

# **GTU Department of Computer Engineering**

**CSE 222/505 – Spring 2020  
GROUP 8**

**Project Report #2**

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## 2. Problem Definition

Nowadays, most of the stray animals are trying to survive in difficult conditions, while some are waiting for someone to adopt it. Unfortunately, animals living in shelters have no better situation than animals living in streets. Many people want to adopt animals that need help rather than buying animals from pet shops. However, since shelters do not have a suitable system in this regard, people do not have enough information. Therefore, the condition of animal shelters is getting worse with each passing day.

A system is necessary to bring together people who want to adopt animals and animals waiting for their owners and to control the irregular functioning of shelters in a single structure.

## 3. Users of the System

- Unregistered user
  - People who can browse animals via mobile app. These users are able to make a adoption request.
- Registered user
  - People who can browse animals via mobile app. These users are able to make a adoption request.
- System administrator
  - Person who can add Shelters to the system. Admin is able to approve capacity increase request of shelters.
- Animal shelter employee
  - Person who can manage the shelter via Desktop app. Employee is able to add/remove animals to shelter.

## 4. Requirements

An administrator, animal shelters, unregistered users and registered users are required to create this system.

### 4.1 User Requirements

#### ➤ Administrator

- It can add and remove shelter to the system.
- It can change the shelter capacity.
- It can approve the request.

#### ➤ Shelter Employee

- It can add and remove animal to the system.
- It evaluates incoming requests.
- It can send requests to the administrator.

#### ➤ Registered User

- It can login to the system.
- It can change profile settings.
- It can search animal and shelter in the system.
- It can request animal.
- It can create favorite animal list.

#### ➤ Unregistered User

- It can search animal and shelter in the system.
- It can register to system.

### 4.2 System Requirements

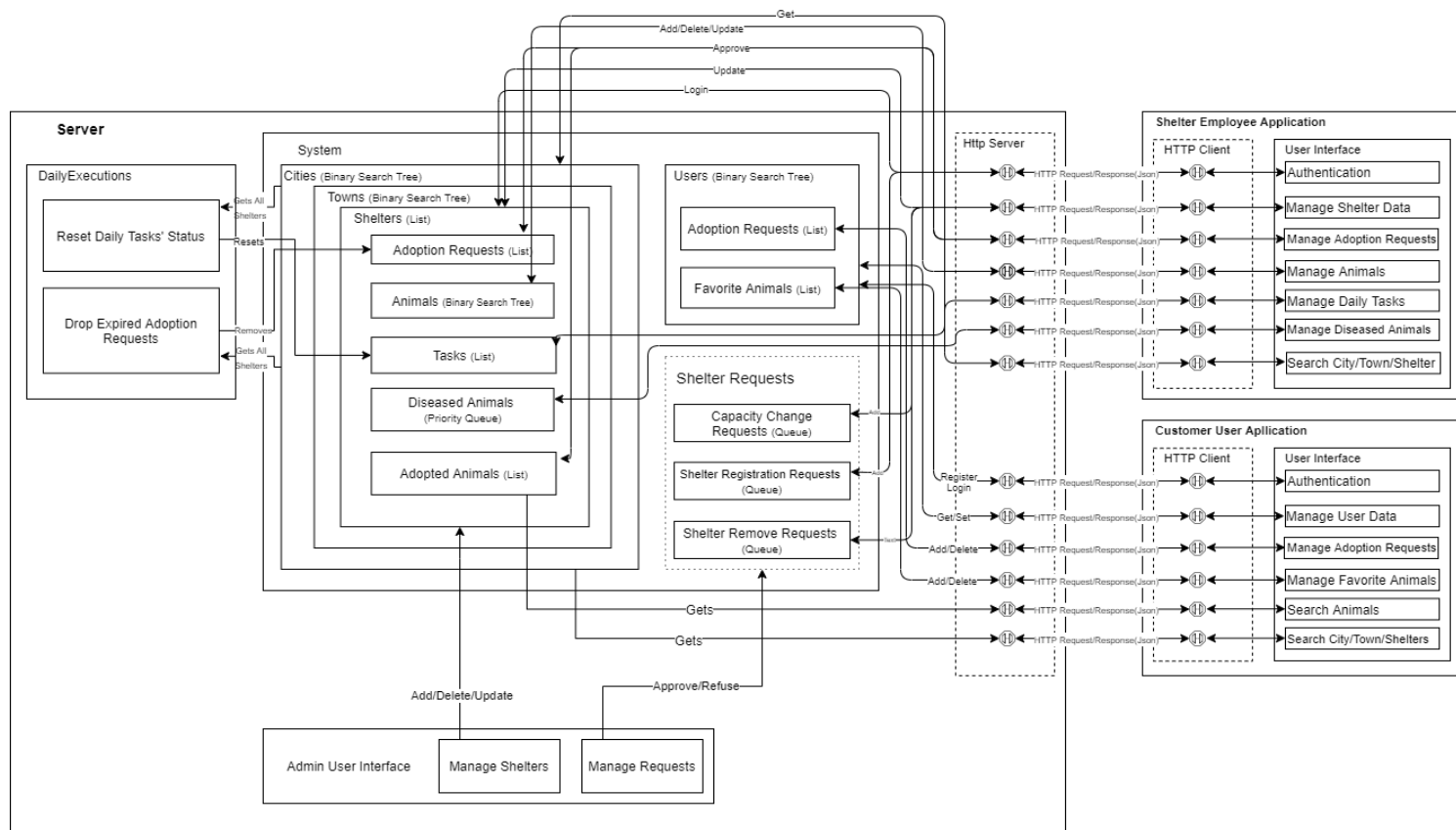
#### ➤ Non-functional Requirements

- The system securely stores user and animal information.
- Users use the system seamlessly over and over again.
- The system performs the registration, user verification, animal request, adding to the favorites list and removing operations quickly and accurately.
- The system is safe and sufficient for those who want to adopt animals.

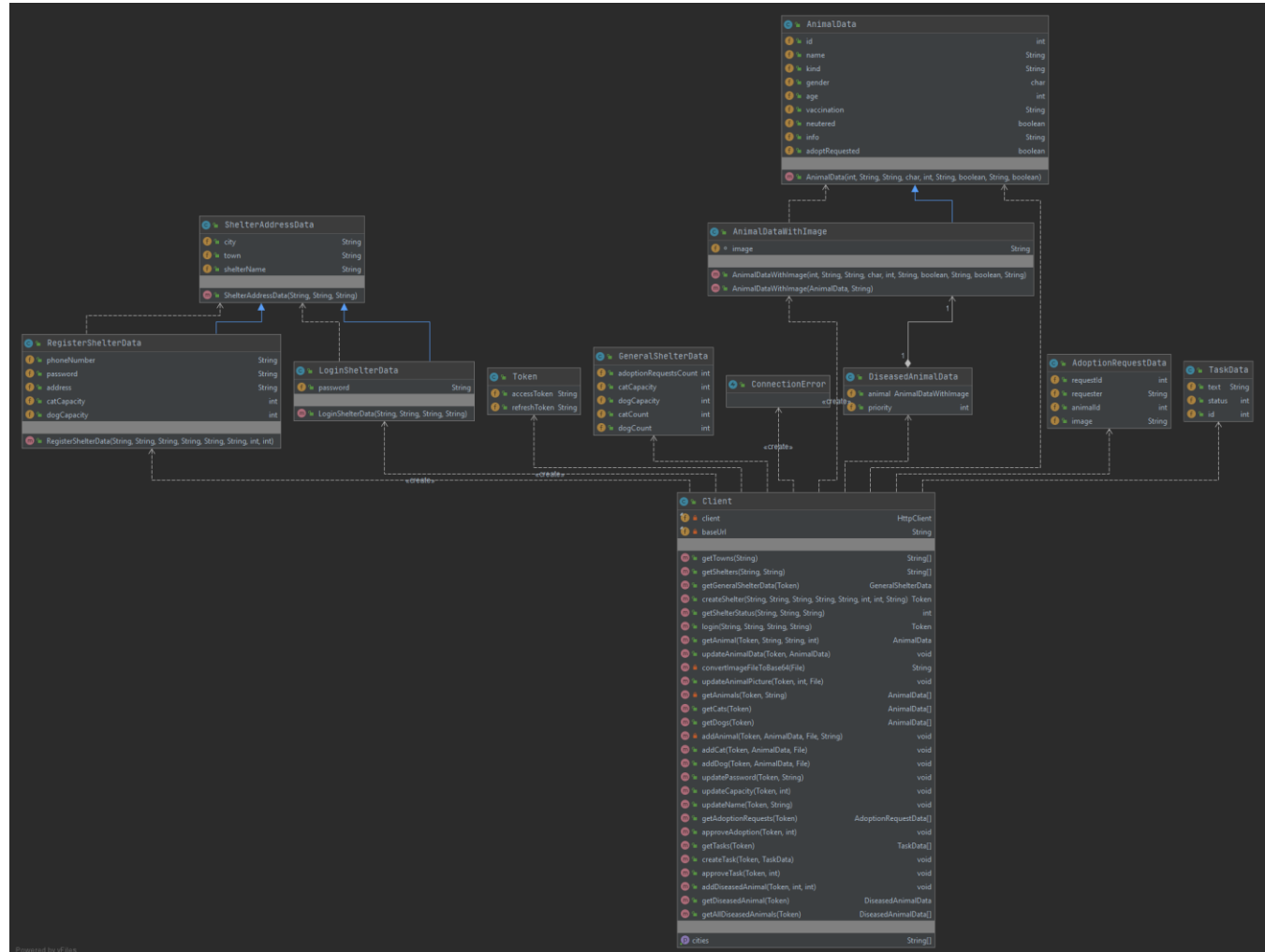
## ➤ Functional Requirements

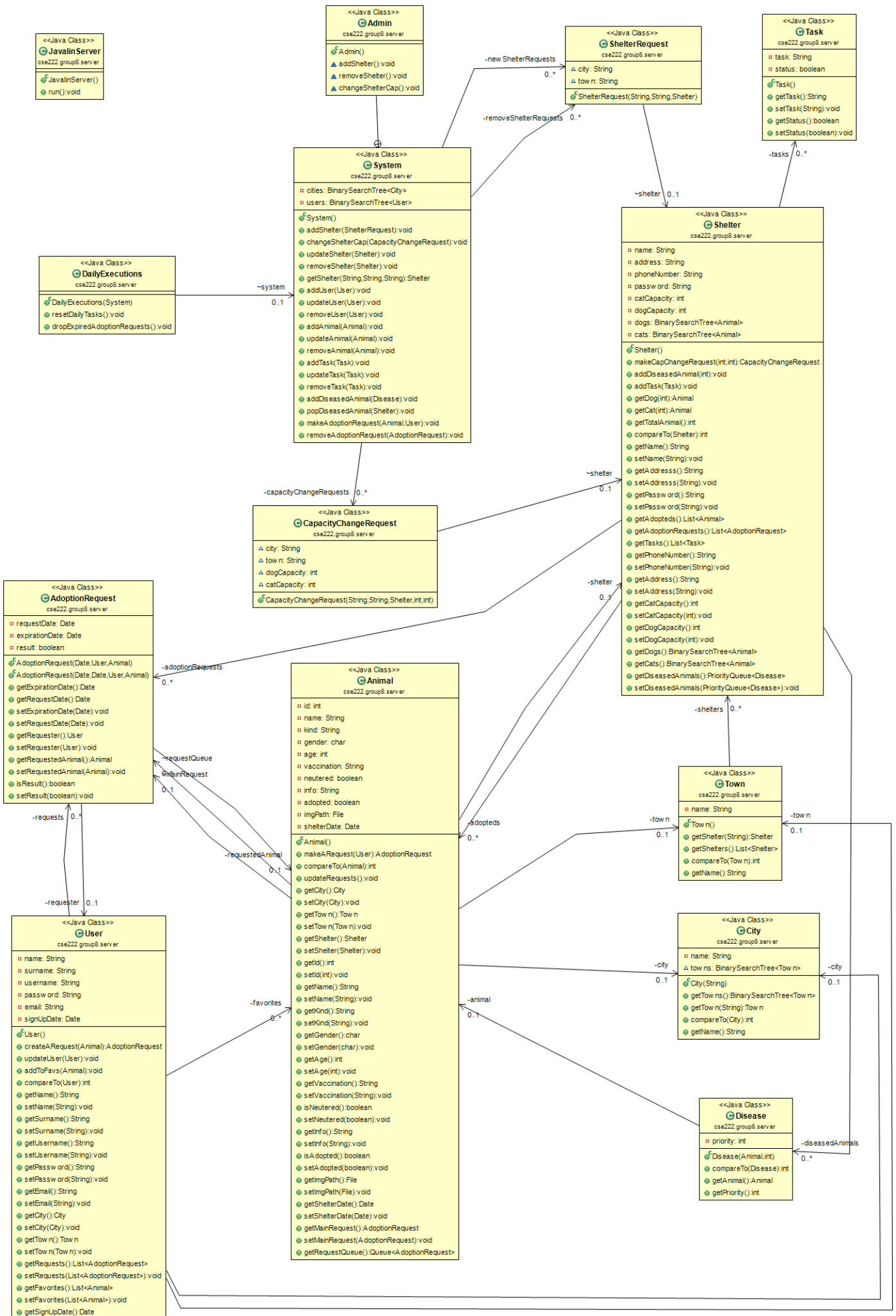
- **User Register**
  - The system should be able to access user data.
  - New user information.
- **User Login**
  - The system should be able to access user data.
  - Correct user ID and password is required.
- **Search**
  - Search function should be able to access animal data.
  - Search function can search by location.
- **Favorite/Following Animals**
  - Favorite function should be able to access animal Id.
  - Favorite function should be able to user data.
- **Request**
  - Request function should be able to animal and user data.
- **Add Animal**
  - Shelter employee should be able to access animal data.
  - Information of the animal to be added to the system.
- **Delete Animal**
  - The Id of the animal to be deleted from the system.
- **Add Shelter**
  - The admin should be able to access shelter data.
  - New shelter information.
- **Delete Shelter**
  - The admin should be able to access shelter data.
  - Information of the shelter to be deleted.

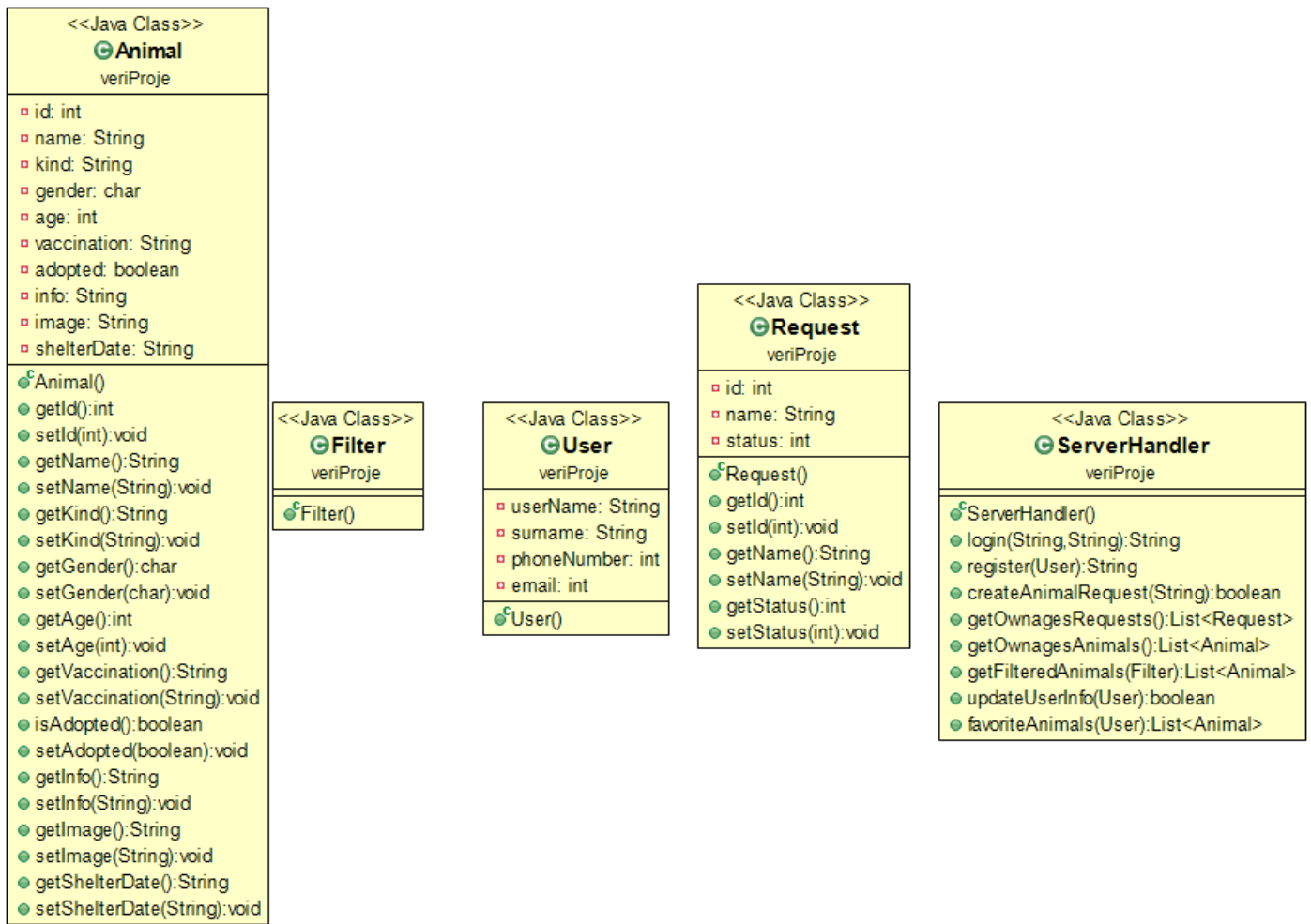
## 5. Detailed System Modules



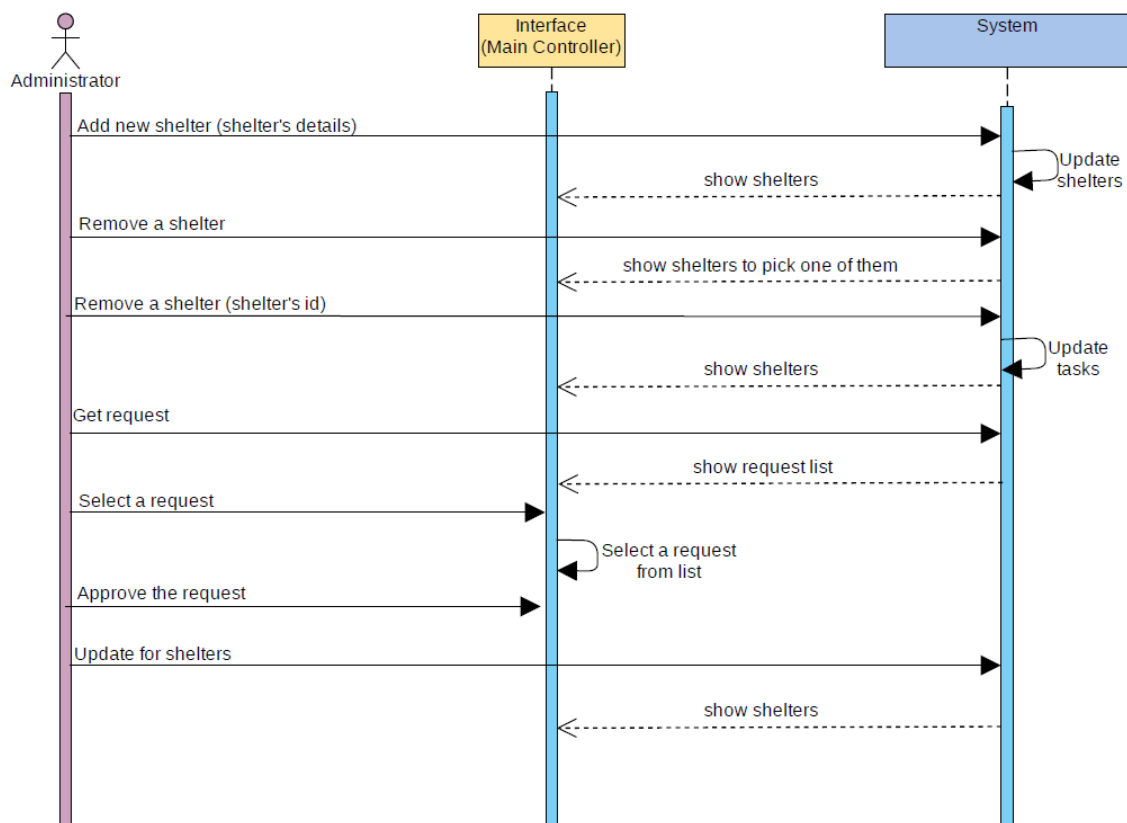
## 6. Class Diagrams

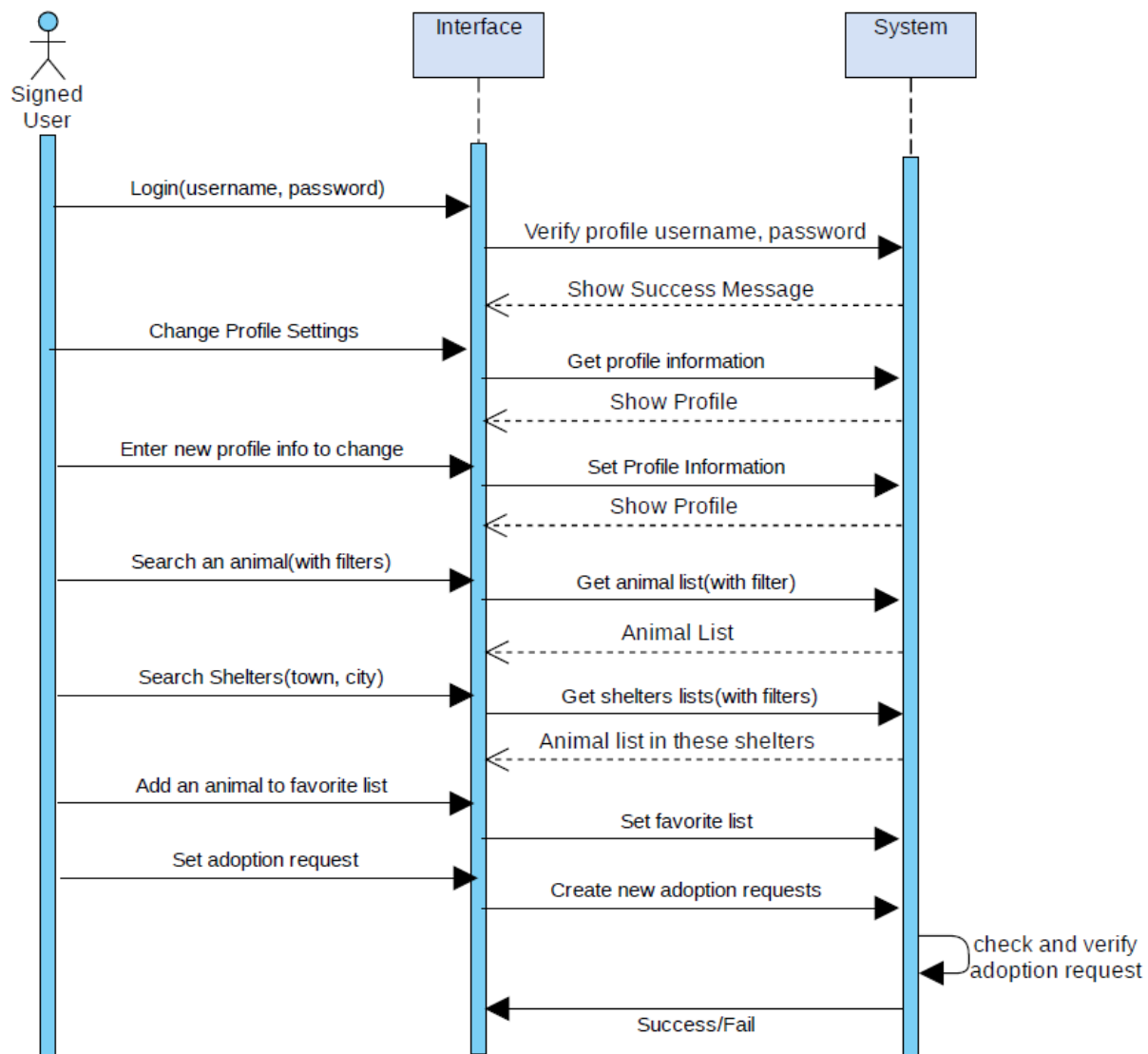
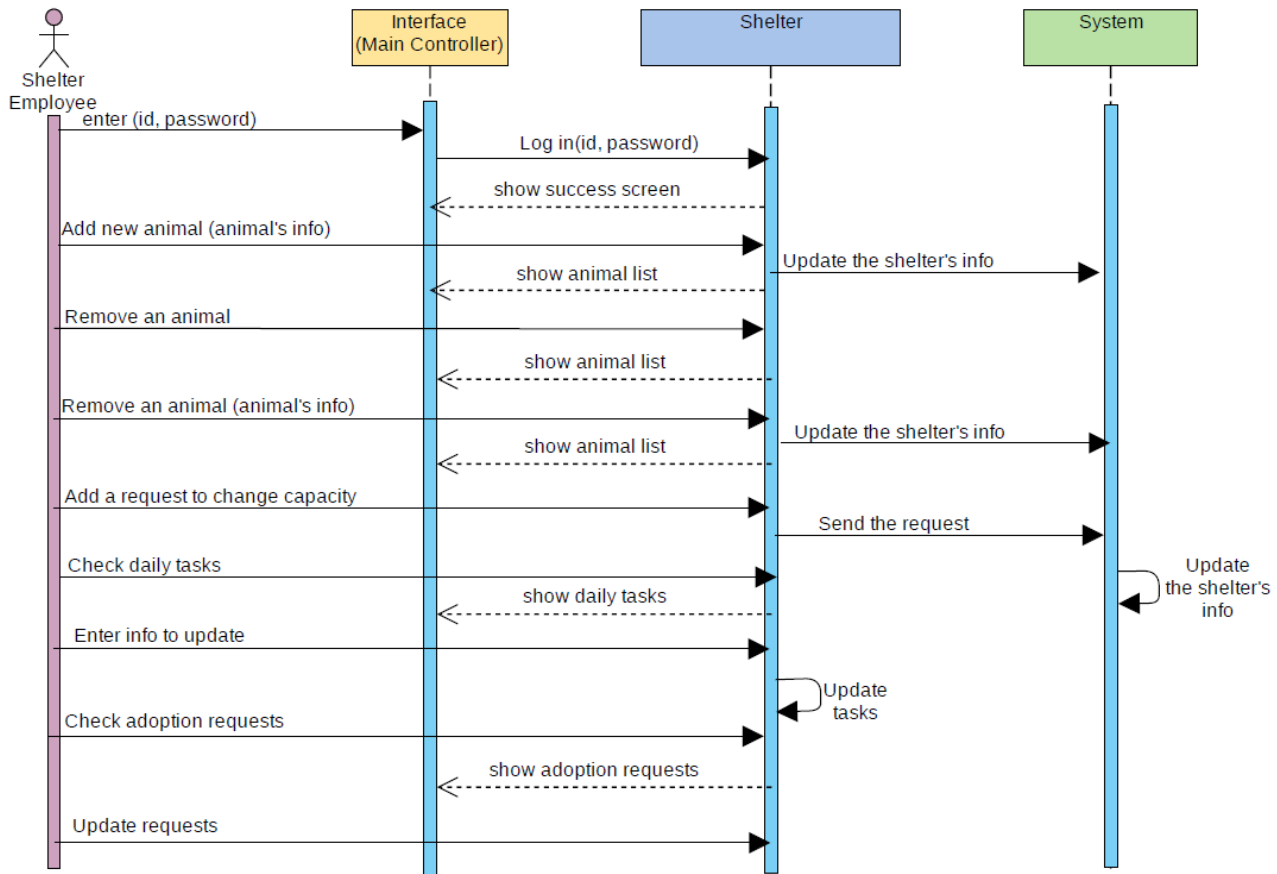




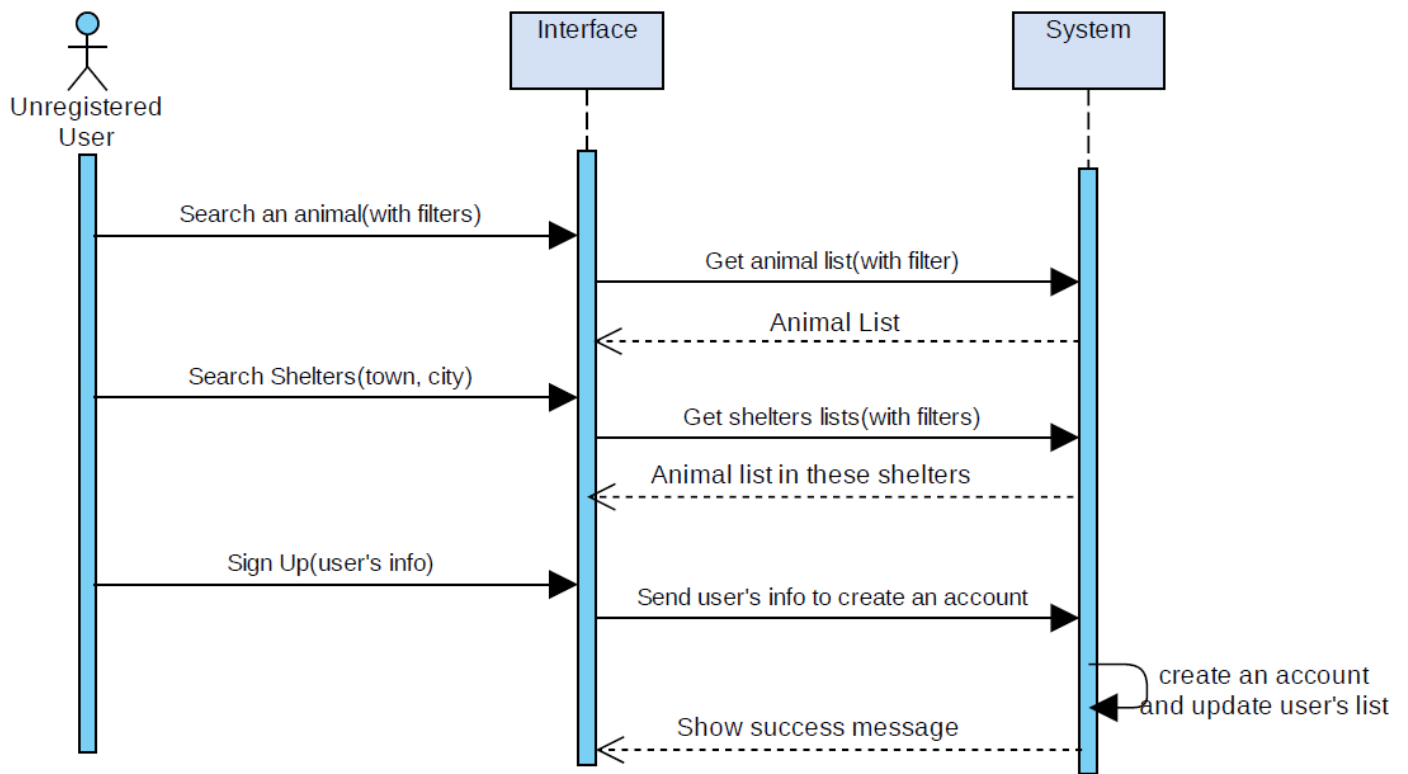


## 7. Sequence Diagrams

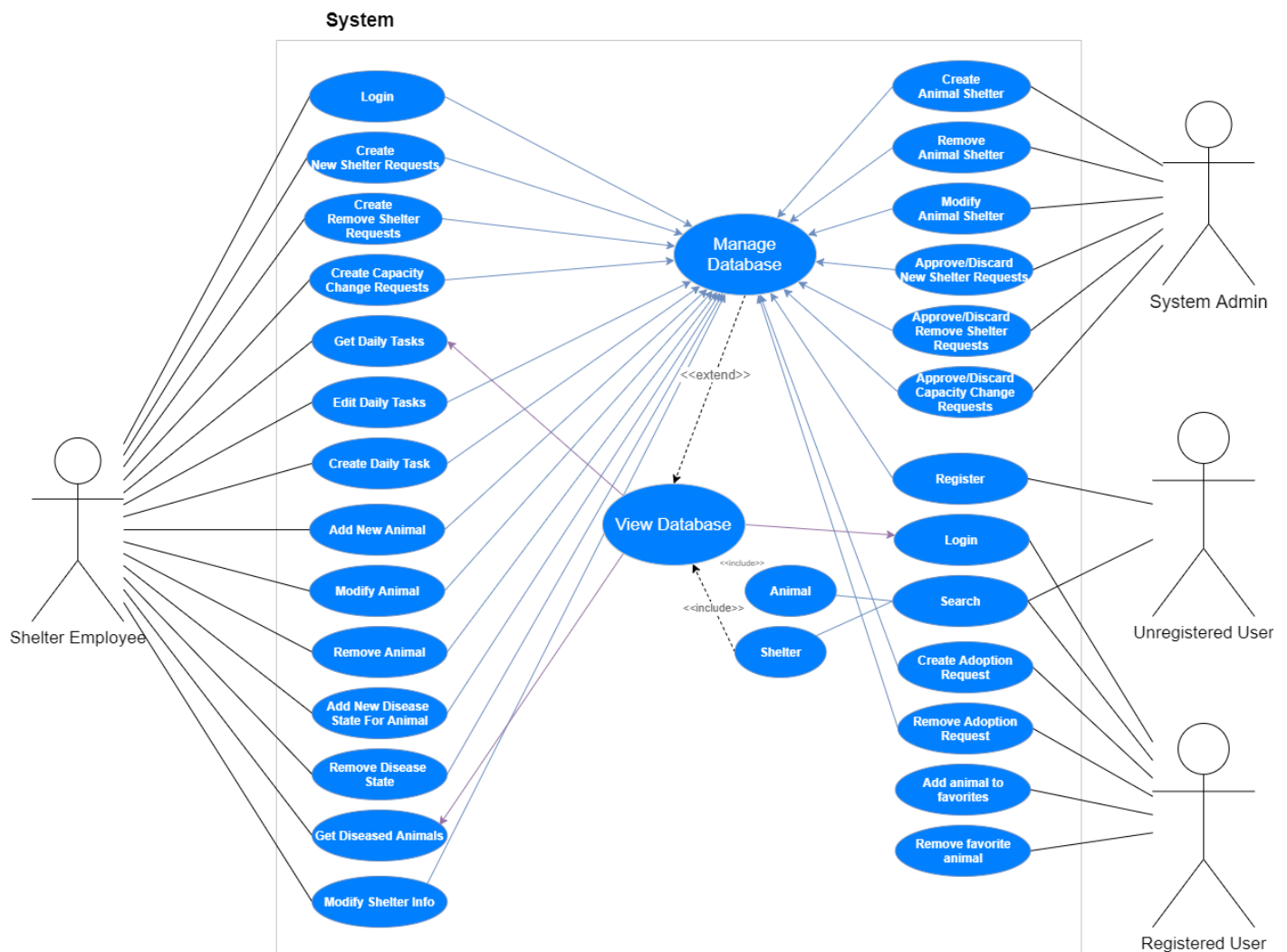








## 8. Use Case Diagram



## 9.Implementation Details

### ➤ Server

- We will use javalin for hosting on the server.
- We will use Gson for json operations.
- We will use JWT for authentication.
- Format of communication between server and clients will be in json.
- We will use ScheduledExecutorService for daily executions that will run parallelly with javalin server every 24 hours.

### ➤ Desktop Client

- We will use swing or javafx for gui.
- We will use Java11 HttpClient for http client.

### ➤ Mobile Client

- Android Studio was chosen as the IDE for the mobile application to be developed.
- The application is going to developed with Kotlin.
- XML will be used on the UI side.

## 10.Test Cases

Test ID	Scenario	Test Steps	Test Data	Expected Results
1	Check if admin adds a new shelter	1.Open program 2.Click add shelter 3.Enter shelter id 4.Enter address 5..Enter phone number 6.Enter town 7.Enter city 8.Enter dog and cat capacity 9.Click save	shelter id: 0001 Phone number: 0212 100 100 City: İstanbul Town: Beşiktaş Address: Atatürk Caddesi Çiçek Sokak No: 46 Capacity: cat: 50 dog:	Shelter should be added Program sends message: "Shelter added"
2	Check if admin removes a shelter		shelter id: 0001	Shelter should be removed  Program sends message: "Shelter removed"
		1.Open program 2.Click remove shelter	shelter id: 0145	Shelter should not be removed Program sends warning: "There is no such shelter"

3	Check if admin tries to remove the nonexistent shelter	3.Enter shelter id 4.Click save		
4	Check if admin changes the shelter capacity with valid data	1.Open shelter page 2.Choose the shelter 3. Click change capacity 4.Click save	Capacity: dog: 40 cat: Capacity sholud change	Program sends message: "Capacity changed"
5	Check if admin changes the shelter capacity with invalid data	1.Open shelter page 2.Choose the shelter 3. Click change capacity 4.Click save	Capacity: dog: -10 cat: Capacity should not change	Program sends warning: "Invalid capacity"
6	If admin adds the task	1.Open shelter page 2.Click daily tasks 3.Add daily tasks 4.Click save	Task: animals will be vaccinated, shelters will be cleaned.	Task should be added Program sends message: "Daily tasks added"
7	If admin removes the task	1.Open shelter page 2.Click daily tasks 3.Remove tasks 4.Click save	Task: animals will be vaccinated, shelters will be cleaned.	Task should be removed Program sends message: "Daily tasks removed"
8	If admin adds an animal to the diseased animals queue	1.Open shelter page 2. Open animal page 3. Click diseased animals 4. Enter and add the animal id 5. Check if the animal health situation is smaller than 5	id: 0034 health: 3	Animal should be added in diseased animals Program sends message: "Animal added"

9	If admin adds a healthy animal to the diseased animals queue	1.Open shelter page	id: 0001	Animal should not be added in diseased animals Program sends warning: "Animal not added, it is healthy"
		2. Open animal page	health: 8	
		3. Click diseased animals		
		4. Enter and add the animal id		
		5. Check if the animal health situation is smaller than 5		
10	Check if admin tries to pop the nonexistent disease animal	1.Open shelter page	id: 5555	Program sends warning: "Animal not found"
		2. Open animal page	health: 6	
		3. Click diseased animals		
		4. Enter and add the animal id		
		5. Check if the animal health situation is smaller than 5		
11	Check shelter employee login with valid data	1.Enter employeeId	employee id: employee1	Employee should login into the application
		2.Enter password	password: abc123	
		3.Click submit		
12	Check shelter employee login with invalid data	1.Enter employeeId	employee id: employee1	Employee should not login into the application
		2.Enter password	password: abc	
		3.Click submit		

13	Check if shelter employee adds a new animal	1.Open shelter page	id: 001	Animal should be added to shelter Program sends message: "Animal added"
		2.Click add animal	name: Max	
		3.Enter animal id	kind: Golden	
		4.Enter animal name	gender: Dog	
		5.Enter kind	age: 3	
		6.Enter gender	vaccination: done	
		7.Enter age	health: 7	
		8.Enter vaccination		
		9.Enter health situation		
		10.Click save		
14	Check if shelter employe removes the animal	1.Open shelter page	id: 001	Animal should be removed to shelter Program sends message: "Animal removed"
		2. Choose animal to be removed		
		2.Click remove animal		
		3.Enter animal id		
		4.Click save		
15	Check if shelter employee removes the nonexistent animal	1. Open shelter page	id: 005	Animal is not in shelter. Application sends warning: "There is no such animal"
		2. Chose animal to be removed		
		3. Click remove animal		
		4.Enter animal id		
		5.Click save		
16	If daily tasks are done	1.Click daily tasks	Task: animals will be vaccinated, shelters will be cleaned.	Program sends message: "Changes are saved"
		2.Change status	status: true	
		3.Click save		

17	Check user login with valid data	1.Enter username 2.Enter password 3.Click submit	username: user1  password: user123	User should login into the application
18	Check user login with invalid data	1.Enter username 2.Enter password 3.Click submit	username: user1  password: user12	User should not login into the application Application sends warning: "Wrong password and username"
19	Check if the user's registration information is valid	1. Open registration page 2.Enter name 3.Enter surname 4.Enter username  5.Enter password  6.Enter e-mail 7.Enter town 8.Enter city 9.Click save	name: Ayşe surname: Yılmaz username: ayse.y password: ayse.123  mail: ayse.yilmaz@example.com  town: Gebze city: Kocaeli	User should sign up to the application
20	Check if the user's registration information is invalid	1.Open registration page  2.Enter name  3.Enter surname 4.Enter username  5.Enter password  6.Enter e-mail 7.Enter town 8.Enter city 9.Click save	name: Ayşe  surname: Yıldız  username: ayse.y  password: yildiz12  mail: ayseyildiz1@example.com town: Kartal city: İstanbul	User should not sign up to the application Application sends warning: "username has already been taken"

21	Check if the user's registration information is invalid	1.Open registration page	name: Ayşe	User should not sign up to the application Application sends warning: "There is registered user with this email. Please write another."
		2.Enter name	surname: Yıldız	
		3.Enter surname	username: ayse.yildiz	
		4.Enter username	password: A.yildizz	
		5.Enter password	mail: ayseyildiz1@example.com	
		6.Enter e-mail	town: Bornova	
		7.Enter town	city: İzmir	
		8.Enter city		
		9.Click save		
22	If the registered user tries to add favorites	1.Open animal page		User can add the animal of his/her choice to their favorites
		2.Click add favorite		"Animal has been added to your favorites"

23	If the unregistered user tries to add favorites	1.Open animal page		User cannot add the animal of his/her choice to their favorites
		2.Click add favorite		"Please sign up"
24	If the registered user tries to add favorites the same animal again	1.Open animal page		Application sends warning: "Animal has already been added to your favorites"
		2.Click add favorite		
25	Check if the registered user sends adoption request	1.Open animal page		Application sends message: "Adoption request accepted"
		2.Choose an animal		
		3.Click "send adoption request"		
26	Check if the unregistered user sends adoption request	1.Open animal page		Application sends warning: "Please sign up"
		2.Choose an animal		
		3.Click " send apoption request"		