



American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

Smart Home Automation System

A Software Requirement Engineering Project Submitted
By

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The project will be Evaluated for the following Course Outcomes

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Software Requirements Specification

for

< Smart Home Automation System >

Version 1.4 approved

Prepared by <Group 11>

< American International University-Bangladesh >

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Revision History

Name	Date	Reason for Changes	Version
MARMITA PAUL	28.05.2023	Updating the Requirements	1.1
NABIL MOHAMMED	01.05.2023	Updating the Requirements	1.2
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MD. NAJMUS SHAKIB KHASRU PARVEZ	08.05.2023	Updating the Documents	1.4

1. Introduction

1.1 Purpose

This document specifies the software requirements for the Smart Home Automation System, version 1.0. The scope of this SRS covers the entire Smart Home Automation System, which includes multiple subsystems such as security, lighting, temperature control, and entertainment.

The Smart Home Automation System is designed to provide homeowners with a comprehensive solution for managing and controlling their home's various systems from a single interface. The software being specified in this document is the central platform that facilitates the communication between the various subsystems, allowing them to work together seamlessly.

The primary objectives and goals of the Smart Home Automation System include:

- **Convenience:** The system is designed to make it easy for homeowners to manage their home's various systems, without having to switch between multiple interfaces or control mechanisms.
- **Efficiency:** The system is designed to optimize the operation of the home's various systems, by automatically adjusting settings based on usage patterns, occupancy, and other factors.
- **Security:** The system includes a comprehensive security subsystem that monitors the home for intrusions and other security threats, and provides real-time alerts to the homeowner.
- **Energy savings:** The system is designed to reduce energy consumption by optimizing the use of lighting, temperature control, and other systems based on usage patterns and occupancy.
- **Integration:** The system is designed to be easily integrated with other smart home devices and services, providing a comprehensive and seamless home automation experience.

The Smart Home Automation System is intended to support the corporate goals and business strategies of the company by providing a market-leading solution for home automation that meets the needs of modern homeowners.

Business requirements for the Smart Home Automation System include:

- Compatibility with a wide range of home automation devices and services, to ensure that the system can be easily integrated into a wide variety of homes and environments.
- Scalability to support a large number of devices and users, to ensure that the system can grow and adapt to changing user needs.
- Ease of use, to ensure that homeowners can easily manage and control their home's various systems without requiring extensive technical knowledge or training.
- Reliability and stability, to ensure that the system operates consistently and without interruption, even under challenging conditions or during periods of high demand.
- Security, to ensure that the system protects user data and privacy, and provides a high level of protection against intrusions and other security threats.

1.2 Document Conventions

This SRS follows standard document conventions, including the use of clear and concise language, proper grammar, and consistent formatting. There are no specific typographical conventions or highlighting used in this document.

Requirements statements are numbered for easy reference and are categorized into functional and non-functional requirements. Each requirement statement has its own priority level assigned based on its importance to the overall system.

Priority levels are assigned based on the following scale:

- High Priority: Requirements that are critical to the system's functionality or performance.
- Medium Priority: Requirements that are important but not critical to the system's functionality or performance.
- Low Priority: Requirements that are desirable but not necessary for the system's functionality or performance.

Higher-level requirements are assumed to be inherited by detailed requirements unless otherwise stated. Each requirement statement is expected to have its own priority level assigned to ensure that all requirements are prioritized according to their importance to the overall system.

1.3 Intended Audience and Reading Suggestions

This document is intended for a range of stakeholders involved in the development, testing, and use of the Smart Home Automation System, including:

- **Developers:** These readers will be interested in the technical details of the system and the specific requirements needed to develop and implement the software.
- **Project Managers:** These readers will be interested in understanding the overall scope and goals of the Smart Home Automation System and how it aligns with the organization's broader strategic objectives.
- **Marketing Staff:** These readers will be interested in understanding the key features and benefits of the Smart Home Automation System and how it differentiates from other similar products in the market.
- **Users:** These readers will be interested in understanding how the Smart Home Automation System works and how it can benefit them in managing and controlling their home's various systems.
- **Testers:** These readers will be interested in understanding the specific requirements and criteria needed to test the system effectively.

For all readers, it is recommended to begin with the Overview section of the document, which provides a high-level summary of the Smart Home Automation System and its goals. From there, readers can proceed to the functional and non-functional requirements sections, which provide a detailed breakdown of the specific features and capabilities of the system.

For developers, it is recommended to focus on the Technical Requirements section, which provides a detailed breakdown of the system's technical specifications and implementation details. Project Managers and Marketing Staff may want to focus on the Business Requirements section, which provides a broader overview of the system's goals and objectives.

For users, it is recommended to review the Use Case Scenarios section, which provides practical examples of how the Smart Home Automation System can be used to manage and control various aspects of a home. Testers may want to focus on the Testing Requirements section, which outlines the specific criteria and procedures needed to test the system effectively.

2. Overall Description

2.1 Product Perspective

The Smart Home Automation System is a new, self-contained product that aims to provide homeowners with a convenient and intuitive way to manage and control various aspects of their home, such as lighting, climate control, security systems, and entertainment systems. The system is designed to be easily installed and integrated with existing home infrastructure, such as smart home devices, voice assistants, and mobile applications.

The Smart Home Automation System consists of several major components, including:

1. **Smart Home Devices:** These devices include smart thermostats, smart light bulbs, smart locks, and other devices that can be controlled and managed through the system.
2. **Control Hub:** The Control Hub is the central component of the system that receives commands from users and communicates with the smart home devices to perform the desired actions.
3. **User Interface:** The User Interface allows homeowners to interact with the system through various means, such as a mobile application, a web interface, or voice commands through a voice assistant.
4. **Cloud Services:** The Cloud Services component enables the system to store data and communicate with external services, such as weather APIs, security monitoring services, and entertainment platforms.

The Smart Home Automation System interfaces with external systems and services through various protocols, such as Wi-Fi, Zigbee, and Z-Wave. The system also supports integration with popular voice assistants, such as Amazon Alexa and Google Assistant, to provide a seamless and intuitive user experience.

A simple diagram of the Smart Home Automation System is shown below:

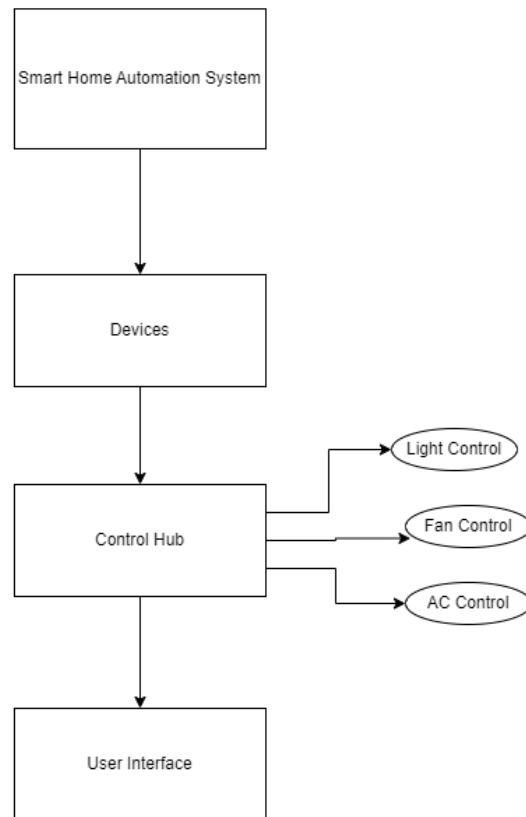


Figure 1: A simple diagram of the Smart Home Automation System

2.2 Product Functions

The Smart Home Automation System must provide the following major functions:

1. **Home Automation Control:** The system must allow users to control and manage various aspects of their home, such as lighting, climate control, and security systems.
2. **User Interface:** The system must provide an intuitive and easy-to-use interface that allows users to interact with the system through various means, such as a mobile application, a web interface, or voice commands.
3. **Device Management:** The system must be able to discover and manage smart home devices, such as smart thermostats, smart light bulbs, and smart locks.
4. **Scene Management:** The system must allow users to create and manage scenes, which are pre-defined configurations of smart home devices that can be activated with a single command.

5. **Schedule Management:** The system must allow users to create and manage schedules, which are pre-defined times at which smart home devices should perform specific actions.
6. **Third-Party Integration:** The system must support integration with external services and platforms, such as weather APIs, security monitoring services, and entertainment platforms.

A top-level data flow diagram of the major groups of related requirements is shown below:

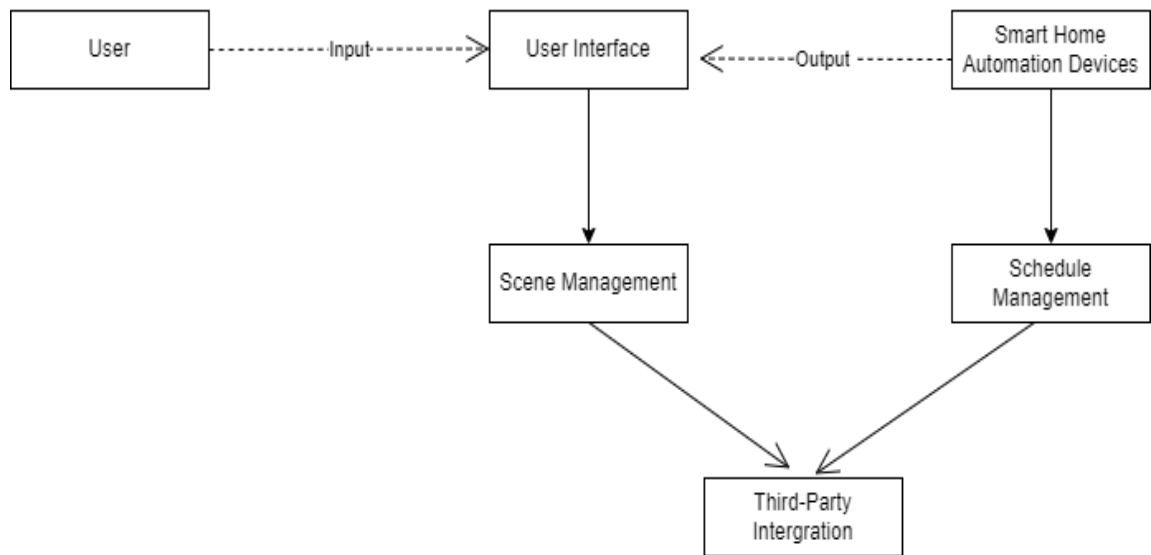


Figure 2: A top-level data flow diagram of the major groups of related requirements

2.3 User Classes and Characteristics

The following user classes are anticipated to use the Smart Home Automation System:

1. **Homeowners:** The primary user class of the system is homeowners who want to automate and manage various aspects of their homes. They may have varying degrees of technical expertise and may use the system on a daily basis.
2. **Guests:** Guests may also use the system to control certain aspects of the home, such as temperature and lighting, but they will have limited access to the system and certain functions may be restricted.
3. **Service Providers:** Service providers, such as home security companies or home maintenance professionals, may also interact with the system to perform specific functions, such as monitoring security systems or performing maintenance on smart home devices.

The pertinent characteristics of each user class are as follows:

1. Homeowners: Homeowners are the primary users of the system and may have varying levels of technical expertise. They may use the system frequently and may have specific preferences and requirements for how the system should operate.
2. Guests: Guests may be unfamiliar with the system and may only require limited access to certain functions, such as adjusting temperature or lighting.
3. Service Providers: Service providers may require access to specific functions of the system, such as security monitoring or device maintenance, but may not require access to all functions.

The most important user class for this product is the homeowners, as they are the primary users and will have the most significant impact on the success of the product. The needs and preferences of homeowners should be given the highest priority when designing and implementing the system.

2.4 Operating Environment

The Smart Home Automation System will operate in a residential environment and will interact with a variety of hardware and software components. The software will be designed to operate on a range of hardware platforms, including smartphones, tablets, and personal computers. The system will be compatible with the following operating systems and versions:

- Android: version 6.0 and higher
- iOS: version 10 and higher
- Windows: version 10 and higher
- macOS: version 10.13 and higher

In addition, the system will be designed to peacefully coexist with a variety of other software components and applications, including but not limited to:

- Home security systems
- Smart home devices, such as thermostats, lighting systems, and home entertainment systems
- Voice assistants, such as Amazon Alexa and Google Assistant
- Other third-party software applications that may be installed on the user's device.

The system will rely on an internet connection for certain functions, such as remote access and updates, and will be designed to function properly with a range of internet service providers and network configurations. The software will be designed to minimize the impact of network outages or interruptions on system performance and usability.

2.5 Design and Implementation Constraints

The Smart Home Automation System must be designed and implemented with certain constraints in mind. These include:

- **Hardware limitations:** The software must be designed to operate on a range of hardware platforms, including smartphones, tablets, and personal computers. The system must be optimized to minimize its impact on battery life, storage, and processing power of the user's device.
- **Regulatory policies:** The system must comply with relevant regulations and industry standards, such as data privacy laws and safety regulations.
- **Interfaces to other applications:** The system must be designed to integrate with a range of third-party applications, such as home security systems, smart home devices, and voice assistants.
- **Technologies and tools:** The system must be developed using industry-standard programming languages and frameworks, and must comply with the company's programming standards and conventions.
- **Communications protocols:** The system must support a range of communication protocols, including Wi-Fi, Bluetooth, and cellular data.
- **Security considerations:** The system must be designed to protect user data and privacy, and must comply with relevant security standards and best practices. The system must also be designed to prevent unauthorized access and malicious attacks.
- **Maintenance:** The customer's organization will be responsible for maintaining the delivered software. As such, the software must be designed with maintainability in mind, and must be well-documented and easy to troubleshoot and debug.

2.6 User Documentation

The following user documentation components will be delivered along with the Smart Home Automation System software:

- **User Manual:** A comprehensive guide that describes the features and functionality of the system, and provides step-by-step instructions for using the system.

- On-line Help: Context-sensitive help that provides assistance to the user while using the system.
- Tutorials: Step-by-step instructions that guide the user through specific tasks or scenarios, providing an interactive learning experience.

The user documentation will be delivered in electronic format, and will be accessible through the system's user interface. The documentation will conform to industry standards for documentation design and content. The documentation will also be regularly updated to reflect changes in the system's features and functionality.

3. System Requirements

3.1 Functional Requirements (System Features)

1. Software Login

- 1.1. The software shall allow users to login with their given username and password.
- 1.2. The login credentials (username and password) will be verified with database records.
- 1.3. If the login successful, the home page of the user account will be displayed.
- 1.4. If the username and/or password has been inserted wrong, the random verification code will be generated and sent to the user's email address by the system to retry login.
- 1.5. If the number of login attempt exceed its limit (3 times), the system shall block the user account login for one hour *[optional function]*

Priority Level: High

Precondition: user have valid user id and password

2. Voice Control

- 2.1. The system shall allow users to control devices using voice commands.
- 2.2. The system shall support voice recognition technology to accurately recognize user commands.
- 2.3. The system shall have the ability to understand and execute voice commands in multiple languages.
- 2.4. The system shall provide feedback to the user to indicate if the command was successfully executed.

Priority Level: High

Precondition: User has a compatible voice-enabled device.

3. Device Monitoring

3.1. The system shall monitor the status of connected devices.

3.2. The system shall display device status information in real-time.

3.3. The system shall send alerts to the user if a device is malfunctioning or not operating as expected.

3.4. The system shall provide the user with the ability to troubleshoot device issues remotely.

Priority Level: High

Precondition: Devices are connected and functional.

4. Scheduling

4.1. The system shall allow users to create schedules for devices.

4.2. The system shall provide the ability to schedule devices to turn on or off at specific times.

4.3. The system shall allow users to set recurring schedules for devices.

4.4. The system shall provide the ability to override scheduled device actions if necessary.

Priority Level: High

Precondition: Devices are connected and functional.

5. Energy Management

5.1. The system shall provide users with energy usage data for connected devices.

5.2. The system shall display energy usage information in real-time.

5.3. The system shall provide users with suggestions to reduce energy consumption.

5.4. The system shall allow users to create custom energy-saving profiles for devices.

Priority Level: Medium

Precondition: Devices are connected and functional.

6. Security

- 6.1. The system shall provide users with the ability to set security levels for their devices.
- 6.2. The system shall allow users to create custom security profiles for devices.
- 6.3. The system shall send alerts to the user if security levels are breached.
- 6.4. The system shall provide the ability to remotely disable devices if necessary.

Priority Level: High

Precondition: Devices are connected and functional.

7. Remote Access

- 7.1. The system shall allow users to remotely access their home automation system.
- 7.2. The system shall provide a secure login process for remote access.
- 7.3. The system shall provide users with the ability to control devices remotely.
- 7.4. The system shall display real-time device status information during remote access.

Priority Level: High

Precondition: User has a device with internet connectivity.

8. Weather Integration

- 8.1. The system shall integrate with weather data to provide users with weather alerts and updates.
- 8.2. The system shall provide users with the ability to create custom weather-related device actions.
- 8.3. The system shall provide users with the ability to receive weather alerts and notifications.

Priority Level: Low

Precondition: System is connected to the internet.

9. Entertainment Control

- 9.1. The system shall allow users to control entertainment devices, such as TVs and sound systems.
- 9.2. The system shall provide users with the ability to create custom entertainment profiles.
- 9.3. The system shall allow users to control entertainment devices using voice commands.

Priority Level: Medium

Precondition: Entertainment devices are connected and functional.

10. Lighting Control

- 10.1. The system shall allow users to control lighting devices.
- 10.2. The system shall provide users with the ability to create custom lighting profiles.
- 10.3. The system shall allow users to control lighting devices using voice commands.

Priority Level: High

Precondition: Lighting devices are connected and functional.

11. User Registration

- 11.1. The software shall allow new users to register by providing their personal information and creating a username and password.
- 11.2. The user's personal information and login credentials shall be stored in a database.
- 11.3. The system shall send a confirmation email to the user's provided email address.
- 11.4. If the user provides invalid or incomplete information, the system shall display an error message and prompt the user to correct the information.

Priority Level: High

Precondition: N/A

12. Notification

- 12.1. The software shall provide notification to users for events such as device status change, schedule execution, and security breach.
- 12.2. The system shall send notification through email, text message, or in-app notification.

12.3. The user shall be able to configure notification preferences

Priority Level: High

Precondition: N/A

13. User Management

13.1. The software shall allow admin users to manage user accounts.

13.2. The admin user shall be able to create, edit, and delete user accounts.

13.3. The system shall provide different levels of access for admin and regular users

Priority Level: Medium

Precondition: N/A

14. Guest Access

14.1. The software shall allow users to grant temporary access to guests.

14.2. The system shall generate a temporary access code for guests to use.

14.3. The user shall be able to set the expiration time for the access code.

Priority Level: Medium

Precondition: N/A

15. Pet Monitoring and Feeding

15.1. The system shall allow users to monitor their pets through the mobile application.

15.2. Users shall be able to view live video feeds of their pets.

15.3. The system shall allow users to control automated feeding systems for their pets

Priority Level: Low

Precondition: N/A

16. Water Monitoring

16.1. The system shall allow users to monitor their water usage in real-time.

16.2. Users shall be able to view water usage by device or by room.

- 16.3. The system shall provide recommendations to users for reducing water usage and saving money on their water bills.

Priority Level: Low

Precondition: N/A

17. Window and Blinds Control

- 17.1. The system shall allow users to control their windows and blinds through the mobile application.

- 17.2. shall be able to open and close windows and blinds in specific rooms or zones.

- 17.3. Users shall be able to set timers or schedules for their windows and blinds to open or close automatically.

Priority Level: Medium

Precondition: N/A

18. Integration with Other Smart Home Systems

- 18.1. The software shall be able to integrate with other smart home systems, such as Amazon Alexa or Google Home.

- 18.2. The system shall allow users to control devices using voice commands through the integrated systems.

Priority Level: High

Precondition: N/A

19. User Profile

- 19.1. The software shall allow users to edit their profile information.

- 19.2. The user shall be able to change their password. 9.3 The system shall verify the current password before allowing the user to change it.

Priority Level: Low

Precondition: N/A

20. Device Pairing

- 20.1. The software shall allow users to pair new devices to the system.

- 20.2. Users shall be able to scan for nearby devices and select the device they wish to pair.

20.3. Once a device is selected, the system shall generate a unique pairing code for the user to enter on the device.

20.4. The system shall confirm successful device pairing to the user.

Priority Level: Medium

Precondition: User has a compatible device to pair with the system.

21. Integration with Third-Party Services

21.1. The software shall allow integration with third-party services such as weather, news, and social media platforms.

21.2. Users shall be able to customize system behavior based on third-party data and events.

21.3. Integration shall be supported through standardized APIs and data formats.

Priority Level: Medium

Precondition: User has a compatible device to pair with the system.

22. Data Analytics

22.1. The system shall provide data analytics capabilities to analyze user behavior, preferences, and usage patterns.

22.2. The system shall generate reports and visualizations based on the analyzed data.

22.3. The system shall provide recommendations for optimizing energy consumption based on the analyzed data.

Priority Level: High

Precondition: N/A

23. Geofencing

23.1. The system shall use geofencing technology to detect when users are leaving or approaching the home.

23.2. The system shall automatically adjust the settings of the smart home automation system based on the user's location, such as turning off lights and lowering the temperature when the user leaves the home.

23.3. The system shall provide the ability for users to customize the geofencing settings.

Priority Level: Medium

Precondition: N/A

24. Biometric Security

24.1. The system shall allow users to enroll biometric information (such as fingerprint or facial recognition) as an additional authentication method.

24.2. The biometric information will be verified with the user's account information in the system.

24.3. If the biometric verification is successful, the user will be granted access to the system.

24.4. If the biometric verification fails, the user will be prompted to retry the verification or use another authentication method.

24.5. The system shall provide an option for the user to disable biometric authentication at any time.

Priority Level: High

Precondition: user has enrolled their biometric information in the system.

25. Alarm

25.1. The system shall include an alarm feature that can be triggered manually or automatically.

25.2. The alarm shall have different settings, including sound level and duration.

25.3. The system shall provide a way to turn off the alarm once it has been triggered.

25.4. The system shall send an alert notification to designated individuals when the alarm is triggered.

25.5. The system shall keep a record of all alarm events.

Priority Level: High

Precondition: the system is installed and configured to include an alarm feature.

26. Video Surveillance

- 26.1. The system shall include video surveillance capability with one or more cameras.
- 26.2. The cameras shall be able to record and store video footage for a designated amount of time.
- 26.3. The system shall allow users to view live or recorded video footage from the cameras.
- 26.4. The system shall provide the option to configure motion detection and other settings for the cameras.
- 26.5. The system shall send an alert notification to designated individuals when motion is detected by the cameras.

Priority Level: High

Precondition: the system is installed and configured to include video surveillance capability.

27. Automated Locks

- 27.1. The system shall include the ability to control automated locks, such as door locks or gate locks.
- 27.2. The system shall allow users to lock or unlock the automated locks remotely through a mobile app or web interface.
- 27.3. The system shall keep a record of all lock and unlock events.
- 27.4. The system shall provide an option for users to set schedules for the automated locks to lock or unlock at specific times.
- 27.5. The system shall send an alert notification to designated individuals when the automated locks are locked or unlocked.

Priority Level: Medium

Precondition: the system is installed and configured to include automated lock control capability.

28. Fire Safety Sensors

- 28.1. The system shall include fire safety sensors, such as smoke detectors or heat sensors.
- 28.2. The sensors shall be able to detect fire or smoke and trigger an alarm.
- 28.3. The system shall send an alert notification to designated individuals when the fire safety sensors are triggered.
- 28.4. The system shall provide the option to automatically notify emergency services when the fire safety sensors are triggered.
- 28.5. The system shall keep a record of all fire safety sensor events.

Priority Level: Medium

Precondition: the system is installed and configured to include fire safety sensor capability.

29. Medical Alert

- 29.1. The system shall include a medical alert feature that can be triggered manually or automatically.
- 29.2. The system shall provide a way for users to input their medical information, such as allergies or medications.
- 29.3. The system shall send an alert notification to designated individuals and emergency services when the medical alert is triggered.
- 29.4. The system shall provide an option for users to cancel the medical alert if it was triggered accidentally.
- 29.5. The system shall keep a record of all medical alert events.

Priority Level: High

Precondition: the system is installed and configured to include a medical alert feature.

3.2 Non-Functional/Quality Requirements

QA1: Performance: The system shall respond to user requests with an average latency of less than 1 second and a maximum latency of 3 seconds.

Priority Level: High

Precondition: N/A

QA2: Reliability: The system shall be available 99.9% of the time, excluding scheduled maintenance windows.

Priority Level: High

Precondition: N/A

QA3: Scalability: The system shall be able to handle a minimum of 100 concurrent users without degradation in performance.

Priority Level: Medium

Precondition: N/A

QA4: Security: The system shall require a password of at least 8 characters, containing at least one uppercase letter, one lowercase letter, one number, and one special character.

Priority Level: High

Precondition: N/A

QA5: Compatibility: The system shall be compatible with the latest version of the Google Chrome and Mozilla Firefox web browsers.

Priority Level: Medium

Precondition: N/A

QA6: Maintainability: The system shall be designed and implemented in a modular fashion to facilitate future updates and enhancements.

Priority Level: High

Precondition: N/A

QA7: Accessibility: The system shall comply with WCAG 2.1 AA accessibility guidelines to ensure that it is accessible to users with disabilities.

Priority Level: High

Precondition: N/A

QA8: Multilingual: The system shall support at least 10 languages in addition to English as well as understanding different accents.

Priority Level: Medium

Precondition: N/A

QA9: Portability: The system shall be able to run on Windows, macOS, and Linux

Priority Level: Medium

Precondition: N/A

QA10: Documentation: The system shall be accompanied by comprehensive user documentation that explains how to use all system features and functions.

Priority Level: High

Precondition: N/A

3.3 Project Requirements

- The software must be developed using an agile methodology and follow a Scrum framework.
- The development team must consist of at least one software architect, one database administrator, and two software developers.
- The software must be compatible with Windows, Mac, and Linux operating systems.
- The software must be designed and implemented using object-oriented programming principles.
- The software must be able to handle concurrent user requests without significant performance degradation.
- The software must be secured against common attacks, such as SQL injection and cross-site scripting.
- The software must be able to handle a large amount of data and provide fast response times for queries and reports.
- The software must be compatible with modern web browsers, such as Google Chrome, Mozilla Firefox, and Microsoft Edge.
- The software must be fully documented, including user manuals, installation guides, and technical documentation.
- The project must be completed within 12 months from the start date, and the software must be delivered on time and within budget.
- developer needs selenium tools in perform testing activities in week 6

4. Design and Interface Requirements

4.1 UML Diagrams

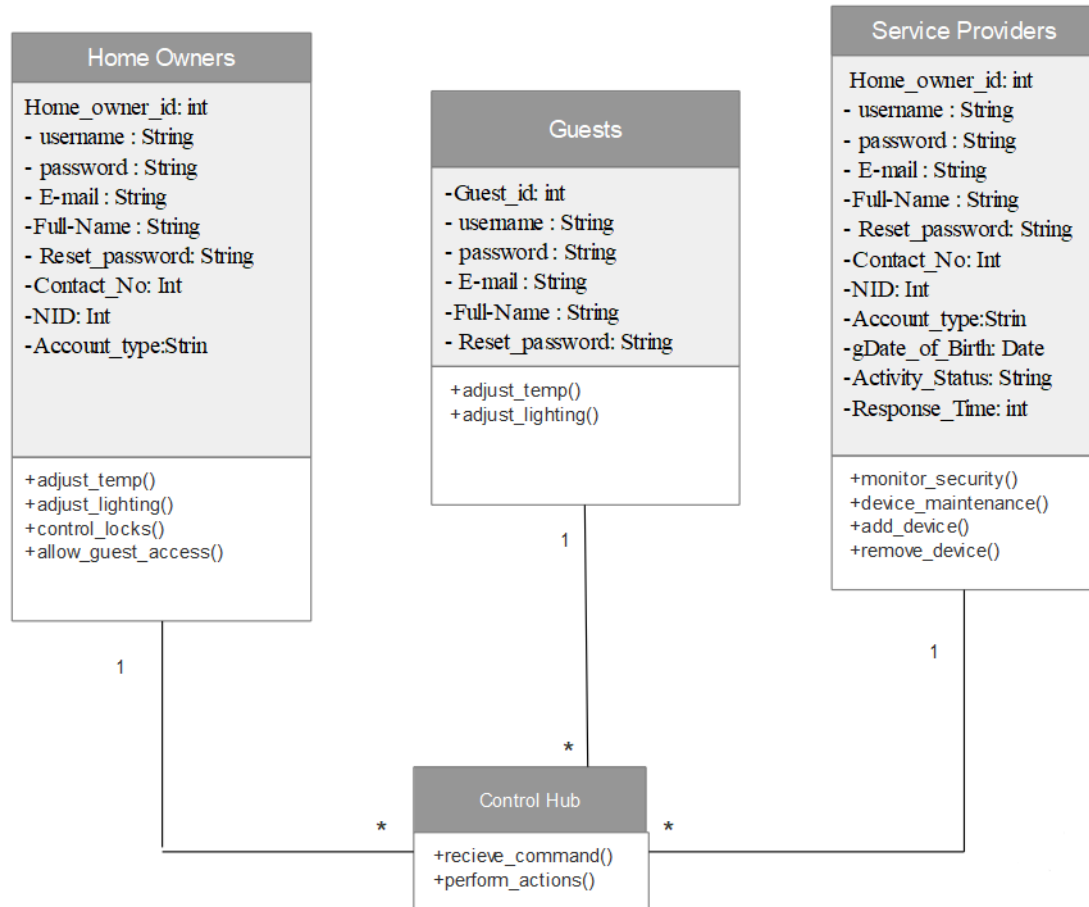


Figure 3: Class Diagram

4.2 Data Dictionary

Table 1: Data Dictionary

Entity	Attribute	Type/Size	Validation	Key
Home owner	Home_owner_id	Number(4)	1000-9999	
	username	Text (25)	required	
	Full name	Text (25)	required	
	Password	Text (25)	required	
	Reset_Password	Text (25)	required	
	Email	Text (25)	Required	Primary Key
	Contact_no	Text(15)	+880*****	
	NID	Number (12)	Required	
	Account_type	Text (10)	User	
Guest	Guest_id	Text (7)	100000-999999	
	username	Text (25)	required	
	Full name	Text (25)	required	
	Password	Text (25)	required	
	Reset_Password	Text (25)	required	
	Email	Text (25)	Required	Primary Key
	Contact_no	Text (15)	+880*****	
	NID	Number (12)	Required	
	Account_type	Text (10)	Guest	
Service provider	Service_provider_id	Text (6)	10000000-999999	
	username	Text (25)	required	
	Full name	Text (25)	required	

	Password	Text (25)	required	
	Reset_Password	Text (25)	required	
	Email	Text (25)	Required	Primary Key
	Contact_no	Text (15)	+880*****	
	NID	Number (12)	Required	
	Date_of_birth	Date	Valid date	
	Activity_status	Text (10)	“Active” / “Idle”	
	Account_type	Text (10)	Volunteer	
	Response_Time	date and time	Valid time	
	Cost_per_month	Text (8)	Required	

4.3 UI/UX Design Specification

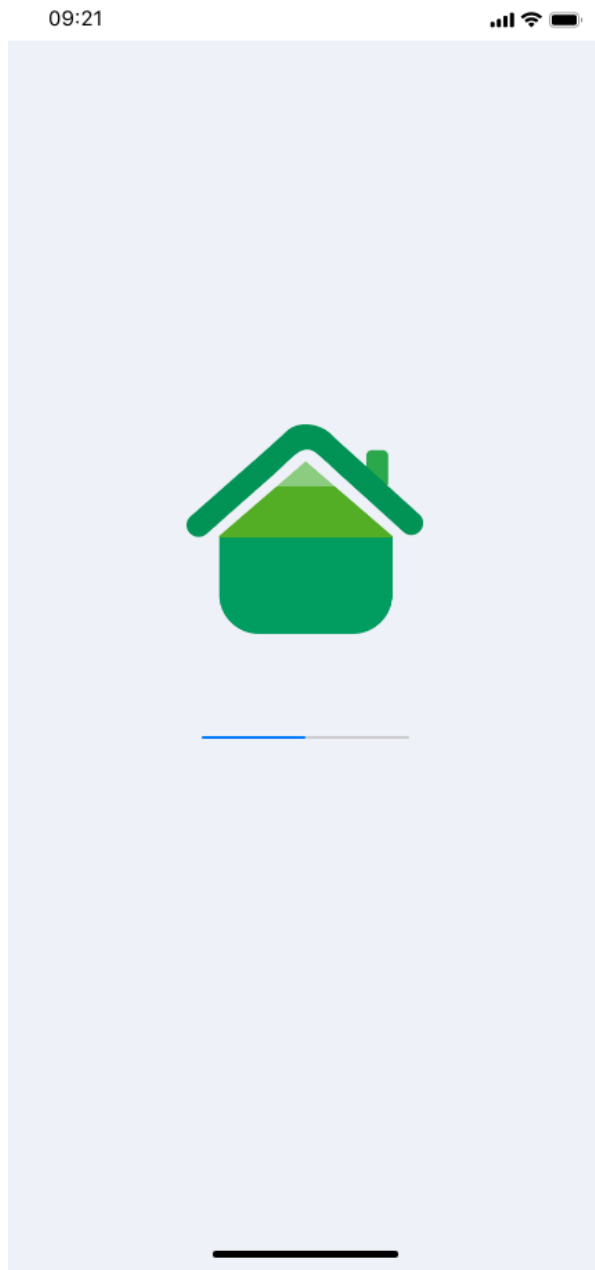


Figure 4: Loading Screen

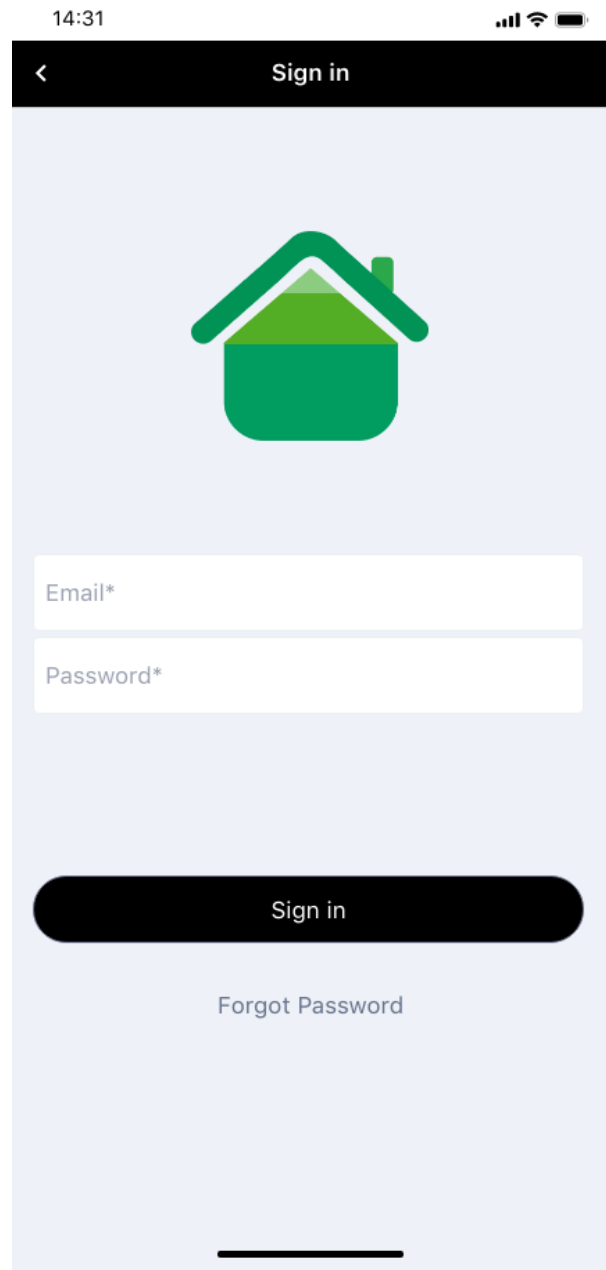


Figure 5: Login Screen

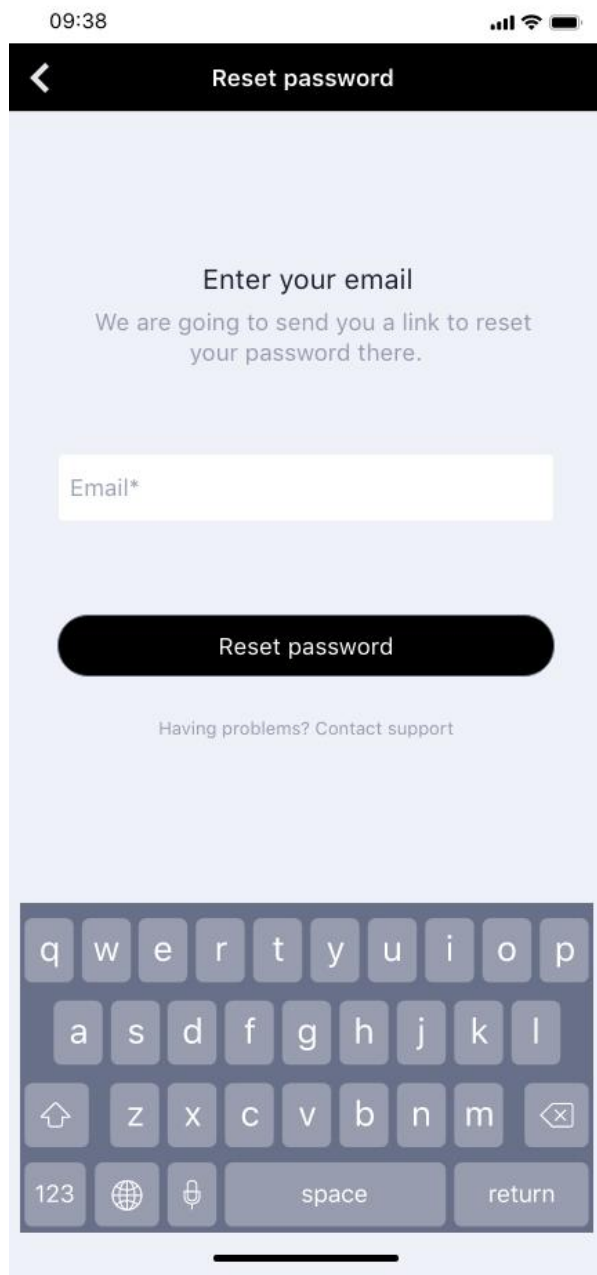


Figure 6: Reset Password

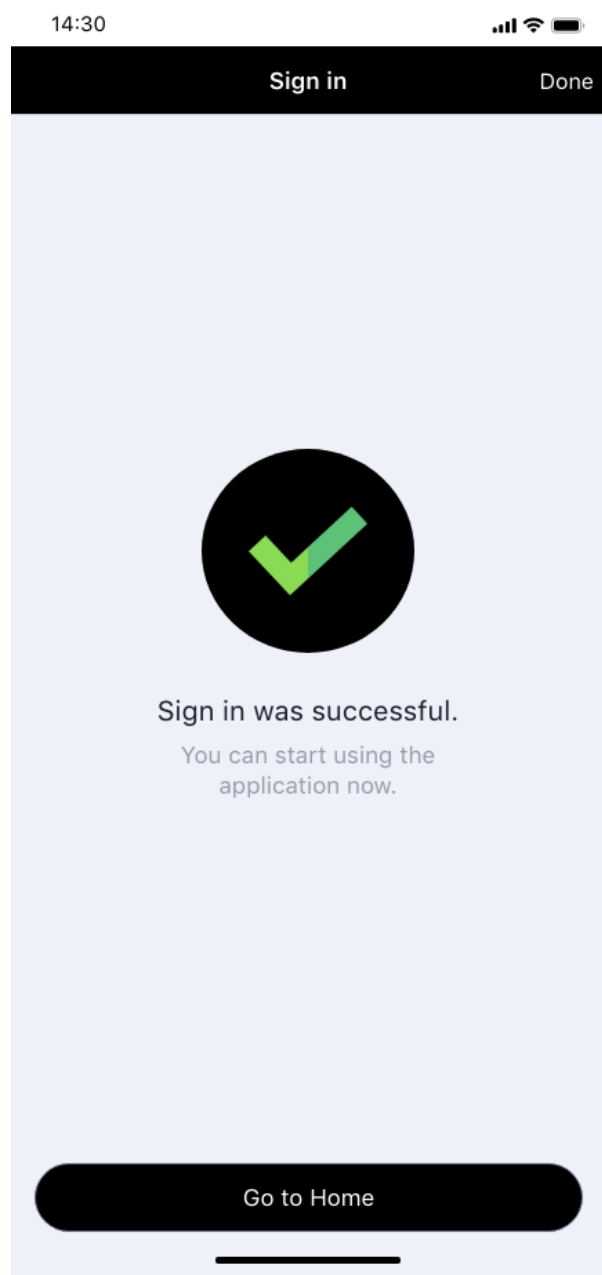


Figure 7: Sign page

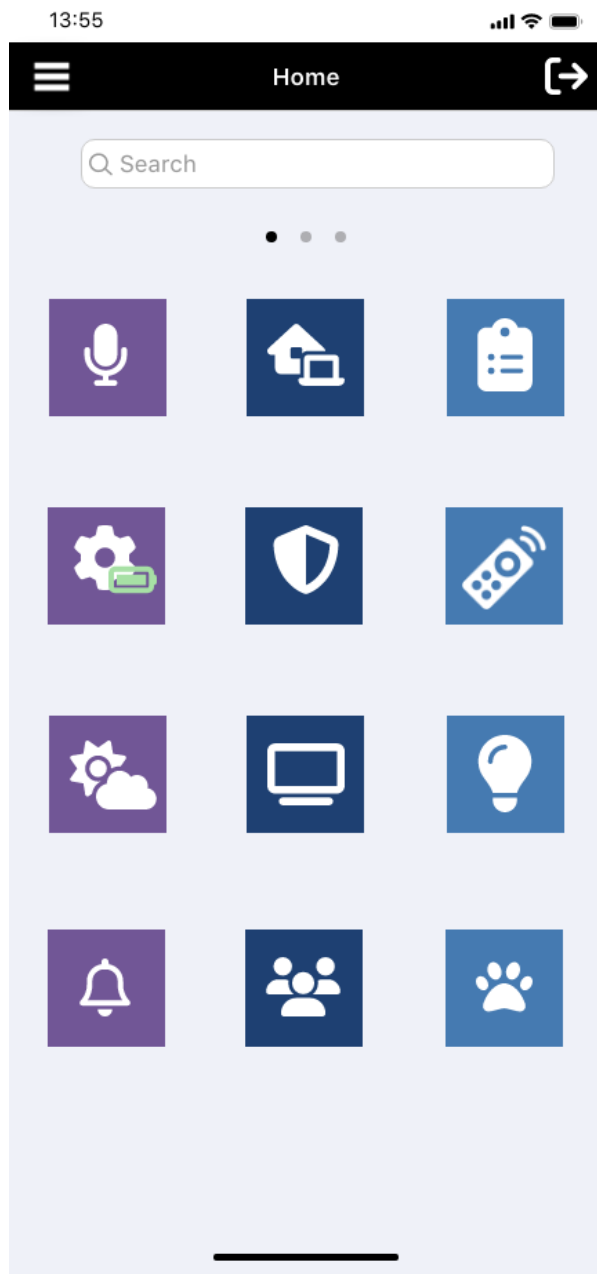


Figure 8: Home Menu

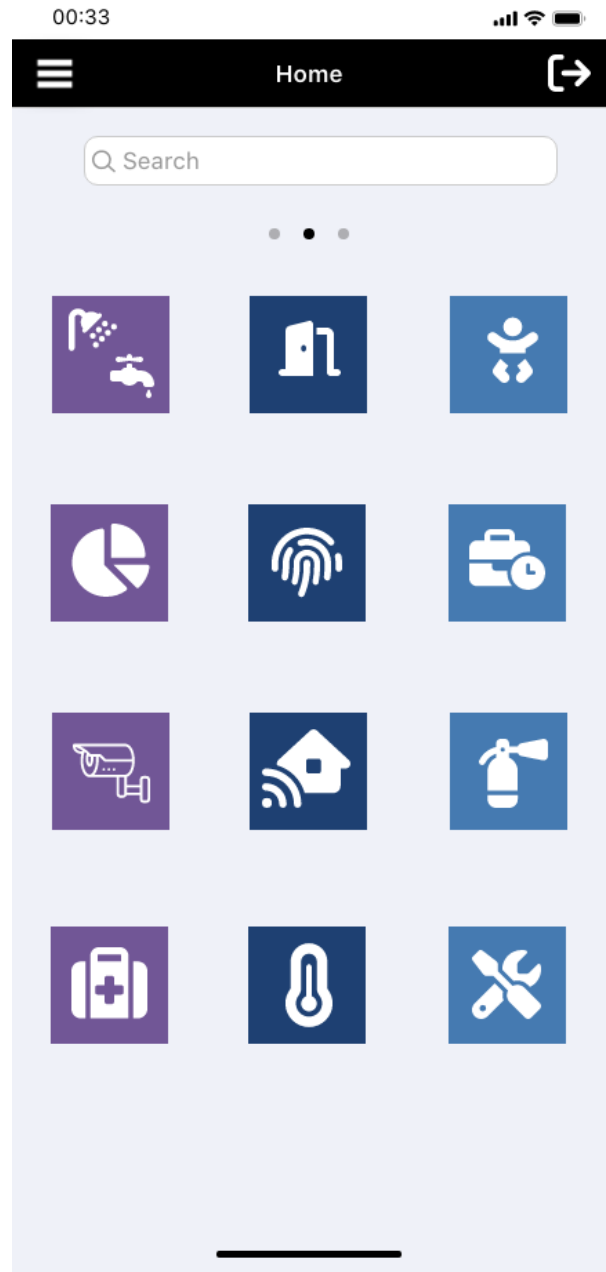


Figure 9: Home Menu 2

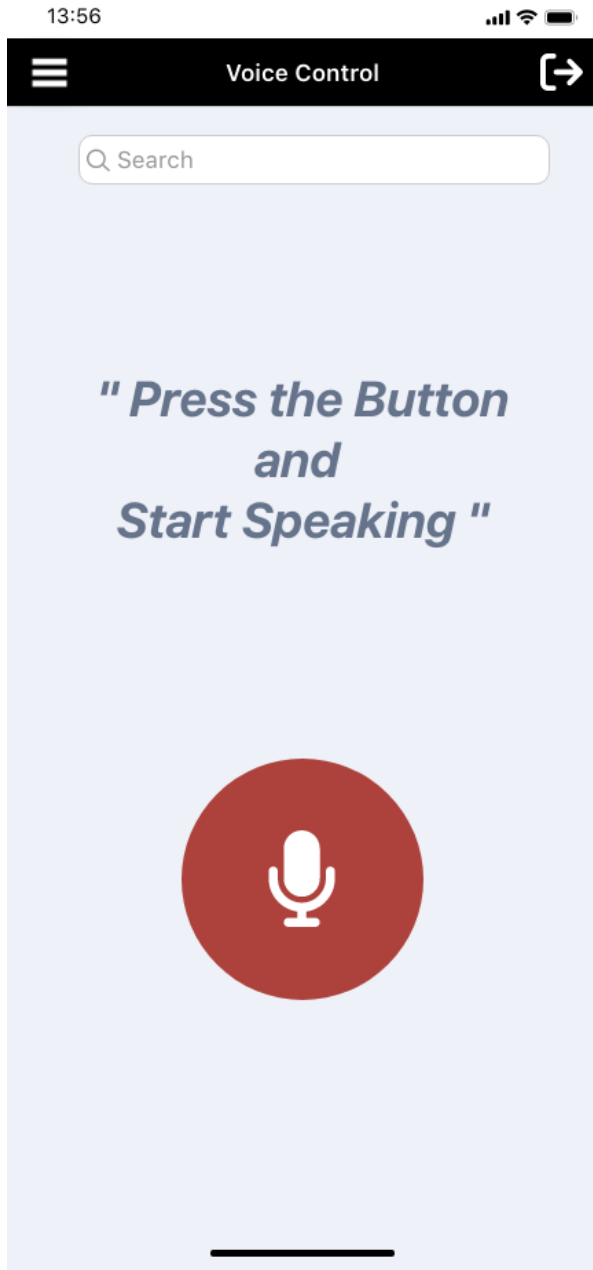


Figure 10: Voice Control

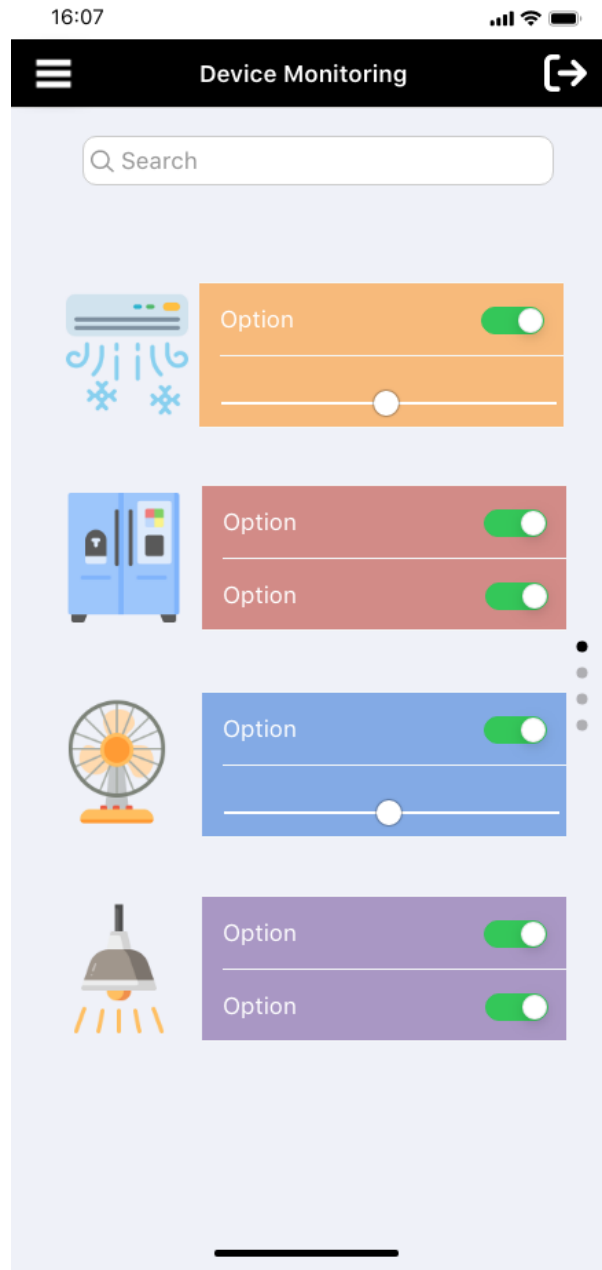


Figure 11: Device Monitoring

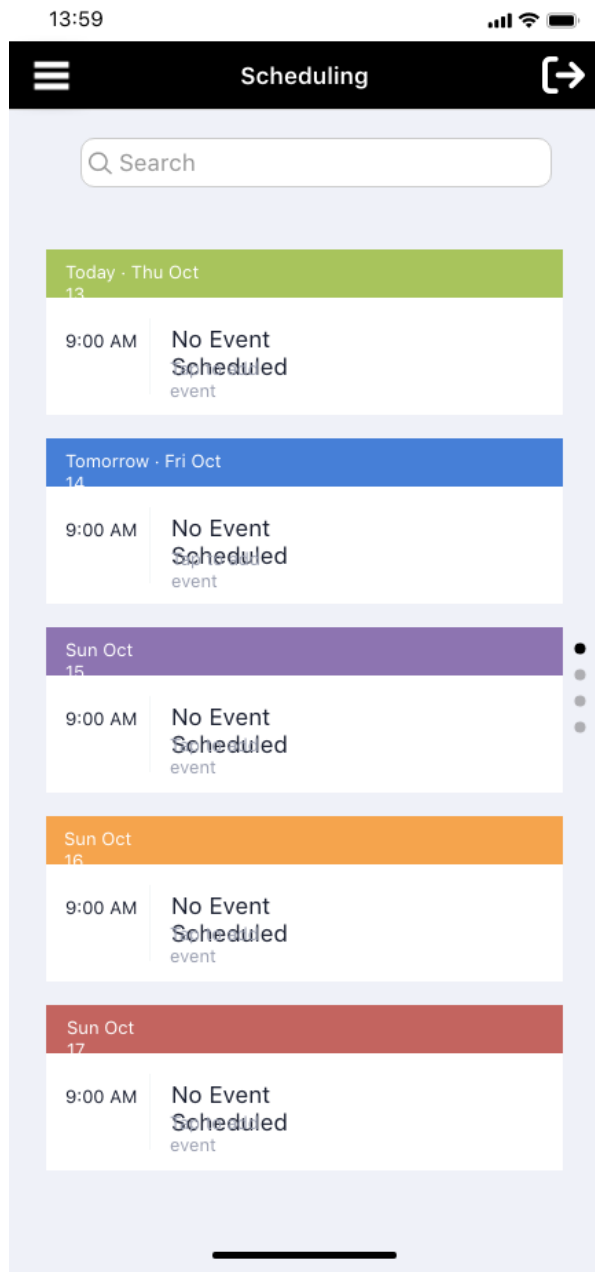


Figure12: Scheduling

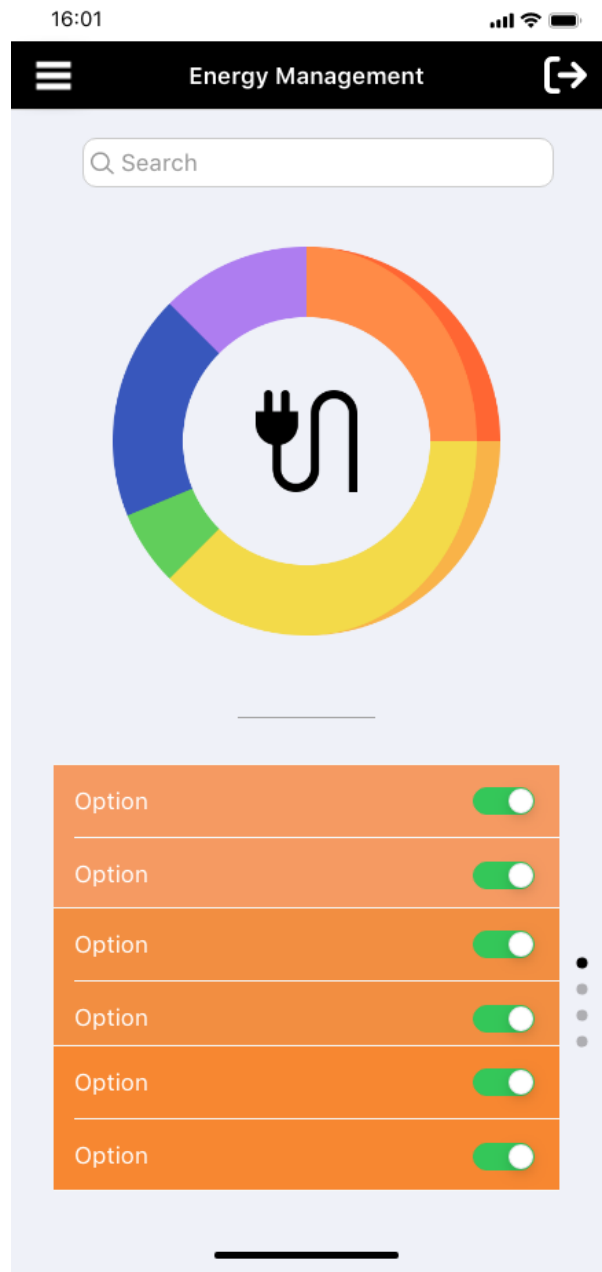


Figure 13: Energy Management

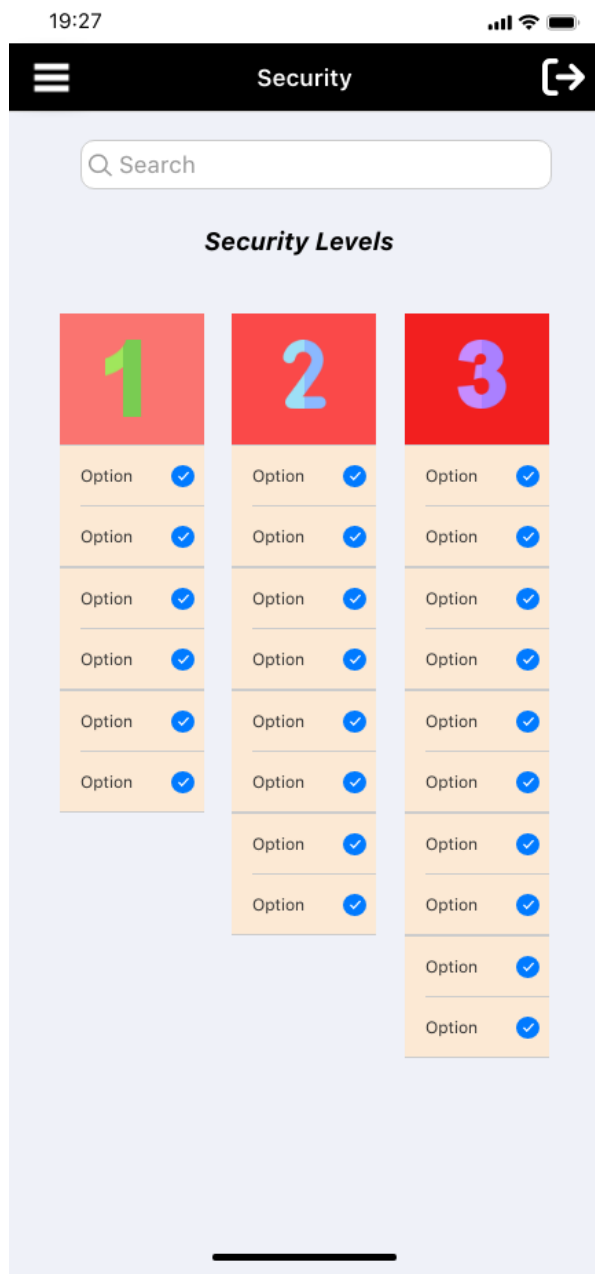


Figure 14: Security

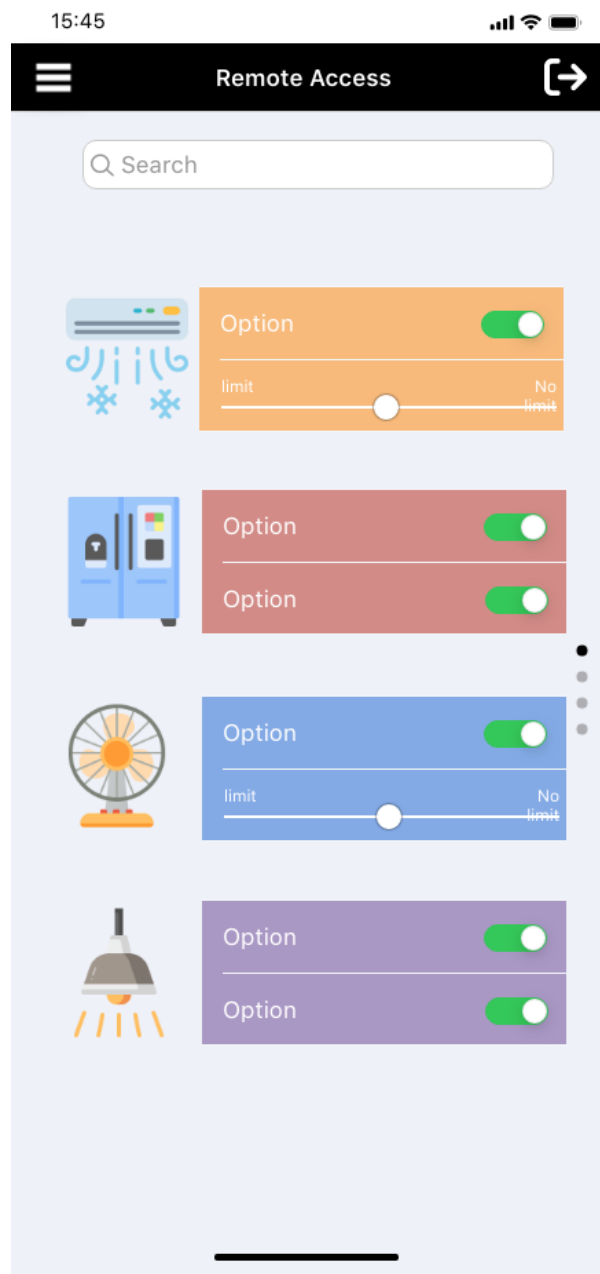


Figure 15: Remote Access

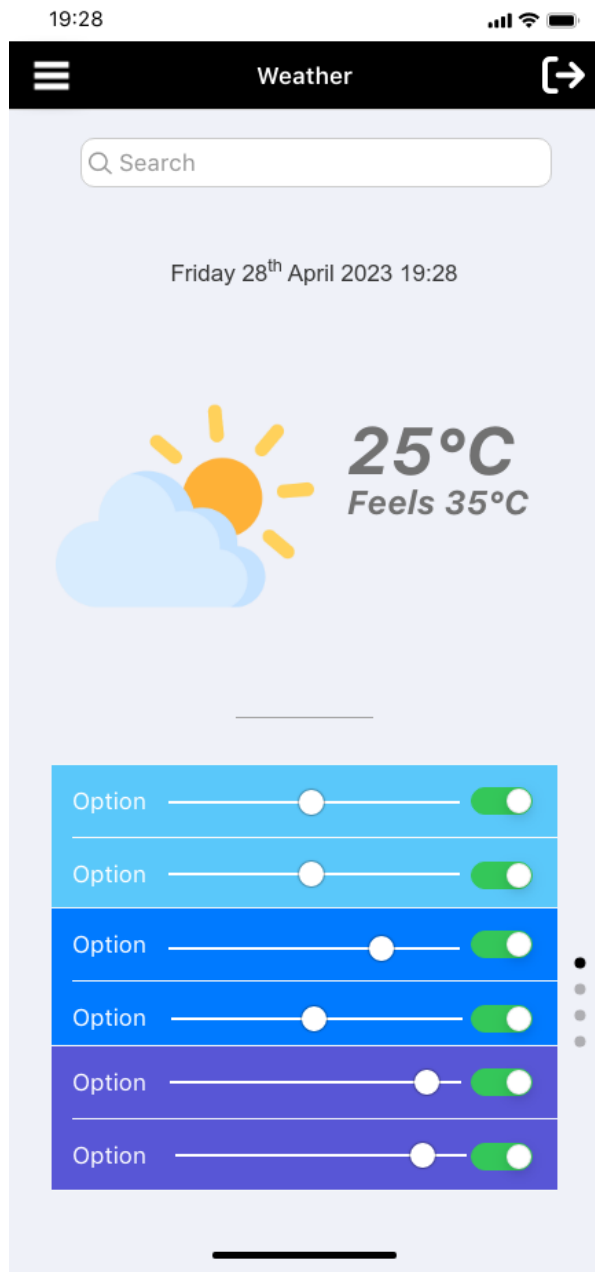


Figure 16: Weather



Figure 17: Entrainment

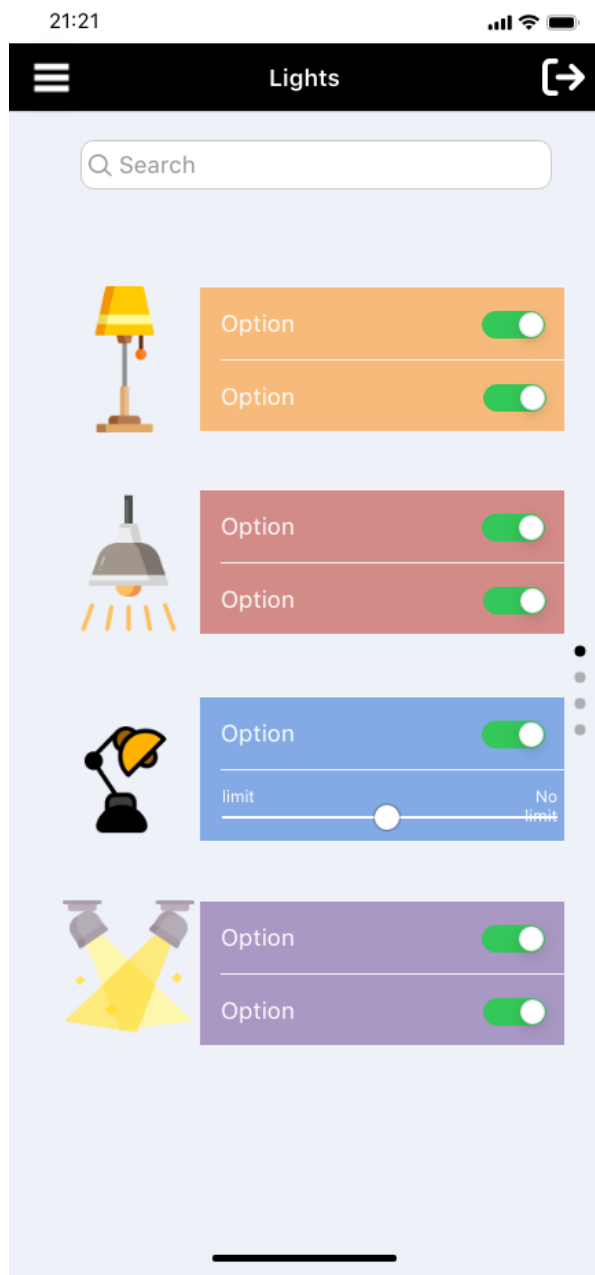


Figure 18: Lights

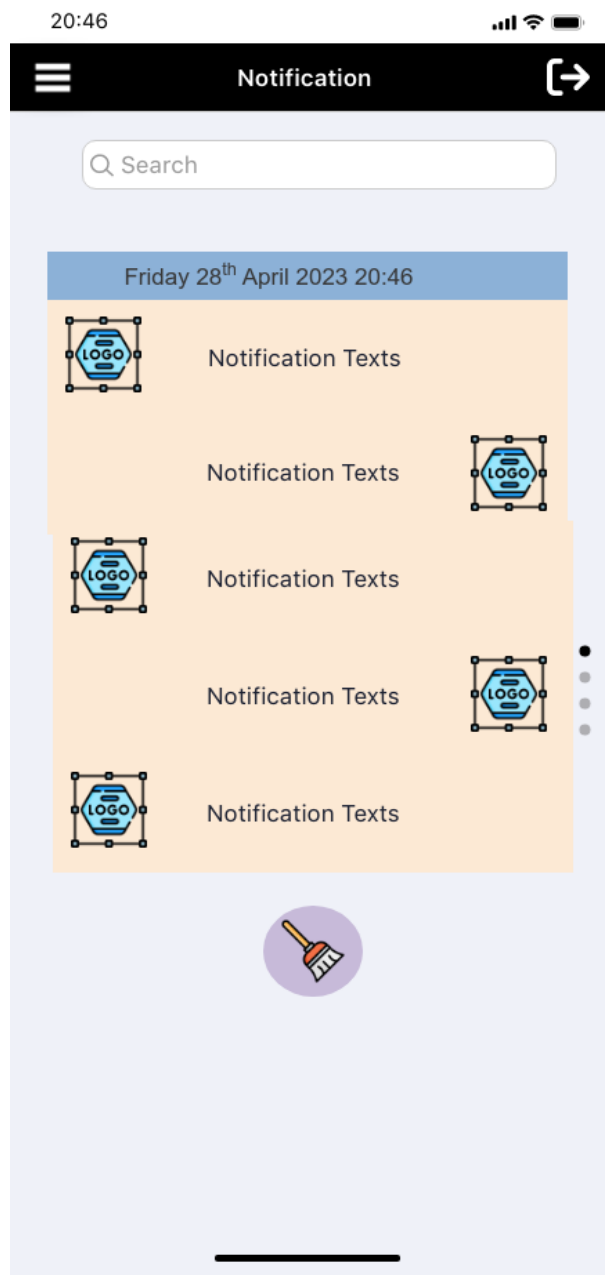


Figure 19: Notification

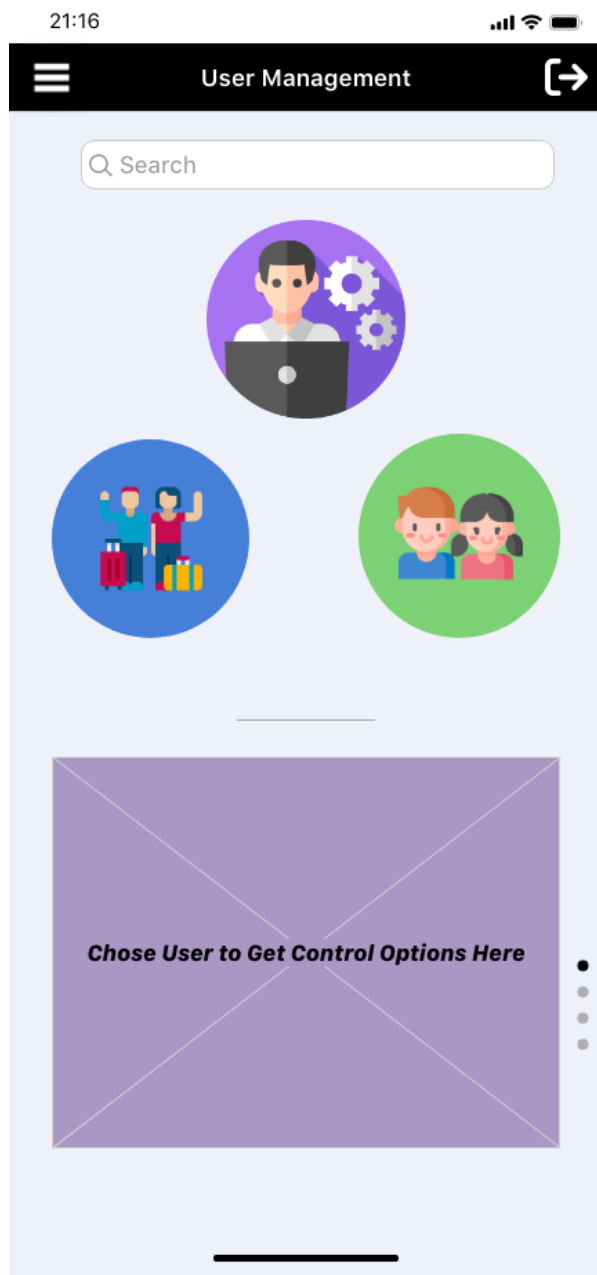


Figure 20: User Management

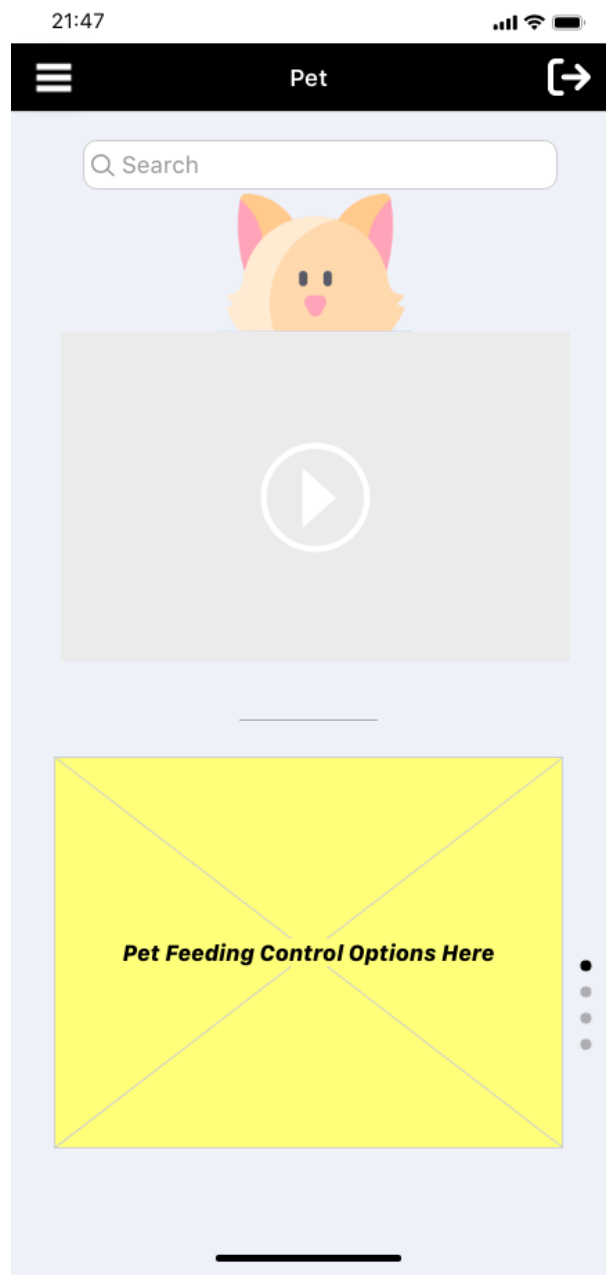


Figure 21: Pet

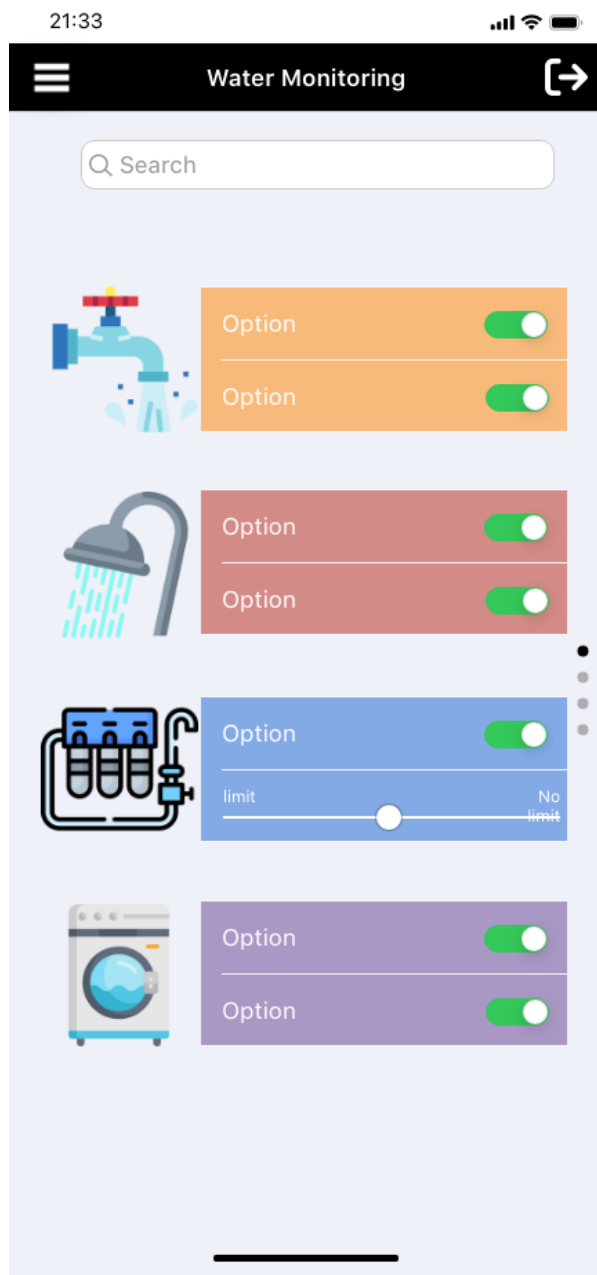


Figure 22: Water Monitoring

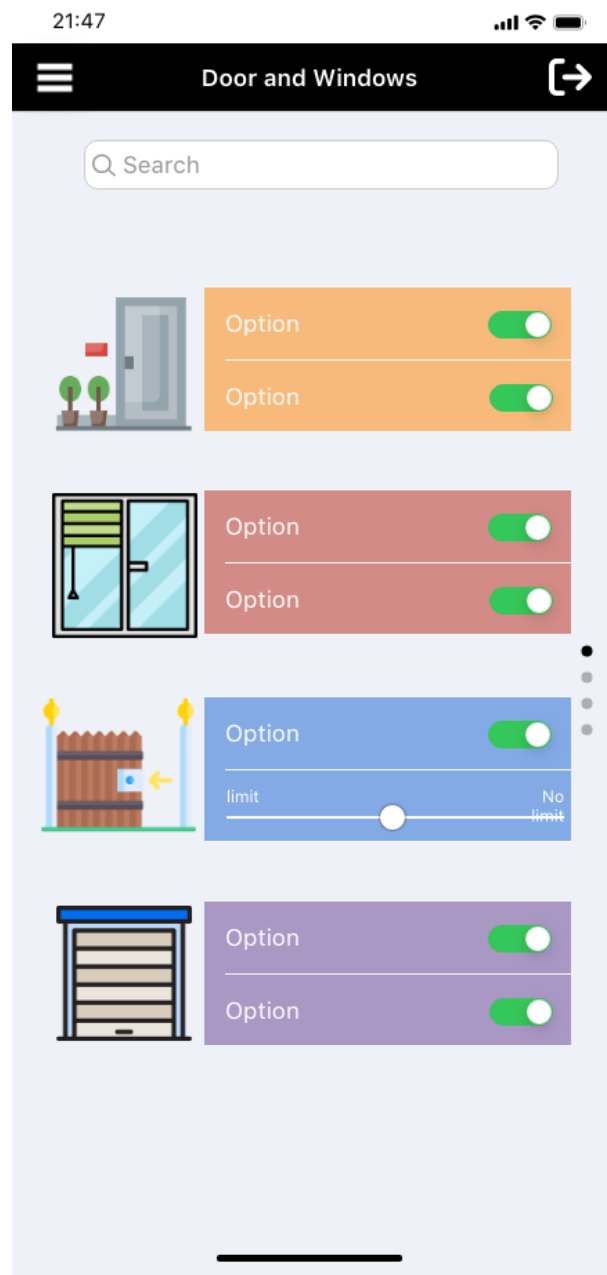


Figure 23: Door and Windows

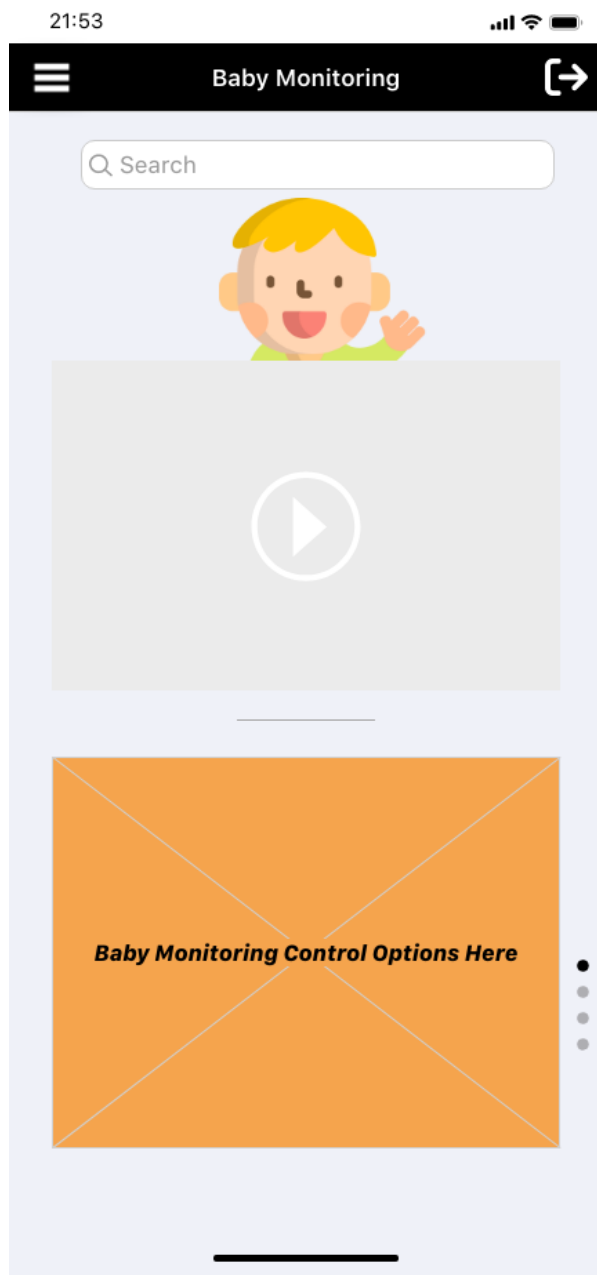


Figure 24: Baby Monitoring

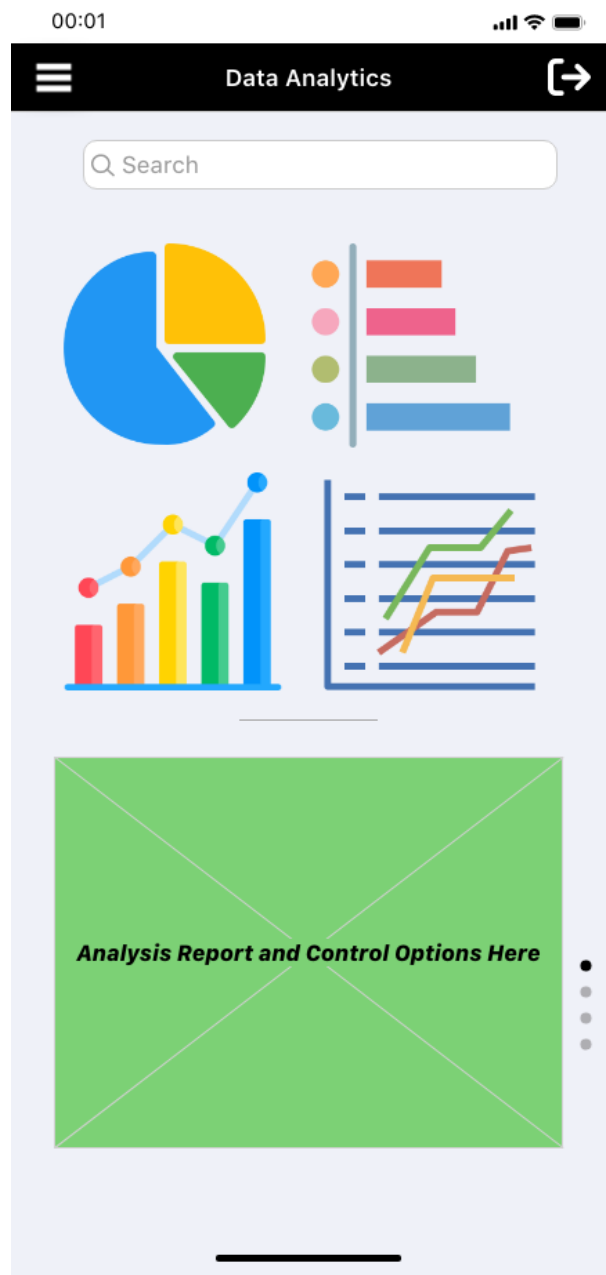


Figure 25: Data Analytics

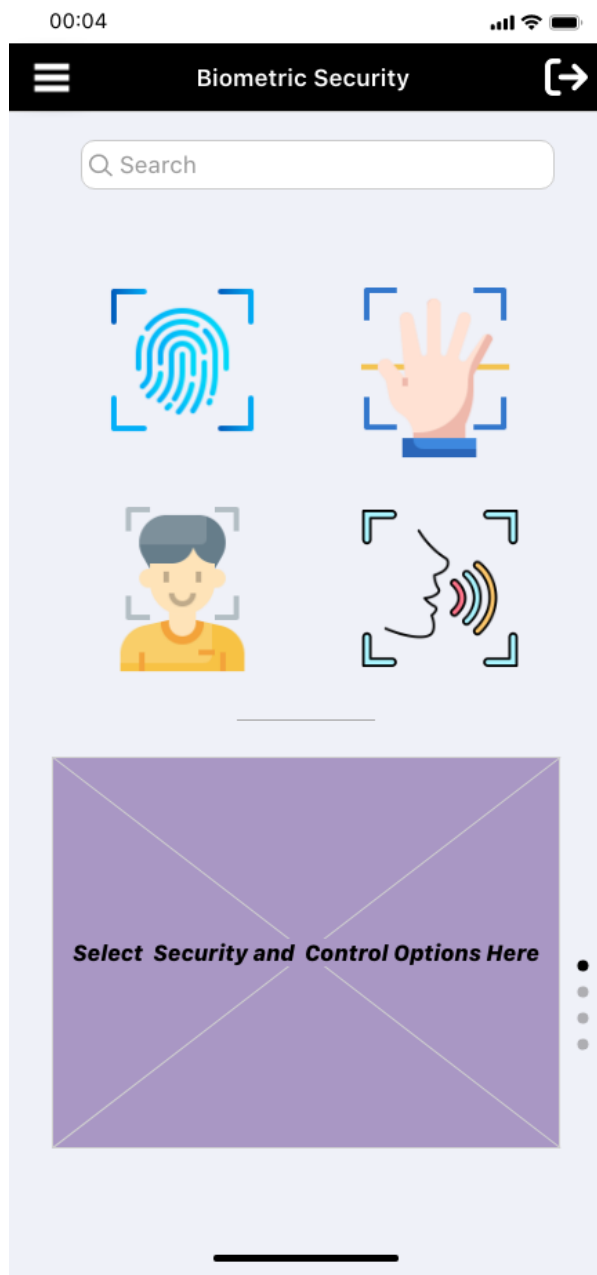


Figure 26: Biometric Security

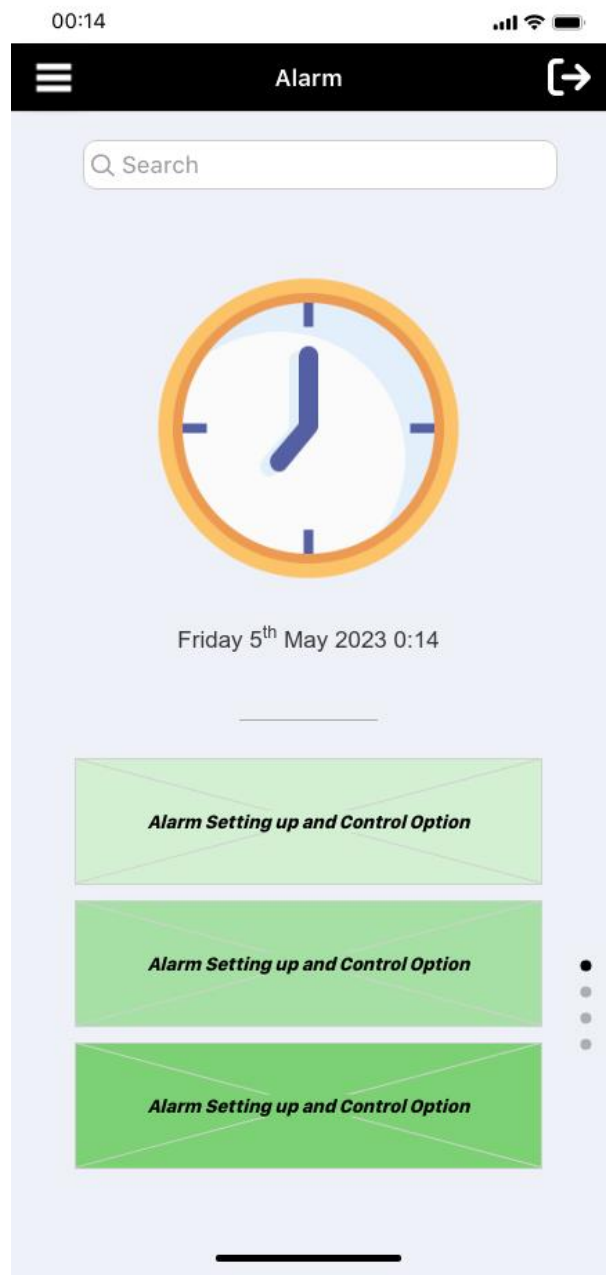


Figure 27: Alarm

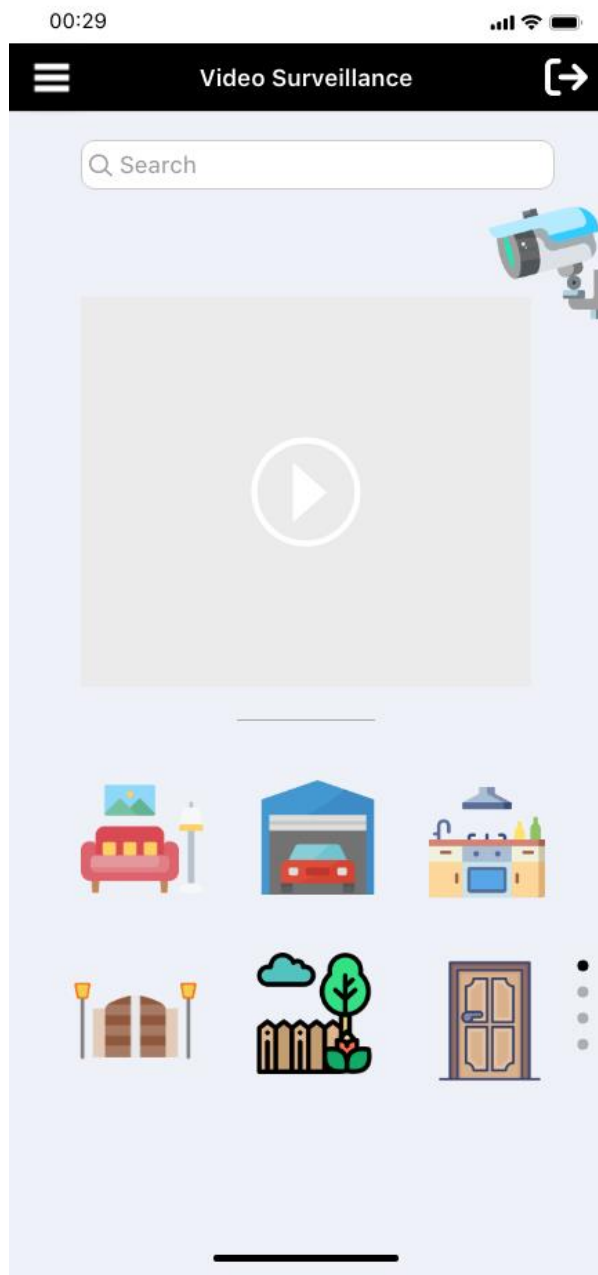


Figure 28: Video Surveillance

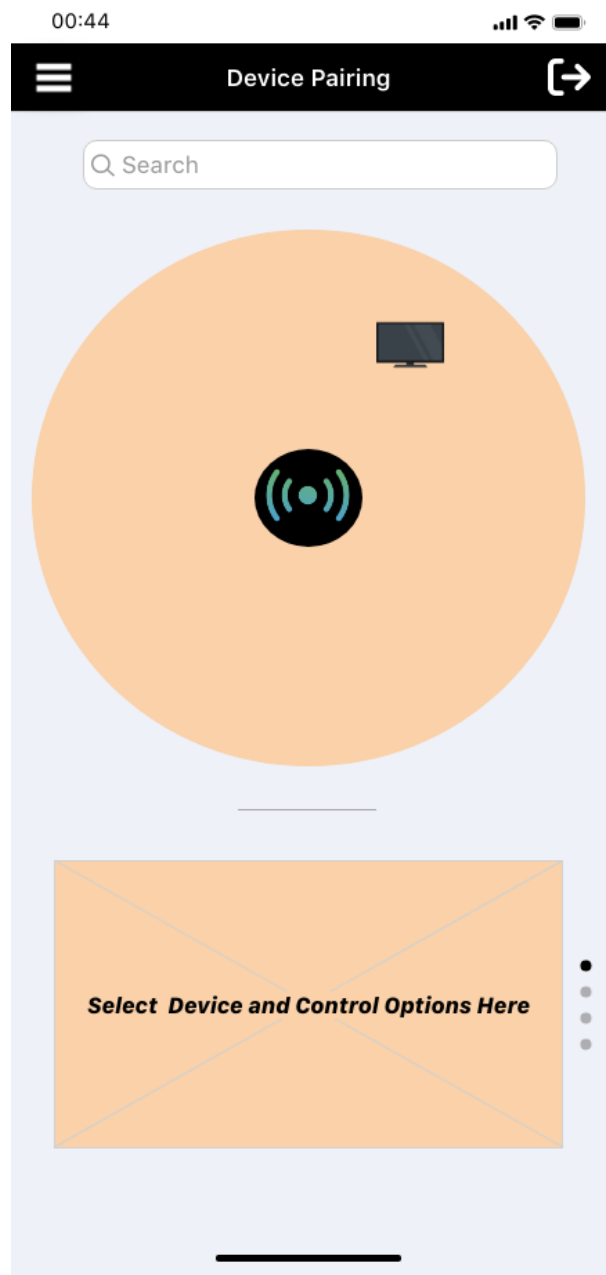


Figure 29: Device Pairing



Figure 30: Fire safety



Figure 31: Medical Alert

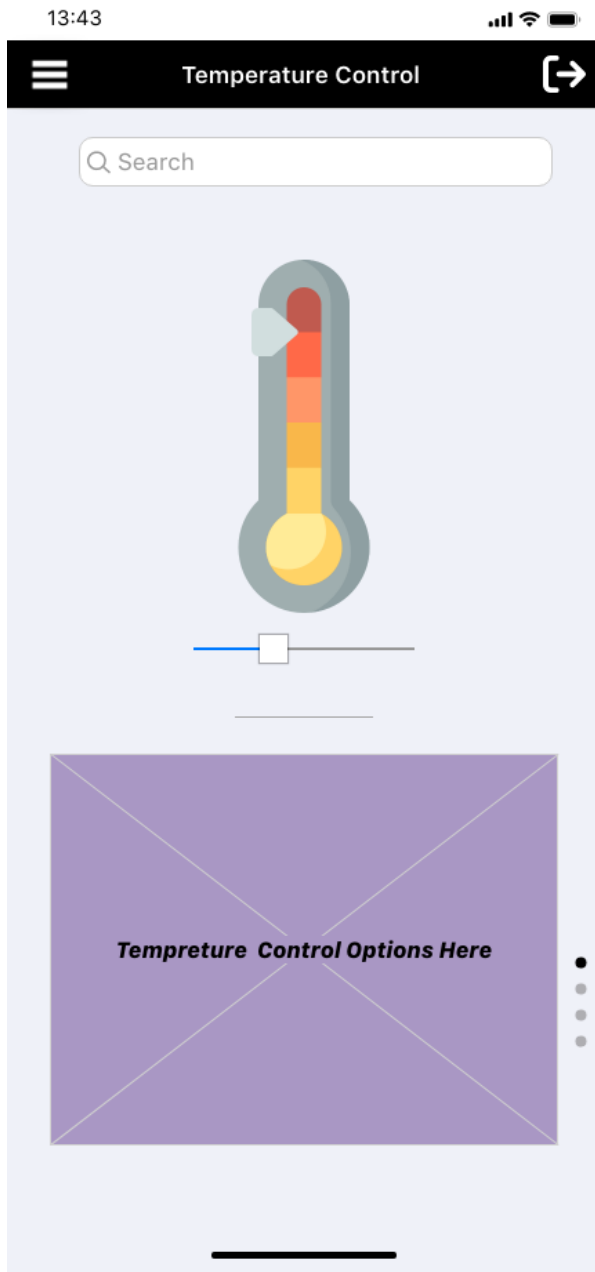


Figure 32: Temperature Control

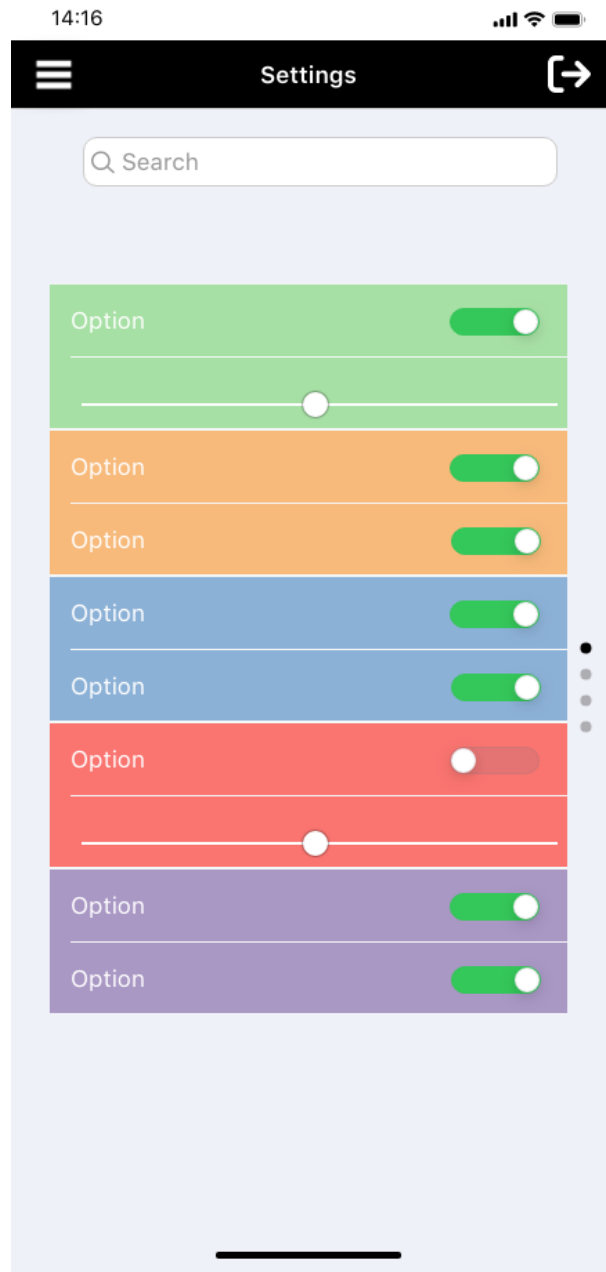


Figure 33: Settings

5. Conclusion

In conclusion, the Smart Home Automation System project aims to deliver a user-friendly and efficient solution for enhancing home functionality, security, and convenience. With features like temperature control and child monitoring, the system ensures comfort, safety, and peace of mind. By adhering to agile development practices and focusing on non-functional requirements, the project aims to deliver a high-quality, reliable, and scalable solution that meets the needs of homeowners. Overall, the Smart Home Automation System project strives to revolutionize the concept of a smart home and provide a seamless integration of advanced technologies for an enhanced living experience.