Employee Database System

User Guide Manual

Computer Science

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Employee Database System

Contents

1. Overview

What it is

The following program can manage the employees that are in the company, you can do basic functions such as to add, delete and motify an employee.
It can also write the employee in the database to an archive file or read from it.

The program is written in JAVA, using Netbeans IDE. A hash table that sorts odd and even numbers is working under-the-hood to store all the employee data.
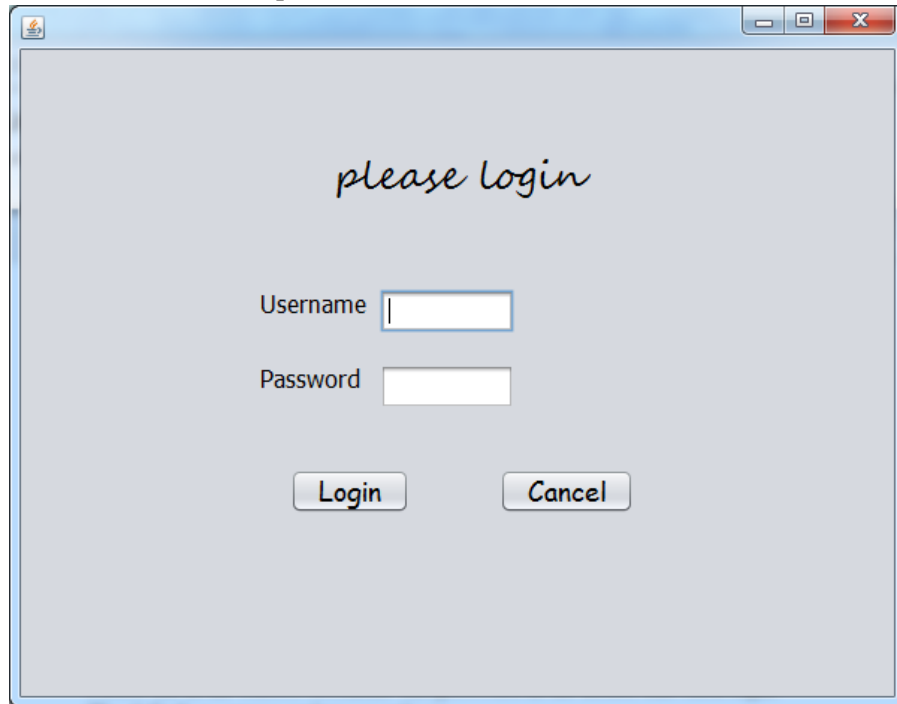
2. User Interface Overview

2.1 Login interface:

The program starts by asking the user to log into the system.
The user should use a valid username and password to get into the system.
When the login button is clicked, the program will proceed to the Main Panel.
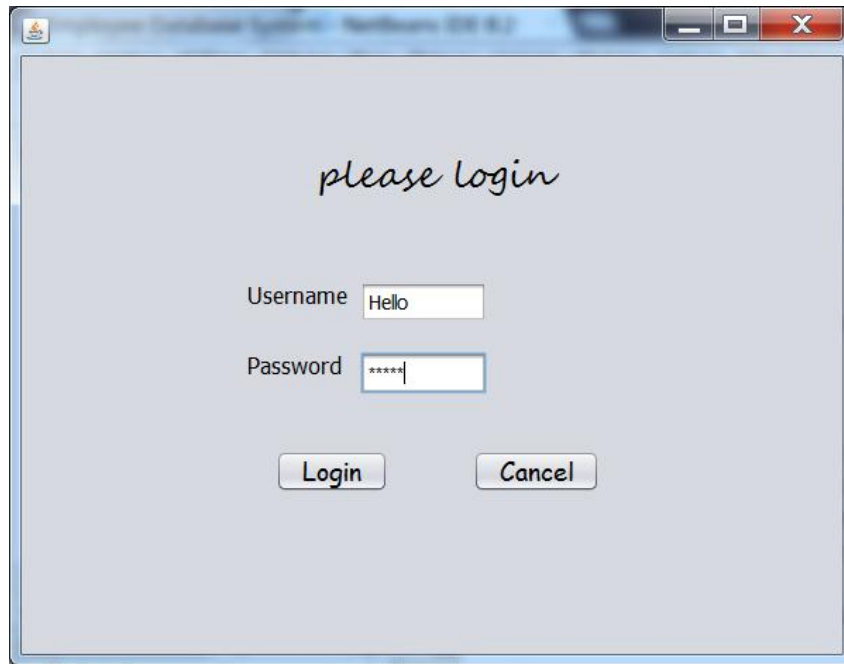Click the cancel button will close the pane.

Please fill in the correct username and password in the fields, and click login.
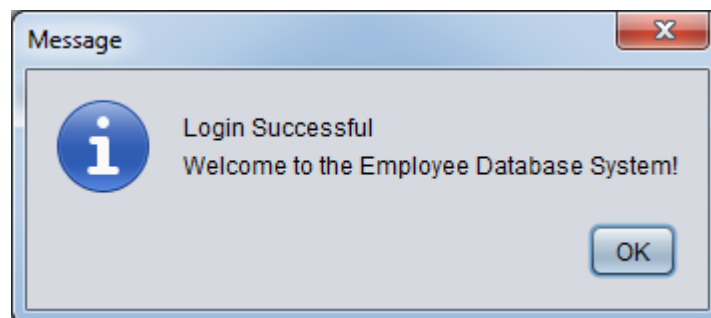The default username and password are:
Username: *Hello*
 Password: *World*

When you click the login button, it will show a message pane.

If the password and username are not matched, it will show an error pane.

2.2 Main Panel

The main panel provides basic functionalities of the employee database system, including add, remove, search, display, modify and load. They are all clickable buttons out on the screen.
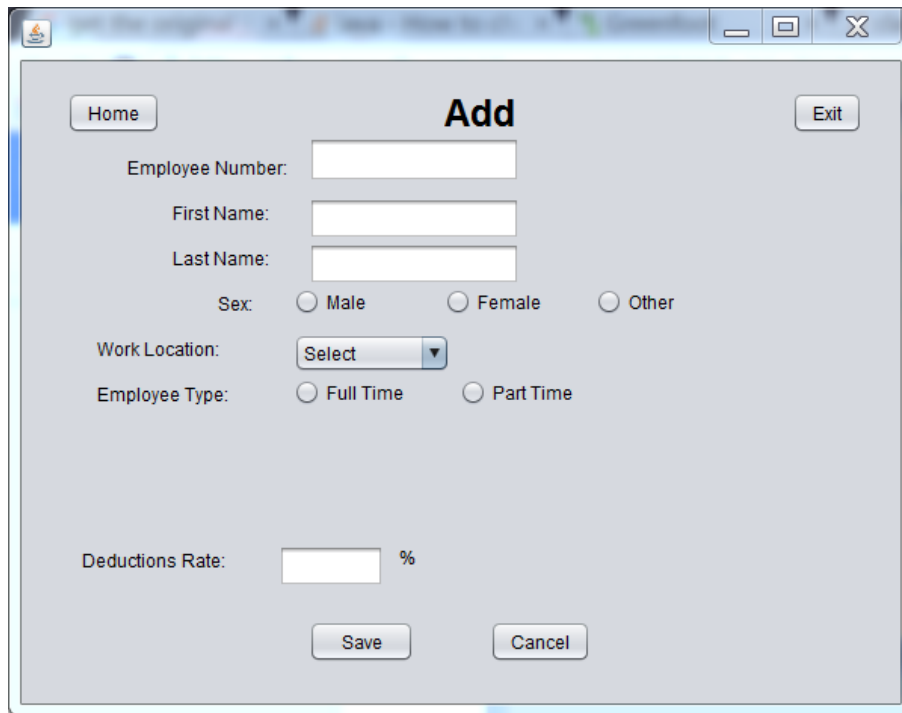Clicking each of the button will show the corresponding panel.
Clicking the "exit" button will close the window and exit the system.

3 Using the edit menus

3.1 Add

The add panel will provide your the ability to add/instantiate a new employee into the system. You have the option of adding either full time or part time employee, with the selection of the button at "employee type" section, the corresponding fields for the type of employee will pop up.

Note: the employee number has to be unique to every individual to avoid confusion and error in the program.

When you click the home button, it will return to the main menu.
When you click the exit button, it will close the window and exit the system.
When you click the full time checkbox, the annual salary text field will show up.
When you click the part time checkbox, the part time information text field will show up.

You should type the correct information into the textfield. If there is any error, an error message will show up. These include:

1. The employee number should be integer, and unique.

2. The first name and last name should be string.

3. One selection from sex checkboxes and employee type drop down menu has to be made.

4. The hours per week should be less than 168. The weeks per year should be less than 52.

When the "Save" button located at bottom left of the screen is clicked, the entered employee information will be added to the system. If there are any items not filled in correctly, an error message "the fields are not filled correctly" will pop up indicating that you must correct the fields and the information will not be saved unless you correct all the errors.

3.2 Remove
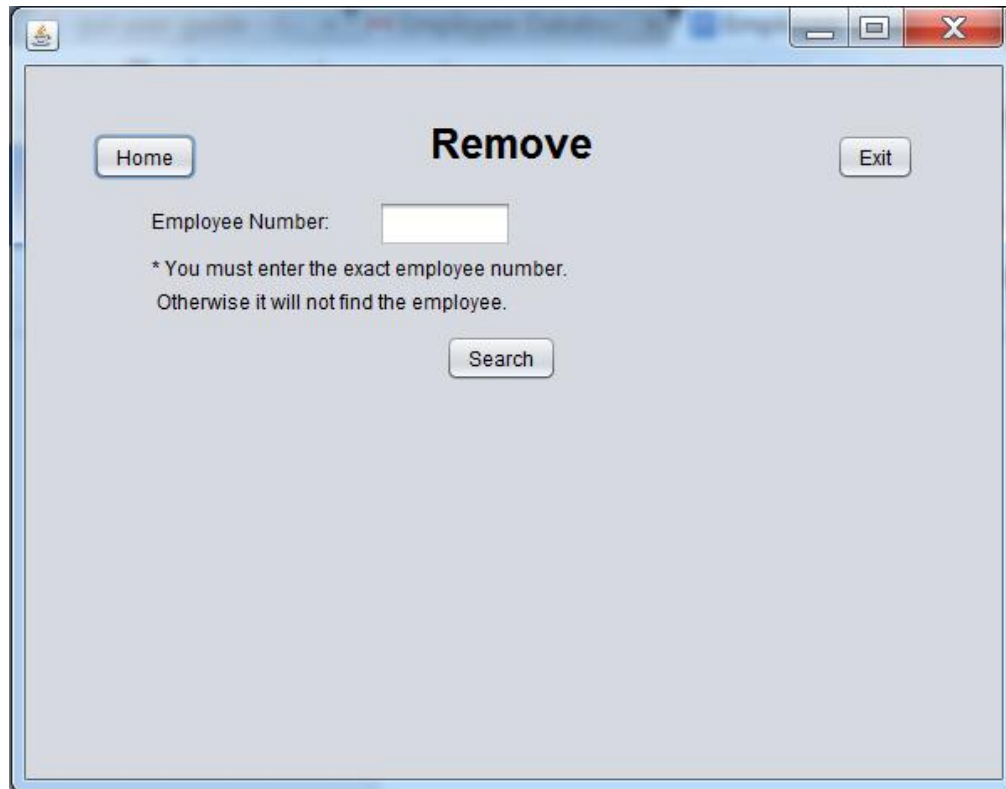
When you click the home button, it will return to the main menu panel.
When you click the exit button, it will close the window and exit the system.
You can input the employee number that is to be found, then click the search button. It will show a table displayed all the information of the employee that you want to find. If the employee is not in the database, it will show a message telling you that it does not exist.
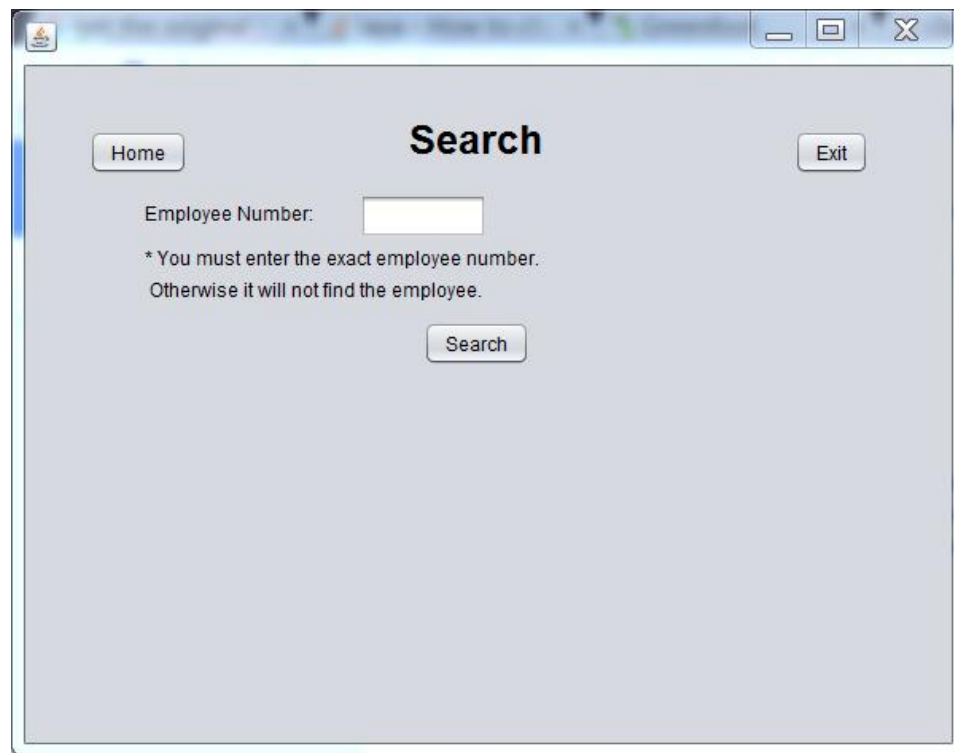
When you click remove button from main screen, the "Remove" screen will show up. Here you can delete an employee that already exists in the system by searching the employee number.
The employee number must already been registered in the system, or else a message will show up.

For example, let's say employee number 24 is currently in the database, enter 24 into "Employee Number" text field, and click search, the according employee information should show up.
You can either click yes to delete the employee shown, or simply click cancel to discard any changes.
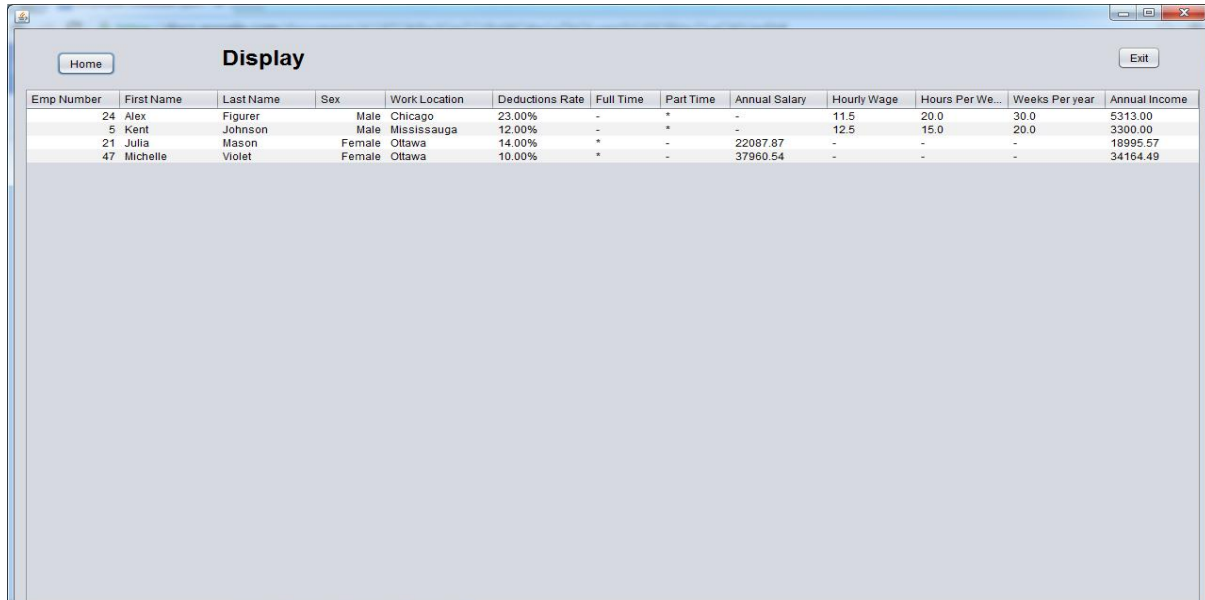
3.3 Search

When you click "Search" button from the main panel, the program allows you to search by an employee number. Simply enter the employee number you want to search and then press "Search" to see the result. If there is not employee of this number exist in the system, a notice will appear. Otherwise you can see the employee that's present in the database with all of the information fields.
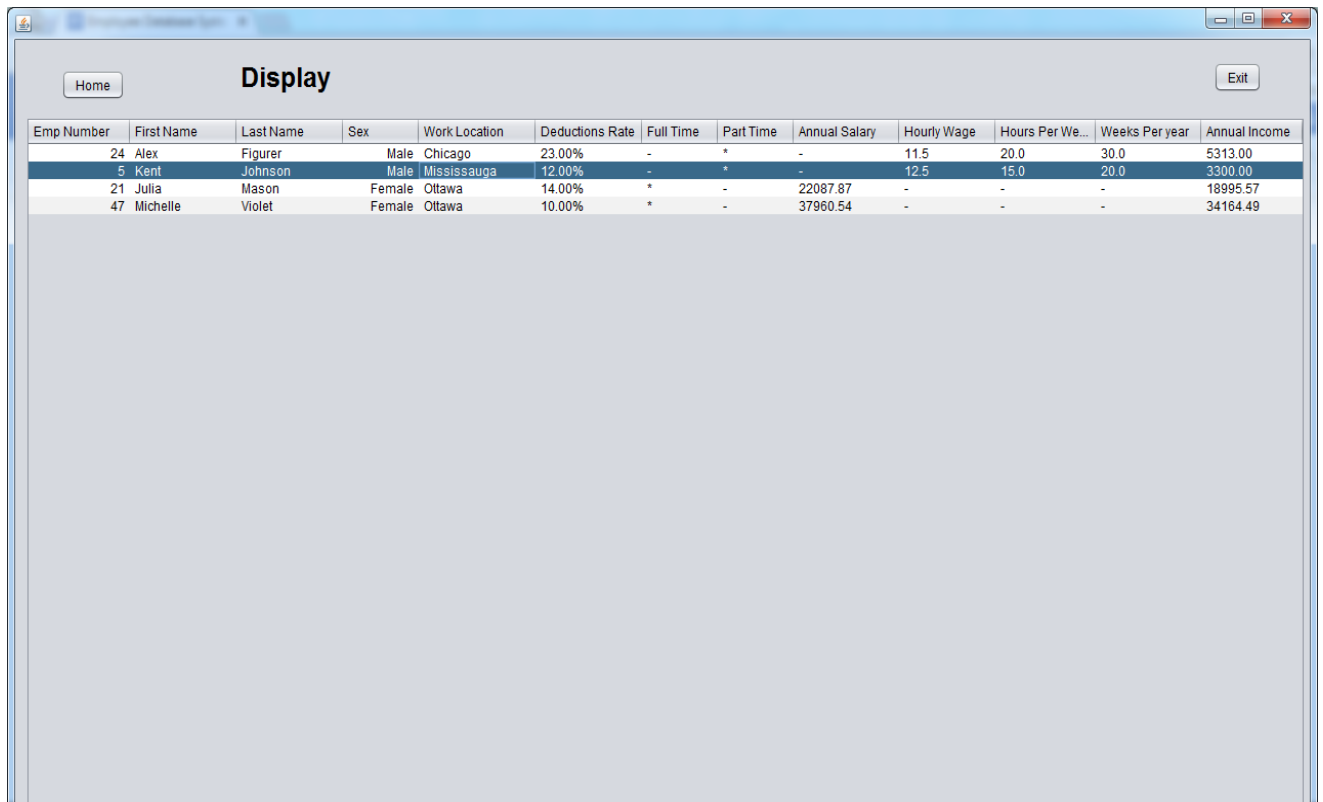
3.4 Display

Emp Number	First Name	Last Name	Sex	Work Location	Deductions Rate	Full Time	Part Time	Annual Salary	Hourly Wage	Hours Per We...	Weeks Per year	Annual Income
24	Alex	Figurer	Male	Chicago	23.00%	-	*	-	11.5	20.0	30.0	5313.00
5	Kent	Johnson	Male	Mississauga	12.00%	-	*	-	12.5	15.0	20.0	3300.00
21	Julia	Mason	Female	Ottawa	14.00%	*	-	22087.87	-	-	-	18995.57
47	Michelle	Violet	Female	Ottawa	10.00%	*	-	37960.54	-	-	-	34164.49

When you click the "Display" button from the main panel, it will display all the employees that are currently stored inside the database system, usually in the order that odd number comes first. From here you can see all the information of an specific employee, full time and part time status are indicated by a "*" for yes and a "-" for no in the column.

3.5 Modify

Emp Number	First Name	Last Name	Sex	Work Location	Deductions Rate	Full Time	Part Time	Annual Salary	Hourly Wage	Hours Per We...	Weeks Per year	Annual Income
24	Alex	Figurer	Male	Chicago	23.00%	-	*	-	11.5	20.0	30.0	5313.00
5	Kent	Johnson	Male	Mississauga	12.00%	-	*	-	12.5	15.0	20.0	3300.00
21	Julia	Mason	Female	Ottawa	14.00%	*	-	22087.87	-	-	-	18995.57
47	Michelle	Violet	Female	Ottawa	10.00%	*	-	37960.54	-	-	-	34164.49

What if you want to change the employee's information who's already in the database? The program has the functionality of modifying an existing employee. What you need to do is first display all of employee, then select and double click the specific employee that you want to change information of. This will lead you to another screen called "Modify". From here, all of the fields were just like when you added the employee.

Change any fields as necessary, then press save, the program will make changes to the employee information. When you press "Home", and click "Display" from the main screen again, you can see that the changes has already been made.

Note: After pressing "Save" button, you must press "Home" button to go back to home screen first, then press display to see the changes. Pressing "Cancel" button will simply go back to display all the employee, as the table is not updated.

3.6 Load
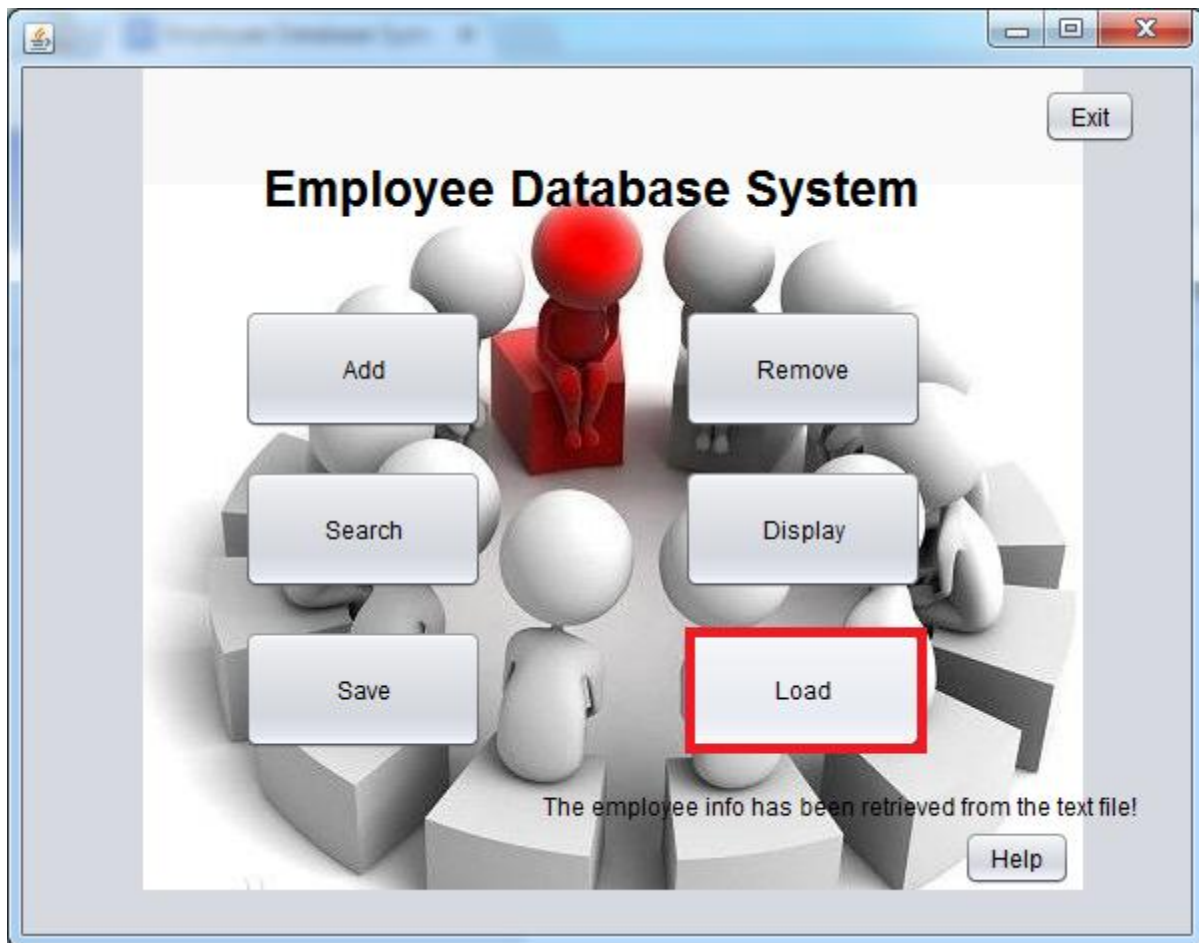
When the "Load" button from main screen is pressed, the program will load the archived information from the text(.txt) file in the root directory. (Please see appendix A for detailed file format)
When the format of the file doesn't match the specified or the archive file does not exist in the root directory, an error message will appear notifying the user of the error in program.

Warning: doing this will clear everything that are currently stored in the system, replacing with the employees from the archive file, please make sure before making the selection to avoid data losses.

3.7 Save
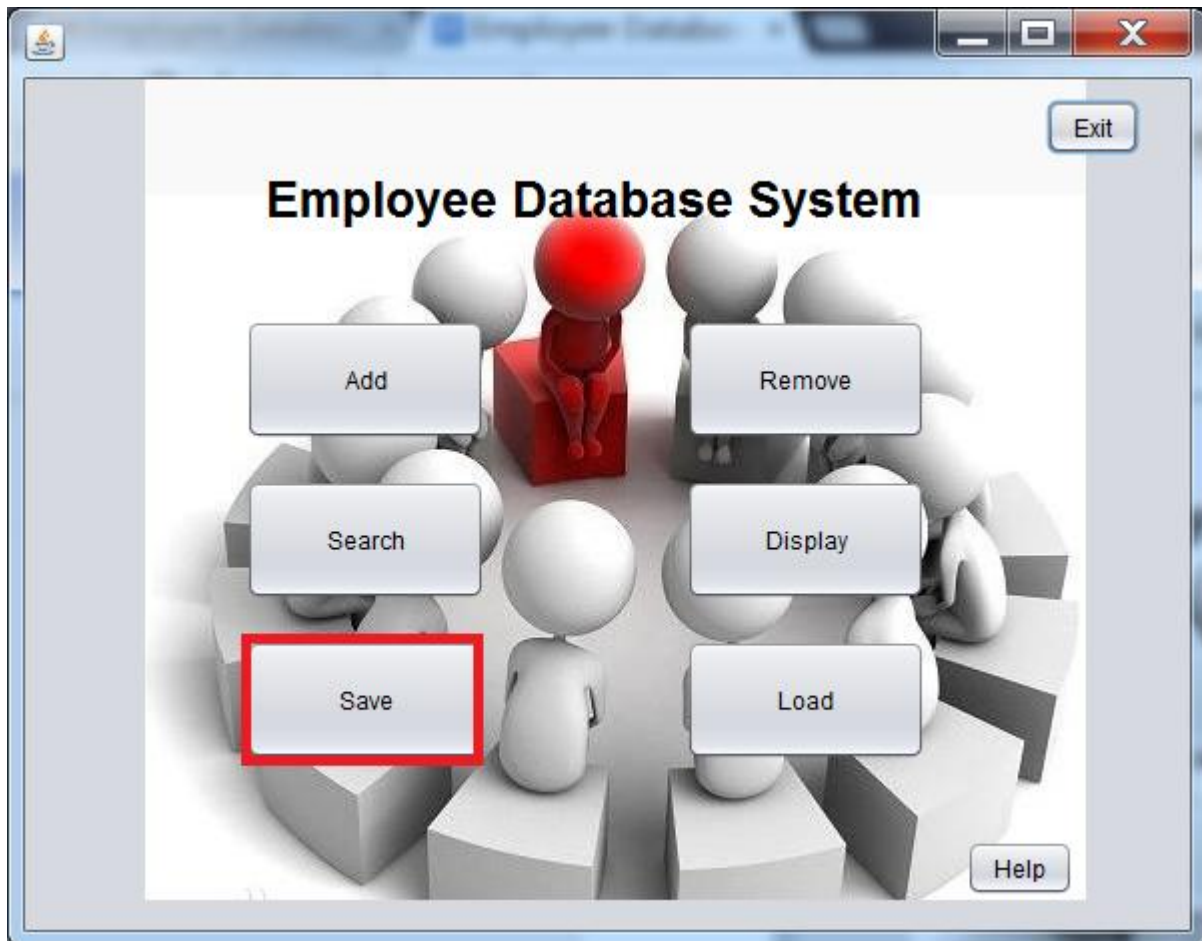
When the "Save" button is pressed , the program will save all the employees that are currently in the system to a text(.txt) file with the specified format, under the root directory.

Note: the process of load from and save to file can only be completed through the button, the program DOES NOT auto save when the user exit the program, or auto retrieve when the user enters the program to avoid unwanted accidents. Which means if the user just exit the program by clicking "X" in the window or through the "exit" button without clicking "Load" or "Save", nothing will be done to the archive file.

Appendix A

Archive file format

The archive file will be in the format of .txt (text) file. When the save button is clicked on the main screen, all of the employee information that is currently stored in the system will be written to the the text file named "SavedEmployeeData.txt", under the directory folder where the project program is located.

Specific file format

The fields are separated by semicolons ";"
For each line of saved employee data, the corresponding segments represent
1: defines the employee type. "F" for part time employee, "P" for full time employee
2: employee's employee number
3: employee's first name
4: employee's last name
5: gender of the employee, (code: 0 - male, 1 - female, 2 - other)
6: the work location of the employee, (code: 0 - Mississauga, 1 - Ottawa, 2 - Chicago)
7: the deduction rate for the specific employee
8(full time only): annual salary of the employee
8(part time only): hourly wage of the employee
9(part time only): numbers of hours per week that the employee works
10(part time only): numbers of weeks per year that the employee works

Full time:

  F;EmployeeNumber;FirstName;LastName;SexCode;WorkLocationCode;DeductionsRate;AnnualIncome

Part time:

Example:
Full time employee:
F;47;Michelle;Violet;1;1;0.13;37960.54
Part time employee:
P;24;Alex;Murphy;0;2;0.23;11.5;20.0;30.00