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Home Automation System

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CSE 236 WEB PROGRAMMING
FINAL REPORT

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ANTALYA

ABSTRACT

Home Automation

Akın Cem Tural – Burak Sazlı

Web Programming Project in Computer Engineering

Supervisor: Melih Günay

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Home automation system is a technology that allows us to control smart devices in our home remotely or automatically. This way, you can turn on and off or update the stats of lights, air conditioner, dishwasher and other appliances in your home from your phone or PC, save energy and ensure your security. Home automation system can increase your comfort and enjoyment in your home.

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1. Introduction

In our project there are two sides as consumer and producer.

Producer section is the part of the web application where the producer can manage the system and interact with the consumers. The producer is the administrator of the system who can perform various tasks such as:

- View, edit and delete users and their information.
- View, edit , delete , create rooms and their devices.
- View the graphs of the consumer and act upon it according the how much consumer like to use this project.
- View , edit , delete and create devices and can handle the settings of devices.
- View consumer activities and logs.
- View and respond to messages from consumers.
- Edit their own profile and password.

Producer section is designed to provide the producer with a comprehensive and user-friendly interface to monitor and control the home automation system. The producer can access the producer section by logging in with their credentials.

Consumer section is the part of the web application where the consumer can manage the devices and interact with the devices. The consumer is the user of the system who can perform various tasks such as:

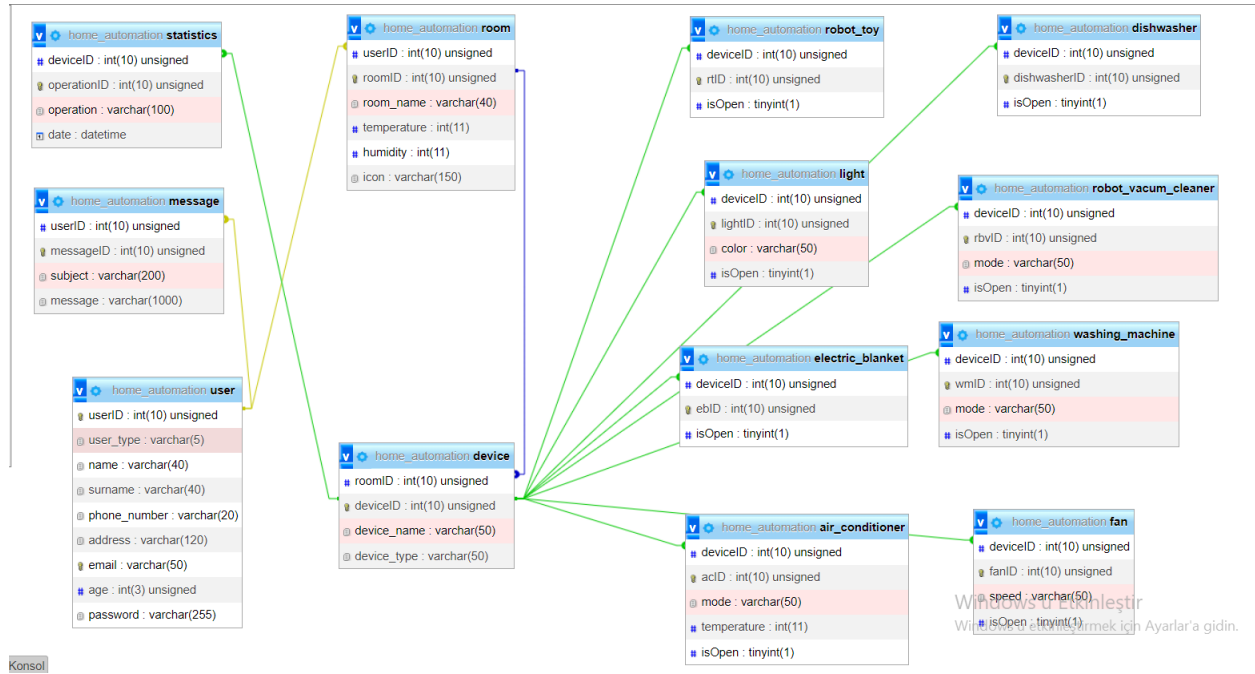
- View, edit devices.
- View rooms, rooms sensor datas and their devices.
- View activities of his/her own and its chart.
- Edit their own profile and password.
- Send message to the producer.
- View all the devices' list and its chart.
- View home page without login.

2. Material & Methods

As material we used XAMPP Control Panel , MySQL , PhpMyAdmin. For the coding part we used visual studio code.

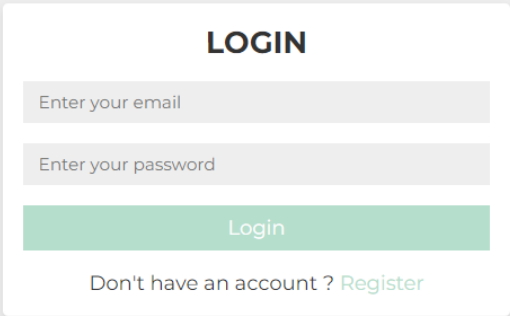
As method we used PHP , JavaScript , html tags , CSS and Bootstrap.

3. SQL Diagram



(Figure 1 - This is our home_automation system ER-Diagram)

4. Login & Signup



The image shows a login form centered on a light gray background. The form is a white rectangle with a subtle shadow. At the top of the form, the word "LOGIN" is written in bold, black, uppercase letters. Below this, there are two input fields: the first is labeled "Enter your email" and the second is labeled "Enter your password". Both labels are in a light gray font. Below the password field is a green button with the word "Login" in white text. At the bottom of the form, there is a line of text that says "Don't have an account ?" followed by a link labeled "Register" in a teal color.

(Figure 2 - This is our Login Page)

REGISTER



Already have an account ? [Login](#)

(Figure 3 - This is our registration page)

5. Producer

id	Email	Name	Check Rooms
1	buraksaz@gmail.com	buak	Check Rooms
11	acti@acti.com	akinus	Check Rooms
13	mail@gmail.com	Yesyenuser	Check Rooms

(Figure 4 - This is the producer room page where i can see consumers room)

Let's check the rooms of the consumer where id = 1

Oturma odası
11 devices
25 temperature
25 humidity
room icon
[Edit Room Oturma odası](#)
[Check Devices In Room Oturma odası](#)
[Delete Room Oturma odası](#)

akin oda
1 devices
25 temperature
25 humidity
room icon
[Edit Room akin oda](#)
[Check Devices In Room akin oda](#)
[Delete Room akin oda](#)

(Figure 5 - This is the rooms page where i can check singular consumers room)

Let's edit the room named Oturma Odası

Edit Room Information
Click update after changing any information

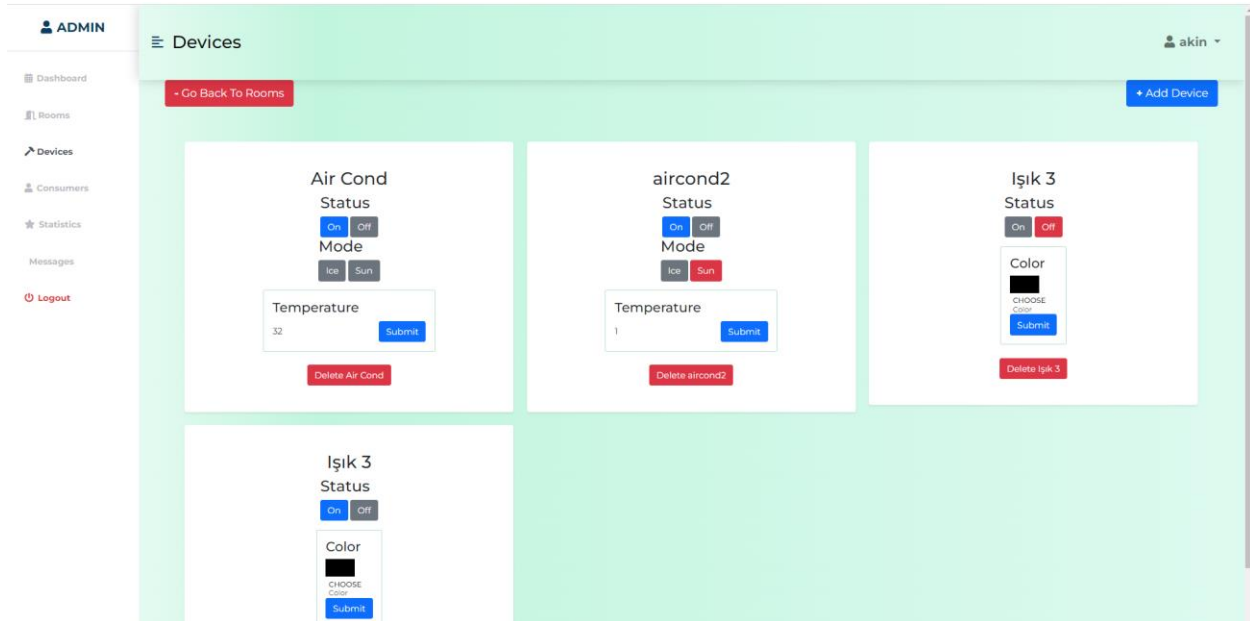
Room Name:

Temperature: Humidity:

[Update](#)

(Figure 6 - This is the page for editing room (I pressed Oturma Odası edit room in figure 5))

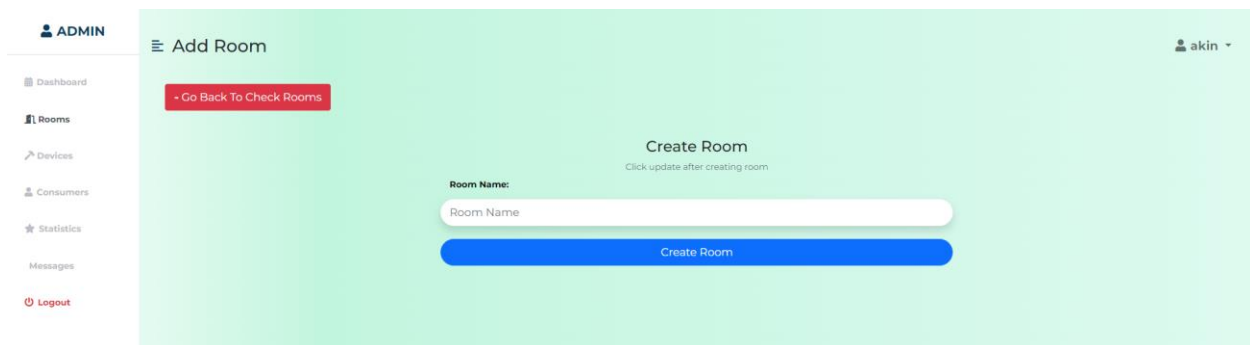
Lets Check devices in Oturma Odası



(Figure 7 – This is the page where we can see the Oturma Odası devices (I pressed Oturma Odası check devices in figure 5))

So one think remained Delete Button in Oturma Odası so basically it deletes the room from database And also in Figure 7 I can change Status mode of Air Conditioners. Also I can change status and color of light and can delete them with delete button.

So Lets Add More Room to consumer using the button says “Add More Room”



(Figure 8 – Using this I can create rooms for that user)

Now Let's check Add Device button shown in Figure 7

ADMIN

Dashboard

Rooms

Devices

Consumers

Statistics

Messages

Logout

Create Device

akin

Go Back To Edit Devices

Create Light

Click update after creating device

Light Name:

Light Name

Create Light

Create Air Conditioner

Click update after creating device

Air Conditioner Name:

Air Conditioner Name

Create Air Conditioner

Create Dishwasher

Click update after creating device

Dishwasher Name:

Dishwasher Name

Create Dishwasher

(Figure 9 – In this page I can add devices to the selected room)

Now let's check consumers.

ADMIN

Dashboard

Rooms

Devices

Consumers

Statistics

Messages

Logout

Consumers

akin

Consumers

id	Email	Name	Edit/Delete
1	buraksaz@gmail.com	buak	<div>EditDelete</div>
11	actl@actl.com	akinus	<div>EditDelete</div>
13	mail@gmail.com	Yeyeniuser	<div>EditDelete</div>

(Figure 10 – In this page we can see the consumers)

Now let's edit the user with id 1

ADMIN Account akin

Edit Account buak

Name
First name: Surname:

Mobile Number
enter phone number:

Address Line 1
enter address line 1:

Email ID
enter email id:

Age
age:

[Save Profile](#)

(Figure 11 - In this page I can edit That user)

So In Figure 10 delete button exist it simply deletes the user.

Now let's jump to the statistics.

ADMIN Statistics akin

Statistics

Device Id	Device Name	Operation	Date	Room name
16	Air Cond	air conditioner mode set to cold.	2023-06-04 13:45:41	Oturma odası

(Figure 12 – In this page we can see the consumer actions)

Now let's jump to the messages from consumer.

ADMIN Messages akin

Messages

User Id	Name	Subject	Message
1	buak	Projeniz	Harika elinize saglik

(Figure 13 – In this page we can see the messages came from consumer)

Now lets jump to the Profile Section

The screenshot shows a web application interface with a light green header and sidebar. The header contains a user profile icon and the name 'akin'. The sidebar lists navigation options: Dashboard, Rooms, Devices, Consumers, Statistics, Messages, and Logout. The main content area is titled 'Account' and features a 'My Account' section. This section includes a user profile card with a blue circular avatar and the name 'akin', and three buttons: 'My Account', 'Edit Account', and 'Change Password'. To the right of the card is a form titled 'My Account' with fields for Name (akin), Surname (akin), Mobile Number (05432712740), Address Line 1 (Antalya), Email ID (admin@admin.com), and Age (23).

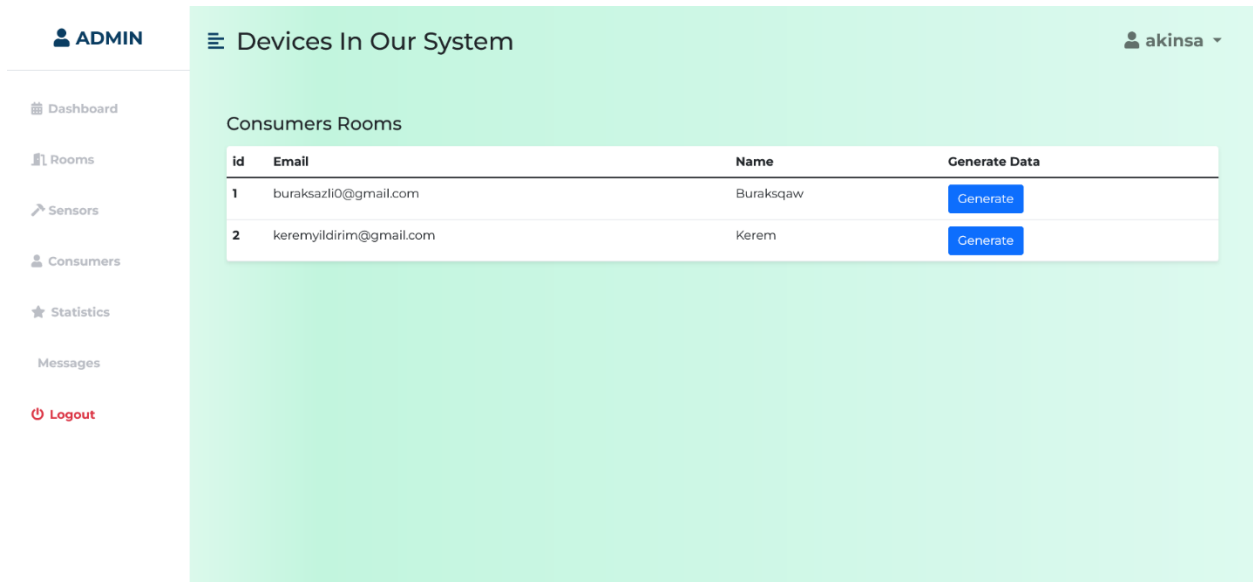
(Figure 14 – In this page i can see my profile)
When I press edit account button

The screenshot shows the 'Edit Account' page. The layout is similar to Figure 14, but the 'Edit Account' button is now highlighted. The form titled 'Edit Account' contains the same fields as in Figure 14, but they are now input fields for editing. At the bottom of the form is a blue 'Save Profile' button.

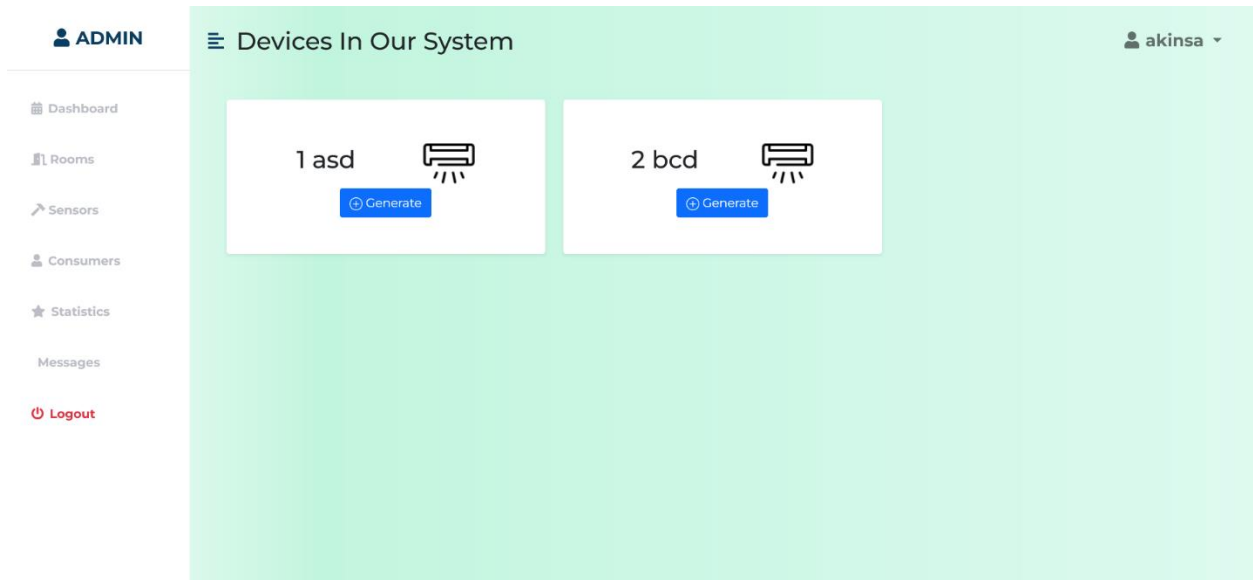
(Figure 15 – In this page I can write the new data and can save the profile)

The screenshot shows the 'Change Password' page. The layout is similar to the previous figures, but the 'Change Password' button is now highlighted. The form titled 'Change Password' contains fields for New Password, Password, Confirm New Password, and Re-Password. At the bottom of the form is a blue 'Change Password' button.

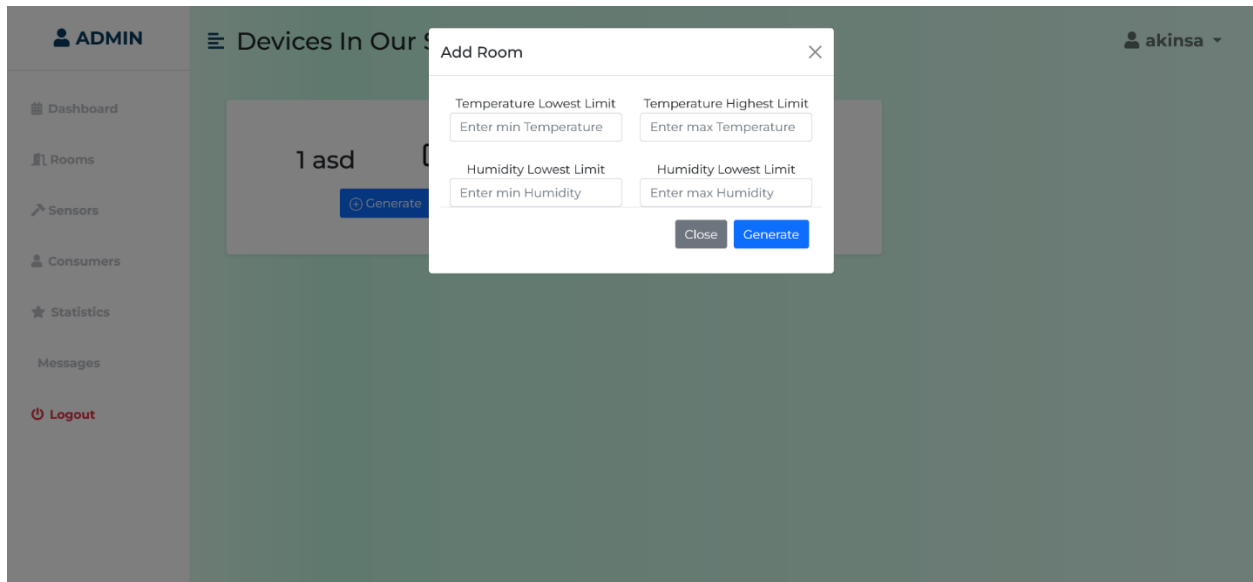
(Figure 16 – In this page I can edit my password)



(Figure 17 – In this page producer can see consumers' list to generate data.)

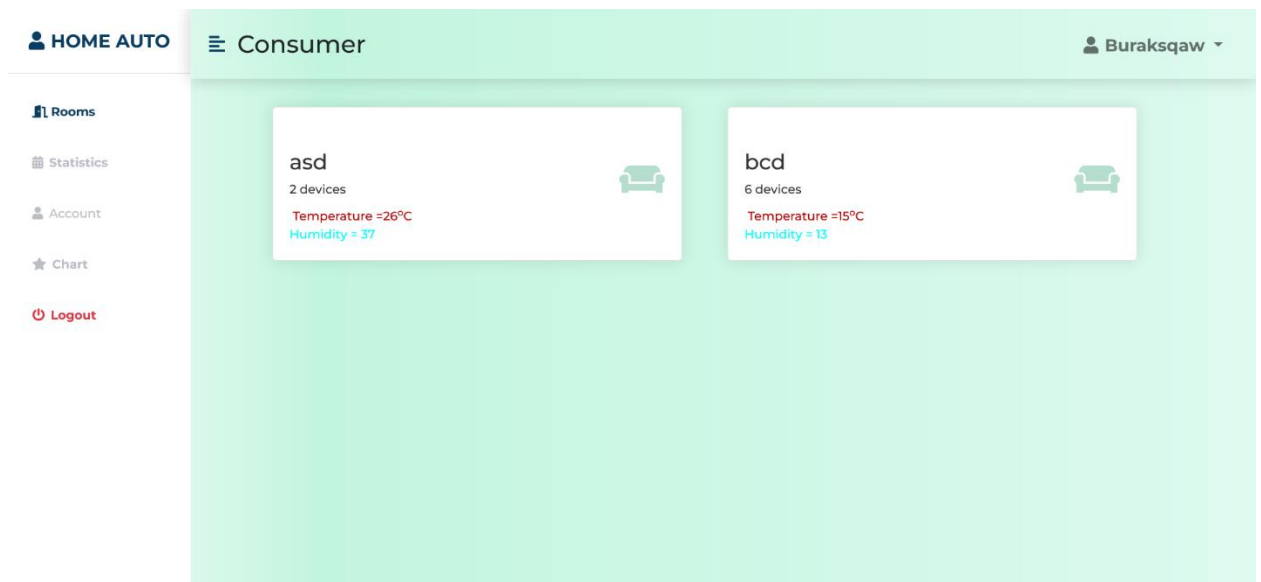


(Figure 18 – In this page producer can see chosen consumer's rooms to generate data.)

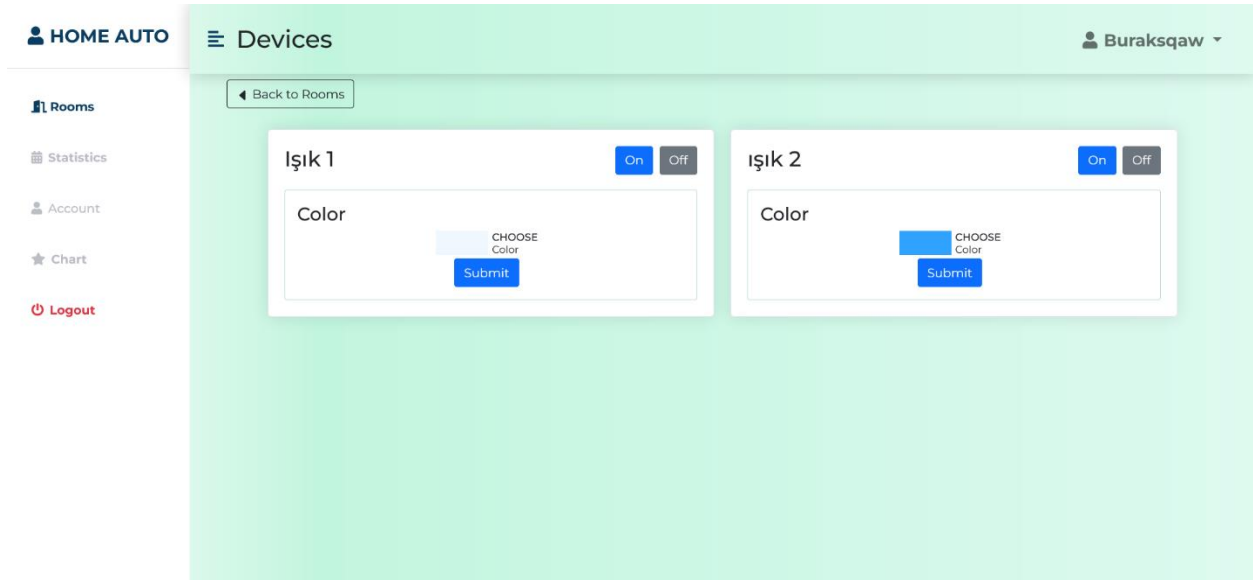


(Figure 19 – In this page producer can enter bounds for temperature and humidity to generate data.)

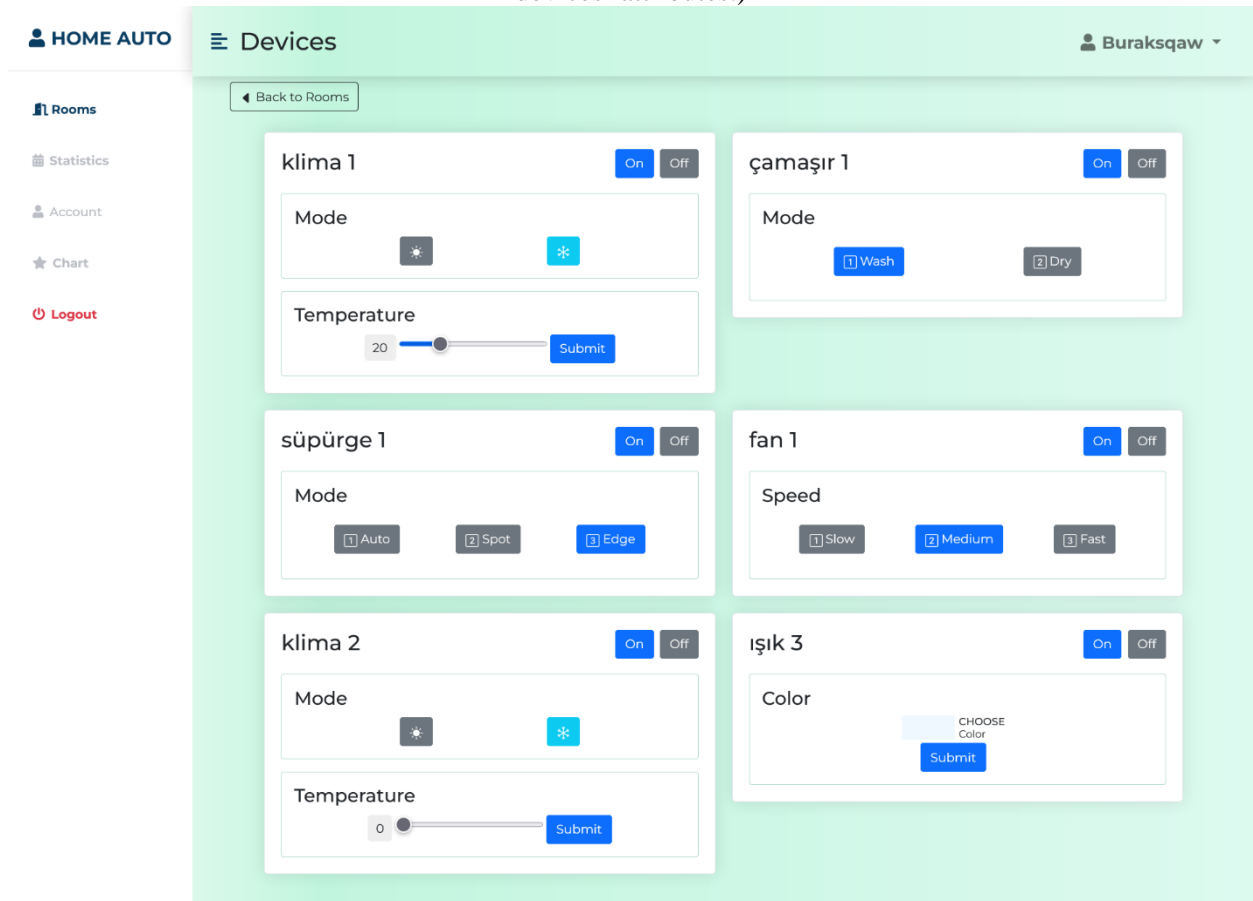
6. Consumer



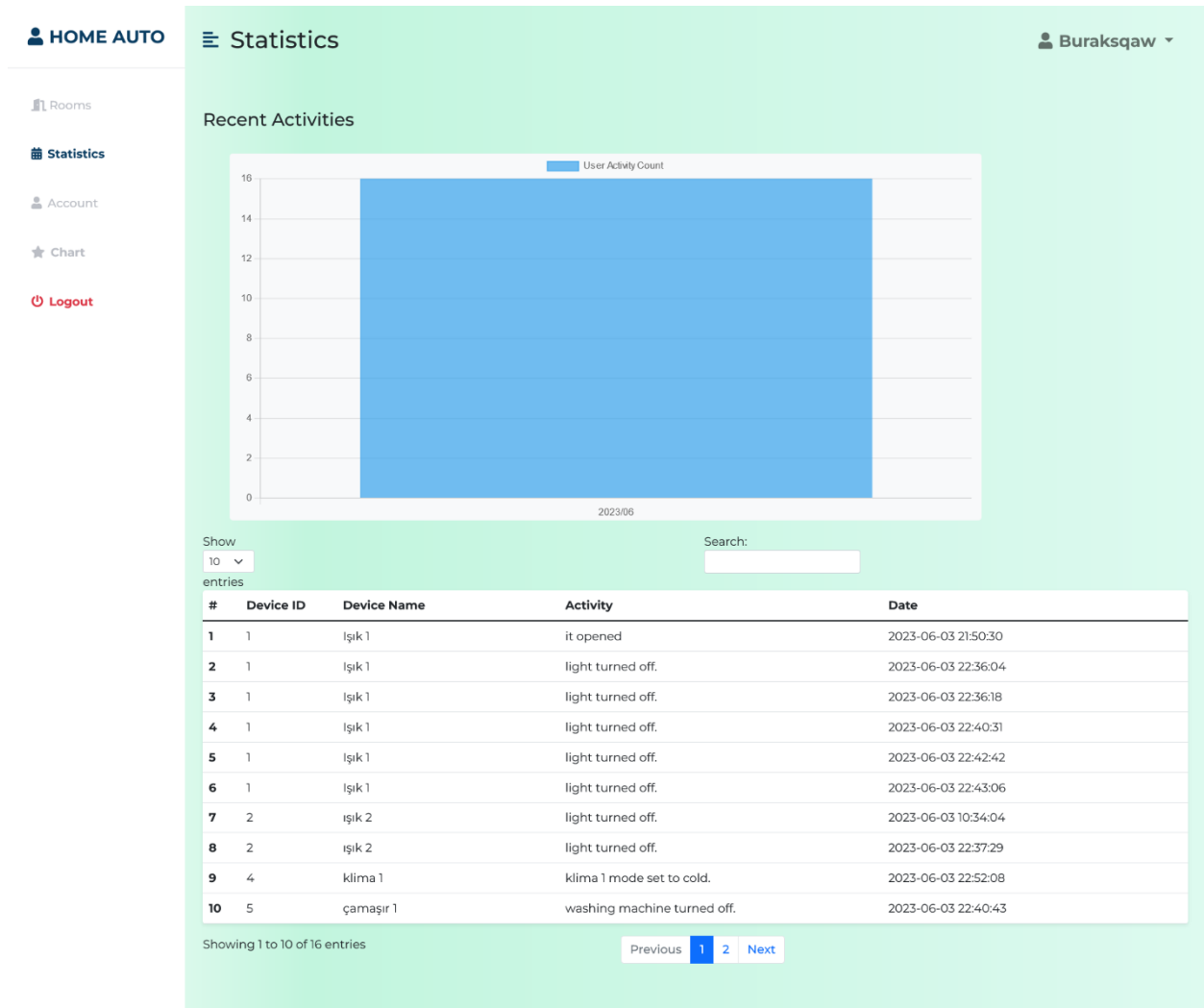
(Figure 20 – In this page consumer can see his/her rooms and their informations such as temperature etc.)



(Figure 21 – In this page consumer can see his/her devices in chosen room and he/she can change devices' attributes.)



(Figure 22 – In this page other device page for other room of consumer example)



(Figure 23 – In this page consumer can see his/her activities table and bar chart.)

HOME AUTO Account Buraksqaw

My Account

Buraksqaw

My Account Edit Account Support Change Password

Name Buraksqaw Surname Sazlı6

Mobile Number 05512028391

Address Line 1 Meydankavağı Mah. Şehitler Cad Şefika Hanım Apt. Kat:3 13/63

Email ID buraksazli0@gmail.com

Age 24

(Figure 24 – In this page consumer can see his/her own informations)

HOME AUTO

Account

Buraksqaw

Rooms

Statistics

Account

Chart

Logout

Buraksqaw

My Account

Edit Account

Support

Change Password

Edit Account

Name

Buraksqaw

Surname

Sazlı6

Mobile Number

05512028391

Address Line 1

Meydankavağı Mah. Şehitler Cad Şefika Hanım Apt. Kat:3 13/63

Email ID

buraksazli0@gmail.com

Age

24

Save Profile

(Figure 25 – In this page consumer can edit his/her own informations.)

HOME AUTO

Account

Buraksqaw

Rooms

Statistics

Account

Chart

Logout

Buraksqaw

My Account

Edit Account

Support

Change Password

Support

Subject

Subject

Address Line 1

Write something...

Submit

(Figure 26 – In this page consumer can send message to producer)

HOME AUTO

Account

Buraksqaw


Rooms

Statistics

Account

Chart

Logout



Buraksqaw

My Account

Edit Account

Support

Change Password

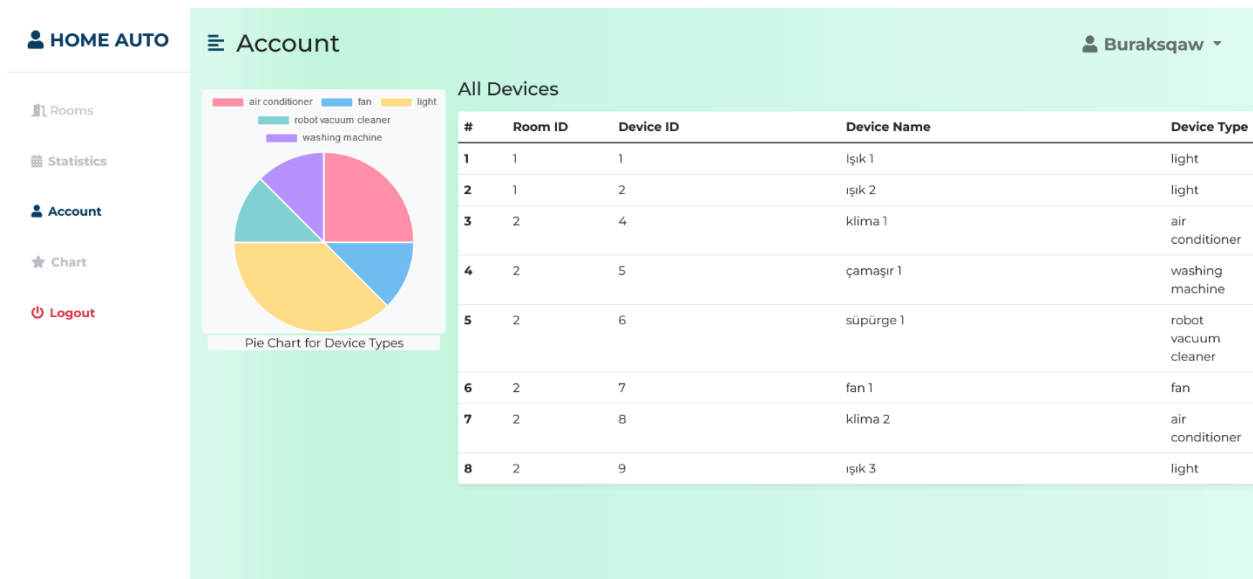
Change Password

New Password

Confirm New Password

Submit

(Figure 27 – In this page consumer can change his/her password.)



(Figure 28 – In this page consumer can see his/her all devices and their informations and their pie chart.)