

SENG 410 – Senior Design Project 1

Requirements Document

SALEM

A Multi-Featured Smart Pet Feeder

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1. What is Salem?

Salem is a multi-featured smart pet feeder that basically determines the amount of food/water inside pet foods bowl in real-time and re-fills the bowl if necessary. This project will be helpful for the pet owners who want to feed their pets remotely. Additionally, for those who want to watch their pets in real-time, one of the targeted outcome is making a video stream through the webcam.

2. Major Features

- User defined weekly feeding schedule,
- Controlling levels of pet food and water inside the bowls and re-fill on need,
- Continuous live stream of animal,
- Controlling levels of pet food and water inside the storage and warn the user if below user specified level,
- Games and other features to keep the pet accompanied,
- Mobile and web interfaces for accessing to the system.

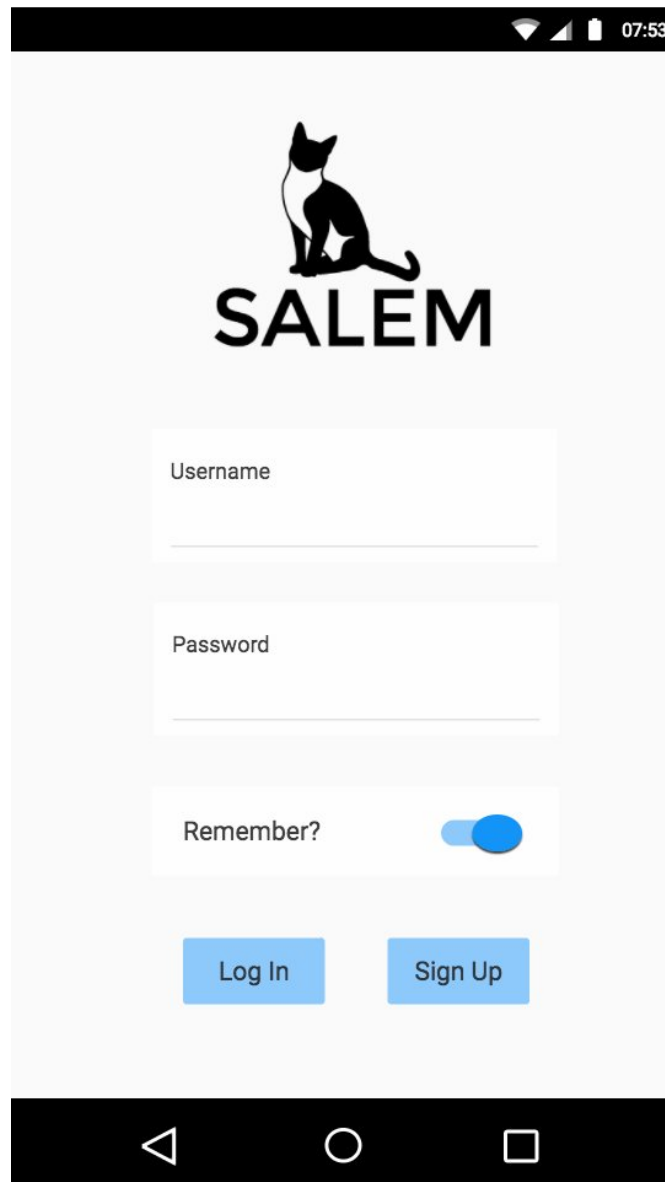
3. Requirements

- User should be able to login to the web and mobile applications using his / her credentials (Figure 1).
- User should be able to watch his / her pet through the webcam live-stream (Figure 2).
- User should be able to see water and pet food levels inside the bowls (Figure 2).
- User should be able to view his / her pet's profile (Figure 3).
- User should be able to edit his / her pet's profile (Figure 3).
- User should be able to add new vaccination date to his / her pet's profile (Figure 3).
- User should be able to edit existing vaccination dates on his / her pet's profile (Figure 3).
- User should be able to remove existing vaccination dates from his / her pet's profile (Figure 3).
- User should also be able to add new and view, edit or remove existing sicknesses or surgeries his / her pet went through (Figure 3).
- User should be able to create new weekly feeding schedule (Figure 4).
- User should be able to view existing weekly feeding schedule (Figure 4).
- User should be able to edit existing weekly feeding schedule (Figure 4).
- User should be able to remove existing weekly feeding schedule (Figure 4).
- User should be able to add new meal to existing schedule (Figure 5).
- User should be able to create new meal type (Figure 5).
- User should be able to view and edit his / her profile (Figure 6).
- System should continuously live stream using a webcam (Figure 1).
- System should be accessible through both web browsers and mobile devices.
- System should automatically drop food and fill water in to the bowls according to the set schedule.
- User should be able to see storage levels and details via LCD screen on the device.

4. User Interfaces

4.1 Mobile UI

4.1.1 LOGIN

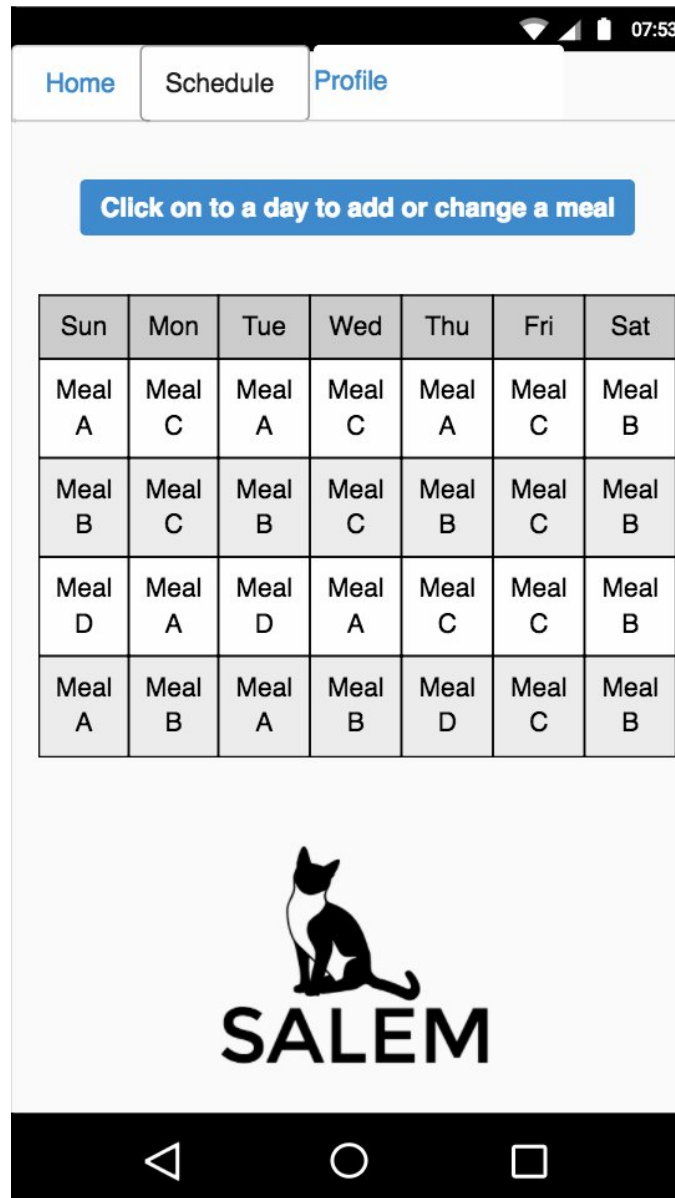


A mobile application login screen for 'SALEM'. The screen features a black status bar at the top with icons for Wi-Fi, cellular signal, and battery, and the time 07:53. The main content area has a light gray background. At the top center is a logo consisting of a black silhouette of a cat sitting on the word 'SALEM' in a bold, black, sans-serif font. Below the logo are two white input fields with gray placeholder text: 'Username' and 'Password'. Under the password field is a 'Remember?' label followed by a blue toggle switch that is currently turned on. At the bottom of the form are two blue buttons with white text: 'Log In' and 'Sign Up'. The screen is framed by a black Android navigation bar at the bottom with white icons for back, home, and recent apps.

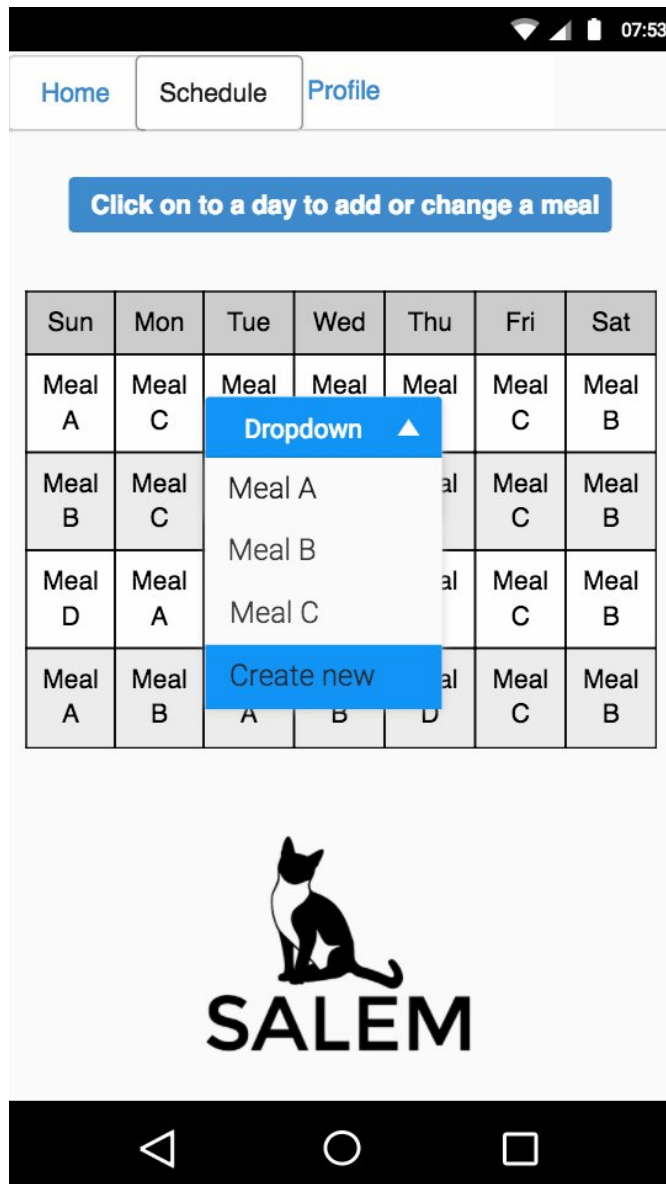
4.1.2 HOME



4.1.3 SCHEDULE



4.1.4 SCHEDULE - 2



4.1.5 SCHEDULE - 3

HomeScheduleProfile

Click on to a day to add or change a meal

Create a new meal

Sun

Meal A

Meal B

Meal D

Meal A

Sat

Meal B

Meal B

Meal B


Meal B

Time: 12:45

Amount: gr

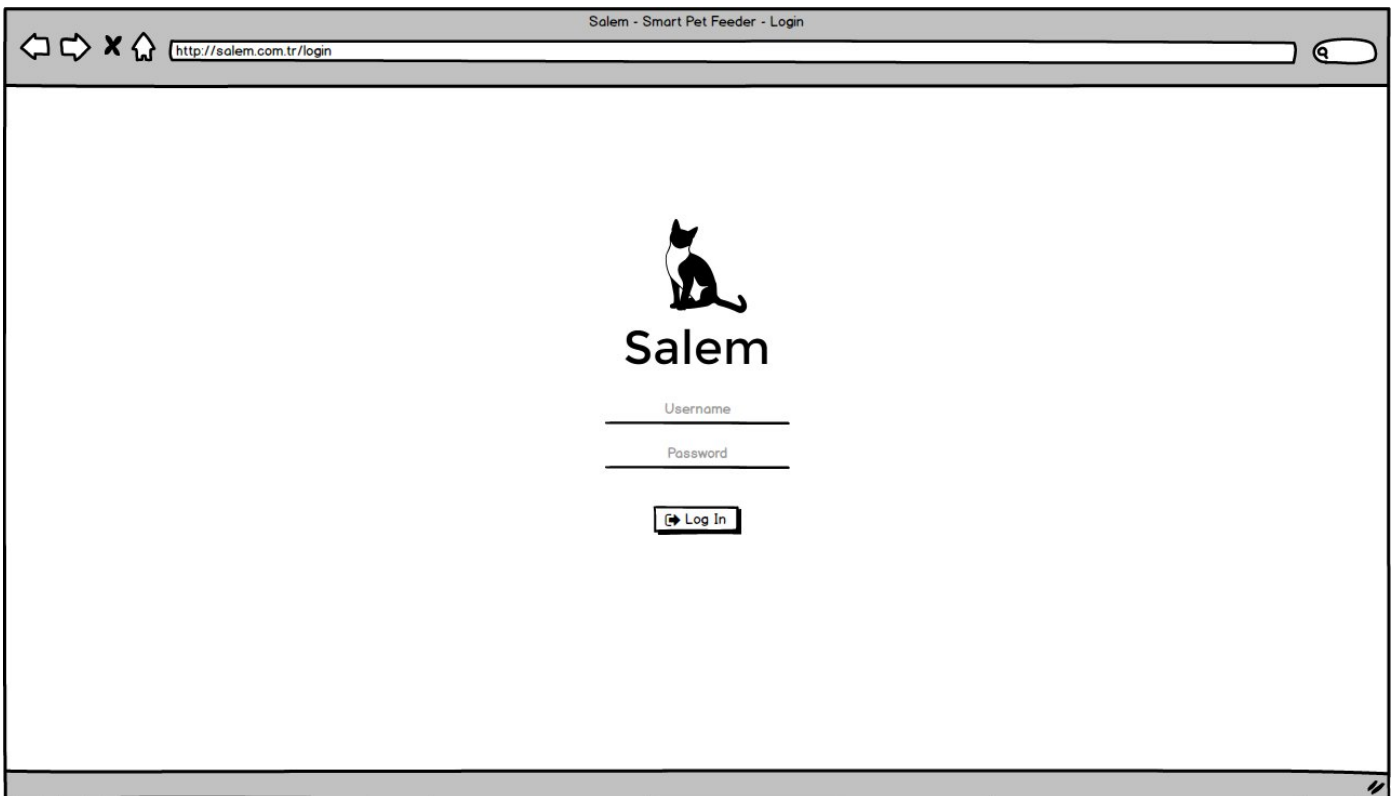
Meal Name: Meal_F

+



4.2 Web UI

4.2.1 LOGIN



The image shows a web browser window with the title "Salem - Smart Pet Feeder - Login". The address bar displays "http://salem.com.tr/login". The main content area features a black silhouette of a cat sitting on a pedestal, with the word "Salem" in a large, bold, black font below it. Underneath the name, there are two input fields: "Username" and "Password", each with a horizontal line below it. At the bottom of the form is a "Log In" button with a right-pointing arrow icon.

Figure 1 - Login

4.2.2 HOME

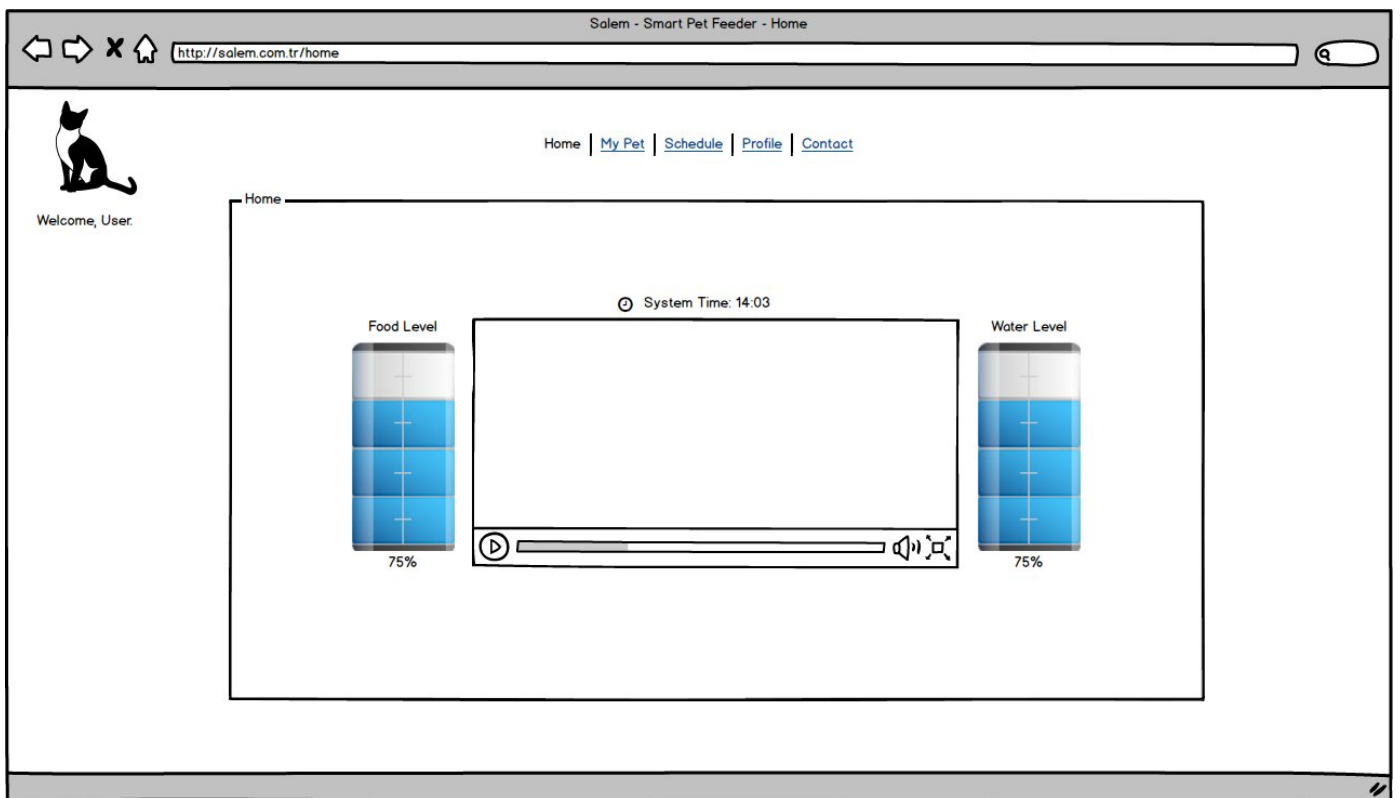


Figure 2 - Home

4.2.3 MY PET

http://saalem.com.tr/mypet

Salem - Smart Pet Feeder - My Pet

Home | My Pet | Schedule | Profile | Contact

Welcome, User

(pet_name)

Name: (pet_name)

Age: (pet_age)

Additional Info:

Vaccinations | Sickness | Surgeries

Vaccination	Date	
Vac 1	Nov 12nd 2015	Edit Remove
Vac 2	Mar 24th 2015	Edit Remove
Vac 3	Jul 15 2016	Edit Remove
Vac 4	Oct 10nd 2016	Edit Remove

Add New

Figure 3 – My Pet

4.2.4 SCHEDULE

Salem - Smart Pet Feeder - Schedule

http://salem.com.tr/schedule

Home | My Pet | Schedule | Profile | Contact

Welcome, User

Schedules

{sch_1} {sch_2} {sch_3} {sch_4} +

Mon	08:00 Meal A	13:00 Meal C	18:00 Meal A	+		
Tue	08:00 Meal A	11:30 Meal B	17:00 Meal A	20:15 Meal D	+	
Wed	11:00 Meal B	18:00 Meal D	+			
Thu	08:00 Meal A	11:30 Meal B	17:00 Meal A	20:15 Meal D	+	
Fri	13:00 Meal A	16:20 Meal D	21:00 Meal C	+		
Sat	08:00 Meal A	12:00 Meal D	15:45 Meal C	+		
Sun	07:30 Meal A	11:00 Meal C	15:00 Meal C	18:10 Meal A	21:30 Meal D	+

Figure 4 - Schedule

4.2.5 NEW MEAL & CREATE NEW MEAL TYPE MODALS

Salem - Smart Pet Feeder - Schedule

http://salem.com.tr/schedule

Welcome, User

[Home](#) | [My Pet](#) | [Schedule](#) | [Profile](#) | [Contact](#)

Schedules

{sch_1} {sch_2} {sch_3} {sch_4} +

Mon	08:00 Meal A	13:00 Meal C	18:00 Meal A	+		
Tue	08:00 Meal A	11:30 Meal B	<div><div>New Meal Modal</div><div>Create New Meal Modal</div></div>			
Wed	11:00 Meal B	18:00 Meal D				
Thu	08:00 Meal A	11:30 Meal B				
Fri	13:00 Meal A	16:20 Meal D	21:00 Meal C	+		
Sat	08:00 Meal A	12:00 Meal D	15:45 Meal C	+		
Sun	07:30 Meal A	11:00 Meal C	15:00 Meal C	18:10 Meal A	21:30 Meal D	+

Time: 12:45

Meal: Meal A

Save

Name: Meal E

Amount: 125 grams.

Add

Figure 5 – New Meal & Create New Meal Type Modals

4.2.6 PROFILE

Salem - Smart Pet Feeder - Profile

http://salem.com.tr/profile

Welcome, User.

[Home](#) | [My Pet](#) | [Schedule](#) | [Profile](#) | [Contact](#)

Profile

Username:

Old Password:

New Password:

New Password Again:

E-Mail:

System Status: Live

IP:

Figure 6 - Profile