EMS(ENERGY MANAGAMENT SYSTEM)

This system is designed to manage and monitor household energy usage efficiently. It allows users to add and organize houses, rooms, and devices, set energy consumption limits, and create schedules. Users can track real-time energy consumption, view historical usage reports, and receive notifications for important updates. The system aims to promote energy efficiency and cost savings through detailed insights and customizable settings.
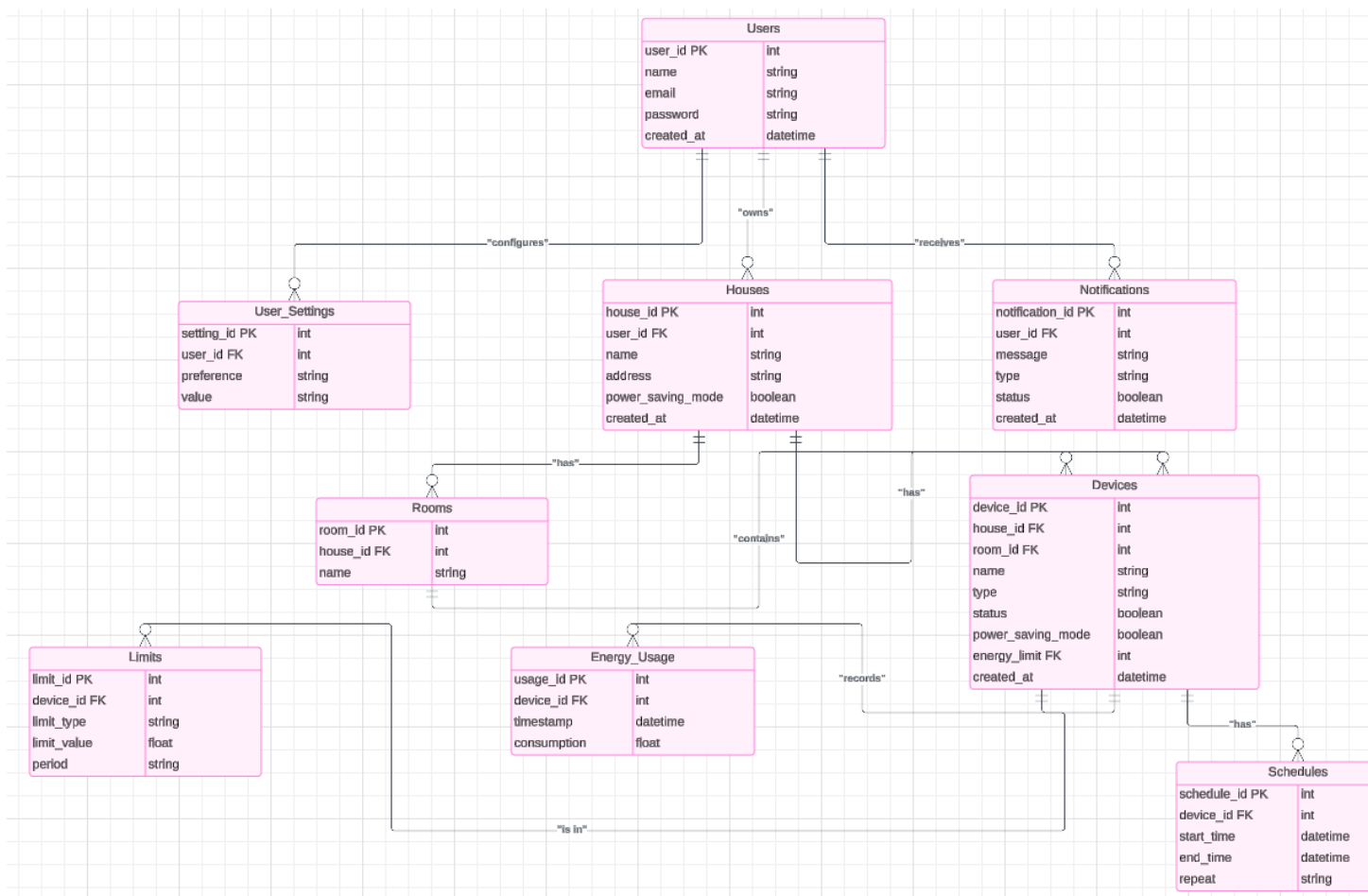
Energy Management System Features:

1.Login

2.Register

3.Forgot Password

4.Add House

5.House List

6.House Details

7.Delete House

8.Add Device

9.Device List

10.Device Details

11.Edit Device

12.Delete Device

13.Real-Time Monitoring

14.Consumption History

15.Set Limit

16.Generate Report

17. Device Scheduling

18.Notifications

19.Power Saving Mode

20.Profile Management

Database Architecture of System:

View 1. ER DIAGRAM

Database Tables:

1. **Users:** Stores user details such as name, email, password, and registration date.

2. **Houses:** Contains information about user houses, including name, address, and power-saving mode status.

3. **Rooms:** Lists rooms within a house (e.g., living room, kitchen).

4. **Devices:** Tracks devices in a house with details like type, status, and energy limits.

5. **Energy_Usage:** Records energy consumption data for devices over time.

6. **Schedules:** Manages automated schedules for device operations.

7. **Notifications:** Stores user notifications, including type and status (read/unread).

8. **Limits:** Defines consumption limits for devices (e.g., daily, monthly).

9. **User_Settings:** Holds user preferences, such as themes or power-saving mode settings.

SCREENS:

Üye Ol(Register):

The Screen allows new users to create an account by providing their email, password, and password confirmation. It includes a link to the login screen for existing users.

Kayıt Ol

View 2. Üye Ol Screen Mock-up

Giriş Yap(login):

The screen allows users to access their accounts by entering their email and password. It includes links for new users to register and for existing users to reset their forgotten passwords.

Giriş Ekranı

Üye değil misiniz? Kayıt Ol

Mail Adresi

Şifre

Şifrenizi mi unuttunuz?

Giriş yap

View 3. Giriş Screen Mock-up

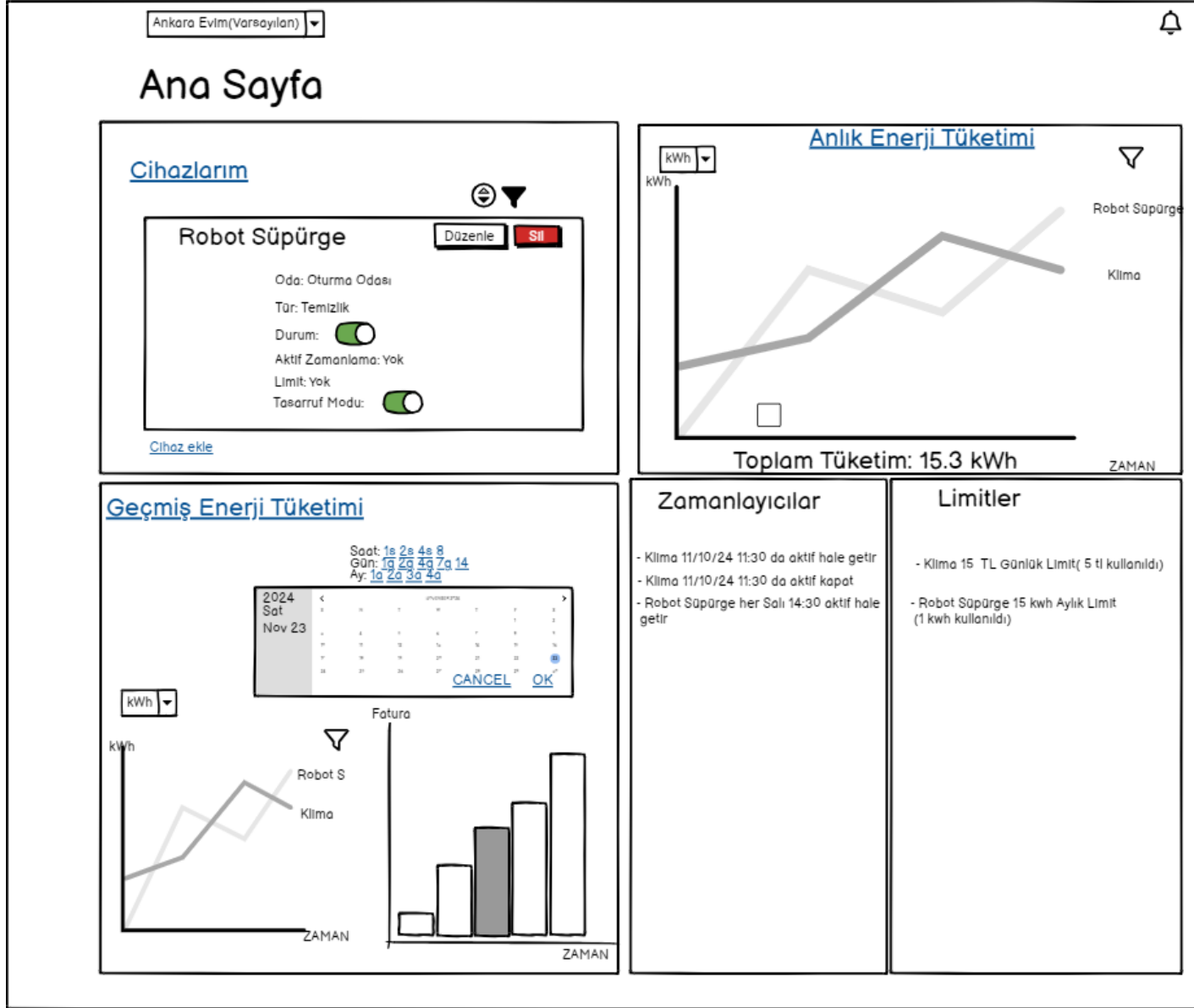**Şifremi Unuttum(Forgot Password):**

Mail adresinizi giriniz

Şifre Sıfırlama Bağlantısını gönder

View 4. Şifremi Unuttum Screen Mock-up

The Screen allows users to reset their password by entering their registered email address. A password reset link is sent to the provided email.

Ana Sayfa(Dashboard):

The screen gives an overview of the system. Users can view active devices, real-time energy consumption, and historical energy usage. The page also displays active schedules and consumption limits, allowing efficient energy management.

View 5. Anasayfa Screen Mock-up

Cihazlarım(Devices):

The Devices Screen displays the list of devices in the selected house along with their details such as room, type, status, active schedules, and energy

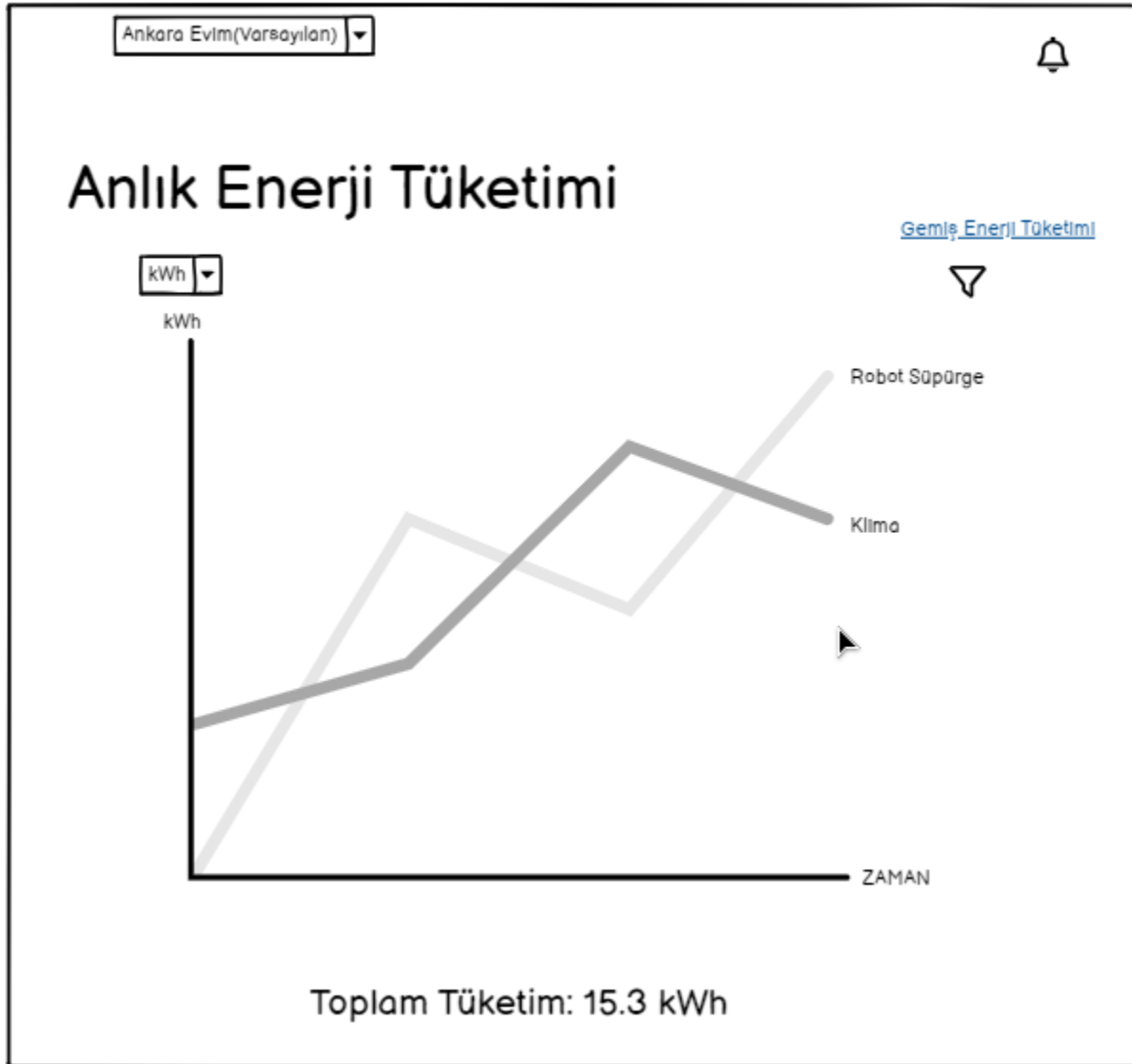limits. Users can edit or delete existing devices and add new ones by entering device details like name, type, and room.

View 6. Cihazlarım Screen Mock-up

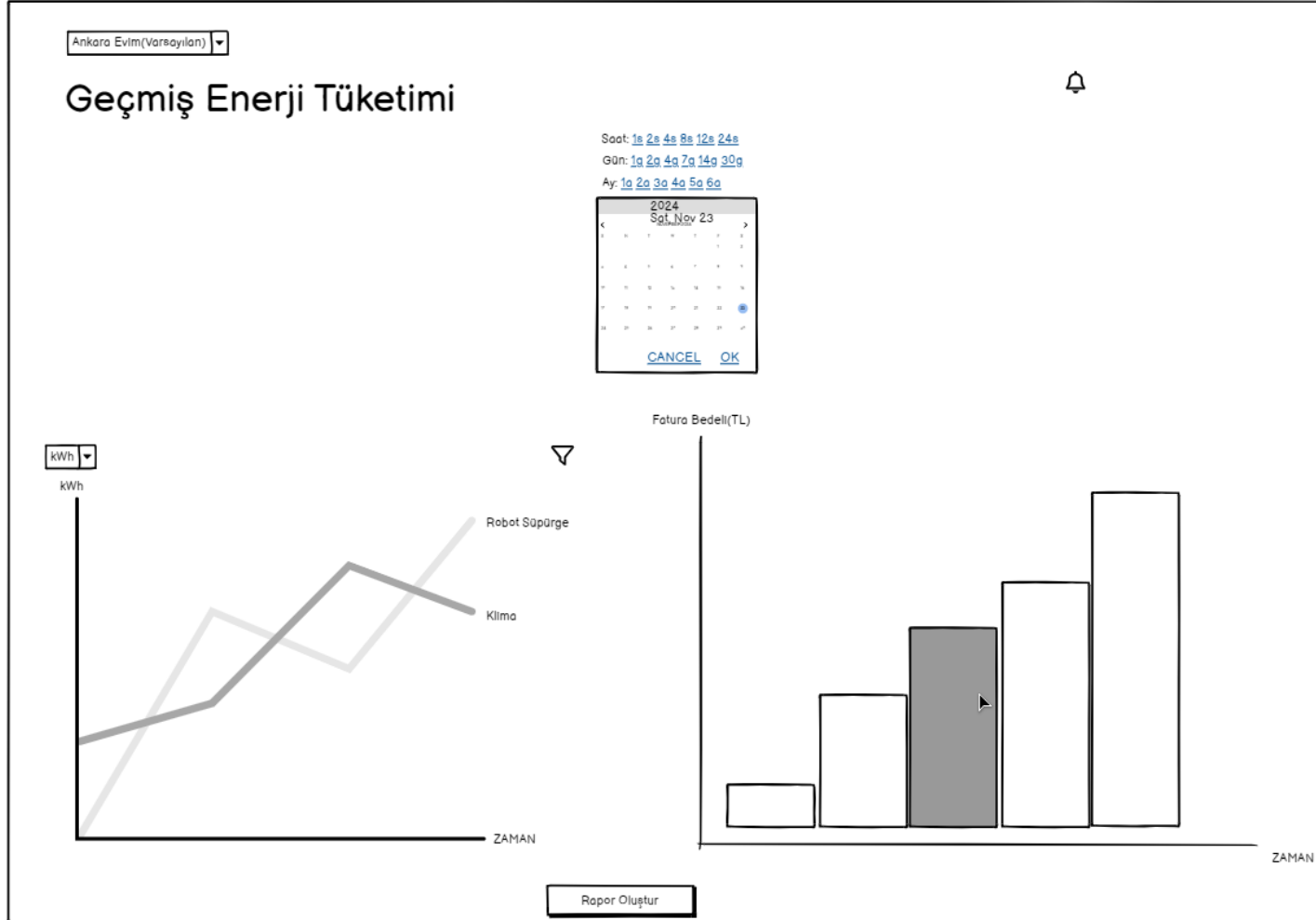**Anlık Enerji Tüketimi(Real-Time Energy Consumption):**

The screen shows current energy usage trends for devices in a selected house. Users can filter data, switch units (e.g., kWh or TL), and see total consumption at the bottom. A link to "Historical Energy Consumption" provides further details.

View 7. Aylık Enerji Tüketimi Screen Mock-up

Geçmiş Enerji Tüketimi(Historical Energy Consumption):

The screen allows users to view past energy usage for selected devices and time periods. It includes interactive graphs to visualize energy consumption in kWh and estimated costs in TL. Users can filter by specific time ranges and generate reports for further analysis.

View 8. Geçmiş Enerji Tüketimi Screen Mock-up

Evlerim(My Houses):

The screen provides an overview of all houses added by the user. Each house displays its name, address, and associated rooms, with options to edit or delete. At the bottom, users can add a new house by specifying its name, address, and initial room names, ensuring seamless management of their properties.

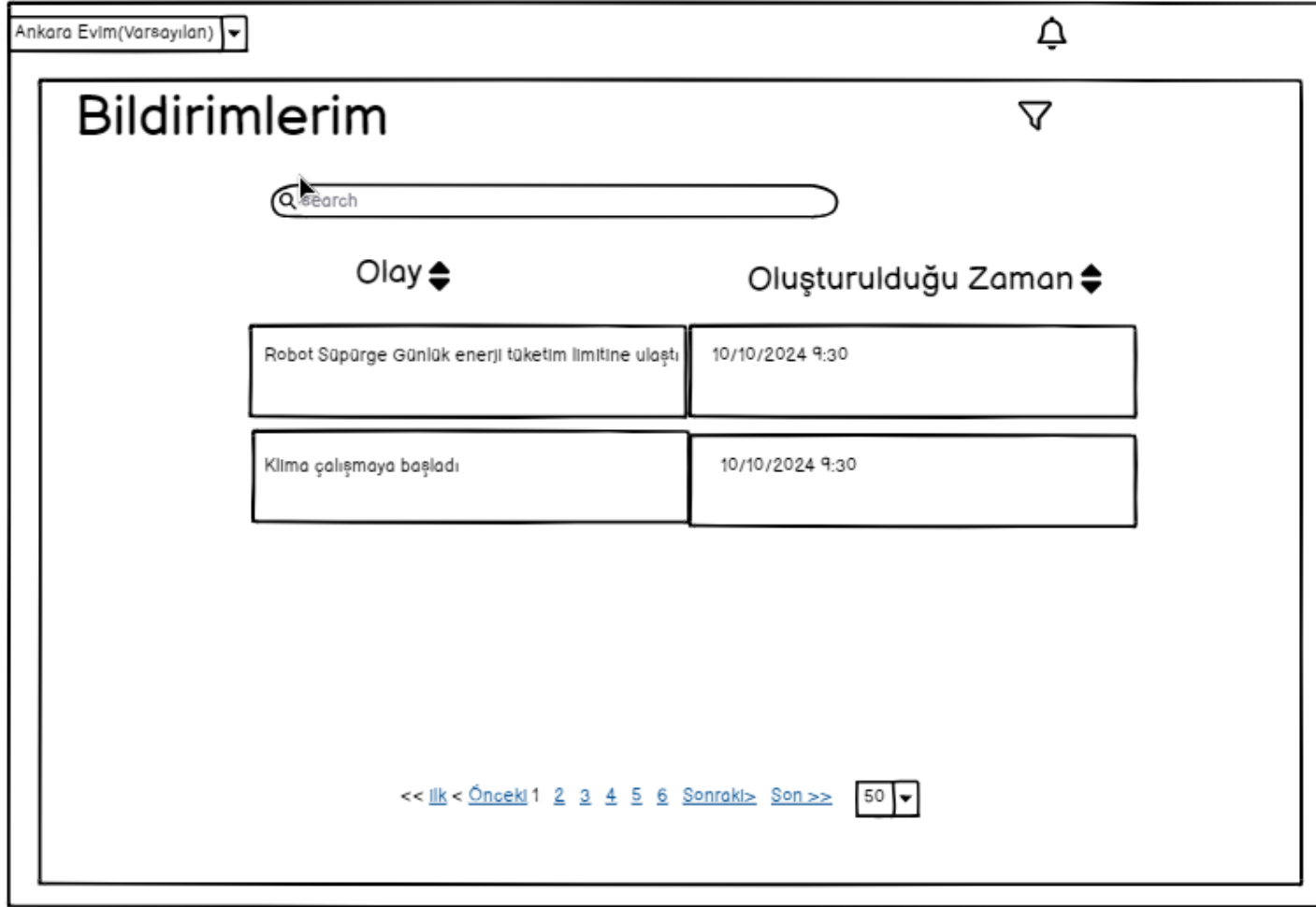**View 9. Evlerim Screen Mock-up**

Bildirimlerim(Notifications):

The screen displays alerts and updates related to the system. Users can view notifications sorted by event and creation time, with options to search, filter, and paginate through the list. This screen ensures users stay informed about device activities and energy management updates.

View 10. Bildirimlerim Screen Mock-up

Kullanıcı Bilgileri(User Information):

The screen allows users to manage their account settings. They can update their email address, change their password, and configure default preferences such as energy limit type, chart duration, and default house. This ensures personalized and secure access to their energy management system.

Kullanıcı Bilgileri

Email: alpertorun4@hotmail.com

Yeni eposta adresi: [_____]

[Epostamı değiştir]

Şifre

Yeni şifreniz: [_____]

Yeni şifrenizi tekrar girin: [_____]

[Şifremi değiştir]

Varsayılan Ayarlar

Limit Tipi: [Kwh ▼]

Grafik Türü: [Haftalık ▼]

Ev: [Ankara ▼]

View 11. Kullanıcı Bilgileri Screen Mock-up