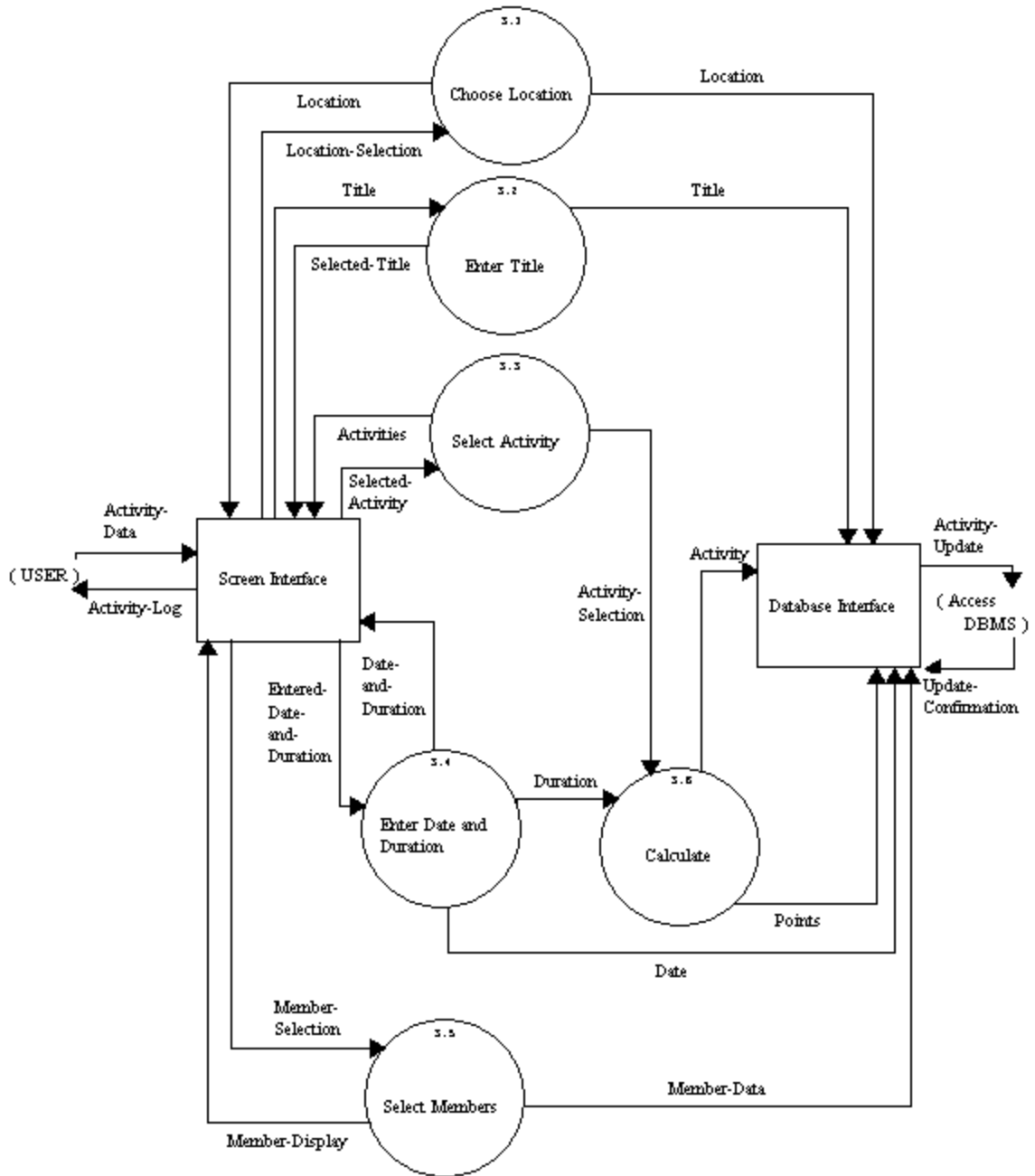
AUTHENTICATE



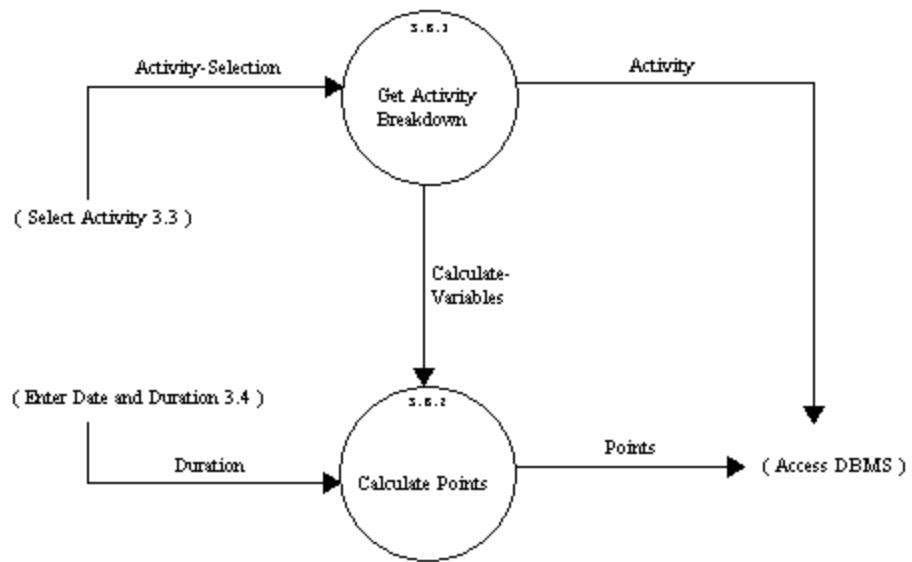
MANAGE PROFILES



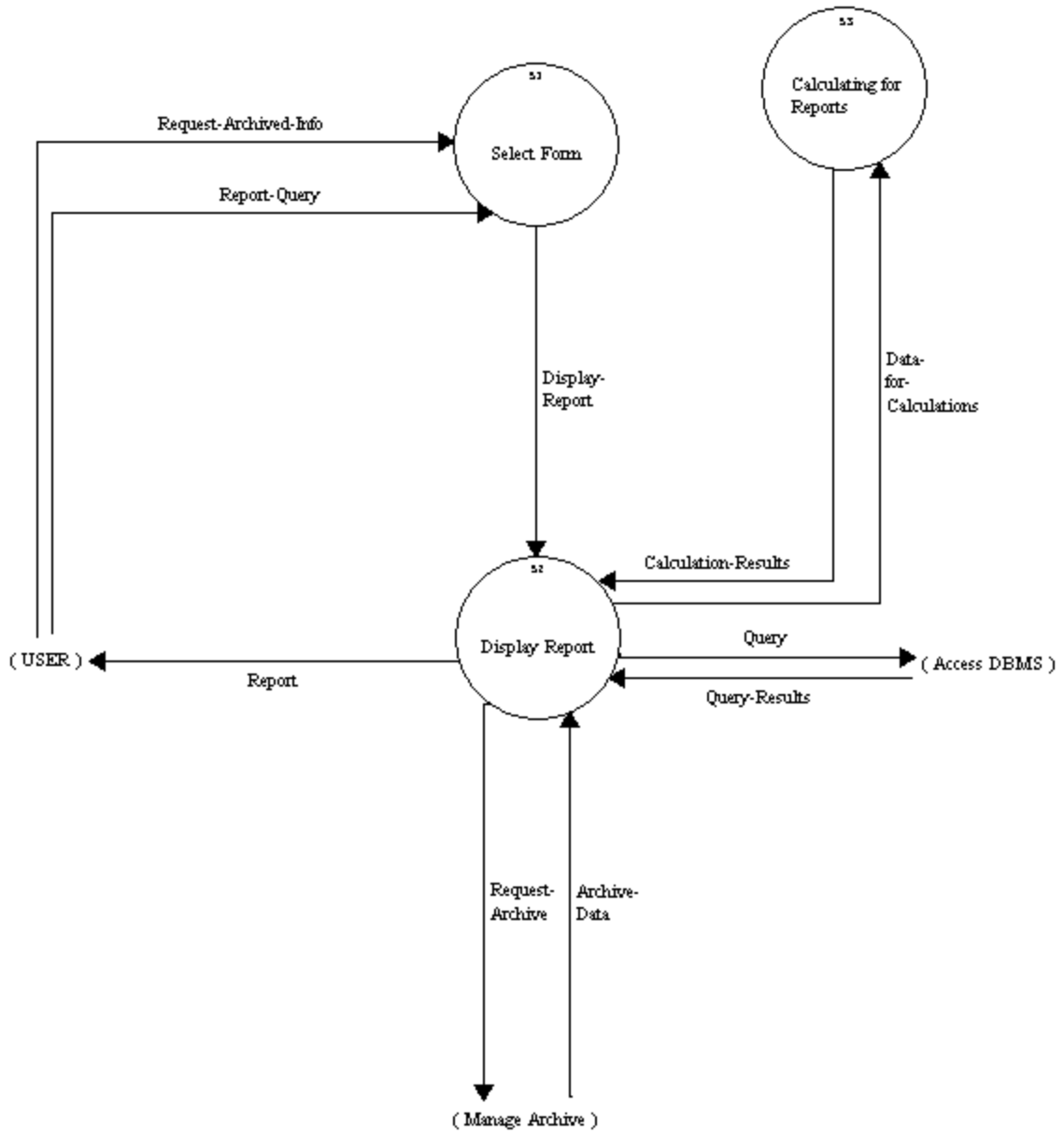
MANAGE ACTIVITIES



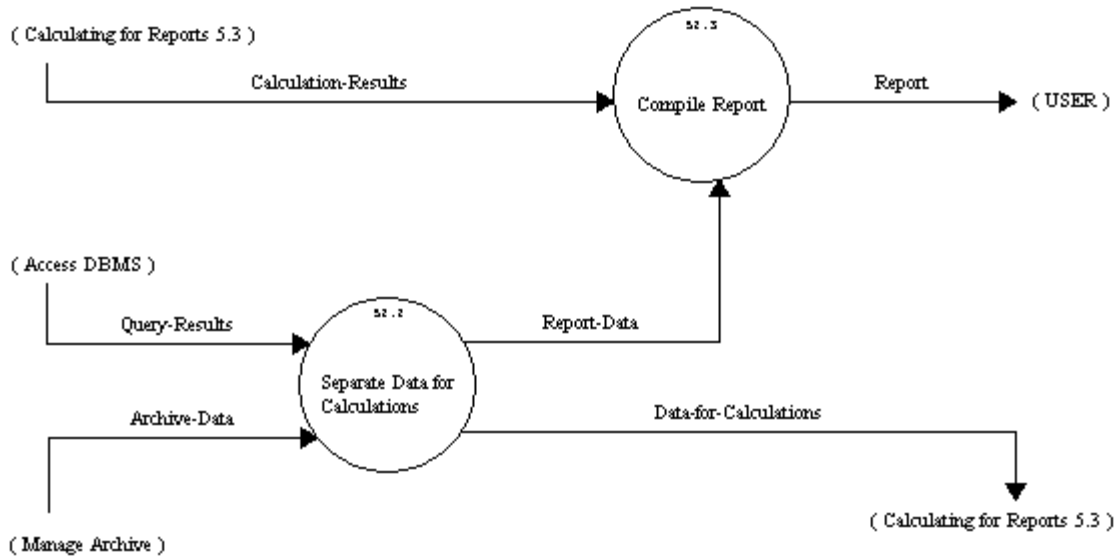
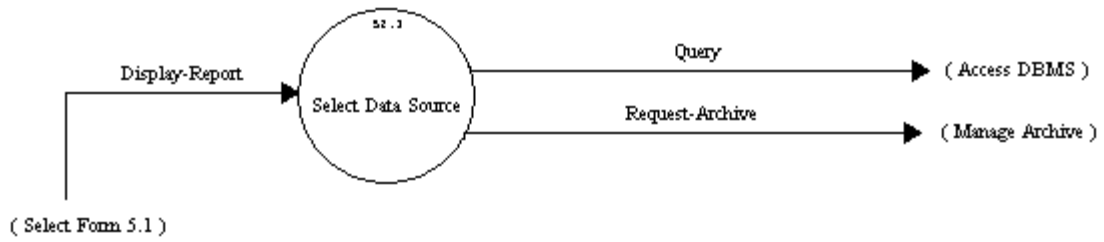
CALCULATE



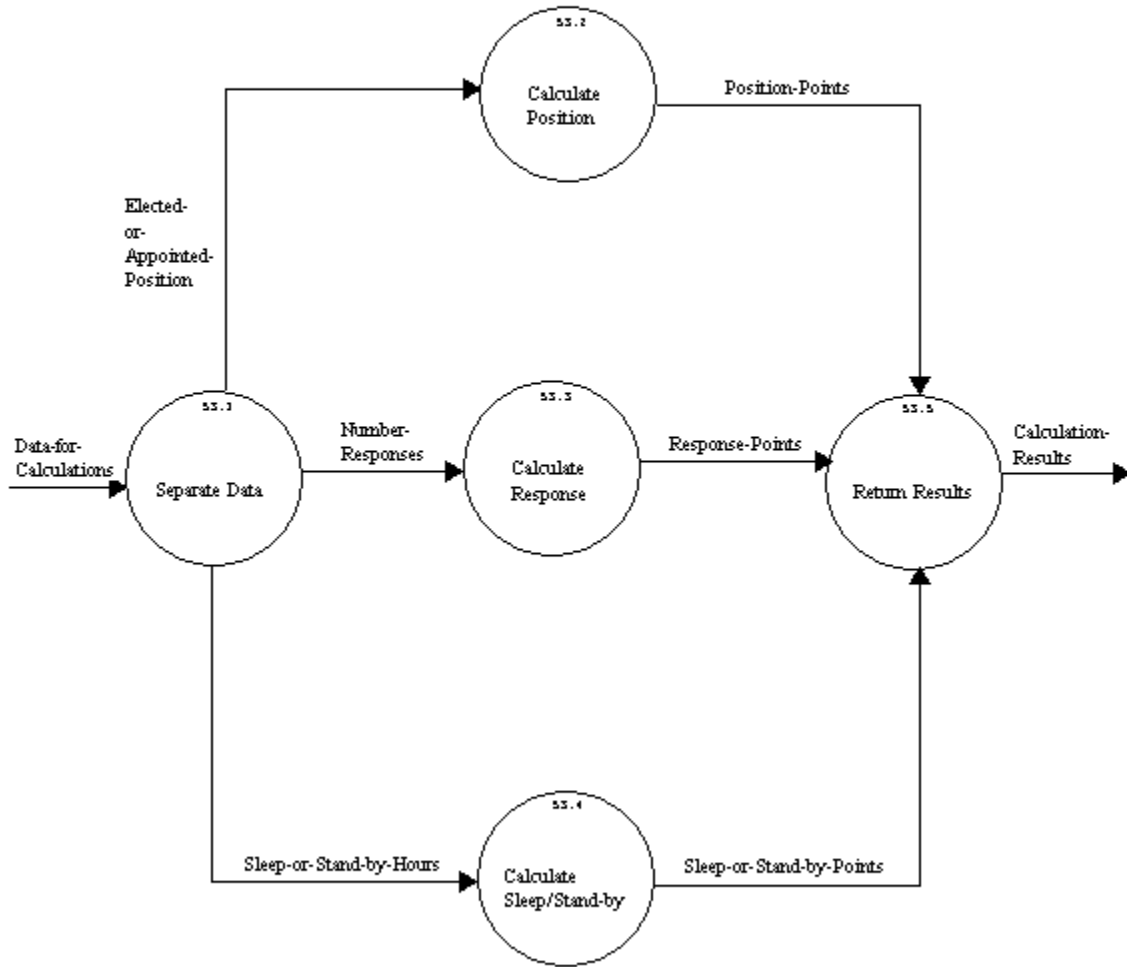
GENERATE REPORTS



DISPLAY REPORT



CALCULATING FOR REPORTS



# Logical Data Dictionary

## LEVEL 1

Authentication Data                      Source/Sink  
Description:  
    A file holding the information that allows users to access the system.  
Location:  
    level 1 ( 0 )  
    Input Flows:  
        Request-Password  
        Initials  
    Output Flows:  
        Return-Password  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

User                                      Source/Sink  
Description:  
    The person logged in and operating the software.  
Location:  
    level 1 ( 0 )  
    Input Flows:  
        Duty-Log  
        Activity-Log  
        Report  
        Authentication-Confirmation  
        Profile-Information  
        Authentication-Confirmation  
    Output Flows:  
        Activity-DAta  
        Request-Archived-Info  
        Archiving-Request  
        Login-Data  
        Profile-Updates  
        Duty-Data  
        Login-Data  
        Profile-Updates  
        Request-Archived-Info  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Access DBMS                              File  
Description:  
    The Microsoft Access Database in which all Member/Activity/Duty data  
will  
    be stored.  
Composition:



Activity-Update  
Archive-Data  
Data-Request  
Profile-Data  
Query  
Query-Results  
Update-Confirmation  
Updated-Profile-Data

Location:

level 1 ( 0 )

Input Flows:

Duty-Update  
Activity-Update  
Query  
Data-Request  
Updated-Profile-Data  
Initials  
Updated-Profile-Data  
Data-Request

Output Flows:

Update-Confirmation  
Archive-Data  
Profile-Data  
Update-Confirmation  
Profile-Data  
Query-Results  
Archive-Data

Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Storage Device File

Description:

Anything that data will be archived to, such as disk, cd or hard drive, etc.

Location:

level 1 ( 0 )

Input Flows:

Data-Request  
Archiving-Data  
Data-Request

Output Flows:

Archive-Data  
Archive-Data

Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Authenticate Process

Description:

Secures the system from entry from unwanted users.

Process #: 1

Process Description:

Takes the user entered log in data and sends the password on to be verified and sends the user's initials to the database. A confirmation is then sent back to the user.

Location:

level 1 ( 0 )

Input Flows:

Return-Password

Login-Data

Output Flows:

Request-Password

Authentication-Confirmation

Initials

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Generate Reports

Process

Description:

Allows the user to choose from five different query types from the database, this includes current information and archived data.

Process #: 5

Process Description:

Takes in a query or archive request from the user and returns the report from the database or storage device.

Notes:

The five types of queries are: annual report, individual summary, individual detailed, squad summary and squad detailed.

Location:

level 1 ( 0 )

Input Flows:

Report-Query

Archive-Data

Report-Query

Query-Results

Output Flows:

Request-Archive

Query

Report

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Manage Activities

Process

Description:

Stores activity information in the database.

Process #: 3

Process Description:

Takes the activities information as input by the user and stores them

into the database.

Location:

level 1 ( 0 )

Input Flows:

Activity-DAta

Update-Confirmation

Output Flows:

Activity-Log

Activity-Update

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Manage Archive

Process

Description:

Archives data from database to a specific storage device.

Process #: 6

Process Description:

Retrieves the requested data from the database as specified by the user and stores to a storage device.

Location:

level 1 ( 0 )

Input Flows:

Archiving-Request

Request-Archive

Archive-Data

Archive-Data

Output Flows:

Data-Requst

Archiving-Data

Data-Request

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Manage Duties

Process

Description:

Stores Duty information entered by the user in the database.

Process #: 4

Process Description:

Takes the Duty information as inputed by the user and stores them into the database.

Location:

level 1 ( 0 )

Input Flows:

Update-Confirmation

Duty-Data

Output Flows:

Duty-Log

Duty-Update

Date Last Altered:11/24/2002 Date Created:11/24/2002

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Manage Profiles Process  
Description:  
Allows the addition, editing, deletion and viewing of member profiles.  
Process #: 2  
Process Description:  
Any changes the user may need to make are modified in the database.  
Location:  
level 1 ( 0 )  
Input Flows:  
Profile-Updates  
Profile-Data  
Output Flows:  
Profile-Information  
Updated-Profile-Data  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Activity-DAta Data Flow  
Description:  
All the activity data inputted by the user.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Manage Activities ( Process )  
Manage Activities ( 3 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Screen Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Activity-Log Data Flow  
Description:  
The activity information which needs to be displayed to the user .  
Location:  
level 1 ( 0 )  
Source:Manage Activities ( Process )  
Dest: User ( Source/Sink )  
Manage Activities ( 3 )  
Source:Screen Interface ( Source/Sink )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Activity-Update Data Flow  
Description:  
The new activity information to be sent to the database to update it.  
Location:

level 1 ( 0 )  
Source:Manage Activities ( Process )  
Dest: Access DBMS ( File )  
Manage Activities ( 3 )  
Source:Database Interface ( Source/Sink )  
Dest: \*\*\* Not on Diagram \*\*\*  
File --> Access DBMS  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archive-Data Data Flow  
Description:  
Data that has been archived already and it being inputed from a storage device.  
Location:  
level 1 ( 0 )  
Source:Manage Archive ( Process )  
Dest: Generate Reports ( Process )  
Source:Access DBMS ( File )  
Dest: Manage Archive ( Process )  
Source:Storage Device ( File )  
Dest: Manage Archive ( Process )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Display Report ( Process )  
Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Manage Storage Device ( Process )  
Source:Manage Storage Device ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Source:Storage Device ( File )  
Dest: \*\*\* Not on Diagram \*\*\*  
File --> Access DBMS  
Display Report ( 5.2 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Separate Data for Calculations ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archiving-Data Data Flow  
Description:  
Data that is being transferred to a storage device to be archived.  
Location:  
level 1 ( 0 )  
Source:Manage Archive ( Process )  
Dest: Storage Device ( File )  
Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*

Dest: Handle Archiving ( Process )  
Source:Manage Archive ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archiving-Request Data Flow

Description:  
An index to data that is going to be transferred from a database to a storage device.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Manage Archive ( Process )  
Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Handle Archiving ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Authentication-Confirmation Data Flow

Description:  
The information displayed to the user verifying their sucessful/failed log in attempt.  
Location:  
level 1 ( 0 )  
Source:Authenticate ( Process )  
Dest: User ( Source/Sink )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: \*\*\* Not on Diagram \*\*\*  
Authenticate ( 1 )  
Source:Check Password ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Source:Authenticate ( Process )  
Dest: User ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Data-Request Data Flow

Description:  
The archived data requested to be retrieved from the storage device.  
Location:  
level 1 ( 0 )  
Source:Manage Archive ( Process )  
Dest: Storage Device ( File )  
Manage Archive ( 6 )  
Source:Manage Storage Device ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*

Source:Manage Archive ( Process )  
Dest: Storage Device ( File )  
File --> Access DBMS  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Duty-Data Data Flow

Description:  
The name, date, duration of duties, and calls per month.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Manage Duties ( Process )  
Manage Duties ( 4 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Screen Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Duty-Log Data Flow

Description:  
The duty information which needs to be displayed to the user.  
Location:  
level 1 ( 0 )  
Source:Manage Duties ( Process )  
Dest: User ( Source/Sink )  
Manage Duties ( 4 )  
Source:Screen Interface ( Source/Sink )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Duty-Update Data Flow

Description:  
All new duty data to be inputed into the Access DBMS.  
Location:  
level 1 ( 0 )  
Source:Manage Duties ( Process )  
Dest: Access DBMS ( File )  
Manage Duties ( 4 )  
Source:Database Interface ( Source/Sink )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Initials Data Flow

Description:  
The user's initials that are inputed at the log in screen that will be stored in the database.  
Notes:

2-3 characters in length

Location:

level 1 ( 0 )

Source:Authenticate ( Process )

Dest: Access DBMS ( File )

Source:Authenticate ( Process )

Dest: Authentication Data ( Source/Sink )

Authenticate ( 1 )

Source:Process Login Data ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Login-Data Data Flow

Description:

The initials and password inputed by the user at the log-in screen.

Location:

level 1 ( 0 )

Source:User ( Source/Sink )

Dest: Authenticate ( Process )

Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: \*\*\* Not on Diagram \*\*\*

Authenticate ( 1 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Process Login Data ( Process )

Source:User ( Source/Sink )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Profile-Data Data Flow

Description:

Member data requested from the database.

Location:

level 1 ( 0 )

Source:Access DBMS ( File )

Dest: Manage Profiles ( Process )

Manage Profiles ( 2 )

Source:Access DBMS ( File )

Dest: Database Interface ( Source/Sink )

File --> Access DBMS

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Profile-Information Data Flow

Description:

The member information to be displayed to the user.

Location:



level 1 ( 0 )  
Source:Manage Profiles ( Process )  
Dest: User ( Source/Sink )  
Manage Profiles ( 2 )  
Source:Screen Interface ( Source/Sink )  
Dest: \*\*\* Not on Diagram \*\*\*  
Source:Relay Info ( Process )  
Dest: Screen Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Profile-Updates Data Flow

Description:  
Changes made to member profiles.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Manage Profiles ( Process )  
Manage Profiles ( 2 )  
Source:User ( Source/Sink )  
Dest: Manage Profiles ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query Data Flow

Description:  
The report requested from the database.  
Location:  
level 1 ( 0 )  
Source:Generate Reports ( Process )  
Dest: Access DBMS ( File )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
File --> Access DBMS  
Display Report ( 5.2 )  
Source:Select Data Source ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query-Results Data Flow

Description:  
The requested report information as queried from the database.  
Location:  
level 1 ( 0 )  
Source:Access DBMS ( File )  
Dest: Generate Reports ( Process )  
Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*  
Dest: Display Report ( Process )  
File --> Access DBMS  
Display Report ( 5.2 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Separate Data for Calculations ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Report Data Flow

Description:  
One of the 5 different forms of data to be displayed to the user.  
Location:  
level 1 ( 0 )  
Source:Generate Reports ( Process )  
Dest: User ( Source/Sink )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Display Report ( 5.2 )  
Source:Compile Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Report-Query Data Flow

Description:  
Request for one of the 5 types of reports.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Generate Reports ( Process )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Select Form ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Archive Data Flow

Description:  
Information requested to be archived from the database.  
Location:  
level 1 ( 0 )  
Source:Generate Reports ( Process )  
Dest: Manage Archive ( Process )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Manage Archive ( 6 )

Source:\*\*\* Not on Diagram \*\*\*  
Dest: Manage Storage Device ( Process )  
Display Report ( 5.2 )  
Source:Select Data Source ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Archived-Info Data Flow  
Description:  
Requested information to be retrieved from a storage device.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Generate Reports ( Process )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Select Form ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Password Data Flow  
Description:  
The password entered by the user to be sent to the authenticate data for verification.  
Location:  
level 1 ( 0 )  
Source:Authenticate ( Process )  
Dest: Authentication Data ( Source/Sink )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: \*\*\* Not on Diagram \*\*\*  
Authenticate ( 1 )  
Source:Check Password ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Return-Password Data Flow  
Description:  
Returns whether or not the entered password was found in Authenticate Data.  
Location:  
level 1 ( 0 )  
Source:Authentication Data ( Source/Sink )  
Dest: Authenticate ( Process )  
Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*  
Dest: Authenticate ( Process )  
Authenticate ( 1 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Check Password ( Process )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Update-Confirmation Data Flow  
Description:  
The data sent back to the database interface confirming that an update has been made to the database.  
Location:  
level 1 ( 0 )  
Source:Access DBMS ( File )  
Dest: Manage Duties ( Process )  
Source:Access DBMS ( File )  
Dest: Manage Activities ( Process )  
Manage Duties ( 4 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Database Interface ( Source/Sink )  
Manage Activities ( 3 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Database Interface ( Source/Sink )  
File --> Access DBMS  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Updated-Profile-Data Data Flow  
Description:  
Member data that has been edited by the user that is being sent to update the database  
Location:  
level 1 ( 0 )  
Source:Manage Profiles ( Process )  
Dest: Access DBMS ( File )  
Manage Profiles ( 2 )  
Source:Database Interface ( Source/Sink )  
Dest: Access DBMS ( File )  
File --> Access DBMS  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

## LEVEL 2

### AUTHENTICATE (1)

#### Check Password Process

##### Description:

Verifies the user password to allow access to the system.

Process #: 1.2

##### Process Description:

Takes in the user entered password, sends it to be authenticated and then sends the user confirmation on the successful or failed log in attempt.

##### Location:

Authenticate ( 1 )

##### Input Flows:

Return-Password

Password

##### Output Flows:

Request-Password

Authentication-Confirmation

Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

#### Process Login Data Process

##### Description:

Separates the log in data into initials and password.

Process #: 1.1

##### Process Description:

Takes the log in information entered by the user and sends the initials to be stored in the database and the password to be verified.

##### Location:

Authenticate ( 1 )

##### Input Flows:

Login-Data

##### Output Flows:

Initials

Password

Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

#### Authentication-Confirmation Data Flow

##### Description:

The information displayed to the user verifying their successful/failed log in attempt.

##### Location:

level 1 ( 0 )  
Source:Authenticate ( Process )  
Dest: User ( Source/Sink )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: \*\*\* Not on Diagram \*\*\*  
Authenticate ( 1 )  
Source:Check Password ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Source:Authenticate ( Process )  
Dest: User ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Initials Data Flow

Description:

The user's initials that are inputed at the log in screen that will be stored in the database.

Notes:

2-3 characters in length

Location:

level 1 ( 0 )  
Source:Authenticate ( Process )  
Dest: Access DBMS ( File )  
Source:Authenticate ( Process )  
Dest: Authentication Data ( Source/Sink )  
Authenticate ( 1 )  
Source:Process Login Data ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Login-Data Data Flow

Description:

The initials and password inputed by the user at the log-in screen.

Location:

level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Authenticate ( Process )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: \*\*\* Not on Diagram \*\*\*  
Authenticate ( 1 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Process Login Data ( Process )  
Source:User ( Source/Sink )  
Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Password Data Flow

Description:

The password entered by the user.

Location:

Authenticate ( 1 )

Source:Process Login Data ( Process )

Dest: Check Password ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Password Data Flow

Description:

The password entered by the user to be sent to the authenticate data for verification.

Location:

level 1 ( 0 )

Source:Authenticate ( Process )

Dest: Authentication Data ( Source/Sink )

Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: \*\*\* Not on Diagram \*\*\*

Authenticate ( 1 )

Source:Check Password ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Source:\*\*\* Not on Diagram \*\*\*

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Return-Password Data Flow

Description:

Returns whether or not the entered password was found in Authenticate Data.

Location:

level 1 ( 0 )

Source:Authentication Data ( Source/Sink )

Dest: Authenticate ( Process )

Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Authenticate ( Process )

Authenticate ( 1 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Check Password ( Process )

Source:\*\*\* Not on Diagram \*\*\*

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---





Profile-Information

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Remove Process

Description:

Allows the user to remove a member and their corresponding member information from the database.

Process #: 2.3

Process Description:

Takes the remove request made by the user and matches it with the database information and removes all relevant information.

Location:

Manage Profiles ( 2 )

Input Flows:

Remove-Request

Returned-Member-Data

Output Flows:

Query-Members

Delete-Request

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Delete-Request Data Flow

Description:

The index of the data to be deleted.

Location:

Manage Profiles ( 2 )

Source:Remove ( Process )

Dest: Relay Info ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Member-Data Data Flow

Description:

Information regarding a volunteer, as entered by the user.

Notes:

Data to be stored: First Name, Last Name, Middle Initial,SSN, Street, Street2, City, State, Zip, Home Phone, Work Phone.

Location:

Manage Activities ( 3 )

Source:Select Members ( Process )

Dest: Database Interface ( Source/Sink )

Manage Profiles ( 2 )

Source:Screen Interface ( Source/Sink )

Dest: Add/Edit ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Profile-Data Data Flow

Description:

Member data requested from the database.

Location:

level 1 ( 0 )

Source:Access DBMS ( File )

Dest: Manage Profiles ( Process )

Manage Profiles ( 2 )

Source:Access DBMS ( File )

Dest: Database Interface ( Source/Sink )

File --> Access DBMS

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Profile-Information

Data Flow

Description:

The member information to be displayed to the user.

Location:

level 1 ( 0 )

Source:Manage Profiles ( Process )

Dest: User ( Source/Sink )

Manage Profiles ( 2 )

Source:Screen Interface ( Source/Sink )

Dest: \*\*\* Not on Diagram \*\*\*

Source:Relay Info ( Process )

Dest: Screen Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Profile-Updates

Data Flow

Description:

Changes made to member profiles.

Location:

level 1 ( 0 )

Source:User ( Source/Sink )

Dest: Manage Profiles ( Process )

Manage Profiles ( 2 )

Source:User ( Source/Sink )

Dest: Manage Profiles ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query-Data

Data Flow

Description:

The requested data to be edited by the user.

Location:

Manage Profiles ( 2 )

Source:Add/Edit ( Process )

Dest: Relay Info ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

-----  
Query-Members                                  Data Flow  
Description:  
    Member information to be matched up with database members for deletion.  
Location:  
    Manage Profiles ( 2 )  
        Source:Remove ( Process )  
        Dest: Relay Info ( Process )  
Date Last Altered:11/24/2002    Date Created:11/24/2002  
-----

Remove-Request                                Data Flow  
Description:  
    The requested member information to be removed from the database.  
Location:  
    Manage Profiles ( 2 )  
        Source:Screen Interface ( Source/Sink )  
        Dest: Remove ( Process )  
Date Last Altered:11/24/2002    Date Created:11/24/2002  
-----

Request-Data                                 Data Flow  
Description:  
    Information to be retrieved from the database to be viewed by the user.  
Location:  
    Manage Profiles ( 2 )  
        Source:Relay Info ( Process )  
        Dest: Database Interface ( Source/Sink )  
Date Last Altered:11/24/2002    Date Created:11/24/2002  
-----

Return-Data                                  Data Flow  
Description:  
    Member data retrieved from the database to be edited or viewed by the  
    user.  
Location:  
    Manage Profiles ( 2 )  
        Source:Relay Info ( Process )  
        Dest: Add/Edit ( Process )  
        Source:Database Interface ( Source/Sink )  
        Dest: Relay Info ( Process )  
Date Last Altered:11/24/2002    Date Created:11/24/2002  
-----

Returned-Member-Data                       Data Flow  
Description:  
    Member data from the database to be removed.  
Location:  
    Manage Profiles ( 2 )  
        Source:Relay Info ( Process )

Dest: Remove ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Update-Data Data Flow

Description:  
Sends the data edited by the user to be updated to Relay Info to be updated to the database.

Location:

Manage Profiles ( 2 )  
Source:Add/Edit ( Process )  
Dest: Relay Info ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Updated-Profile-Data Data Flow

Description:  
Member data that has been edited by the user that is being sent to update the database

Location:

level 1 ( 0 )  
Source:Manage Profiles ( Process )  
Dest: Access DBMS ( File )  
Manage Profiles ( 2 )  
Source:Database Interface ( Source/Sink )  
Dest: Access DBMS ( File )  
File --> Access DBMS

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Viewing-Request Data Flow

Description:  
The member information requested from the database by the user to be viewed.

Location:

Manage Profiles ( 2 )  
Source:Screen Interface ( Source/Sink )  
Dest: Relay Info ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

### MANAGE ACTIVITIES (3)

Calculate Process

Description:  
Tallies the points in which the members receive for various activities/duties performed.

Process #: 3.6

Process Description:  
Takes the inputted activity/duty, by using the guidelines the comptroller has designed, it will calculate the points the member receives.

Location:  
Manage Activities ( 3 )

Input Flows:  
Activity-Selection  
Duration

Output Flows:  
Activity  
Points

Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Choose Location Process

Description:  
Allows the user to enter or select the location of an activity and store it in the database.

Process #: 3.1

Process Description:  
Takes the user selected/entered location and stores it in the database and then displays that information back to the user.

Location:  
Manage Activities ( 3 )

Input Flows:  
Location-Selection

Output Flows:  
Location  
Location

Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Enter Date And Duration Process

Description:  
Stores inputted Date and Duration as objects to be entered into the database and also used for calculations.

Process #: 3.4

Process Description:

User enters the date and duration, they are processed through Calculate and then stored into the database.

Location:

Manage Activities ( 3 )

Input Flows:

Entered-Date-and-Duration

Output Flows:

Date-and-Duration

Duration

Date

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Enter Title Process

Description:

The user selects the activity title.

Process #: 3.2

Process Description:

The title is highlighted from the screen menu.

Location:

Manage Activities ( 3 )

Input Flows:

Title

Output Flows:

Title

Selected-Title

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Select Activity Process

Description:

Takes activity selected by the user and sends it to be calculated which is process 2.5

Process #: 3.3

Location:

Manage Activities ( 3 )

Input Flows:

Selected-Activity

Output Flows:

Activities

Activity-Selection

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Select Members Process

Description:

Allows the user to select the members who attended a certain activity.

Process #: 3.5

Process Description:

The user inputs the names of members who were in attendance and then sends that information to be calculated.

Location:

Manage Activities ( 3 )

Input Flows:

Member-Selection

Output Flows:

Member-Display

Member-Data

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Activities Data Flow

Description:

The activity information to be displayed to the user for confirmation.

Location:

Manage Activities ( 3 )

Source:Select Activity ( Process )

Dest: Screen Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Activity Data Flow

Description:

The selected activity transferred to the database after calculations take place.

Location:

Manage Activities ( 3 )

Source:Calculate ( Process )

Dest: Database Interface ( Source/Sink )

Calculate ( 3.6 )

Source:Get Activity Breakdown ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Activity-DAta Data Flow

Description:

All the activity data inputted by the user.

Location:

level 1 ( 0 )

Source:User ( Source/Sink )

Dest: Manage Activities ( Process )

Manage Activities ( 3 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Screen Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---





Date-and-Duration                      Data Flow  
Description:  
The date of the activity or duty along with the duration.  
Location:  
Manage Activities ( 3 )  
Source:Enter Date and Duration ( Process )  
Dest: Screen Interface ( Source/Sink )  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Duration                                  Data Flow  
Description:  
The amount of time spent, in hours and minutes.  
Location:  
Manage Activities ( 3 )  
Source:Enter Date and Duration ( Process )  
Dest: Calculate ( Process )  
Calculate ( 3.6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Calculate Points ( Process )  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Entered-Date-and-Duration              Data Flow  
Description:  
It is the date and duration as inputed by the user.  
Location:  
Manage Activities ( 3 )  
Source:Screen Interface ( Source/Sink )  
Dest: Enter Date And Duration ( Process )  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Location                                  Data Flow  
Description:  
The location of the activity as inputed by the user.  
Location:  
Manage Activities ( 3 )  
Source:Choose Location ( Process )  
Dest: Screen Interface ( Source/Sink )  
Source:Choose Location ( Process )  
Dest: Database Interface ( Source/Sink )  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Location-Selection                      Data Flow  
Description:  
The location to be displayed through the screen interface.  
Location:  
Manage Activities ( 3 )

Source:Screen Interface ( Source/Sink )  
Dest: Choose Location ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Member-Data Data Flow

Description:

Information regarding a volunteer, as entered by the user.

Notes:

Data to be stored: First Name, Last Name, Middle Initial,SSN, Street,  
Street2, City, State, Zip, Home Phone, Work Phone.

Location:

Manage Activities ( 3 )

Source:Select Members ( Process )

Dest: Database Interface ( Source/Sink )

Manage Profiles ( 2 )

Source:Screen Interface ( Source/Sink )

Dest: Add/Edit ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Member-Display Data Flow

Description:

The information to be displayed regarding a specific member.

Location:

Manage Activities ( 3 )

Source:Select Members ( Process )

Dest: Screen Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Member-Selection Data Flow

Description:

The name of the member selected by the user.

Location:

Manage Activities ( 3 )

Source:Screen Interface ( Source/Sink )

Dest: Select Members ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Points Data Flow

Description:

The calculated points the member receives towards retirement based on  
the activities/duties performed.

Location:

Manage Activities ( 3 )

Source:Calculate ( Process )

Dest: Database Interface ( Source/Sink )

Calculate ( 3.6 )

Source:Calculate Points ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Selected-Activity                      Data Flow  
Description:  
The activity selected by the user in the screen interface.  
Location:  
Manage Activities ( 3 )  
Source:Screen Interface ( Source/Sink )  
Dest: Select Activity ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Selected-Title                      Data Flow  
Description:  
The title that has been highlighted by the user.  
Location:  
Manage Activities ( 3 )  
Source:Enter Title ( Process )  
Dest: Screen Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Title                      Data Flow  
Description:  
The activity title; user will be able to select from a pull down menu.  
Location:  
Manage Activities ( 3 )  
Source:Screen Interface ( Source/Sink )  
Dest: Enter Title ( Process )  
Source:Enter Title ( Process )  
Dest: Database Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Update-Confirmation                      Data Flow  
Description:  
The data sent back to the database interface confirming that an update has been made to the database.  
Location:  
level 1 ( 0 )  
Source:Access DBMS ( File )  
Dest: Manage Duties ( Process )  
Source:Access DBMS ( File )  
Dest: Manage Activities ( Process )  
Manage Duties ( 4 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Database Interface ( Source/Sink )

Manage Activities ( 3 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Database Interface ( Source/Sink )

File --> Access DBMS

Date Last Altered:11/24/2002 Date Created:11/24/2002

---



Process #: 43

Process Description:

User enters all duty data through the screen interface and as entered, the display will refresh and show the new data. When the user is done, the data is committed to the database.

Location:

Manage Duties ( 4 )

Input Flows:

Enter-Duty-Data

Output Flows:

New-Duty-Data

Commit-Data

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Commit-Data Data Flow

Description:

The information that the user made which is sent to the database for update.

Location:

Manage Duties ( 4 )

Source:Enter Duty Info ( Process )

Dest: Database Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Display-Member-Data Data Flow

Description:

The member information that is to be displayed to the user.

Location:

Manage Duties ( 4 )

Source:Display Info ( Process )

Dest: Screen Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Duty-Data Data Flow

Description:

The name, date, duration of duties, and calls per month.

Location:

level 1 ( 0 )

Source:User ( Source/Sink )

Dest: Manage Duties ( Process )

Manage Duties ( 4 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Screen Interface ( Source/Sink )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Duty-Log Data Flow

Description:

The duty information which needs to be displayed to the user.

Location:

level 1 ( 0 )

Source:Manage Duties ( Process )

Dest: User ( Source/Sink )

Manage Duties ( 4 )

Source:Screen Interface ( Source/Sink )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Duty-Update Data Flow

Description:

All new duty data to be inputed into the Access DBMS.

Location:

level 1 ( 0 )

Source:Manage Duties ( Process )

Dest: Access DBMS ( File )

Manage Duties ( 4 )

Source:Database Interface ( Source/Sink )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Enter-Duty-Data Data Flow

Description:

Holds the name, year, month, day, duration, minutes and calls per month.

Location:

Manage Duties ( 4 )

Source:Screen Interface ( Source/Sink )

Dest: Enter Duty Info ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Member-Name Data Flow

Description:

The name of the specific volunteer to be stored in the database.

Location:

Manage Duties ( 4 )

Source:Choose Name ( Process )

Dest: Display Info ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Name-Selection Data Flow

Description:

The name of the volunteer selected by the user.

Location:

Manage Duties ( 4 )

Source:Screen Interface ( Source/Sink )  
Dest: Choose Name ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

New-Duty-Data Data Flow  
Description:  
The duty information that was entered by the user to be displayed.  
Location:  
Manage Duties ( 4 )  
Source:Enter Duty Info ( Process )  
Dest: Display Info ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query-Member-Info Data Flow  
Description:  
Member name sent to the database in order to retrieve the other member information.  
Location:  
Manage Duties ( 4 )  
Source:Display Info ( Process )  
Dest: Database Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query-Names Data Flow  
Description:  
Name to be matched up with the database.  
Location:  
Manage Duties ( 4 )  
Source:Choose Name ( Process )  
Dest: Database Interface ( Source/Sink )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

Return-Member-Info Data Flow  
Description:  
Retrieved duty information from the database to be displayed to the user.  
Location:  
Manage Duties ( 4 )  
Source:Database Interface ( Source/Sink )  
Dest: Display Info ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Return-Names Data Flow  
Description:  
Names retrieved from the database to be sent to process 1.1  
Location:  
Manage Duties ( 4 )  
Source:Database Interface ( Source/Sink )



Dest: Choose Name ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Update-Confirmation Data Flow

Description:

The data sent back to the database interface confirming that an update has been made to the database.

Location:

level 1 ( 0 )

Source:Access DBMS ( File )

Dest: Manage Duties ( Process )

Source:Access DBMS ( File )

Dest: Manage Activities ( Process )

Manage Duties ( 4 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Database Interface ( Source/Sink )

Manage Activities ( 3 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Database Interface ( Source/Sink )

File --> Access DBMS

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

## GENERATE REPORTS (5)

### Calculating for Reports                      Process

Description:

Determines which members have met the requirements for retirement benefits.

Process #: 5.3

Process Description:

Takes the calculations for all the activities and duties and then determines whether or not the members meet the retirement benefits.

Location:

Generate Reports ( 5 )

Input Flows:

Data-for-Calculations

Output Flows:

Calculation-Results

Date Last Altered:11/24/2002    Date Created:11/24/2002

---

### Display Report                                      Process

Description:

Displays the information for report the user has selected.

Process #: 5.2

Process Description:

Displays the information for one of the 5 main reports.

Location:

Generate Reports ( 5 )

Input Flows:

Display-Report

Archive-Data

Query-Results

Calculation-Results

Output Flows:

Report

Request-Archive

Query

Data-for-Calculations

Date Last Altered:11/24/2002    Date Created:11/24/2002

---

### Select Form    Process

Description:

Allows the user to select one of the 5 types of forms.

Process #: 5.1

Process Description:

Takes the type of report the user wants to view and sends it on to be processed by display reports.

Location:

Generate Reports ( 5 )

Input Flows:

Request-Archived-Info

Report-Query

Output Flows:

Display-Report

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archive-Data Data Flow

Description:

Data that has been archived already and it being inputed from a storage device.

Location:

level 1 ( 0 )

Source:Manage Archive ( Process )

Dest: Generate Reports ( Process )

Source:Access DBMS ( File )

Dest: Manage Archive ( Process )

Source:Storage Device ( File )

Dest: Manage Archive ( Process )

Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Display Report ( Process )

Manage Archive ( 6 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Manage Storage Device ( Process )

Source:Manage Storage Device ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Source:Storage Device ( File )

Dest: \*\*\* Not on Diagram \*\*\*

File --> Access DBMS

Display Report ( 5.2 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Separate Data for Calculations ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Calculation-Results Data Flow

Description:

The final information regarding whether or not the member qualifies for retirement benefits and is displayed to the user.

Location:

Generate Reports ( 5 )

Source:Calculating for Reports ( Process )  
Dest: Display Report ( Process )  
Calculating for Reports ( 5.3 )  
Source:Return Results ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Display Report ( 5.2 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Compile Report ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Data-for-Calculations

Data Flow

Description:

The total credits obtained by a specific member.

Location:

Generate Reports ( 5 )

Source:Display Report ( Process )

Dest: Calculating for Reports ( Process )

Calculating for Reports ( 5.3 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Separate Data ( Process )

Display Report ( 5.2 )

Source:Separate Data for Calculations ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Display-Report

Data Flow

Description:

Sends the report information to the process Display Report.

Location:

Generate Reports ( 5 )

Source:Select Form ( Process )

Dest: Display Report ( Process )

Display Report ( 5.2 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Select Data Source ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query

Data Flow

Description:

The report requested from the database.

Location:

level 1 ( 0 )

Source:Generate Reports ( Process )

Dest: Access DBMS ( File )

Generate Reports ( 5 )

Source:Display Report ( Process )

Dest: \*\*\* Not on Diagram \*\*\*  
File --> Access DBMS  
Display Report ( 5.2 )  
Source:Select Data Source ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query-Results Data Flow  
Description:  
The requested report information as queried from the database.  
Location:  
level 1 ( 0 )  
Source:Access DBMS ( File )  
Dest: Generate Reports ( Process )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Display Report ( Process )  
File --> Access DBMS  
Display Report ( 5.2 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Separate Data for Calculations ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Report Data Flow  
Description:  
One of the 5 different forms of data to be displayed to the user.  
Location:  
level 1 ( 0 )  
Source:Generate Reports ( Process )  
Dest: User ( Source/Sink )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Display Report ( 5.2 )  
Source:Compile Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Report-Query Data Flow  
Description:  
Request for one of the 5 types of reports.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Generate Reports ( Process )  
Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*  
Dest: Select Form ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Archive Data Flow  
Description:  
Information requested to be archived from the database.  
Location:  
level 1 ( 0 )  
Source:Generate Reports ( Process )  
Dest: Manage Archive ( Process )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Manage Storage Device ( Process )  
Display Report ( 5.2 )  
Source:Select Data Source ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Archived-Info Data Flow  
Description:  
Requested information to be retrieved from a storage device.  
Location:  
level 1 ( 0 )  
Source:User ( Source/Sink )  
Dest: Generate Reports ( Process )  
Generate Reports ( 5 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Select Form ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

## MANAGE ARCHIVE (6)

### Handle Archiving

### Process

#### Description:

Retrieves data to be archived from the database.

Process #: 6.2

#### Process Description:

Takes the inputted archive request and retrieves the data from the database and returns it to be sent to the storage device.

#### Location:

Manage Archive ( 6 )

#### Input Flows:

Archiving-Request

#### Output Flows:

Data-Request

Archiving-Data

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

### Manage Storage Device

### Process

#### Description:

Both takes the data to be archived and transfers it to the storage device, and retrieves the storage device for reports.

Process #: 6.1

#### Process Description:

Takes the requested archive information from Generate Reports and retrieves the data from the storage device or takes the archiving data from 4.2 and stores it in the storage device.

#### Location:

Manage Archive ( 6 )

#### Input Flows:

Request-Archive

Archive-Data

Archiving-Data

#### Output Flows:

Archive-Data

Data-Request

Archive-Data

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

### Archive-Data

### Data Flow

#### Description:

Data that has been archived already and it being inputted from a storage device.

Location:

level 1 ( 0 )

Source:Manage Archive ( Process )

Dest: Generate Reports ( Process )

Source:Access DBMS ( File )

Dest: Manage Archive ( Process )

Source:Storage Device ( File )

Dest: Manage Archive ( Process )

Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Display Report ( Process )

Manage Archive ( 6 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Manage Storage Device ( Process )

Source:Manage Storage Device ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Source:Storage Device ( File )

Dest: \*\*\* Not on Diagram \*\*\*

File --> Access DBMS

Display Report ( 5.2 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Separate Data for Calculations ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archiving-Data

Data Flow

Description:

Data that is being transferred to a storage device to be archived.

Location:

level 1 ( 0 )

Source:Manage Archive ( Process )

Dest: Storage Device ( File )

Manage Archive ( 6 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Handle Archiving ( Process )

Source:Manage Archive ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archiving-Request

Data Flow

Description:

An index to data that is going to be transferred from a database to a storage device.

Location:

level 1 ( 0 )

Source:User ( Source/Sink )

Dest: Manage Archive ( Process )



Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Handle Archiving ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Data-Request Data Flow  
Description:  
The archived data requested to be retrieved from the storage device.  
Location:  
level 1 ( 0 )  
Source:Manage Archive ( Process )  
Dest: Storage Device ( File )  
Manage Archive ( 6 )  
Source:Manage Storage Device ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Source:Manage Archive ( Process )  
Dest: Storage Device ( File )  
File --> Access DBMS  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Request-Archive Data Flow  
Description:  
Information requested to be archived from the database.  
Location:  
level 1 ( 0 )  
Source:Generate Reports ( Process )  
Dest: Manage Archive ( Process )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Manage Storage Device ( Process )  
Display Report ( 5.2 )  
Source:Select Data Source ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---



Archive-Data  
Output Flows:  
Data-for-Calculations  
Report-Data  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Archive-Data Data Flow

Description:

Data that has been archived already and it being inputed from a storage device.

Location:

level 1 ( 0 )

Source:Manage Archive ( Process )

Dest: Generate Reports ( Process )

Source:Access DBMS ( File )

Dest: Manage Archive ( Process )

Source:Storage Device ( File )

Dest: Manage Archive ( Process )

Generate Reports ( 5 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Display Report ( Process )

Manage Archive ( 6 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Manage Storage Device ( Process )

Source:Manage Storage Device ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Source:Storage Device ( File )

Dest: \*\*\* Not on Diagram \*\*\*

File --> Access DBMS

Display Report ( 5.2 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Separate Data for Calculations ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Calculation-Results Data Flow

Description:

The final information regarding whether or not the member qualifies for retirement benefits and is displayed to the user.

Location:

Generate Reports ( 5 )

Source:Calculating for Reports ( Process )

Dest: Display Report ( Process )

Calculating for Reports ( 5.3 )

Source:Return Results ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Display Report ( 5.2 )

Source:\*\*\* Not on Diagram \*\*\*  
Dest: Compile Report ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Data-for-Calculations Data Flow

Description:

The total credits obtained by a specific member.

Location:

Generate Reports ( 5 )

Source:Display Report ( Process )

Dest: Calculating for Reports ( Process )

Calculating for Reports ( 5.3 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Separate Data ( Process )

Display Report ( 5.2 )

Source:Separate Data for Calculations ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Display-Report Data Flow

Description:

Sends the report information to the process Display Report.

Location:

Generate Reports ( 5 )

Source:Select Form ( Process )

Dest: Display Report ( Process )

Display Report ( 5.2 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Select Data Source ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Query Data Flow

Description:

The report requested from the database.

Location:

level 1 ( 0 )

Source:Generate Reports ( Process )

Dest: Access DBMS ( File )

Generate Reports ( 5 )

Source:Display Report ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

File --> Access DBMS

Display Report ( 5.2 )

Source:Select Data Source ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

-----  
Query-Results                          Data Flow  
Description:  
The requested report information as queried from the database.  
Location:  
level 1 ( 0 )  
    Source:Access DBMS ( File )  
    Dest: Generate Reports ( Process )  
Generate Reports ( 5 )  
    Source:\*\*\* Not on Diagram \*\*\*  
    Dest: Display Report ( Process )  
File --> Access DBMS  
Display Report ( 5.2 )  
    Source:\*\*\* Not on Diagram \*\*\*  
    Dest: Separate Data for Calculations ( Process )  
Date Last Altered:11/24/2002   Date Created:11/24/2002  
-----

Report    Data Flow  
Description:  
One of the 5 different forms of data to be displayed to the user.  
Location:  
level 1 ( 0 )  
    Source:Generate Reports ( Process )  
    Dest: User ( Source/Sink )  
Generate Reports ( 5 )  
    Source:Display Report ( Process )  
    Dest: \*\*\* Not on Diagram \*\*\*  
Display Report ( 5.2 )  
    Source:Compile Report ( Process )  
    Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002   Date Created:11/24/2002  
-----

Report-Data                                  Data Flow  
Description:  
Contains all the report data from either the archive or the database.  
Location:  
Display Report ( 5.2 )  
    Source:Separate Data for Calculations ( Process )  
    Dest: Compile Report ( Process )  
Date Last Altered:11/24/2002   Date Created:11/24/2002  
-----

Request-Archive                              Data Flow  
Description:  
Information requested to be archived from the database.  
Location:  
level 1 ( 0 )

Source:Generate Reports ( Process )  
Dest: Manage Archive ( Process )  
Generate Reports ( 5 )  
Source:Display Report ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Manage Archive ( 6 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Manage Storage Device ( Process )  
Display Report ( 5.2 )  
Source:Select Data Source ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

## CALCULATING FOR REPORTS (5.3)

Calculate Position                      Process  
Description:  
    Calculates the number of points you get for the position of the member.  
Process #: 5.3.2  
Process Description:  
    Takes in the separated data and calculates the number of points that should be returned based on the members position.  
Location:  
    Calculating for Reports ( 5.3 )  
    Input Flows:  
        Elected-or-Appointed-Position  
    Output Flows:  
        Position-Points  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Calculate Response                      Process  
Description:  
    Calculates the points to be allotted for the responses the member responded to.  
Process #: 5.3.3  
Process Description:  
    Takes in the number of responses from the separated data and calculates the number of points to be given for the specific number responded to.  
Location:  
    Calculating for Reports ( 5.3 )  
    Input Flows:  
        Number-Responses  
    Output Flows:  
        Response-Points  
Date Last Altered:11/24/2002    Date Created:11/24/2002

Calculate Sleep/Stand-by              Process  
Description:  
    Calculates the number of points to be given out for sleep and stand-by time.  
Process #: 5.3.4  
Process Description:  
    Takes in the sleep or stand-by hours and uses the calculations to compute the number of points to be given out.  
Location:  
    Calculating for Reports ( 5.3 )

Input Flows:  
Sleep-or-Stand-by-Hours  
Output Flows:  
Sleep-or-Stand-by-Points  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Return Results Process

Description:  
Returns the total number of points calculated.  
Process #: 5.3.5  
Process Description:  
Adds together the points found from the members position, calls responded to, and sleep/stand-by time, and returns them.  
Location:  
Calculating for Reports ( 5.3 )  
Input Flows:  
Position-Points  
Response-Points  
Sleep-or-Stand-by-Points  
Output Flows:  
Calculation-Results  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Separate Data Process

Description:  
Breaks the data down into specific variables.  
Process #: 5.3.1  
Process Description:  
The variables that are broken down by this process are the members position, number of calls responded to, and sleep/stand-by hours.  
Location:  
Calculating for Reports ( 5.3 )  
Input Flows:  
Data-for-Calculations  
Output Flows:  
Elected-or-Appointed-Position  
Sleep-or-Stand-by-Hours  
Number-Responses  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Calculation-Results Data Flow

Description:  
The final information regarding whether or not the member qualifies for retirement benefits and is displayed to the user.  
Location:  
Generate Reports ( 5 )



Source:Calculating for Reports ( Process )  
Dest: Display Report ( Process )  
Calculating for Reports ( 5.3 )  
Source:Return Results ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Display Report ( 5.2 )  
Source:\*\*\* Not on Diagram \*\*\*  
Dest: Compile Report ( Process )  
Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Data-for-Calculations

Data Flow

Description:

The total credits obtained by a specific member.

Location:

Generate Reports ( 5 )

Source:Display Report ( Process )

Dest: Calculating for Reports ( Process )

Calculating for Reports ( 5.3 )

Source:\*\*\* Not on Diagram \*\*\*

Dest: Separate Data ( Process )

Display Report ( 5.2 )

Source:Separate Data for Calculations ( Process )

Dest: \*\*\* Not on Diagram \*\*\*

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Elected-or-Appointed-Position

Data Flow

Description:

The current position of the member.

Location:

Calculating for Reports ( 5.3 )

Source:Separate Data ( Process )

Dest: Calculate Position ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Number-Responses

Data Flow

Description:

The number of responses a member has responded to.

Location:

Calculating for Reports ( 5.3 )

Source:Separate Data ( Process )

Dest: Calculate Response ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Position-Points

Data Flow

Description:

The points calculated from the members position.

Location:

Calculating for Reports ( 5.3 )  
Source:Calculate Position ( Process )  
Dest: Return Results ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Response-Points Data Flow

Description:

The number of points calculated based on the number of calls responded to.

Location:

Calculating for Reports ( 5.3 )  
Source:Calculate Response ( Process )  
Dest: Return Results ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Sleep-or-Stand-by-Hours Data Flow

Description:

The number of hours a member has spent on stand-by or sleeping on call.

Location:

Calculating for Reports ( 5.3 )  
Source:Separate Data ( Process )  
Dest: Calculate Sleep/Stand-by ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

Sleep-or-Stand-by-Points Data Flow

Description:

The calculated number of points based on sleep or stand-by hours.

Location:

Calculating for Reports ( 5.3 )  
Source:Calculate Sleep/Stand-by ( Process )  
Dest: Return Results ( Process )

Date Last Altered:11/24/2002 Date Created:11/24/2002

---

## CALCULATE (5.6)

Calculate Points                      Process  
Description:  
    Calculates the amount of points that should be allotted.  
Process #: 3.6.2  
Process Description:  
    Takes in the variables required from activity and calculates the number  
    of points to enter into the database.  
Location:  
    Calculate ( 3.6 )  
    Input Flows:  
        Duration  
        Calculate-Variables  
    Output Flows:  
        Points  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Get Activity Breakdown              Process  
Description:  
    Breaks down the activity information.  
Process #: 3.6.1  
Process Description:  
    Takes the variables needed from activities to be passed on to calculate  
    the points with.  
Location:  
    Calculate ( 3.6 )  
    Input Flows:  
        Activity-Selection  
    Output Flows:  
        Activity  
        Calculate-Variables  
Date Last Altered:11/24/2002    Date Created:11/24/2002

---

Activity                              Data Flow  
Description:  
    The selected activity transferred to the database after calculations take  
    place.  
Location:  
    Manage Activities ( 3 )  
        Source:Calculate ( Process )  
        Dest: Database Interface ( Source/Sink )  
    Calculate ( 3.6 )

Source: Get Activity Breakdown ( Process )  
Dest: \*\*\* Not on Diagram \*\*\*  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Activity-Selection                      Data Flow  
Description:  
The user selected activity which is being sent to be calculated.  
Location:  
Manage Activities ( 3 )  
Source: Select Activity ( Process )  
Dest: Calculate ( Process )  
Calculate ( 3.6 )  
Source: \*\*\* Not on Diagram \*\*\*  
Dest: Get Activity Breakdown ( Process )  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Calculate-Variables                      Data Flow  
Description:  
The specific data required for point calculations that are taken from activities.  
Location:  
Calculate ( 3.6 )  
Source: Get Activity Breakdown ( Process )  
Dest: Calculate Points ( Process )  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Duration                                  Data Flow  
Description:  
The amount of time spent, in hours and minutes.  
Location:  
Manage Activities ( 3 )  
Source: Enter Date and Duration ( Process )  
Dest: Calculate ( Process )  
Calculate ( 3.6 )  
Source: \*\*\* Not on Diagram \*\*\*  
Dest: Calculate Points ( Process )  
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

---

Points                                      Data Flow  
Description:  
The calculated points the member receives towards retirement based on the activities/duties performed.  
Location:  
Manage Activities ( 3 )  
Source: Calculate ( Process )  
Dest: Database Interface ( Source/Sink )

Calculate ( 3.6 )

Source: Calculate Points ( Process )

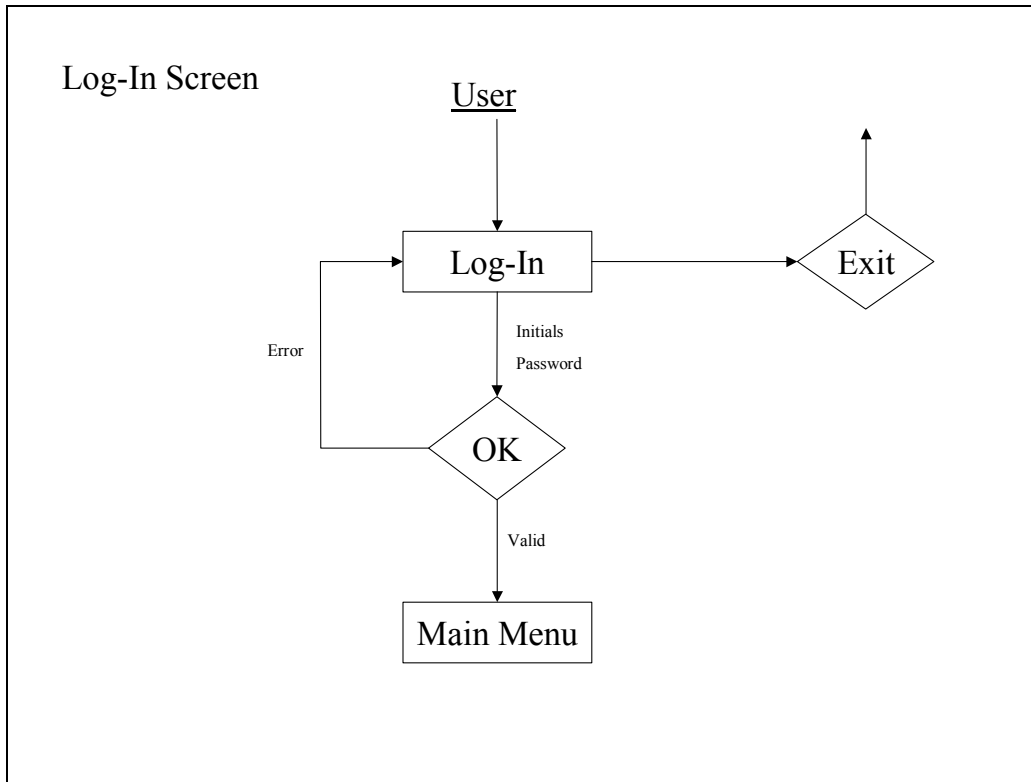
Dest: \*\*\* Not on Diagram \*\*\*

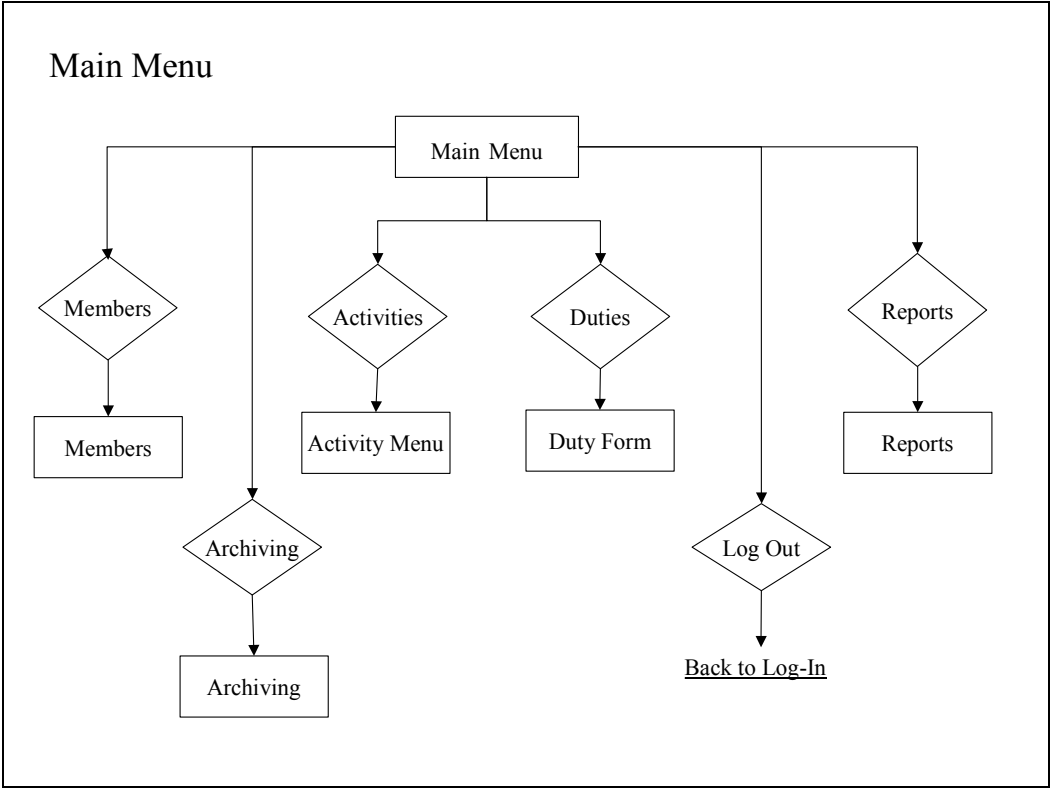
Date Last Altered: 11/24/2002 Date Created: 11/24/2002

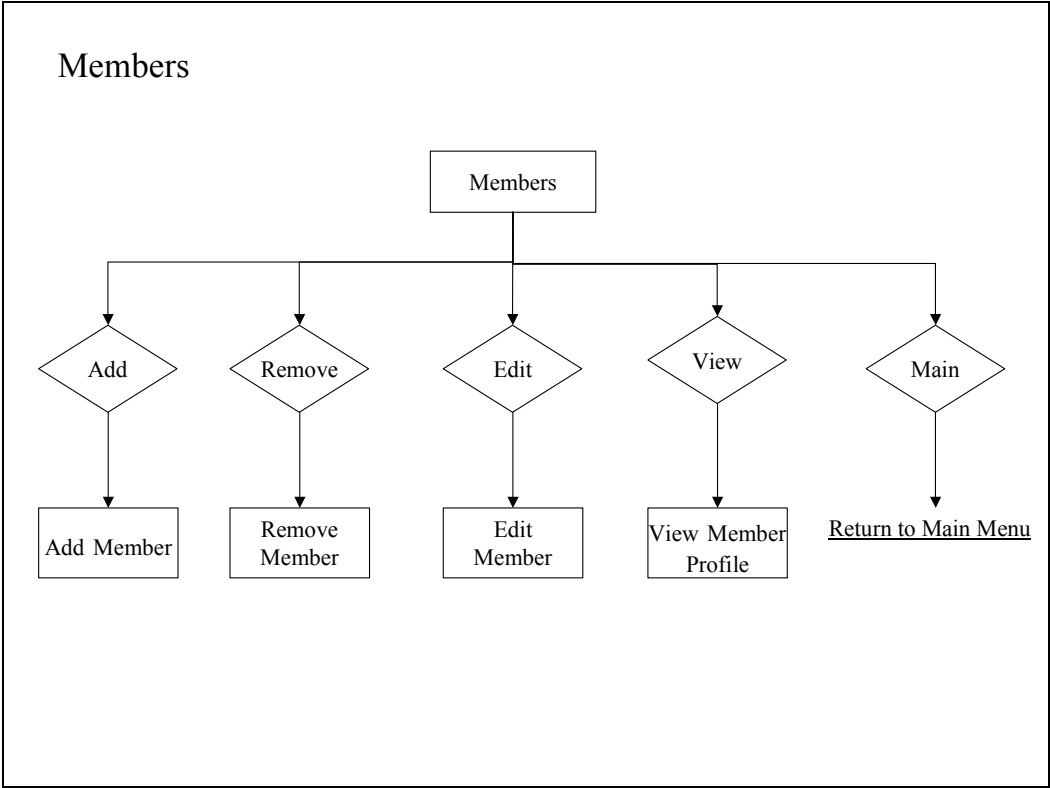
---

## Section 2: Architectural Design Specification

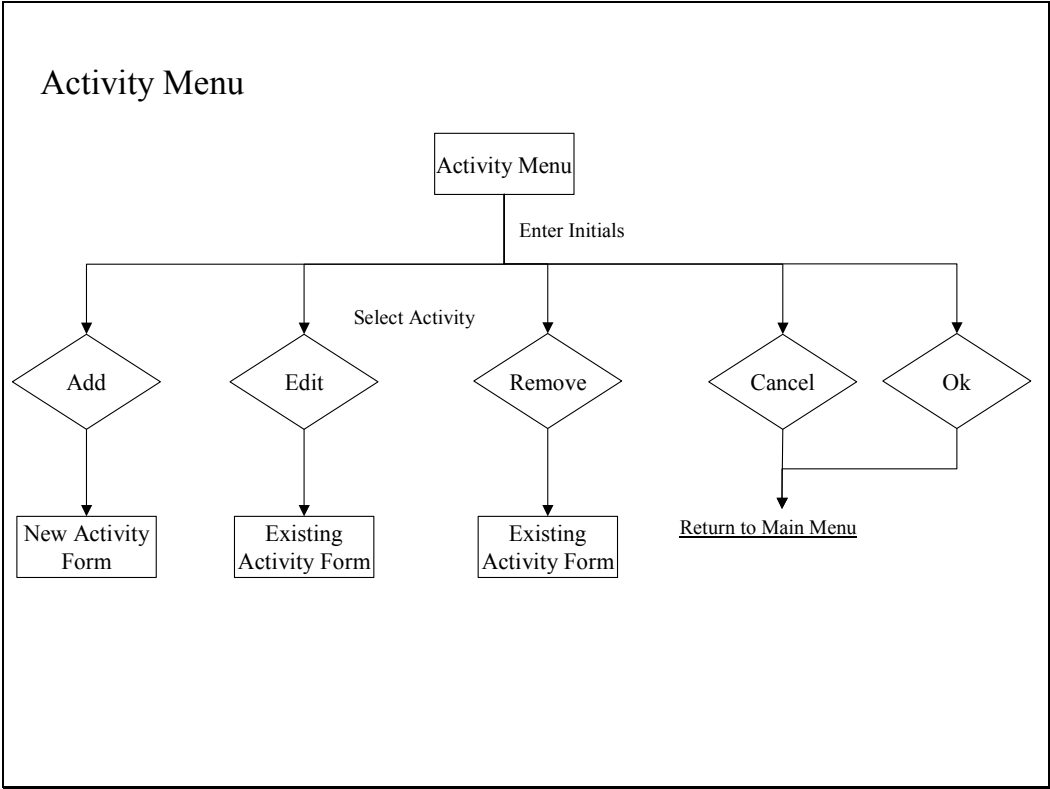
### Structure Diagrams

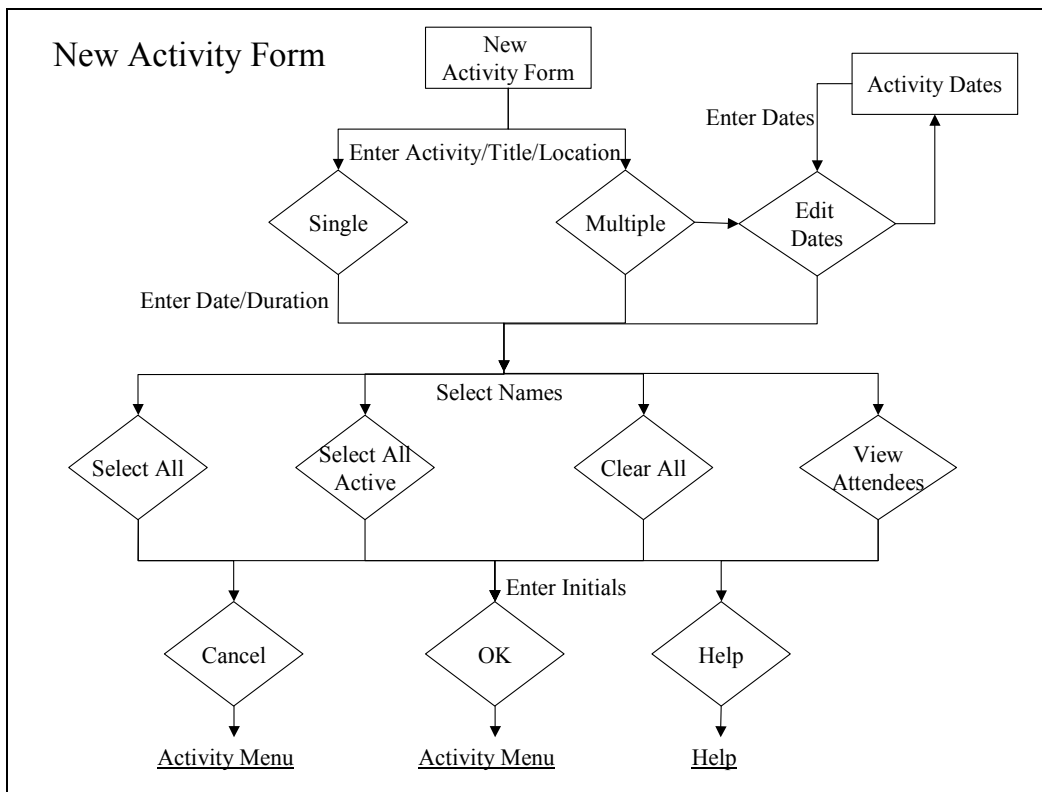


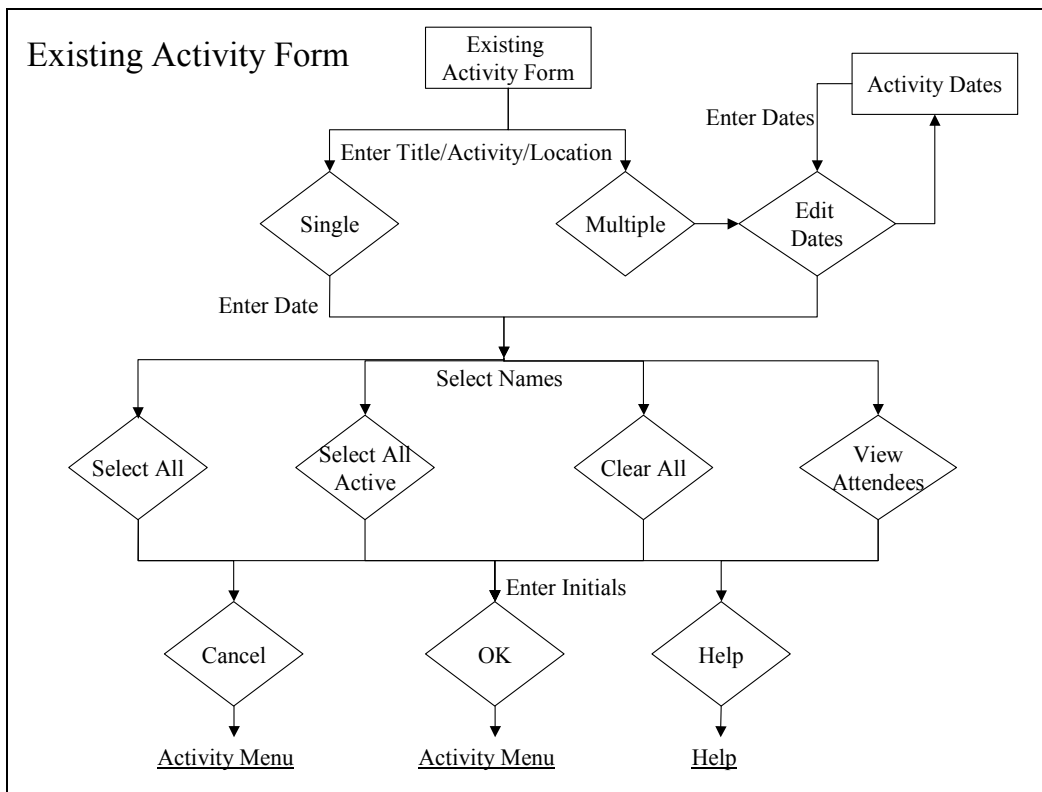


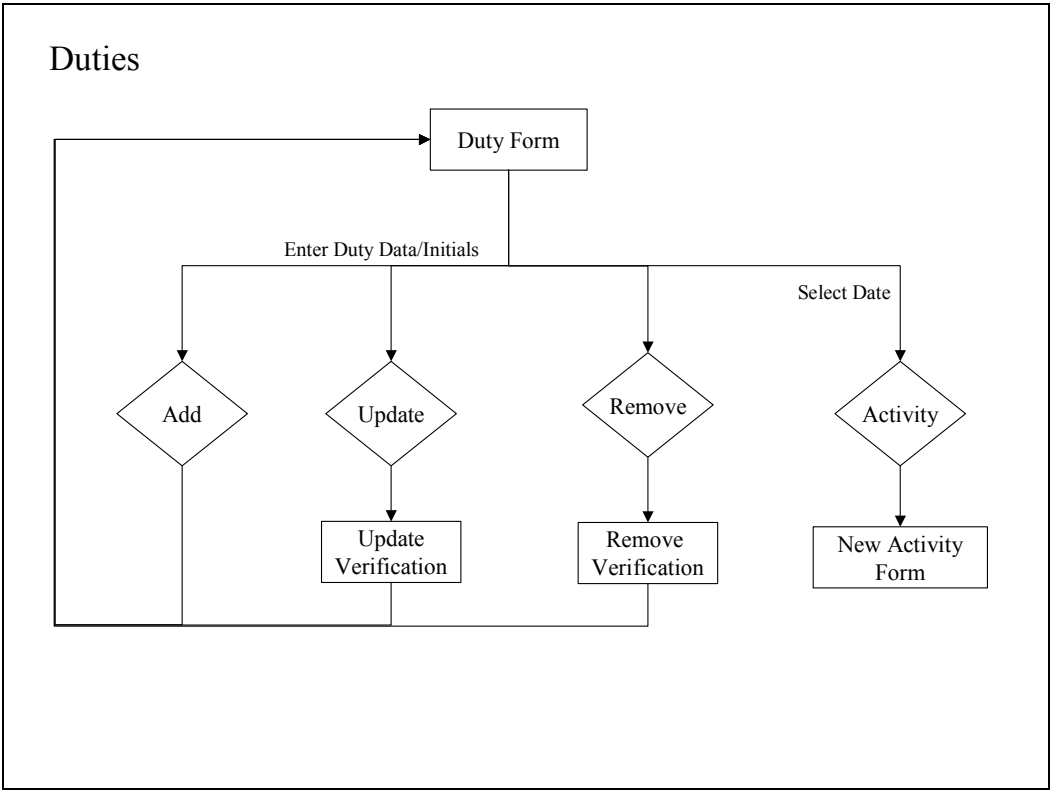


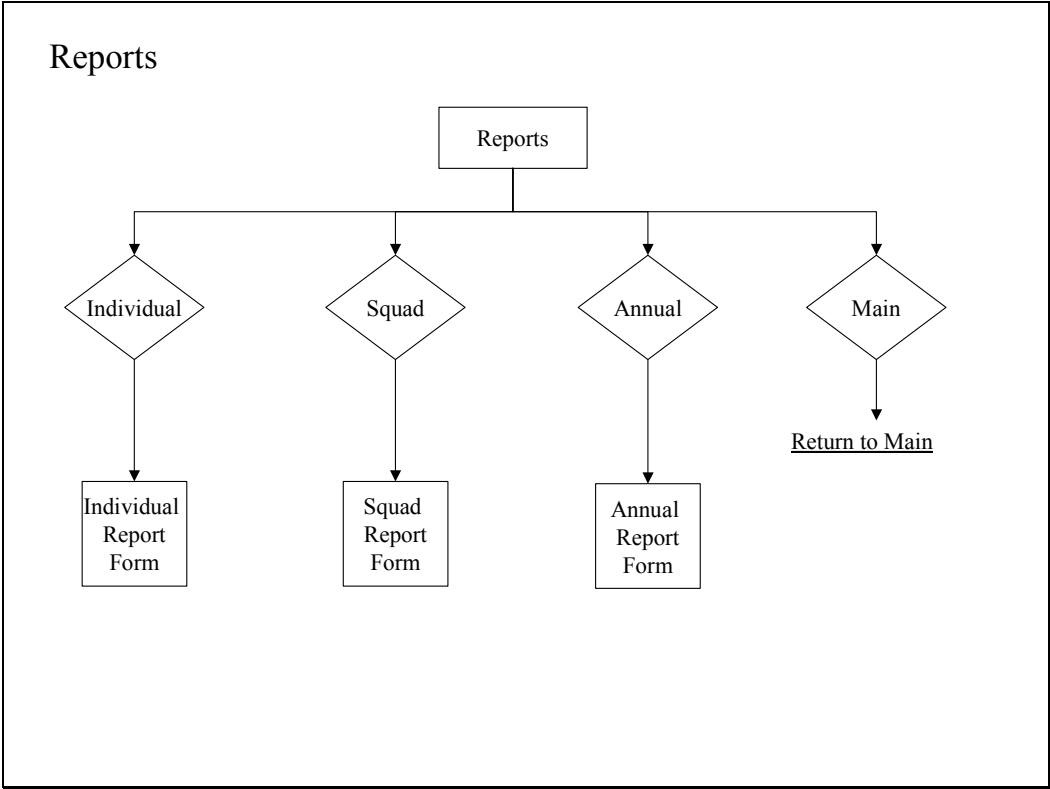


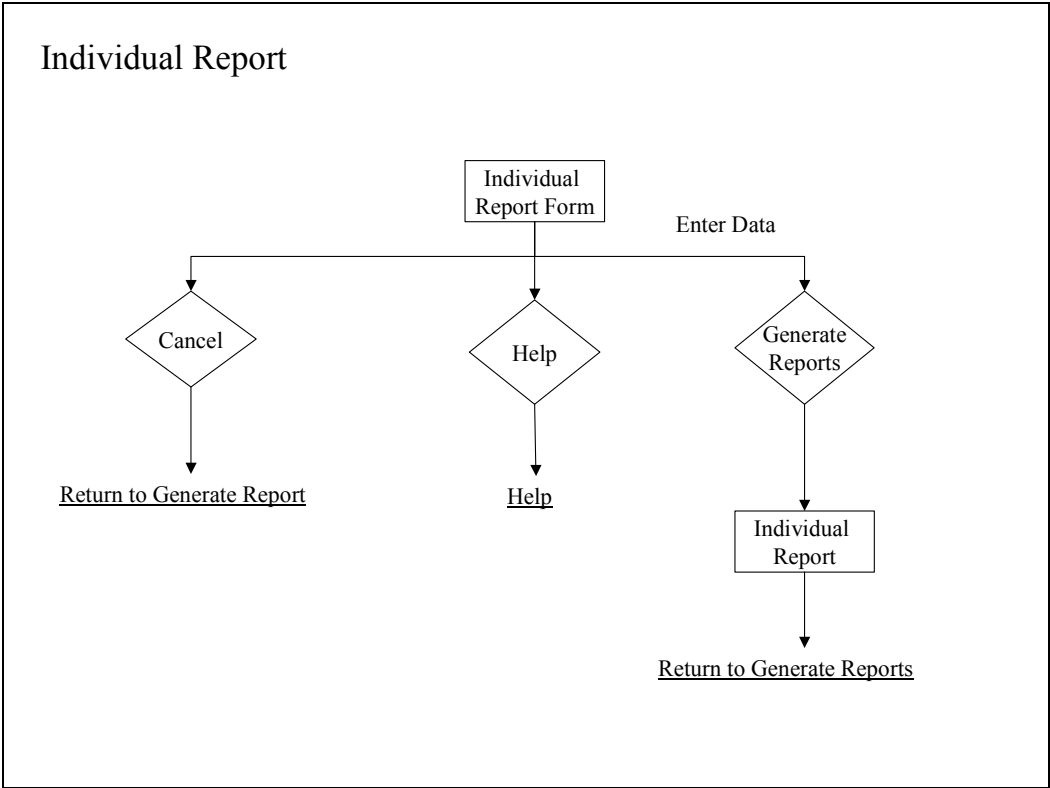


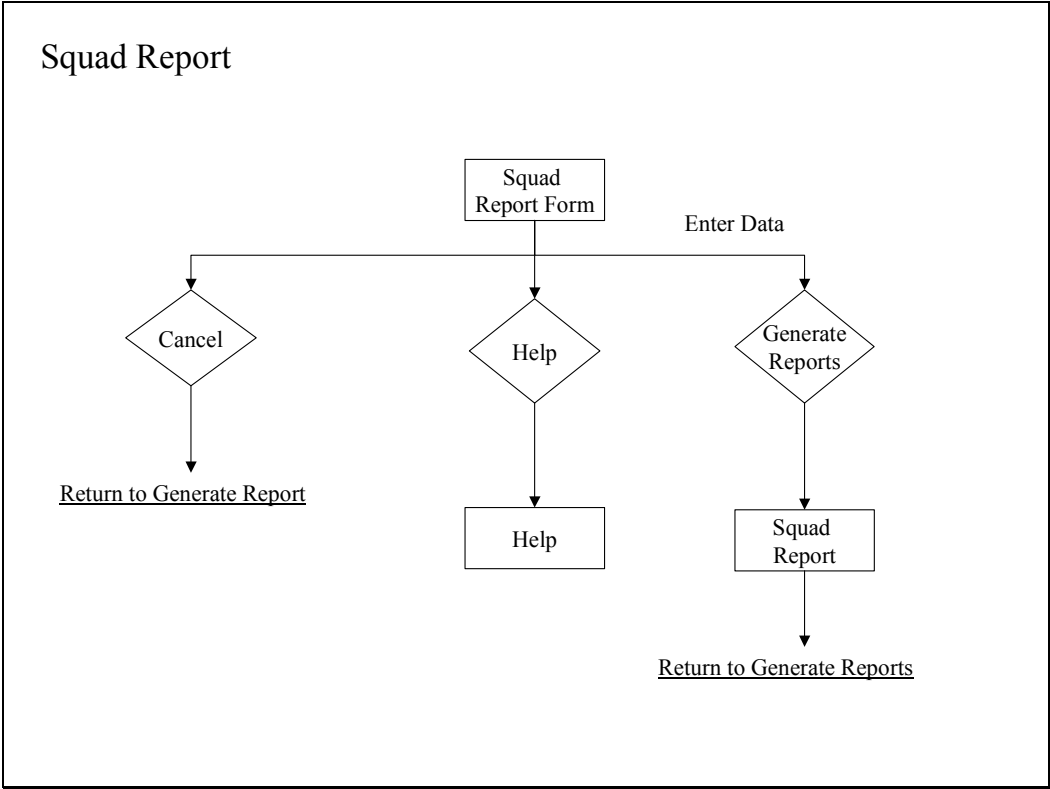


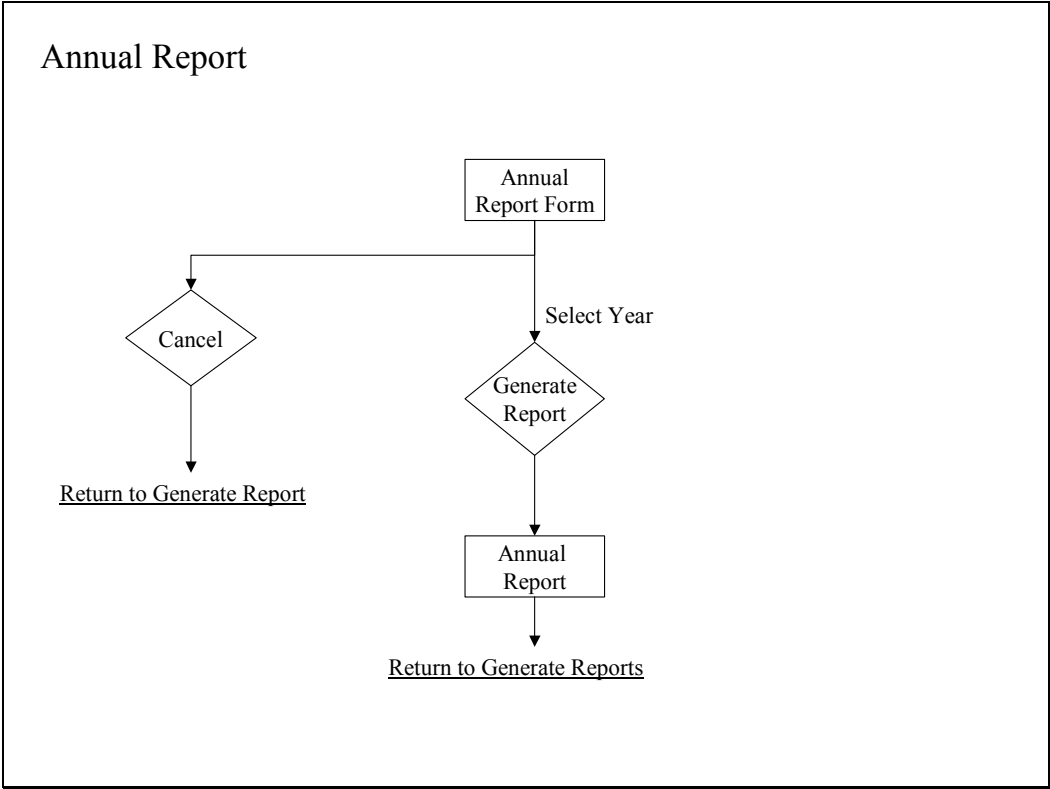




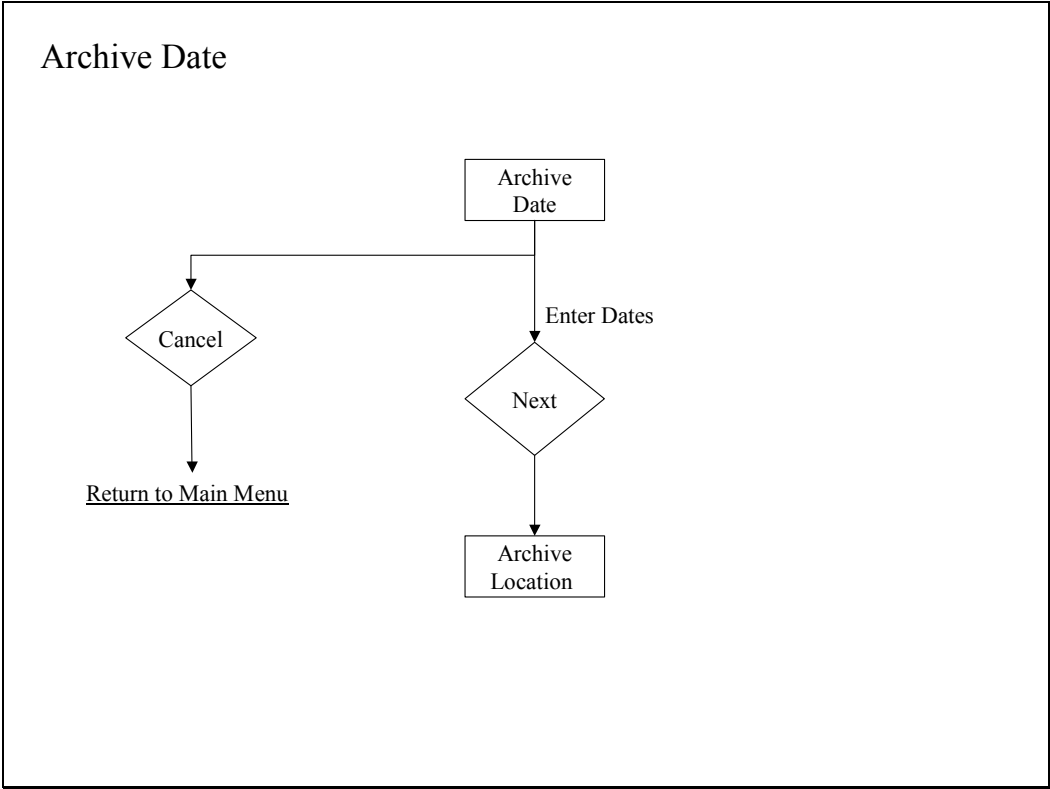


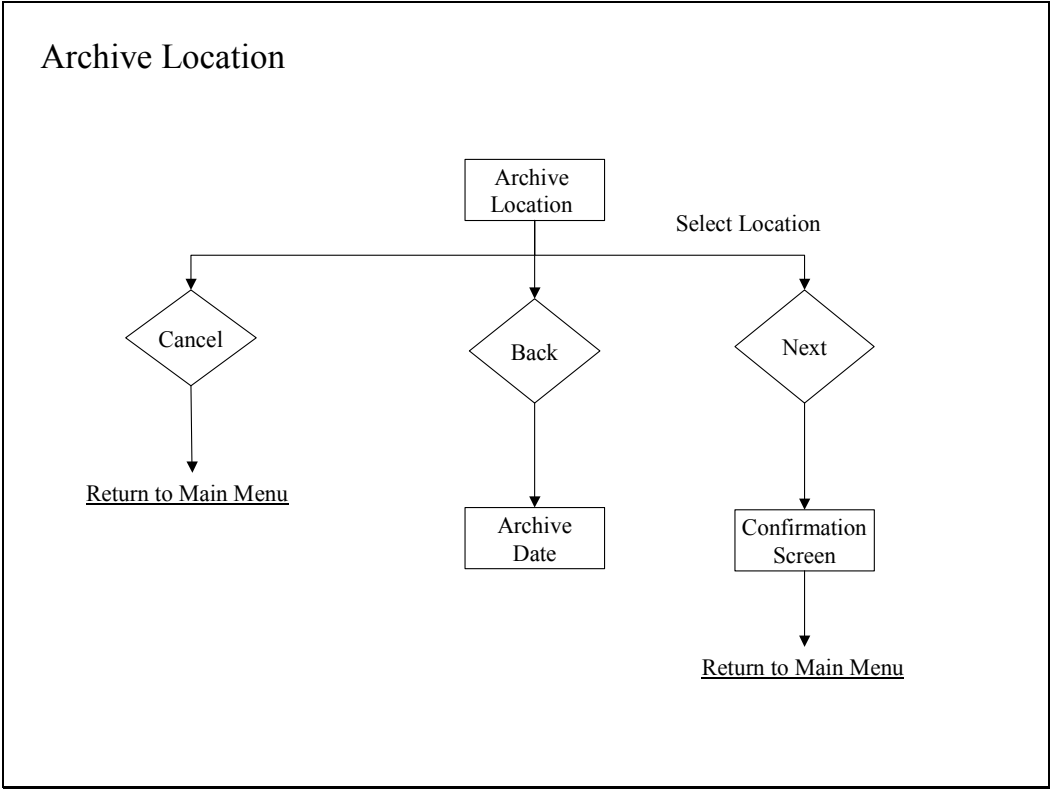












## Parameter Specifications

**Initials Table:** This table will store the initials of the users who enter the system, in which every transaction will be tagged and stored in the transaction log.

**Member Profiles Table:** This table will store all of the personal information for each member's profile. Among the items stored will be their name, address, social security number, birth date, age, status, type, and contact information.

**Member Type Table:** This table will store the different types for each member and keep track of the dates when the member's type changes.

**Member Status Table:** This table will store the status of each member, along with storing the date whenever the member's status changes.

**Activity Table:** This table will store the relevant activity information, including, the six pre-defined activity types, location of, and the title.

**Activity Attendees Table:** This table will store all of the members who attend a set activity.

**Activity Date/Duration Table:** This table will store the date(s) and duration(s) for each activity.

**Duty Table:** This table will store the tour-of-duty information for each member; keeping track of the dates and durations of duty, along with the number of calls attended per month.

## Logical Data Structures

### Initials Table

Initial

### Member Profiles Table

Member\_ID

First\_Name

MI

Last\_Name

Street

City

State

ZIP

Home\_Phone

Work\_Phone

SSN

DOB

Age

Member\_Type

Member\_Status

Type\_Date

Status\_Date

Initials

### Member Type Table

Member\_ID

Member\_Type

Type\_Date

### Member Status Table

Member\_ID

Member\_Status

Status\_Date

### Activity Table

Member\_ID

Member\_Name

Activity\_Type

Activity\_Title

Location

Points

Date

Comments

Initials

**Activity Attendees Table**

Activity\_Type  
Activity\_Title  
Member\_ID  
Member\_Name

**Activity Date/Duration Table**

Date  
Duration\_Hours  
Duration\_Minutes

**Duty Table**

Member\_ID  
Member\_Name  
Date  
Calls  
Duration\_Hours  
Duration\_Minutes  
Initials

## Functional Descriptions

- Allow for a user to track the activities and tours of duty, in which EMS members have participated in throughout the course of a year.
- The system must have an authentication process that secures the software from entry by unauthorized users.
- The system must allow the user to add, remove, edit or view a specific members' personal information.
- The activity log includes one of the six predefined activities, the location of the activity, the date on which the activity occurred, and the duration of the activity.
- The duty logs consist of the dates and duration that a specific member was on duty. It will also keep track of the calls a member responded to per month.
- Allow the user to compose various reports based upon the activities and duty log information.
- Allow the user to archive the current database to a specified storage device. Also, retrieve archived data that is requested by the user to generate a report on information within that data.
- Authorized users can easily access the system.
- The response time of the system is dependant upon Microsoft Access' ability to retrieve and update information in the database, along with the amount of data to be compiled and calculated for the generation of reports.
- Designed for use on a Windows 2000 operating system.
- Screen Interface can be no smaller than 1024 x 768 pixels.

### Section 3: Testing Requirements

Testing of the software package can be considered one of the most important phases of the development process. Once the project has passed the design stage, it is important to thoroughly test the system in order to correct any design flaws that were previously overlooked. The testing provisions of this system were established during the requirement specification portion of development, and will be further elaborated upon in the next phase of the project, the Detailed Design.

#### **Requirements Inventory**

**Requirement:** The SAP system must provide an authentication process to secure the system from unwanted users.

**Test:** FNA will test this requirement through entry of both valid and invalid information into the logon screen.

**Requirement:** The system must allow the user to add, remove, edit, or view, a specific members' personal information.

**Test:** FNA will test this requirement by creating a set of sample data and running it through all of the steps of the system.

**Requirement:** System should allow the user to archive the current database to a specified storage device.

**Test:** FNA will test this requirement by archiving test data onto various disk drives.

**Requirement:** Upon request, the system should be able to retrieve data that is archived on a specified storage device, in order to generate reports.

**Test:** FNA will test this requirement by retrieving the archived test data and then generating all possible reports for that data set.

**Requirement:** System should allow the user to compose reports based upon the various activities and duty log information.

**Test:** Sample data will be inputted into the system, and generated reports will be compared with expected results.

**Requirement:** The activity logs must include the six predefined activities, the location of the activity, the date on which the activity occurred, the duration of the activity, the title of the activity, and any comments the user would like to associate with the activity.

**Test:** FNA will test this requirement through viewing the fields of the activity form upon completion.

**Requirement:** The duty logs must consist of the dates and durations that a specific member was on duty for. Along with, keeping track of the calls a member responded to per month

**Test:** FNA will test this requirement through viewing the fields of the duty form upon completion.

**Requirement:** The system should be able to calculate points towards retirement benefits based on the calculation guidelines specified by the NYS Comptroller.

**Test:** Sample data will be inputted into the system, and generated reports will be compared with expected results.

**Requirement:** The system should be able to generate reports in the following fields: detailed/summarized individual report, detailed/summarized squad report, and an annual reports for submission to the NYS Comptroller

**Test:** Sample data will be inputted into the system, and generated reports will be compared with expected results.

### **Design Inventory**

**Design Goal:** The system should be user-friendly.

**Test:** FNA will test this design goal through the use of specified test users.

**Design Goal:** The system should allow quick and easy data entry.

**Test:** FNA will test this design goal through external consulting.

**Design Goal:** The system will support multiple menus, created to broaden the user-friendly aspects of the software.

**Test:** FNA will test this design goal through critique from various potential users of the system.



## Glossary

MFC: (Microsoft Foundations Class) A software development tool used in conjunction with the C++ programming language, implemented within Microsoft Visual C++

Microsoft Visual C++: A software development tool that provides an efficient programming environment for the C++ programming language, and all libraries associated with it.

Pixels: Short for picture element. A pixel is the smallest logical unit of visual information that can be used to build an image. Pixels are the little squares that can be seen when a graphics image is enlarged.

SAP: (Service Awards Program) Software package that tracks credits towards benefits for volunteer EMS members.

SQL: (Structured Querying Language) A language used to create, maintain, and query relational databases. SQL uses regular English words for many of its commands, which makes it easy to use. It is often embedded within other programming languages.

Windows: A Microsoft product that provides a platform on which to run software and interact with peripheral hardware on personal computers.