

## CCAS.4.3 – Software Engineering

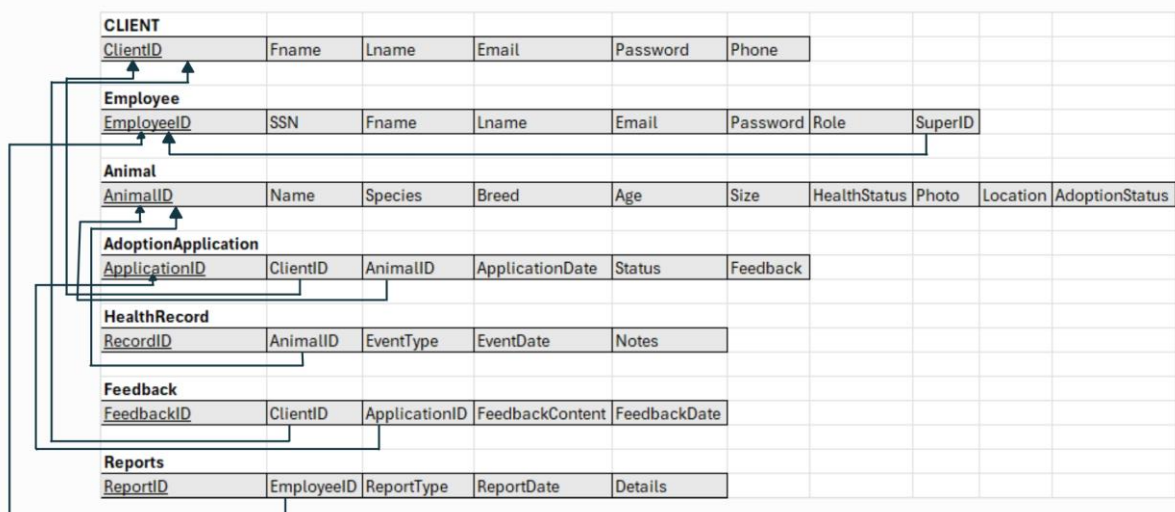
### Final Project – Milestone 2

## PET ADOPTION & HEALTH TRACKING SYSTEM

We are designing a software system for animal shelter management, and to be a platform for adoption and fostering of the shelter animals. There will also be health tracking of the animals for employees and shelter administrators to keep track of and manage animal health and health records. The ERD for our system has been submitted on moodle.

#### SQL Queries:

The image below shows our Relational Data Schema for the system.



We wrote the following SQL queries to insert data into the tables:

```
-- QUR_001: Insert a new client into the Client table
INSERT INTO Client (ClientID, Fname, Lname, Email, Password, Phone)
VALUES (1, 'John', 'Doe', 'john.doe@example.com', 'securepassword', '1234567890');

-- QUR_002: Insert a new employee into the Employee table
INSERT INTO Employee (EmployeeID, Fname, Lname, Email, Password, Role, SSN, Super_ID,
Phone)
VALUES (1, 'Jane', 'Smith', 'jane.smith@example.com', 'securepassword', 'Manager', '123-45-
6789', NULL, '9876543210');

-- QUR_003: Insert a new animal into the Animal table
```

```

INSERT INTO Animal (AnimalID, Name, Species, Breed, Age, Size, HealthStatus, Photo,
Location, AdoptionStatus)
VALUES (1, 'Buddy', 'Dog', 'Labrador', 3, 'Medium', 'Healthy', 'buddy.jpg', 'New York',
'Available');

-- QUR_004: Insert a new adoption application
INSERT INTO AdoptionApplications (ApplicationID, ClientID, AnimalID, ApplicationDate,
Status, Feedback)
VALUES (1, 1, 1, '2024-12-27', 'Pending', 'Looking forward to adopting Buddy.');
```

```

-- QUR_005: Insert a new health record for an animal
INSERT INTO HealthRecords (RecordID, AnimalID, EventType, EventDate, Notes)
VALUES (1, 1, 'Vaccination', '2024-12-01', 'Received rabies vaccine.');
```

```

-- QUR_006: Insert a new feedback entry
INSERT INTO Feedback (FeedbackID, ClientID, ApplicationID, FeedbackContent, FeedbackDate)
VALUES (1, 1, 1, 'Great adoption process!', '2024-12-28');
```

```

-- QUR_007: Insert a new report by an employee
INSERT INTO Reports (ReportID, EmployeeID, ReportType, ReportDate, Details)
VALUES (1, 1, 'Monthly Adoption Summary', '2024-12-30', '10 animals adopted in December.');
```

These queries were to update existing records:

```

-- QUR_008: Update a client's phone number
UPDATE Client
SET Phone = '0987654321'
WHERE ClientID = 1;
```

```

-- QUR_009: Update an employee's role
UPDATE Employee
SET Role = 'Senior Manager'
WHERE EmployeeID = 1;
```

```

-- QUR_010: Update an animal's adoption status
UPDATE Animal
SET AdoptionStatus = 'Adopted'
WHERE AnimalID = 1;
```

The Delete queries are shown below:

```

-- QUR_011: Delete a client from the Client table
DELETE FROM Client
WHERE ClientID = 1;
```

```

-- QUR_012: Delete an adoption application
DELETE FROM AdoptionApplications
WHERE ApplicationID = 1;
```

```
-- QUR_013: Delete a health record for an animal
DELETE FROM HealthRecords
WHERE RecordID = 1;
```

Lastly these are the Select queries with corresponding descriptions:

```
-- QUR_014: Retrieve all clients who have submitted adoption applications
SELECT c.ClientID, c.Fname, c.Lname, c.Email, c.Phone
FROM Client c
JOIN AdoptionApplications a ON c.ClientID = a.ClientID;

-- QUR_015: Count the total number of animals available for adoption
SELECT COUNT(*) AS TotalAvailableAnimals
FROM Animal
WHERE AdoptionStatus = 'Available';

-- QUR_016: Retrieve employee-manager relationships
SELECT e1.EmployeeID AS ManagerID, e1.Fname AS ManagerFname, e1.Lname AS ManagerLname,
       e2.EmployeeID AS ManagedEmployeeID, e2.Fname AS ManagedFname, e2.Lname AS
ManagedLname
FROM Employee e1
JOIN Employee e2 ON e1.EmployeeID = e2.Super_ID;

-- QUR_017: Retrieve animal details and their health records
SELECT a.AnimalID, a.Name, a.Species, h.EventType, h.EventDate, h.Notes
FROM Animal a
JOIN HealthRecords h ON a.AnimalID = h.AnimalID;

-- QUR_018: Generate a monthly adoption report
SELECT r.ReportID, r.ReportType, r.ReportDate, r.Details
FROM Reports r
WHERE r.ReportType = 'Monthly Adoption Summary' AND MONTH(r.ReportDate) = 12;
```

The table below maps the SQL queries to our system requirements:

Requirement ID	Query IDs	Description
REQ_001	QUR_003, QUR_015	Manage and retrieve animals for adoption.
REQ_002	QUR_004, QUR_014	Add and retrieve adoption applications.
REQ_004	QUR_010, QUR_017	Notify users and track animal health.
REQ_005	QUR_008, QUR_009	Update client and employee data.
REQ_009	QUR_016	Retrieve employee-manager relationships.
REQ_017	QUR_018	Generate monthly adoption reports.