

# Veterinary Center

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SOFTWARE PROJECT

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## -Problems:

- Help the animal owner to book comfortable by book from the staff.
- Help the doctor to retrieve the data about the animal and its previous diseases.
- Help the animal owner to remember the time of the vaccination of your animal.
- Make the connect between the animal owner and the doctor easy.
- Help the doctor to know the faction that belongs to the animal and the vaccination that the animal takes before.
- Help to organize the work between the doctor and the nurse staff.
- Help to organize the work by give each animal owner specific time to be in the center.

## -Functional Requirements:

- 1) Updating the data.
- 2) Status of pet.
- 3) book by the staff.
- 4) Employee Information.
- 5) local data entry by the staff.
- 6) Notifications of the latest vaccinations.

## -Non-functional Requirements:

### Security:

- Users must change the initially assigned login authentication information (password) immediately after the first successful login. The initial password may never be reused.
- Passwords shall never be viewable at the point of entry or at any other time.
  - The payroll system shall ensure that the employee salary data can be accessed only by authorized users. The payroll system shall distinguish between authorized and non-authorized users.

### Availability:

- The Online Access for System shall be available for use 24/7.

#### Confidentiality: -

- The Medical System shall transmit pet's records only when the pet owner has provided a written, signed release form authorizing the transmission.
- The system shall protect the privacy of all protected health information.

### Efficiency:

- The system restart cycle must execute completely in less than 60 seconds.
- Routine maintenance that is executed while users are active shall not cause a perceptible increase in response time.

### Safety:

- The Medication Monitoring System shall not dispense doses of medication that are greater than maximum amount prescribed by the doctor.

### Usability:

- People with no training and no understanding of English shall be able to use the product.
- The product shall be self-explanatory.

## Maintainability:

- Back-Up: The system offers the efficiency for data backup.
- Errors: The system will track every mistake as well as keep a log of it.

## -Feasibility study:

### Technical feasibility:

According to the definition of technical feasibility the compatibility between front-end and back-end is very important. In our project the compatibility of both is very good. The compatibility of VISUAL BASIC 6.0 and SQL SERVER 2000 is very good. The speed of output is very good, when we enter the data and click button then the response time is very fast and give result very quickly. I never find difficulty when used complex query or heavy transaction. The speed of transaction is always smooth and constant. This software provides facility to communicate data to distant location.

So will use VISUAL BASIC 6.0. The designing of front-end of any project is very important so we select VISUAL BASIC 6.0 as front-end due to following reason:

1. Easy implementation of code.
2. Well define interface with database.
3. Well define hand shaking of SQL SERVER 2000.
4. Easy debugging.

And I have selected SQL SERVER 2000 because of the following number of reasons:

1. Able to handle large data.
2. Security.
3. Robust RDBMS.
4. Backup & recovery.

The system was currently developed by using:

- 1- Language: Java EE because it is open source.
- 2- Web Browser: Google Chrome.

we selected MS-Access as the backend because:

1. Multiple user support.
2. Efficient data handling.
3. Provide inherent features for security.
4. Efficient data retrieval and maintenance.
5. Stored procedures.

I will use the hardware:

1. RAM (16)
2. Hard tera
3. 10 SSD
4. SSD 256
5. Intel® Core™ i3-5005U

## **Marketing Strategy:**

I will use social marketing and support from our university platforms, these methods used to suit the target group because everyone uses computers and smartphone.

This is what sets us apart from the competitors because our excellence in price and user-friendly designs is our goal.

## **Operational Feasibility:**

-After the system has been fully developed and tested, it will be hosted on the free web server for the testing purposes. If the system meets the requirement and needs of the animal health clinic, it can be proposed to be used at the veterinary system.

- It is mainly related to human organizations and political aspects. The points to be considered are:

- 1) What changes will be brought with the system?
- 2) What organization structures are disturbed?
- 3) What new skills will be required? Do the existing staff members have these skills? If not, can they be trained in due course of time?

4) The system is operationally feasible as it very easy for the End users to operate it. It only needs basic information about Windows platform.

## **Economic Feasibility:**

Economic justification includes a broad range of concerns that includes cost benefit analysis. In this we weight the cost and the benefits associated with the candidate system and if it suits the basic purpose of the organization profit making, the project is making to the analysis and design phase. The financial and the economic questions during the preliminary investigation are verified to estimate the following:

- 1) The cost to conduct a full system investigation.
- 2) The cost of hardware and software for the class of application being considered.
- 3) The benefits in the form of reduced cost.
- 4) The proposed system will give the minute information, as a result the performance is improved which in turn may be expected to provide increased profits.
- 5) This feasibility checks whether the system can be developed with the available funds. The Veterinary Management System does not require enormous amount of money to be developed. This can be done economically if planned judicially, so it is economically feasible. The cost of project depends upon the number of man hours required.

## **Cost to develop:**

Item	Estimated cost (Rs)
System development	5000
Hardware installation	15000
Software installation	1000
Total Cost	21000

## **Cost Benefit Analysis:**

In performing cost-benefit analysis it is important to identify cost-benefit factors.

## **Costs:**

Development cost: Costs incurred during the development of the system

- Operating cost: The expenses required for day-to-day running of the system, such as wages, supplies, overhead.

- Hardware/Software cost: Cost of purchasing or leasing of computers and its peripherals and software cost
- Personnel cost: Expenses spent on people involved in the development of system. Facility cost: Expenses incurred during the preparation of the physical site where the system will be operational. These can be wiring, flooring, acoustics, lighting and air-conditioning
- Supply cost: Variable costs that vary proportionately with the use of paper, ribbons, disks.

### **Benefits:**

We define benefits as ---- Benefit or Profit = Income — Cost

Benefits can be accrued by:

- Increasing income
- Decreasing cost
- Both

## - Use case template:

### Template (1)

Name:	Update data
Number:	UC 1
Description:	Update the data of the employees or pet's owners.
Actors:	Employees – pet's owners – pet – database server - administrator
Pre-Conditions:	The specific data which will updating it is already exist
Scenario:	<ul style="list-style-type: none"> <li>1) Administrator search if the data which will updating exist or not</li> <li>2) If the data exists, the administrator will update it</li> <li>3) The system automatically will delete the old data and replace it by the new data</li> </ul>
Post-Conditions:	System replaces the old data by new data
Exceptions:	<ul style="list-style-type: none"> <li>1) If the data which will updating is not exist</li> <li>2) Administrator can't reach to database server</li> <li>3) Database server damaged</li> </ul>

### Template (2)

Name:	Status of pet
Number:	UC2

Description:	Help the doctor and nurses to know the status of the pet
Actors:	Pet – animal owner – doctor – nurse – Database
Pre-Conditions:	<ul style="list-style-type: none"> <li>– The status of the pet must be mentioned in database</li> <li>– the doctor and nurse must know about the status of pet</li> </ul>
Scenario:	<ol style="list-style-type: none"> <li>1) Enter the status of the pet</li> <li>2) The doctor should know the status of the pet to do his work and treat the animal</li> </ol>
Post-Conditions:	The system will be ready to take the status of another pet
Exceptions:	<ol style="list-style-type: none"> <li>1) The animal owner enters a false status about the pet</li> <li>2) The information isn't enough to describe the status of the pet</li> </ol>

### Template (3)

Name:	Book by The Staff
Number:	UC3
Description:	The employees recording the information of pet's owners and pet , The animal's owner can call by phone f or reservations
Actors:	Employees – pet's owners – pet – Mobile phone – Database
Pre-Conditions:	The owner of the animal must call first to make reservations
Scenario:	<p>The employee receives the calls then:</p> <ol style="list-style-type: none"> <li>1-answers calls</li> <li>2-Entering data</li> <li>3-Keeping records</li> <li>4-Informing the person responsible in the event of the arrival of pet's owners</li> </ol>
Post-Conditions:	The reservation is recorded and the owner of the animal can come at the appointed time
Exceptions:	<ol style="list-style-type: none"> <li>1-A malfunction occurs in the phone</li> <li>2- Unavailability of the appropriate time to book that the owner of the animal wants it.</li> <li>3-Failure to respond to him when calling (if the center is closed)</li> </ol>

**Template (4)**

Name:	Manage employee
Number:	UC4
Description:	It helps admin to manage employee data (add or remove or edit)
Actors:	Admin – Database – Database server
Pre-Conditions:	Admin must be logged in first
Scenario:	<p>Admin can log in to management then he can do:</p> <ul style="list-style-type: none"> <li>1) Add employee</li> <li>2) Remove employee</li> <li>3) Edit employee data</li> <li>4) Edit salary for the employee</li> </ul> <p>The modified data will be updated in data base</p>
Post-Conditions:	The system will return to the main admin panel
Exceptions:	<ul style="list-style-type: none"> <li>1) Admin can't log in (username or password error)</li> <li>2) Try to define salary as zero</li> <li>3) Add existing employee</li> </ul>

**Template (5)**

Name:	Data entry
Number:	UC 5
Description:	Administrator enter new account of new employee or new pet's owner or data of new pet to the database

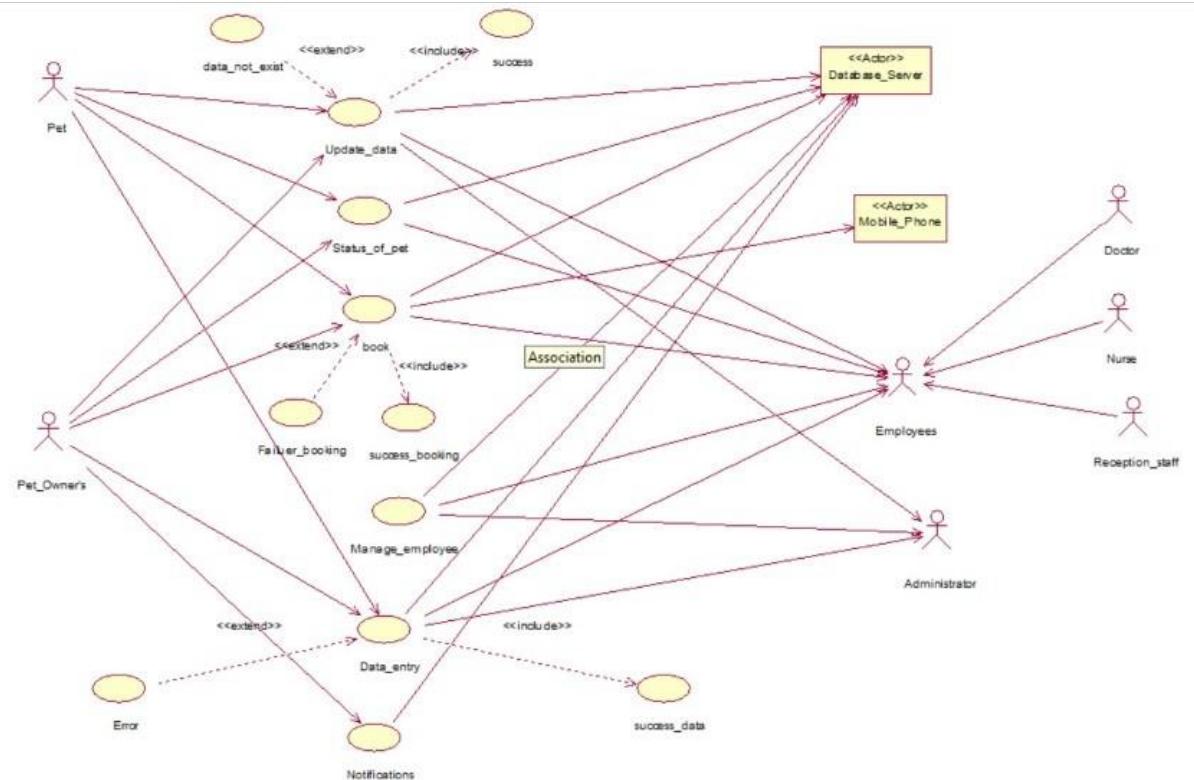
Actors:	Employees – pet's owners – pet – database server - administrator
Pre-Conditions:	Database is ready to receive new data (account)
Scenario:	<ul style="list-style-type: none"> <li>1) Administrator enters to the database</li> <li>2) Ensure that an employee or pet's owner or pet has previous data on the database (account)</li> <li>3) Enter the new data</li> <li>4) Ensure that the new data is saved in the database</li> </ul>
Post-Conditions:	The new data is saved in the database
Exceptions:	<ul style="list-style-type: none"> <li>1) The data which will entering is already exist</li> <li>2) Administrator can't reach to database server</li> <li>3) The animal which will entering is wild animal</li> <li>4) Database server damaged</li> </ul>

### Template (6)

Name:	Notifications
Number:	UC6
Description:	Notice to the animal's owner about the latest vaccinations
Actors:	Server – Animal's owner – Database
Pre-Conditions:	The owner of the animal must be registered in database
Scenario:	<ul style="list-style-type: none"> <li>1) Appear new vaccinations</li> <li>2) Server sends announce to animal's owner</li> </ul>
Post-Conditions:	The owner of the animal must go to veterinary center
Exceptions:	<ul style="list-style-type: none"> <li>1) The owner of the animal didn't register in database</li> <li>2) Any network problems</li> </ul>

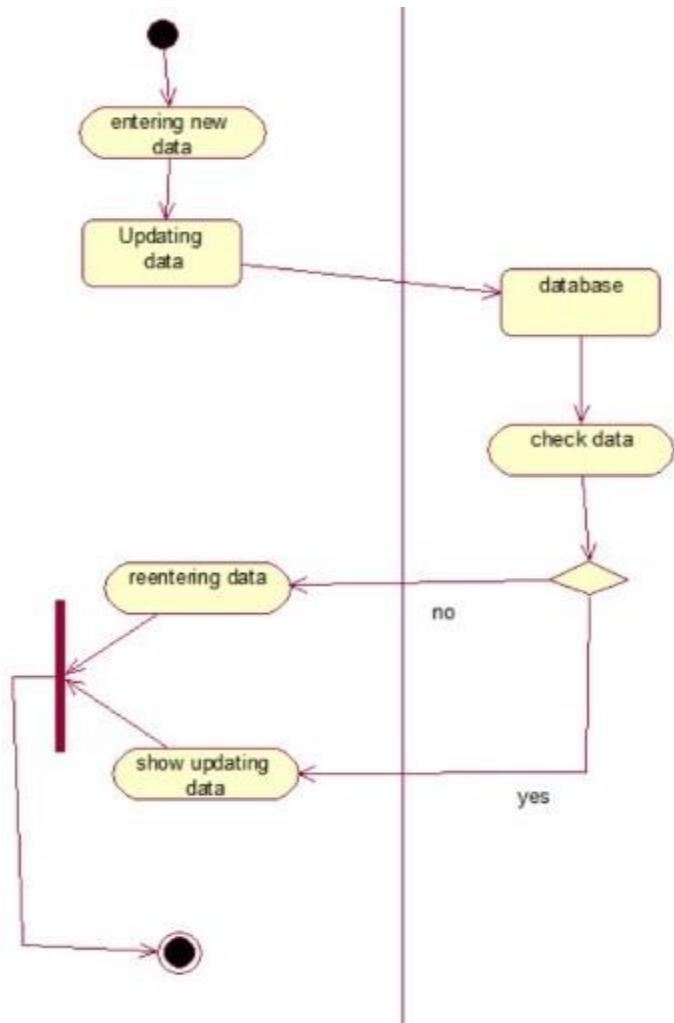
## - Diagrams:

### 1-Use Case Diagram:

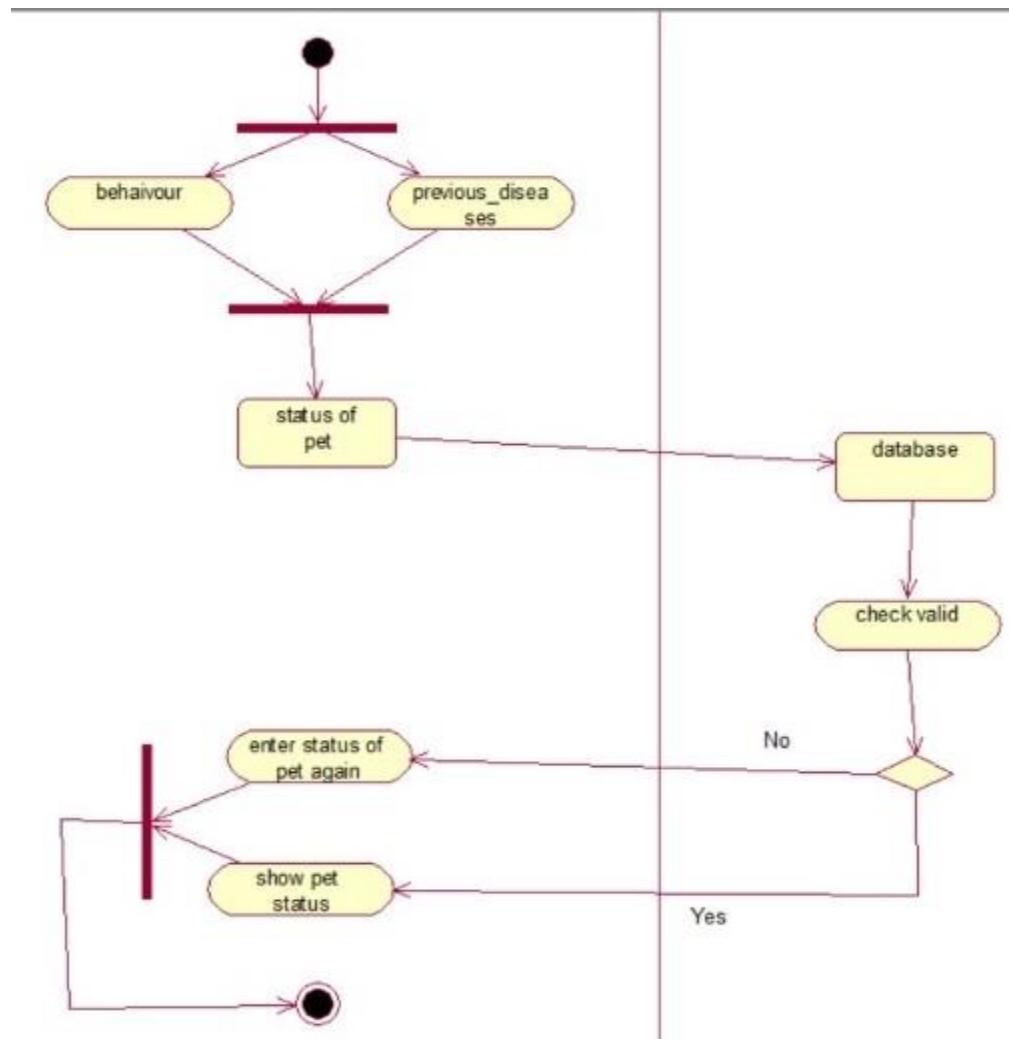


## 2- Activity Diagrams:

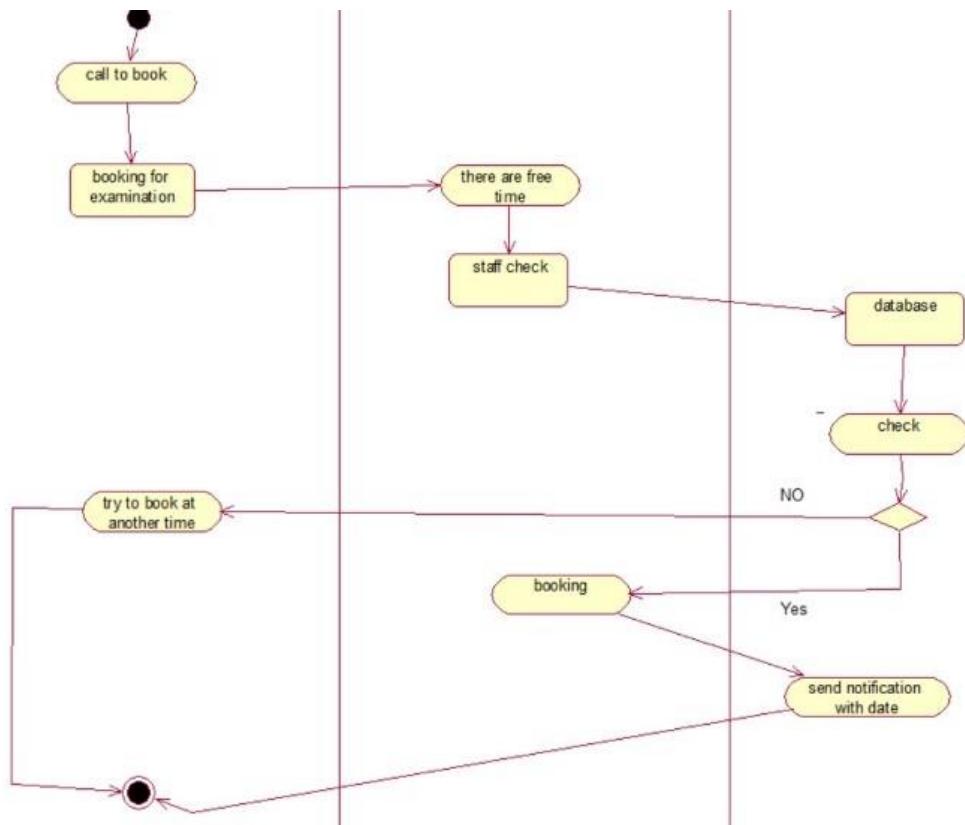
### 2.1 Update Data



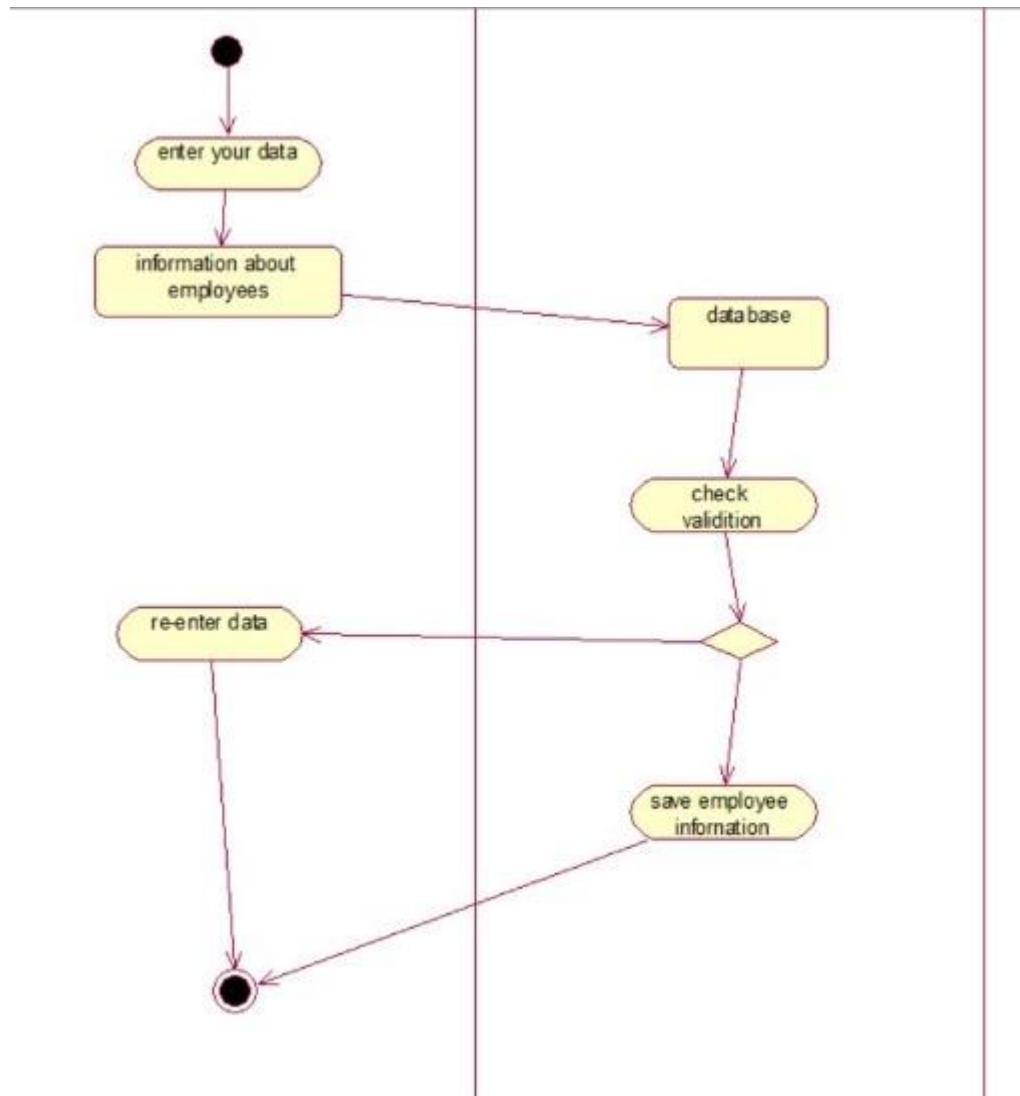
## 2.2 Status of pet



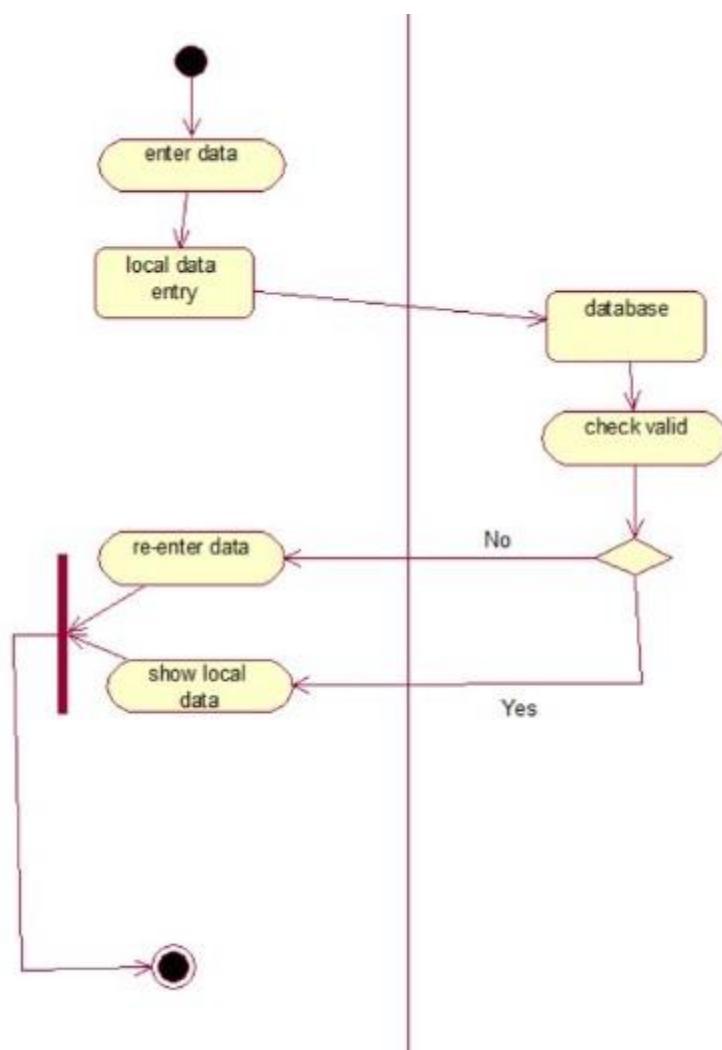
## 2.3 Book by the staff



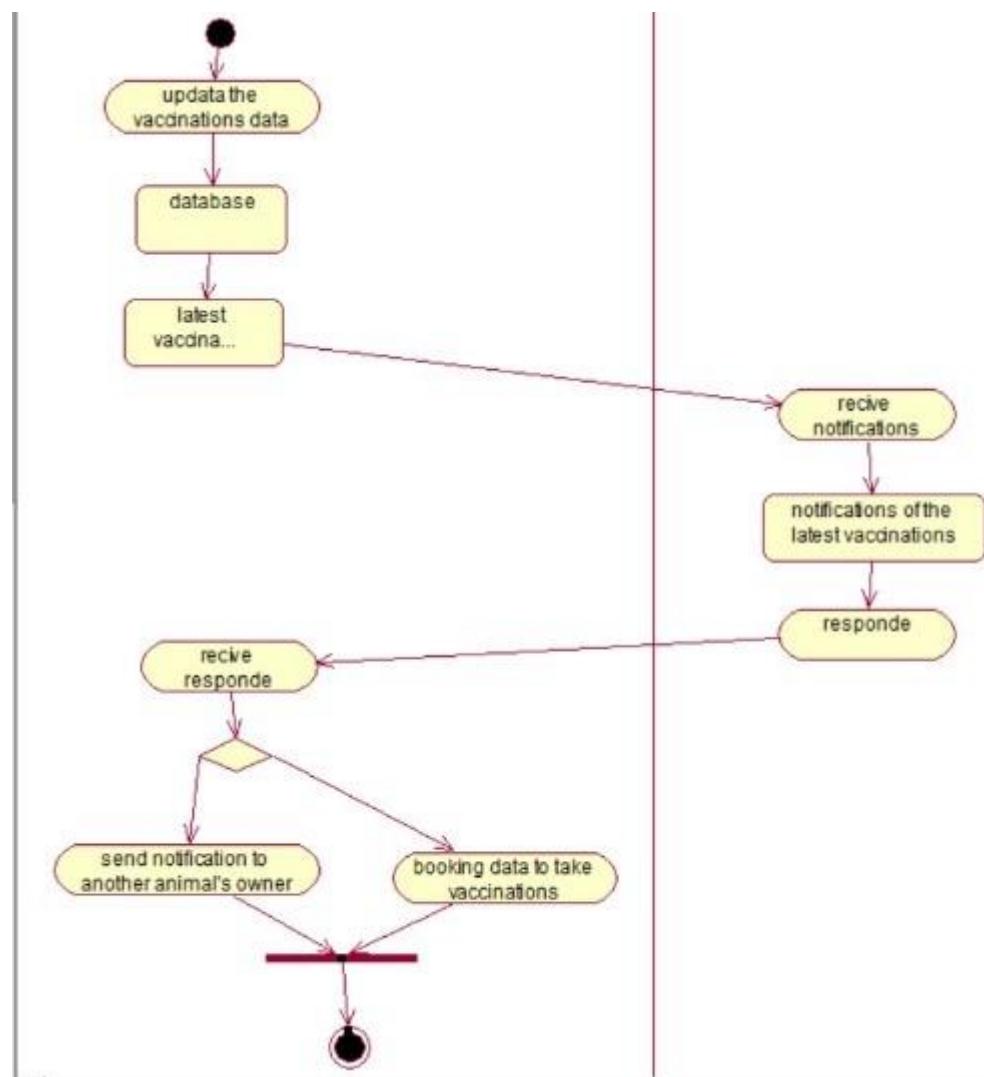
## 2.4 Manage employees



## 2.5 Data entry

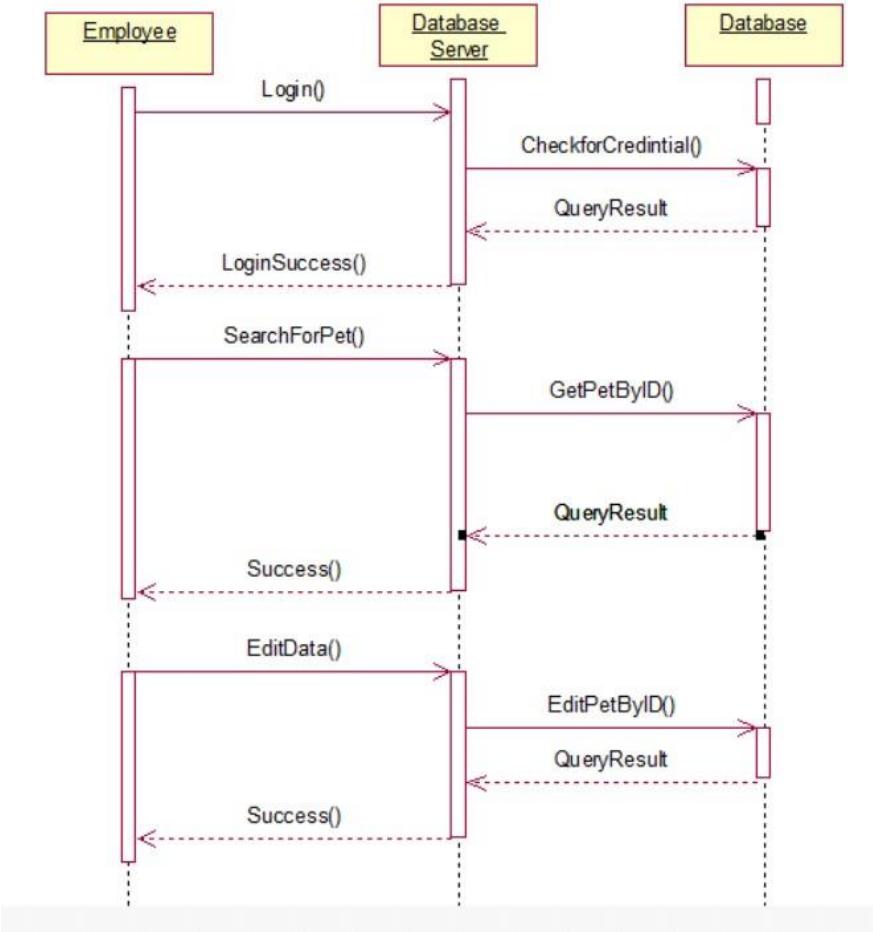


## 2.6 Notification about last vaccination



### 3- Sequence Collaboration:

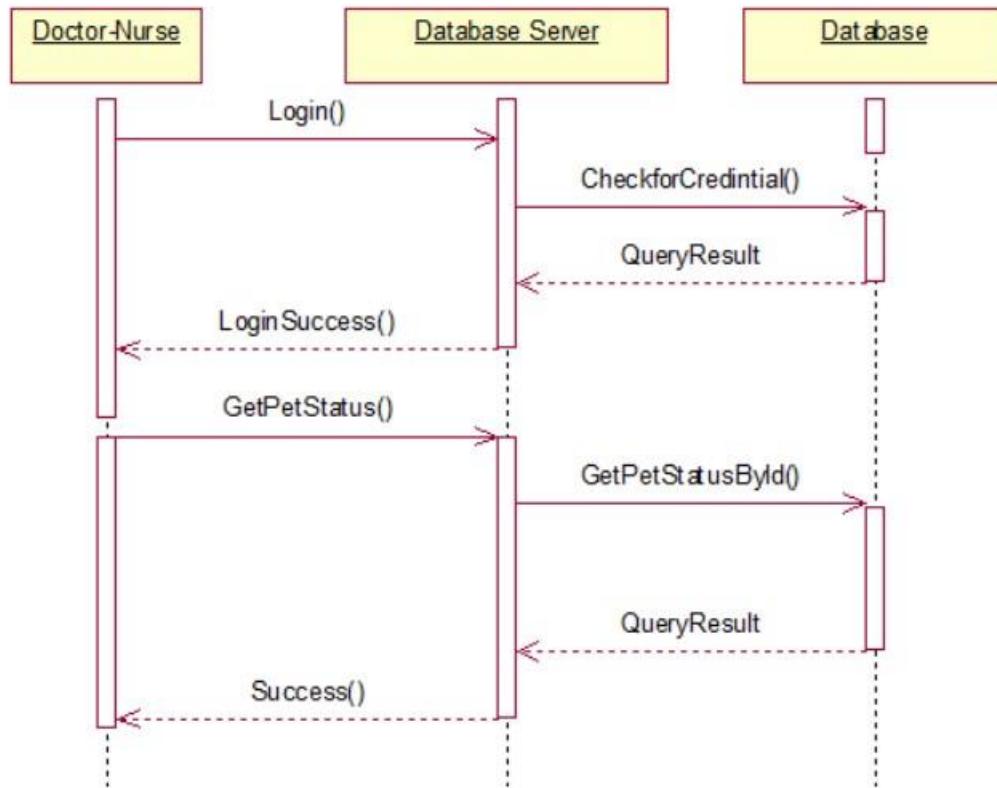
Sequence diagram for update data



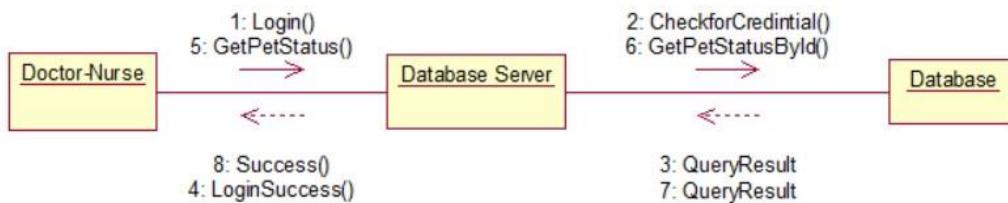
Collaboration diagram for update data



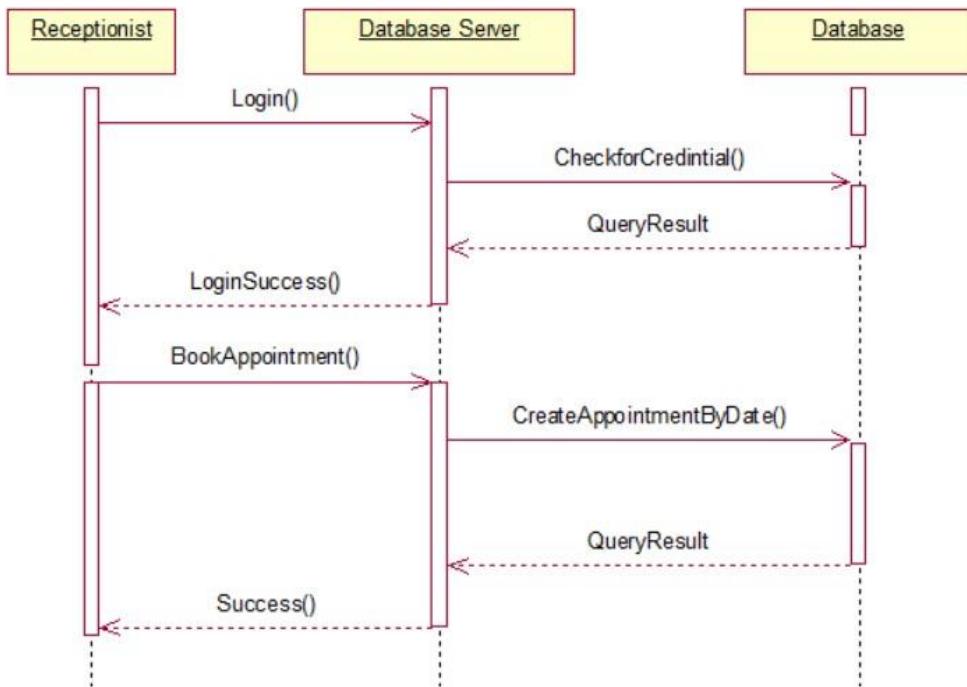
### Sequence diagram for status of pet



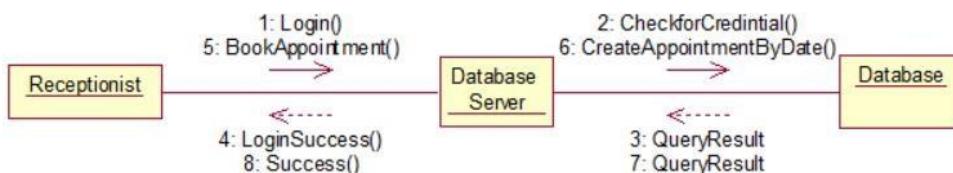
### Collaboration diagram for status of pet



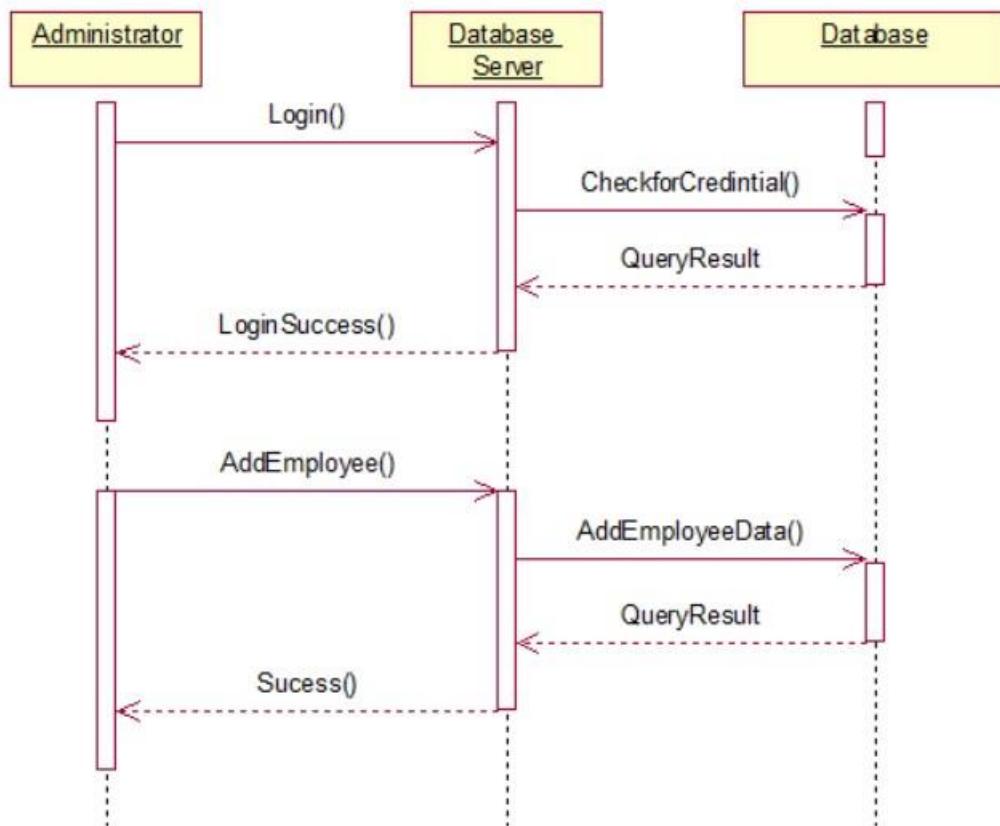
### Sequence diagram for book by receptionist



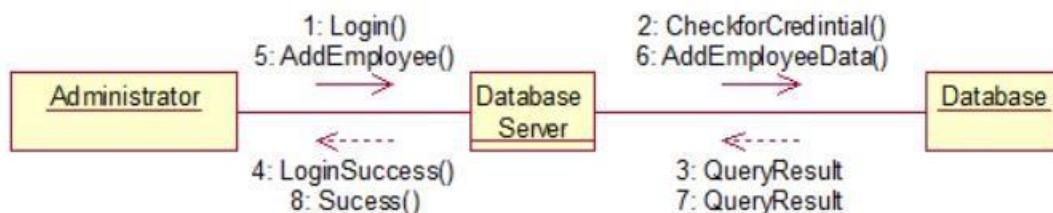
### Collaboration diagram for book by receptionist



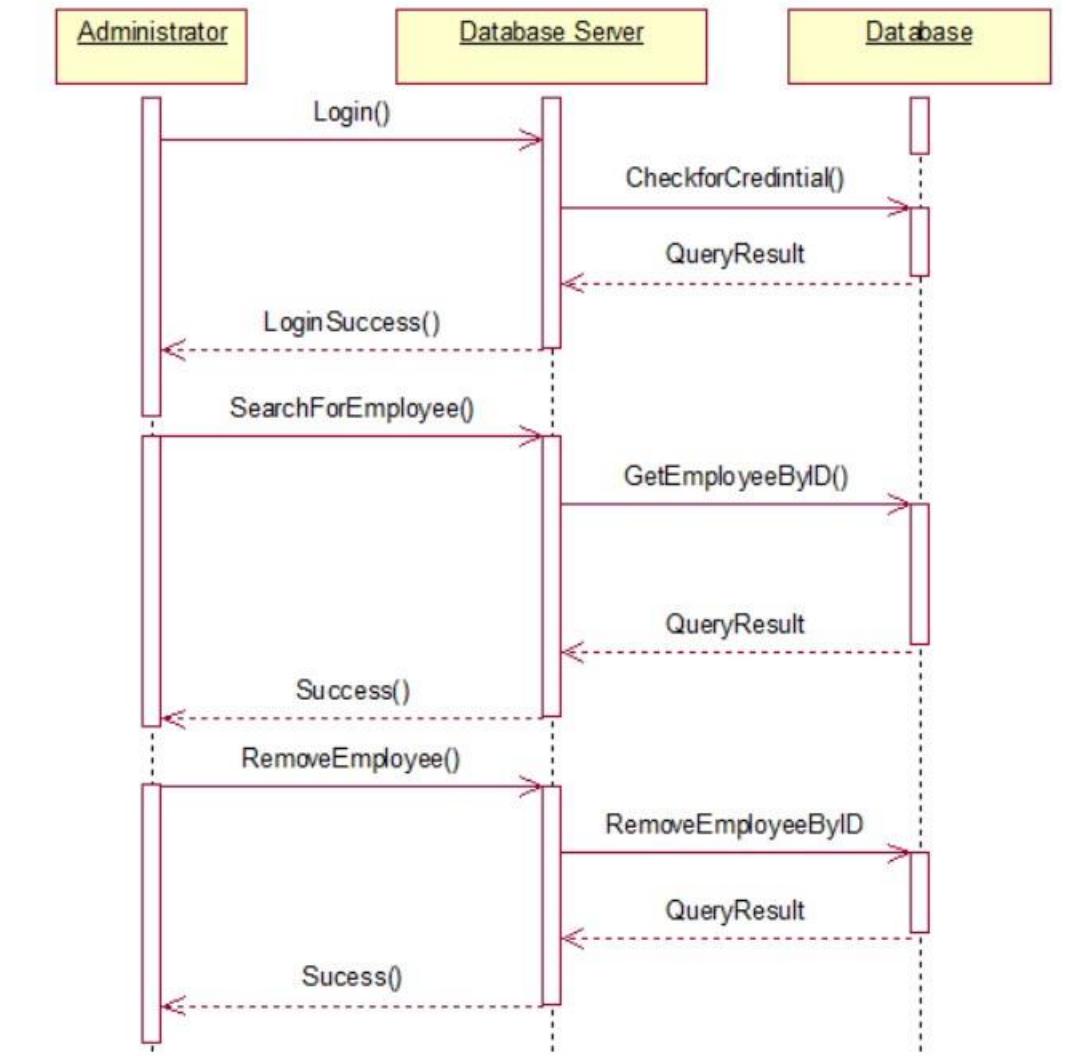
Sequence diagram for manage employee (add employee)



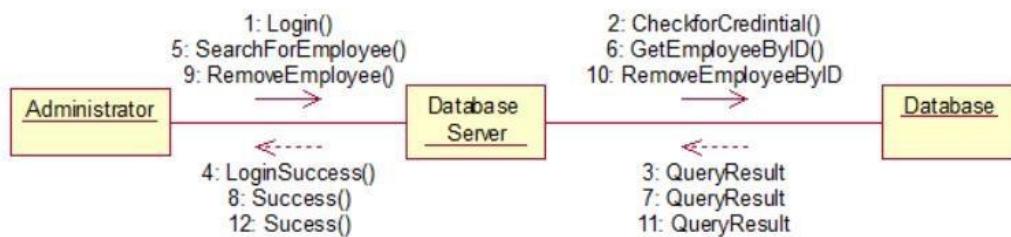
Collaboration diagram for mange employee (add employee)



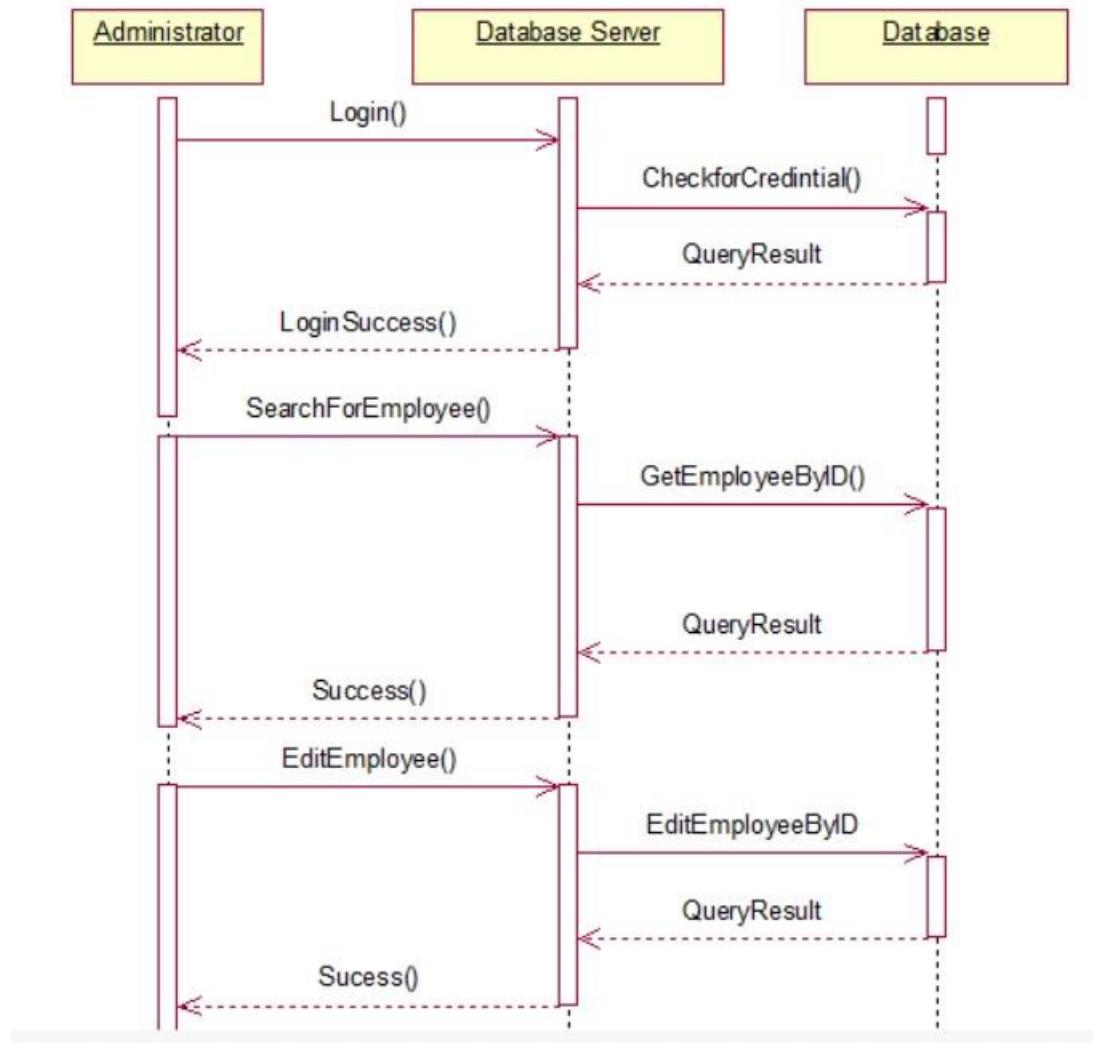
manage employee (remove employee)



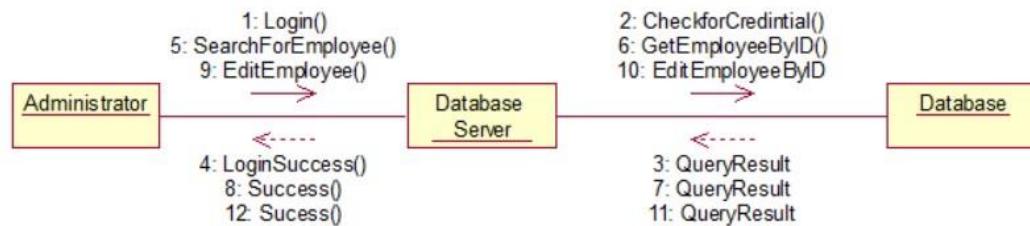
Collaboration diagram for mange employee (remove employee)



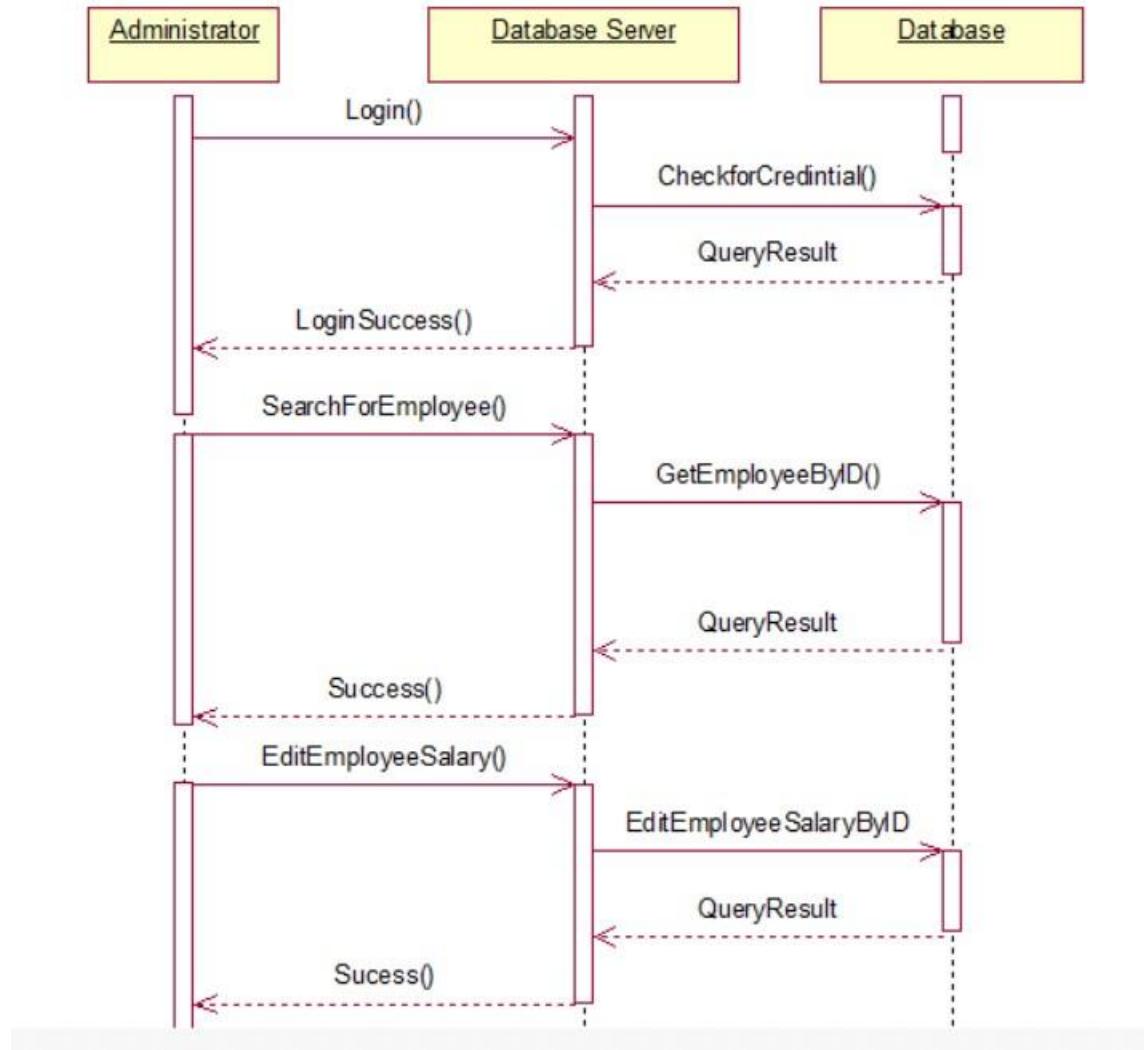
Sequence diagram for manage employee (edit employee data)



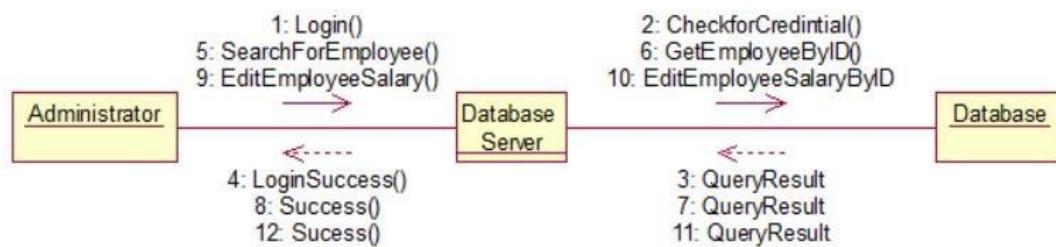
Collaboration diagram for manage employee (edit employee data)



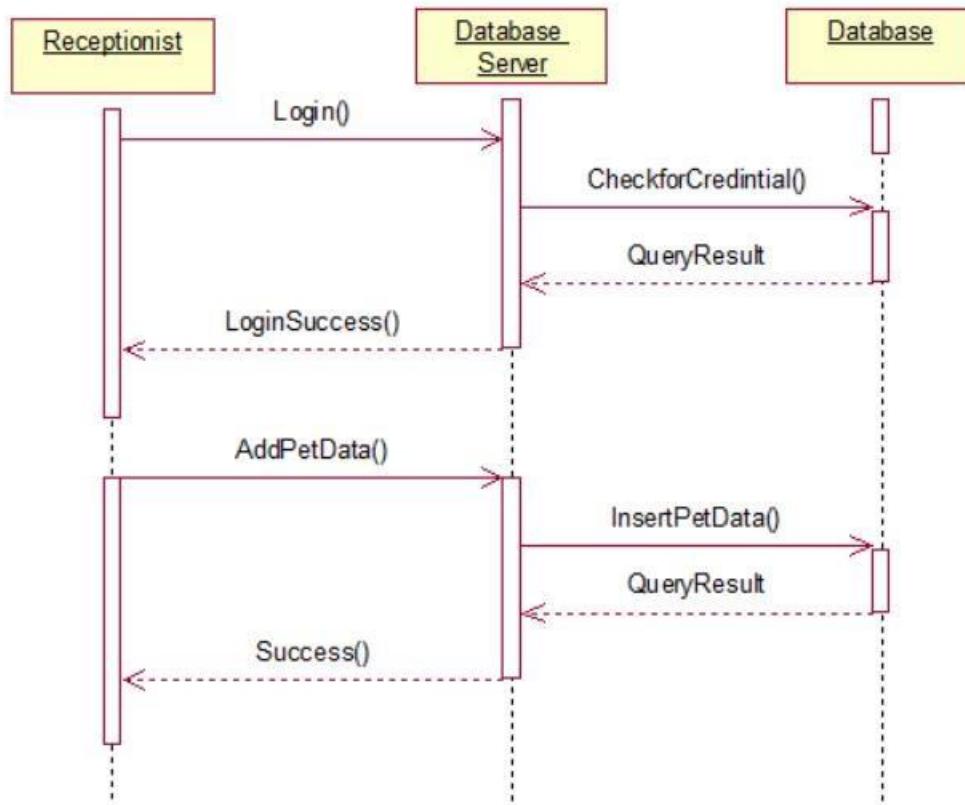
manage employee (edit employee salary)



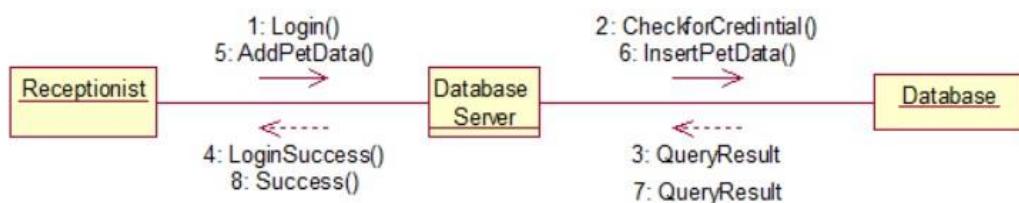
Collaboration diagram for mange employee (edit employee salary)



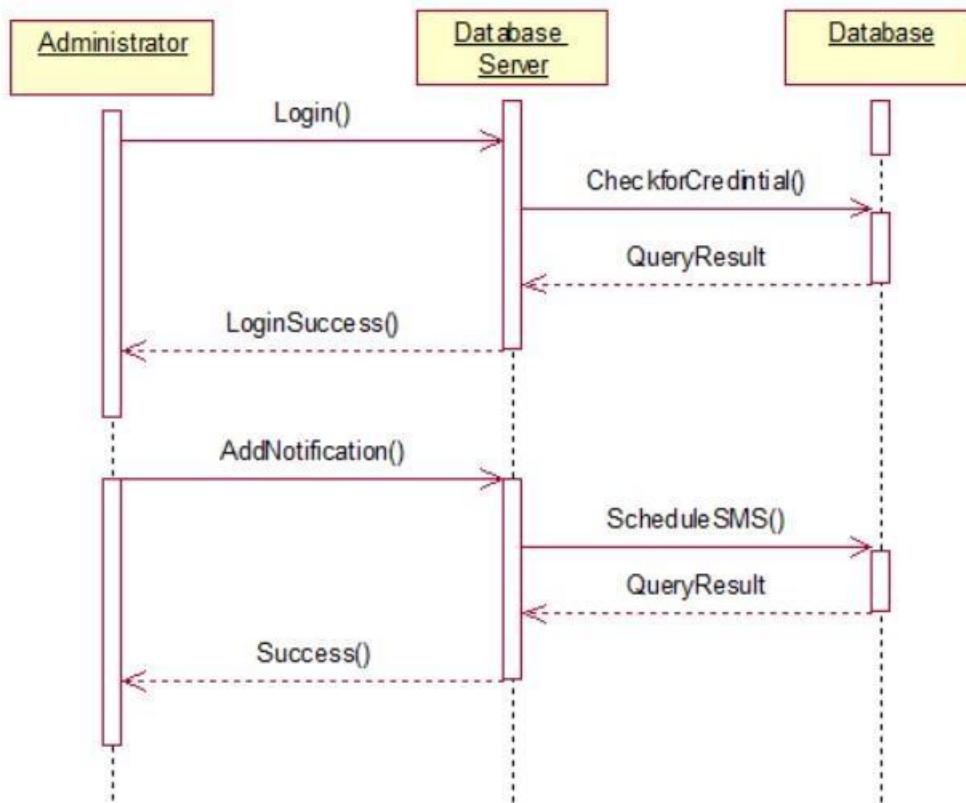
Sequence diagram for add pet data



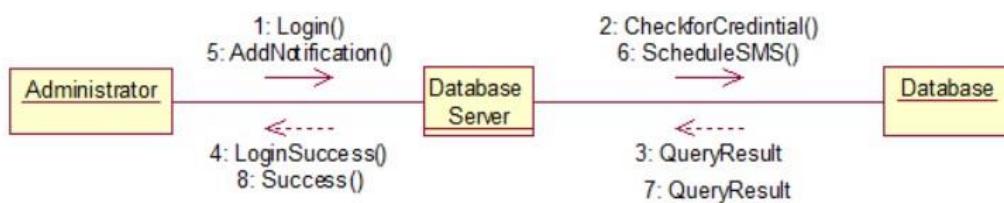
Collaboration diagram for add pet data



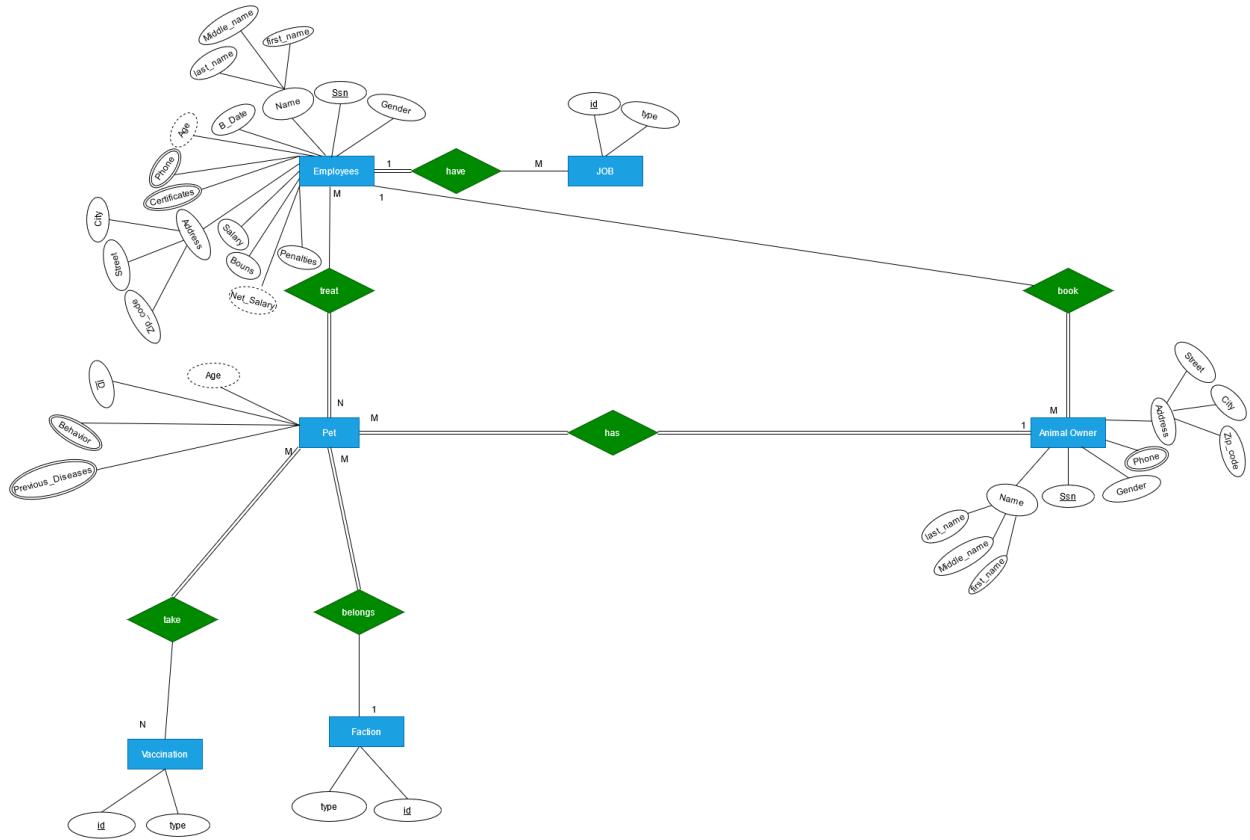
notification



Collaboration diagram for notification

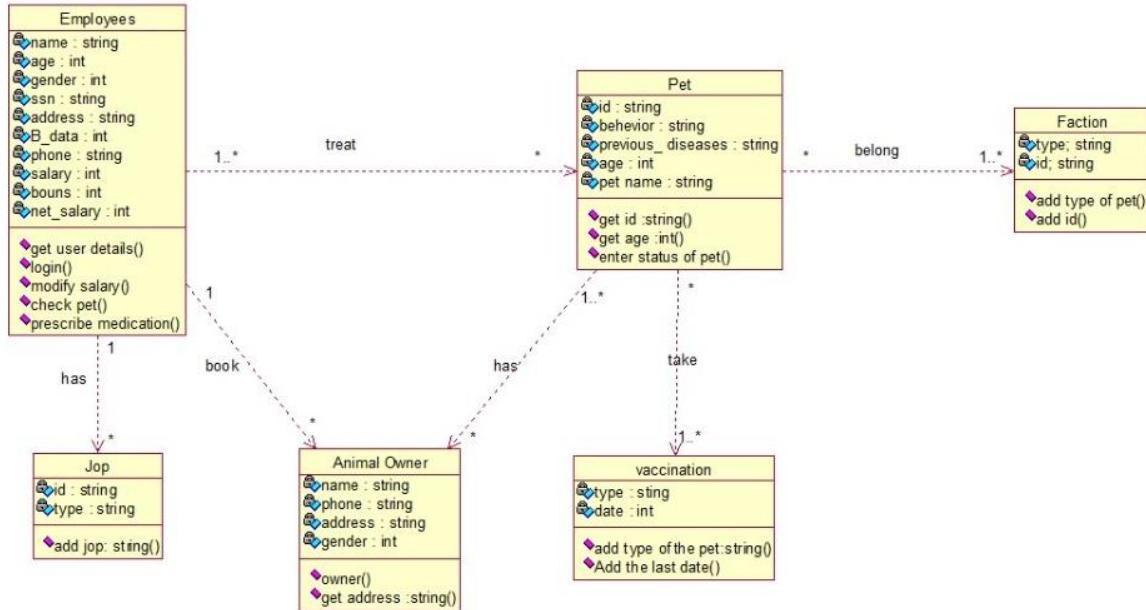


## 4- ERD:

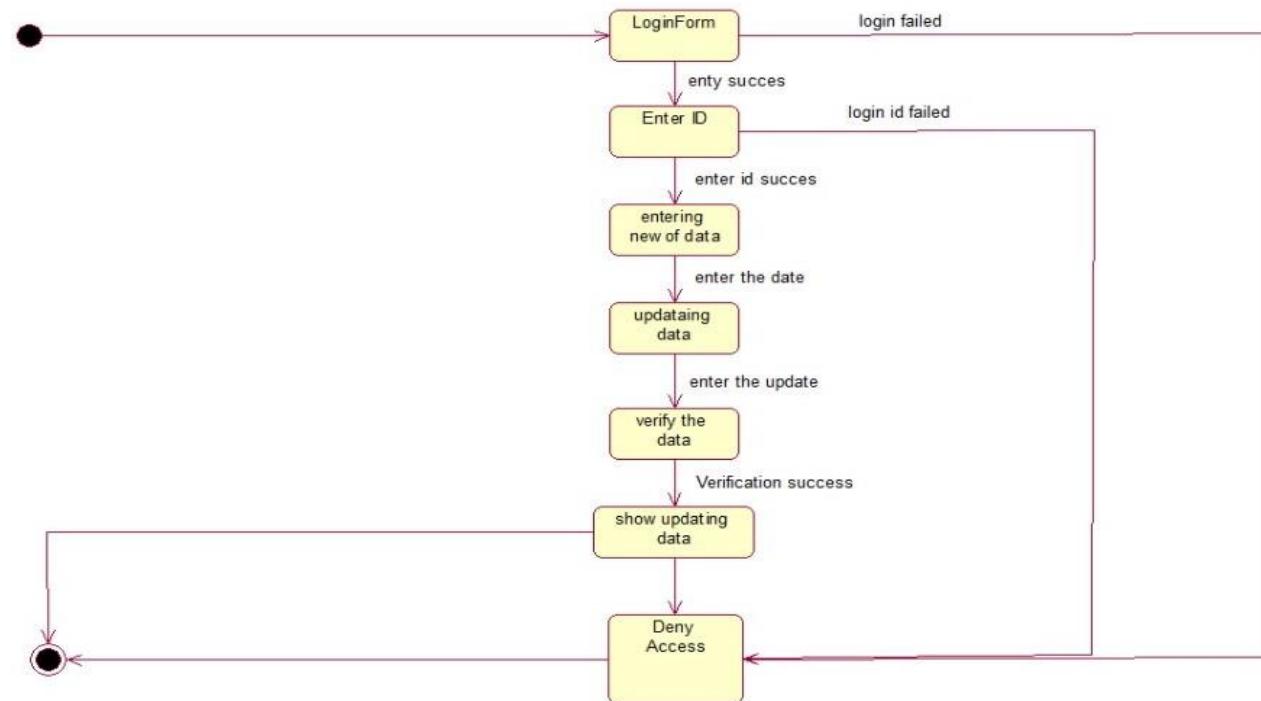


## 5- Design diagram:

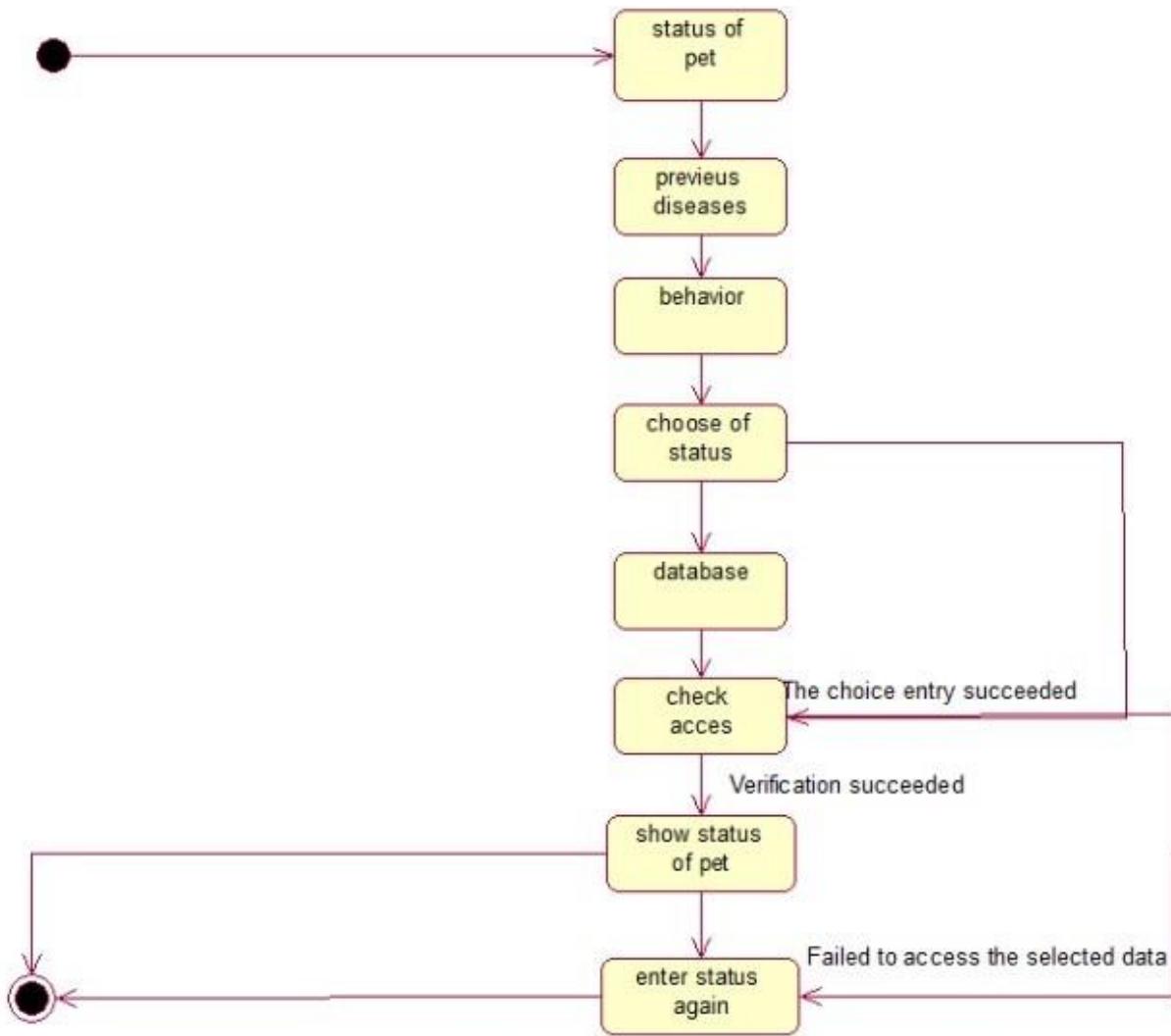
### 5.1 Class diagram:



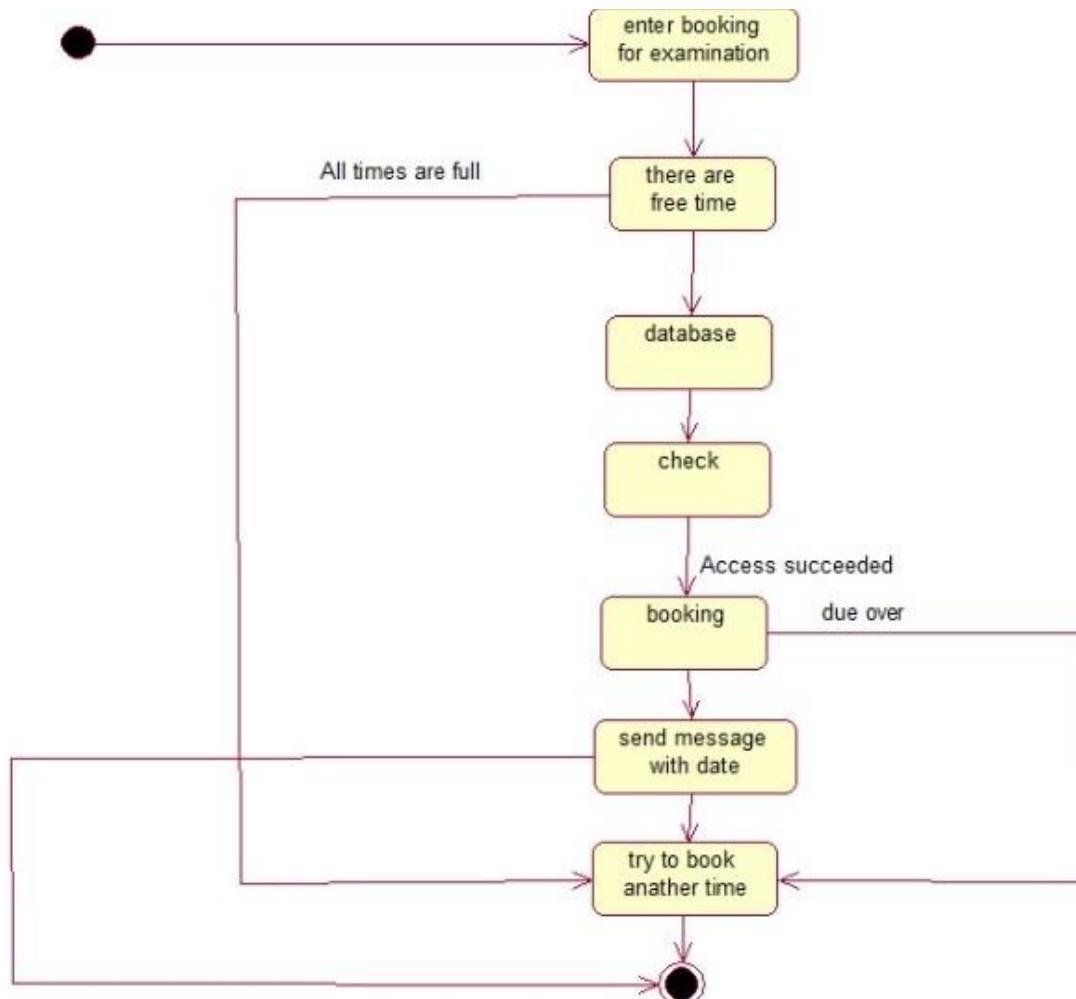
### 5.2 State chart diagrams:



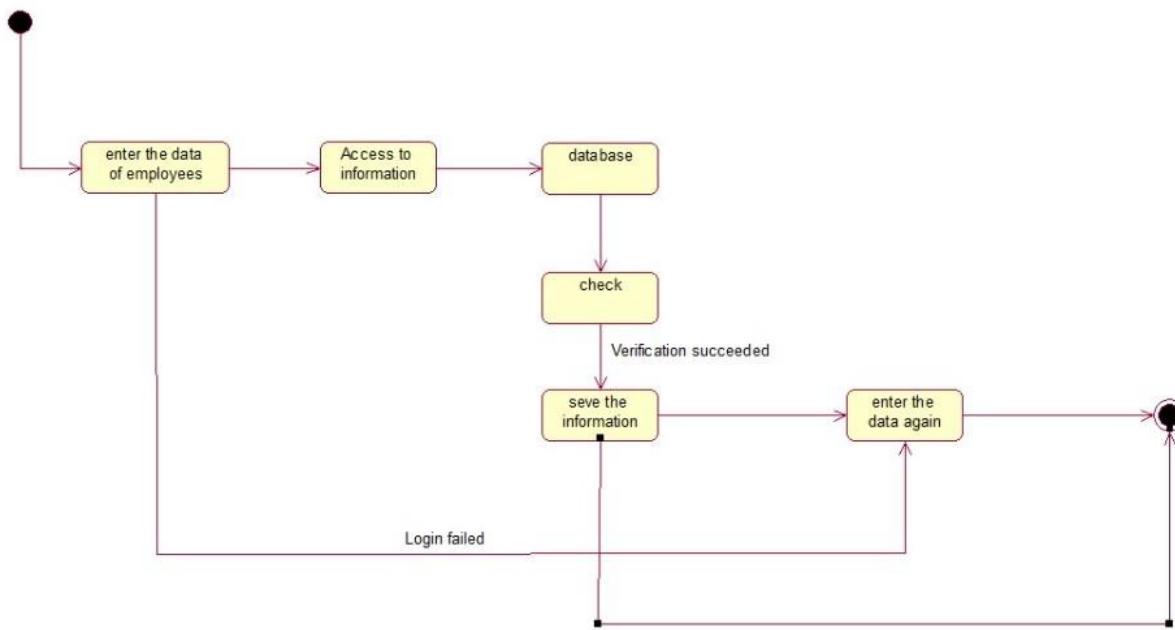
5.2.1 Update the data



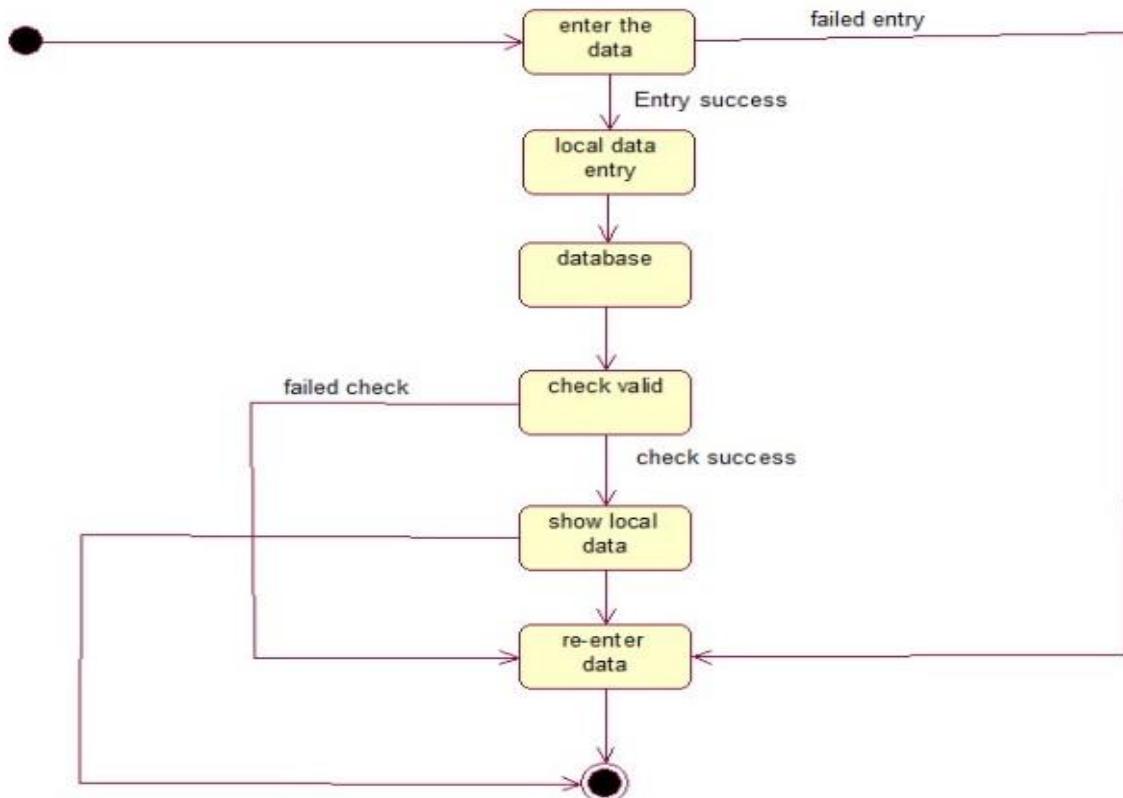
5.2.2 Status of pet



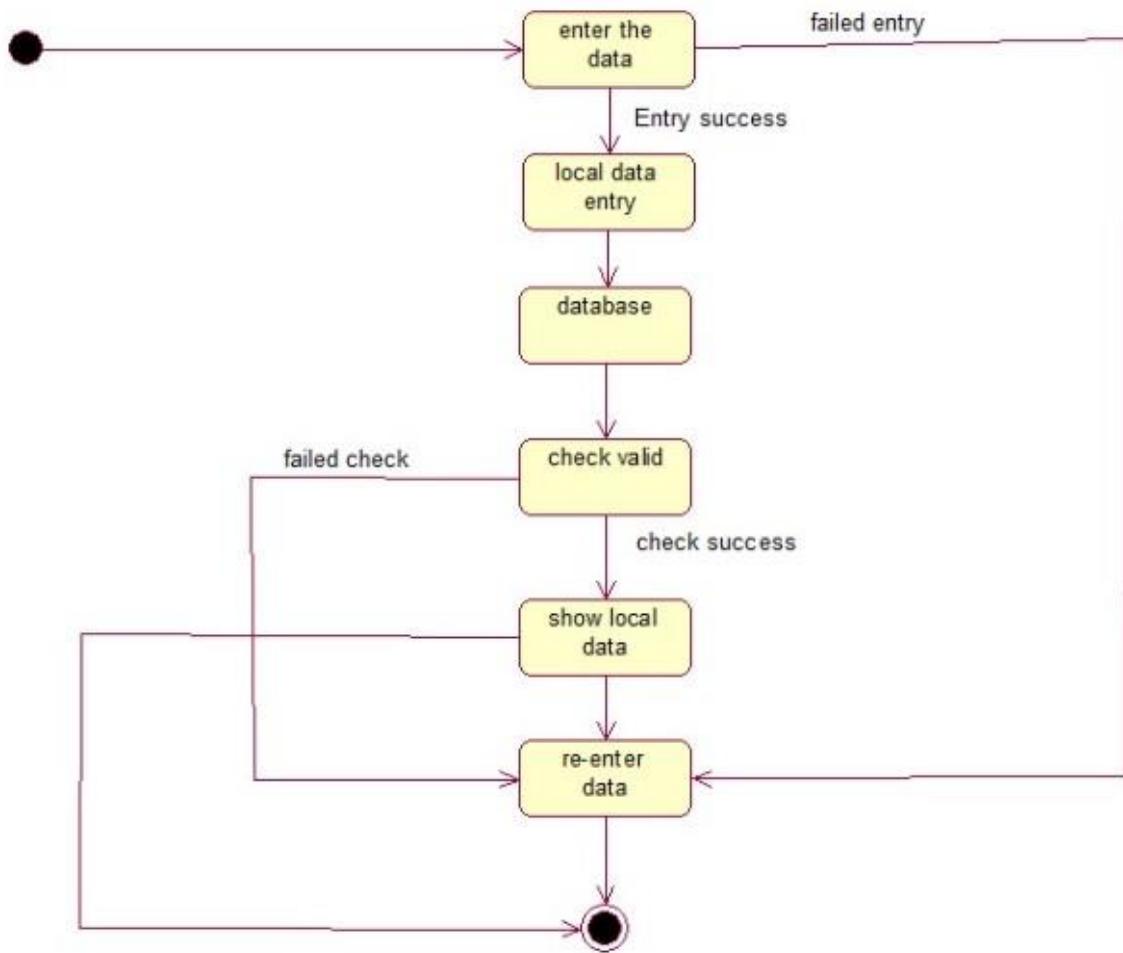
5.2.3 Book by staff



#### 5.2.4 Employee information

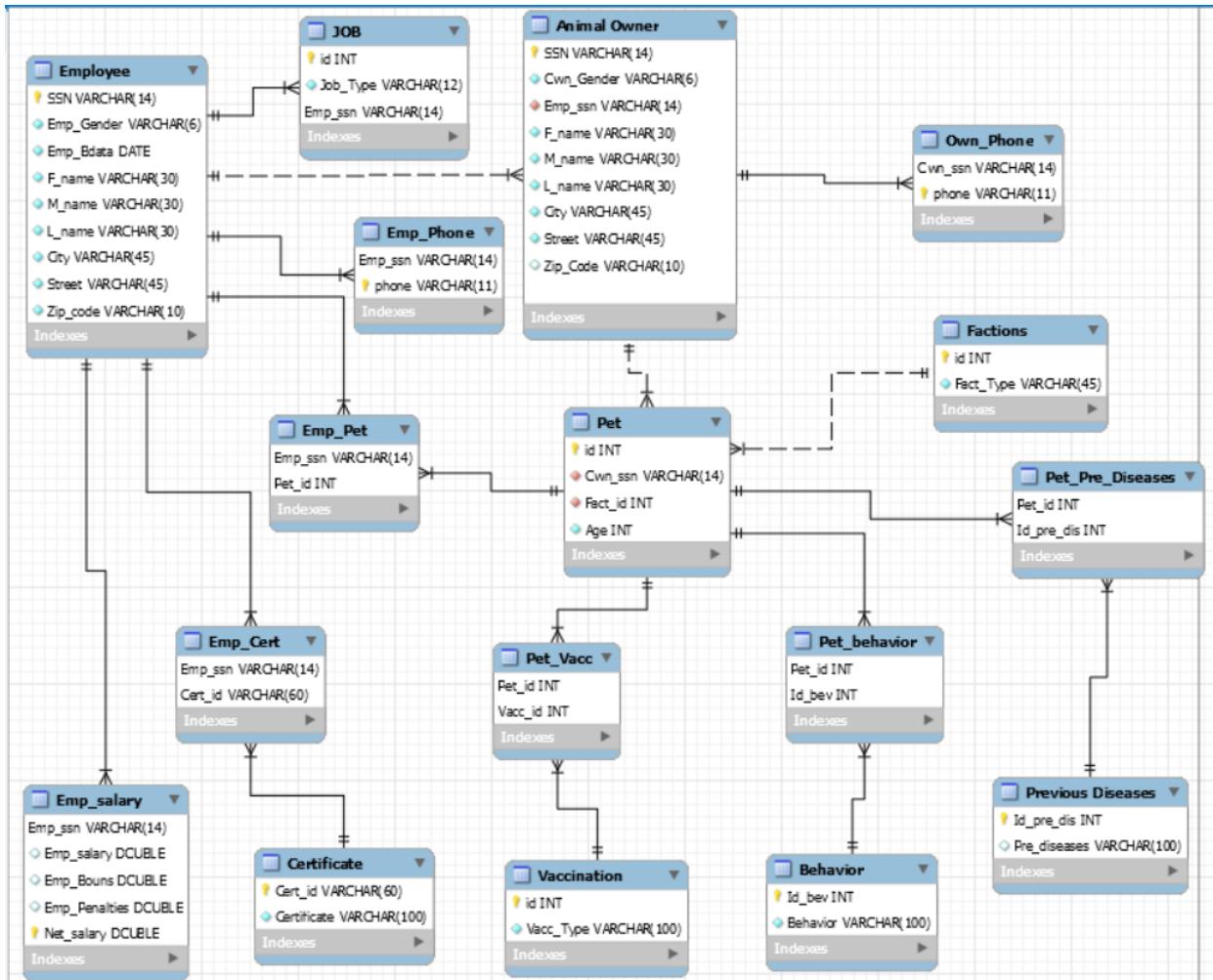


#### 5.2.5 Local data entry

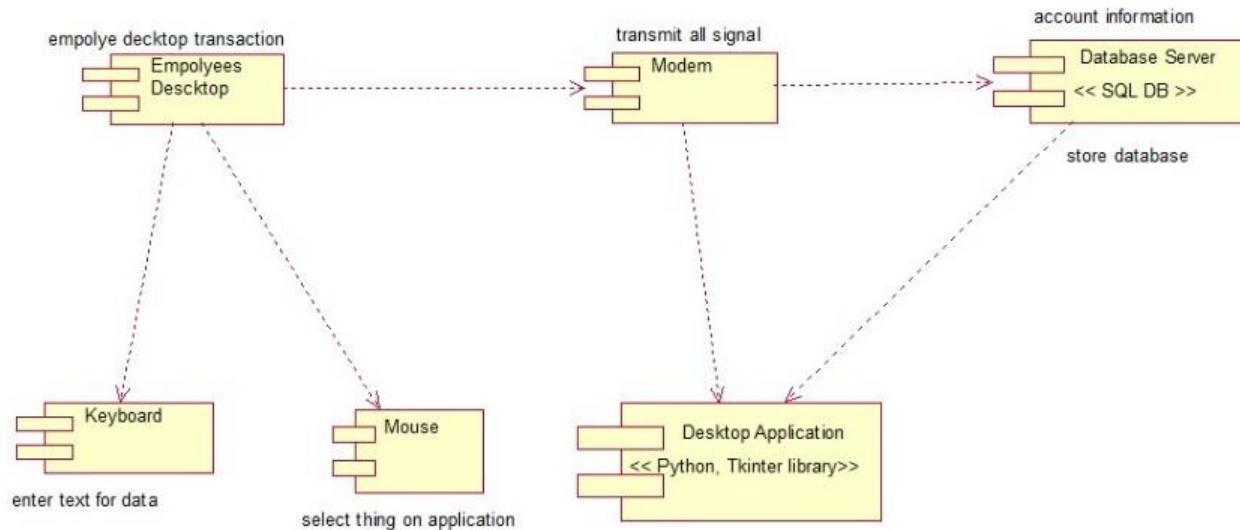


#### 5.2.6 Notification of last vaccination

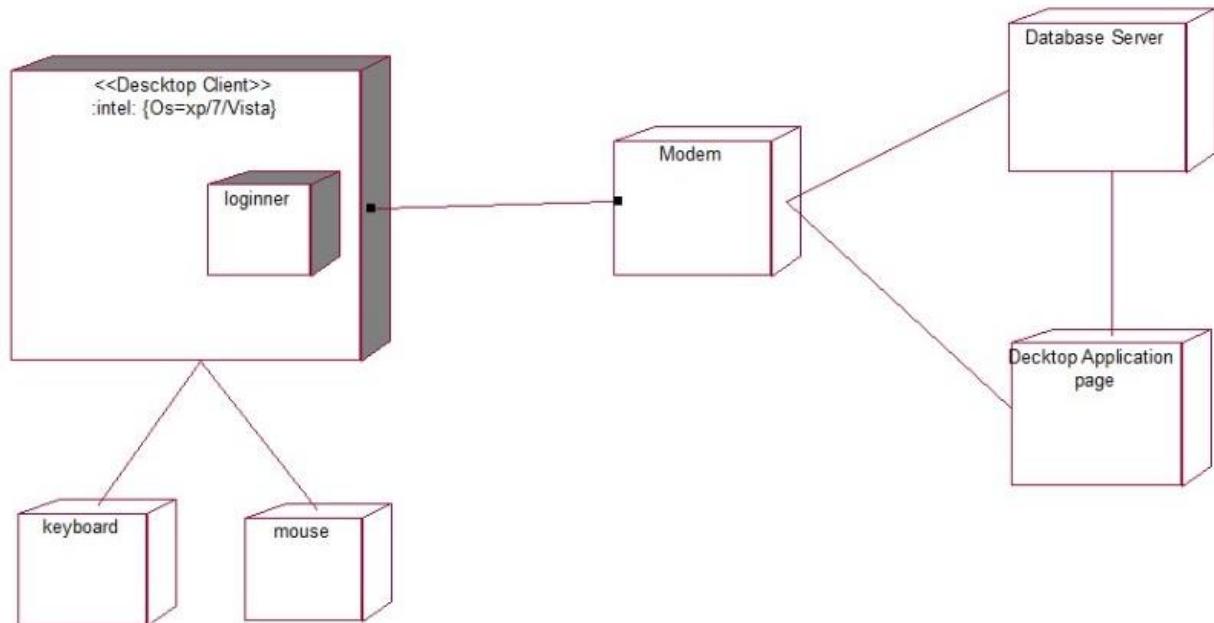
## 6- Schema:



## 7- Implementation diagrams:



7.1 Component diagram



7.2 Deployment diagram

## -Screenshots of the system desktop app:

### Report button:

The screenshot shows a database query interface with the following details:

```

Query 1 employee x job animal owner emp_phone own_phone factions pet emp_pet previous diseases pet_pre_diseases b ↻
12 -- select sum(emp_salary.emp_salary) from mydb.emp_salary;
13 -- select count(employee.ssn) from mydb.employee;
14 -- select sum(Emp_salary.Emp_Bouns) as sumbounds ,count(Emp_salary.Emp_ssn) as numofemployee from mydb.emp_salary where emp_salary.emp_
15 -- select count(emp_salary.emp_bouns) from mydb.emp_salary;
16 -- select employee.F_name as name ,emp_salary.emp_salary from mydb.employee,mydb.emp_salary where employee.ssn = emp_salary.Emp_ssn a
17 -- select count(distinct emp_ssn) as numdoctorsnurses ,count(pet_id) as numpets from mydb.emp_pet;
18 -- SELECT a.Emp_ssn ,p.id , p.own_ssn FROM `mydb`.`animal owner` as a inner JOIN mydb.Pet as p ON a.SSN=p.own_ssn;
19 • SELECT * FROM mydb.employee;
  
```

**Result Grid**

SSN	Emp_Gender	Emp_Bdate	F_name	M_name	L_name	City	Street	Zip_code
29007080102512	Female	1990-07-08	Salwa	Nagy	Atia	Marsa Matruh	50B alexandria street	51511
29107080102512	Male	2002-05-24	Mohamed	Ayman	Mahmoud	Hurghada	90B El Daha District	84517
29207080102512	Female	1999-06-16	yaya	Magd	Ahmed	Cairo	73A Arafat street	11685
29307080102512	Male	1999-06-06	Khaled	Mostafa	ahmed	Alexandria	40A Max street	21500
29407080102512	Female	1999-09-07	Omnia	Refai	Alshazly	Cairo	70B Abas ALEaad	11685
29507080102512	Male	1999-07-08	Tamer	Abd Alghafar	Ahmed	Cairo	50A ALharam street	12511
29607080102512	Male	1999-05-12	Mahmoud	Sabry	Salam	Mansoura	80A trahta algabal street	35511
29707080102512	Male	1999-04-09	Mohamed	Rafat	Rizk	Mansoura	60B ALnawhwy street	35511
29807080102512	Male	1999-06-07	Mostafa	Mahar	Ali	AlSharqia	Zagazig 30A ALgmah street	44511
29907080102512	Male	1999-07-08	Ahmed	Ayman	Ahmed	Cairo	ALzaton 30/45A Almasry street	11685
• NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

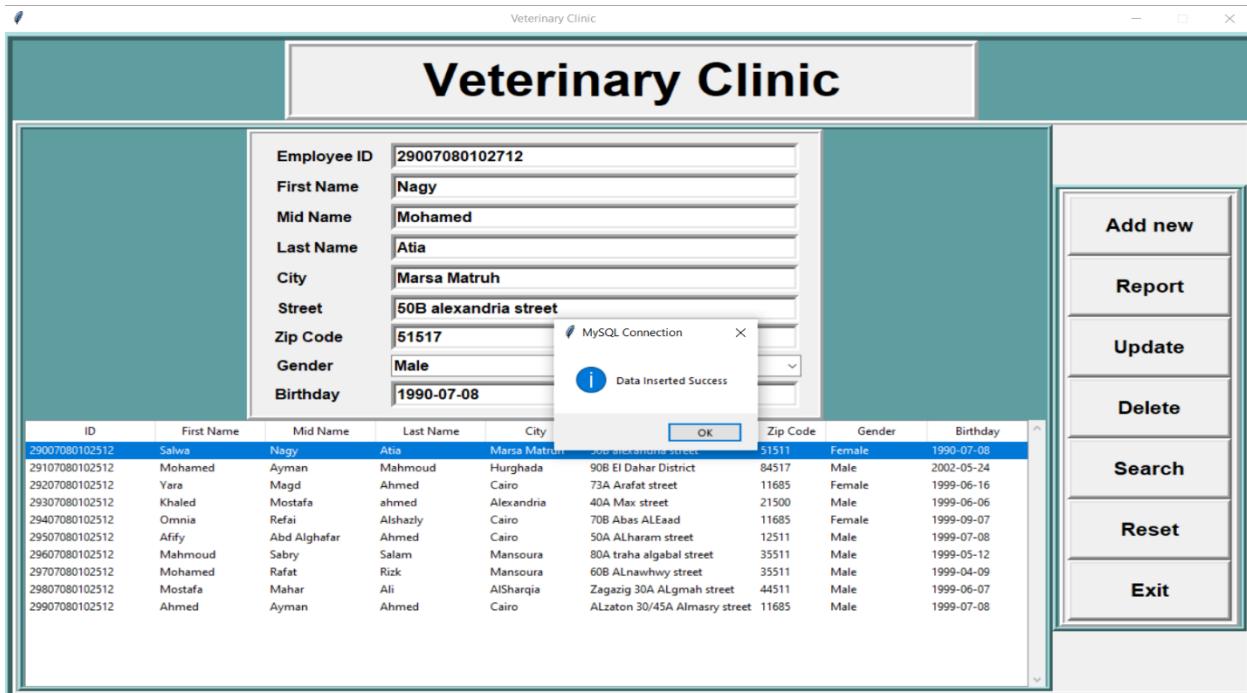
employee 1 x      Apply      Revert

Database screenshot



Report button screenshot

## Add new data button:

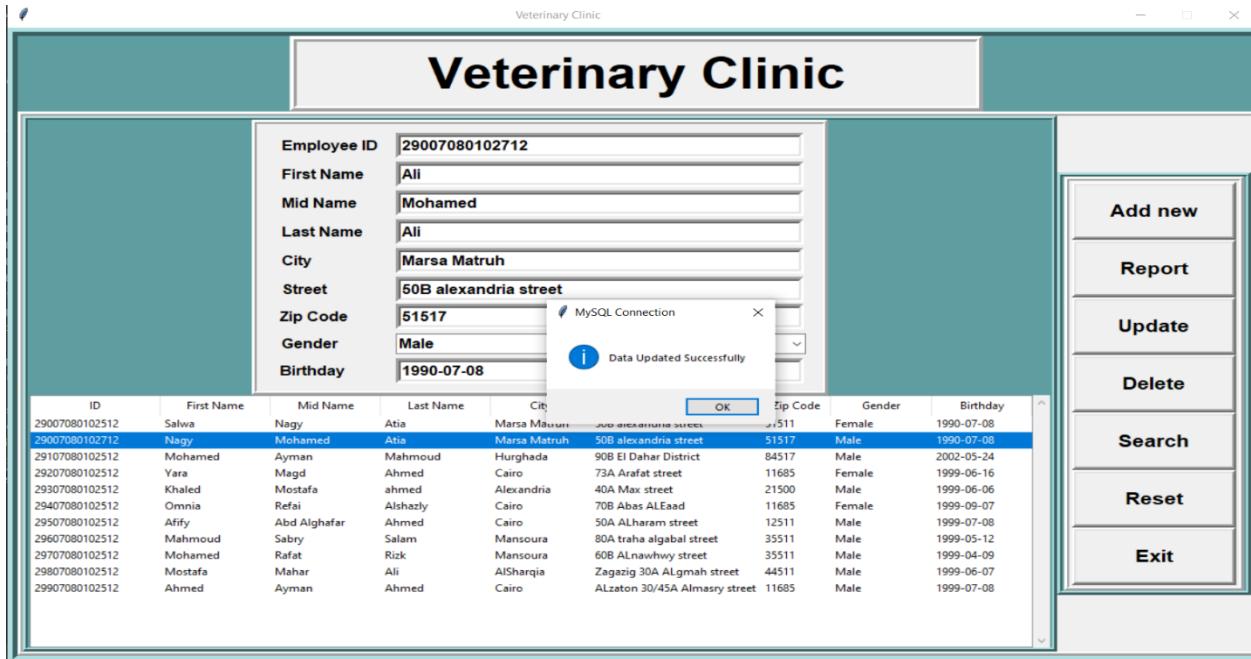


Adding new data screenshot

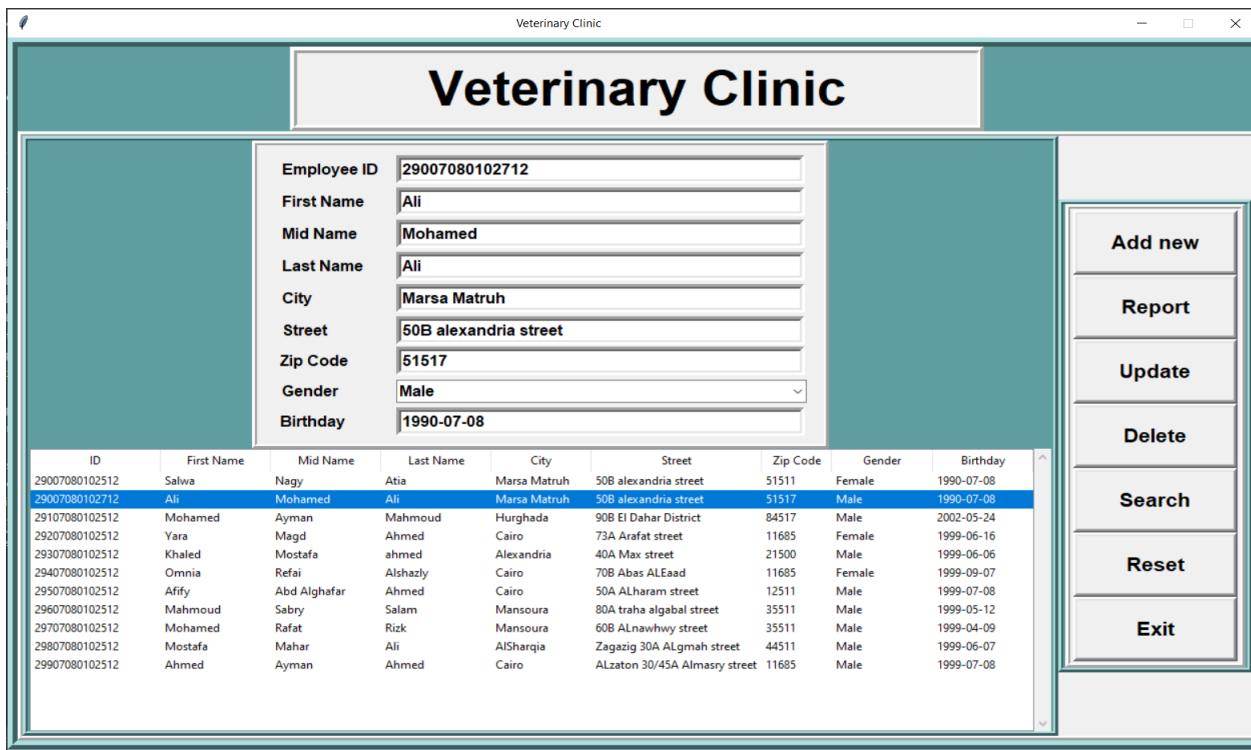


After added new data screenshot

## Update data button:



Updating old data screenshot



The old data has been updated done screenshot

## Search button:

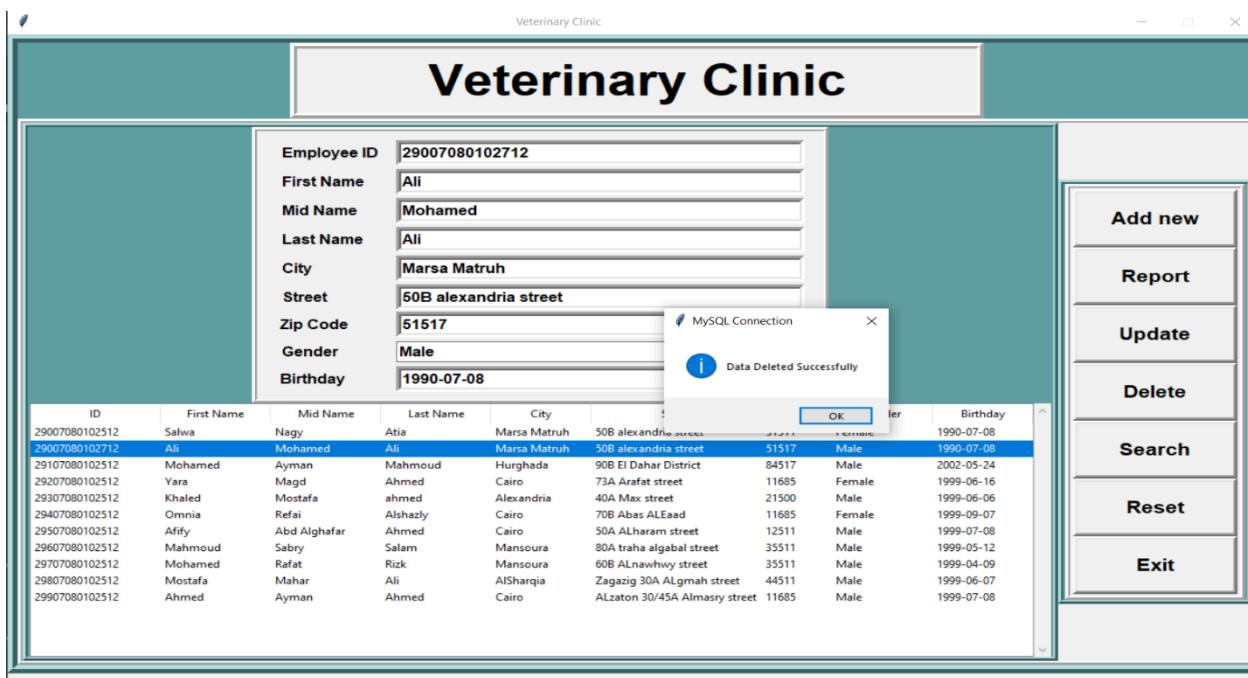


Search about existed data by SSN screenshot



The result of search about the data screenshot

## Delete data button:



Deleting data screenshot



After the data is deleted screenshot

**Reset button:**

Veterinary Clinic

Employee ID	29907080102512
First Name	Ahmed
Mid Name	Ayman
Last Name	Ahmed
City	Cairo
Street	ALzaton 30/45A Almasry street
Zip Code	11685
Gender	Male
Birthday	1999-07-08

ID	First Name	Mid Name	Last Name	City	Street	Zip Code	Gender	Birthday
29007080102512	Salwa	Nagy	Atia	Marsa Matruh	50B alexandria street	51511	Female	1990-07-08
29107080102512	Mohamed	Ayman	Mahmoud	Hurghada	90B El Dahar District	84517	Male	2002-05-24
29207080102512	Yara	Magd	Ahmed	Cairo	73A Arafat street	11685	Female	1999-06-16
29307080102512	Khaled	Mostafa	ahmed	Alexandria	40A Max street	21500	Male	1999-06-06
29407080102512	Omnis	Refa'i	Alshazly	Cairo	70B Abas ALEaad	11685	Female	1999-09-07
29507080102512	Affy	Abd Alghafar	Ahmed	Cairo	50A ALharam street	12511	Male	1999-07-08
29607080102512	Mahmoud	Sabry	Salam	Mansoura	80A traха algabal street	35511	Male	1999-05-12
29707080102512	Mohamed	Rafat	Rizk	Mansoura	60B ALnawhwy street	35511	Male	1999-04-09
29807080102512	Mostafa	Mahar	Ali	AlSharqia	Zagazig 30A ALgmah street	44511	Male	1999-06-07
29907080102512	Ahmed	Ayman	Ahmed	Cairo	ALzaton 30/45A Almasry street	11685	Male	1999-07-08

- Add new
- Report
- Update
- Delete
- Search
- Reset**
- Exit

Before resetting the data in the fields screenshot

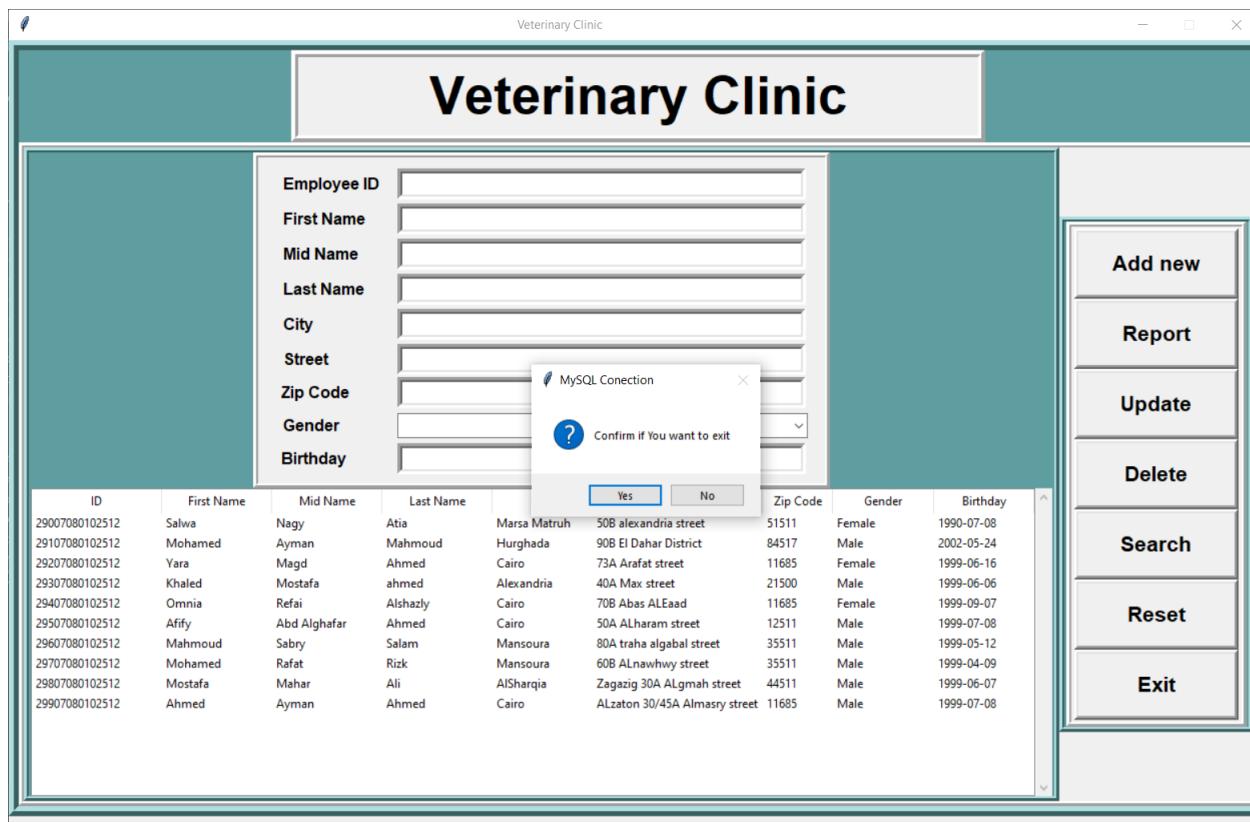
Veterinary Clinic

Employee ID	
First Name	
Mid Name	
Last Name	
City	
Street	
Zip Code	
Gender	
Birthday	

ID	First Name	Mid Name	Last Name	City	Street	Zip Code	Gender	Birthday
29007080102512	Salwa	Nagy	Atia	Marsa Matruh	50B alexandria street	51511	Female	1990-07-08
29107080102512	Mohamed	Ayman	Mahmoud	Hurghada	90B El Dahar District	84517	Male	2002-05-24
29207080102512	Yara	Magd	Ahmed	Cairo	73A Arafat street	11685	Female	1999-06-16
29307080102512	Khaled	Mostafa	ahmed	Alexandria	40A Max street	21500	Male	1999-06-06
29407080102512	Omnis	Refa'i	Alshazly	Cairo	70B Abas ALEaad	11685	Female	1999-09-07
29507080102512	Affy	Abd Alghafar	Ahmed	Cairo	50A ALharam street	12511	Male	1999-07-08
29607080102512	Mahmoud	Sabry	Salam	Mansoura	80A traха algabal street	35511	Male	1999-05-12
29707080102512	Mohamed	Rafat	Rizk	Mansoura	60B ALnawhwy street	35511	Male	1999-04-09
29807080102512	Mostafa	Mahar	Ali	AlSharqia	Zagazig 30A ALgmah street	44511	Male	1999-06-07
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- Add new
- Report
- Update
- Delete
- Search
- Reset
- Exit

After the data is reset in the fields screenshot

**Exit button:**

Before exiting from the program screenshot

```
project of veterinary X
C:\Users\EX\AppData\Local\Programs\Python\Python38-32\python.exe "F:/Cyber Security/PycharmProjects/project of veterinary.py"
Process finished with exit code 0
```

The screenshot shows the PyCharm terminal window. The command `python.exe "F:/Cyber Security/PycharmProjects/project of veterinary.py"` was run, and the output was `Process finished with exit code 0`. The terminal also shows icons for Run, TODO, Terminal, and Python Console.

After exited from the program