Version: 1.0

Date: 26 May 2023

Author: Tuqa Al Qadi

Table of Contents:

1. Introduction

Welcome to the user manual for iRet Application. This manual will guide you through the installation, setup, and usage of the software application. It is designed to provide you with a comprehensive understanding of the features and functionality.

2. Installation & Getting Started

To install the software application, please Install the application from this link: [Application Link](#)

Once the installation is complete, you can launch the software application by clicking on the icon of the application.

3. User Interface Overview & Features

The user interface of the software application is designed to be user-friendly and intuitive. The main components of the interface include:

3.1. Sign up, Sign in pages

IRET
APP

Email

Password

Login

Don't have an account? **Sign up**
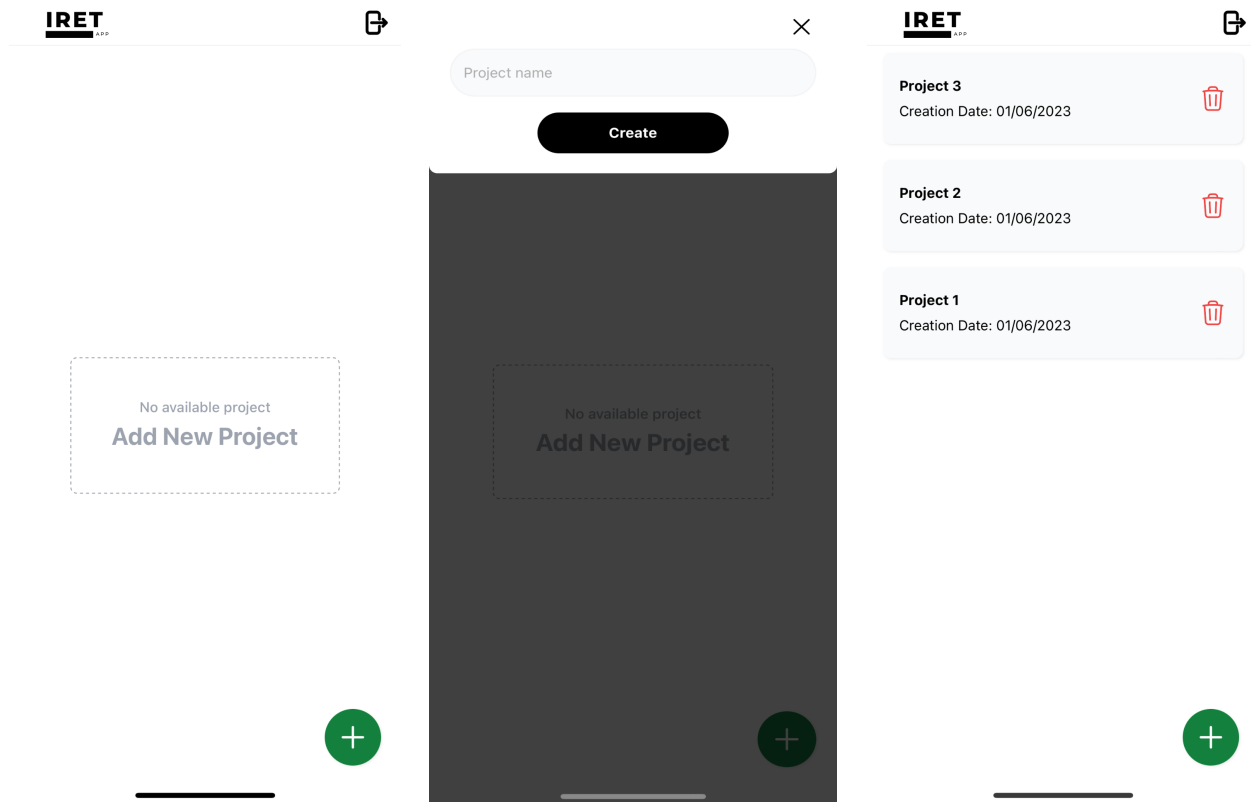
IRET
APP

Name
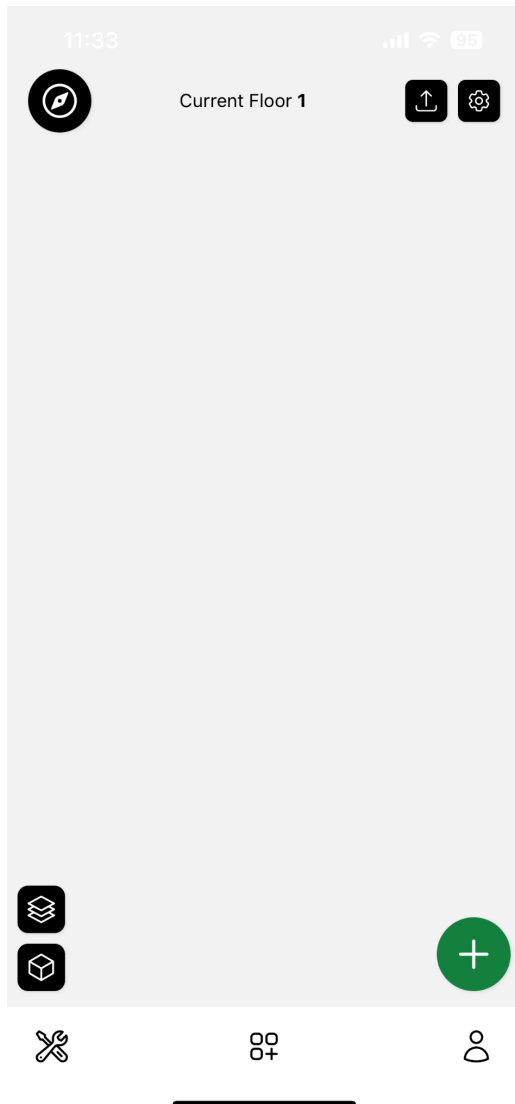
Email

Password

Sign up

Already have an account? **Login**

3.2. Project Screen page

- This page will have all of the projects created by the user, by default there is no projects, click on the green plus button and add a new project
- After Adding your project it will appear instead of the placeholder so you can delete it or access it by clicking on the card.

3.3. 2D playground

This page consists of Navigation bar that will redirect to (left to right):
1. Construction page
2. Material page
3. User Management page

Top icons functionalities are (left to right):
1. Compass Icon: will open a modal to select the value of the compass
2. **Export Icon:** will redirect to the simulation page
3. Setting Icon: will open global parameters page for the HVAC system

Bottom icons functionalities are (left to right):
1. **Cube Icon:** converts to 3D view
2. **Stack Icon:** to create multiple floors
3. **Green Plus Icon:** modal to add a new room or roof

3.3.1. Compass Modal

The user has two options here either to enter the number of the compass manually or use the device and move it around to get the compass value.
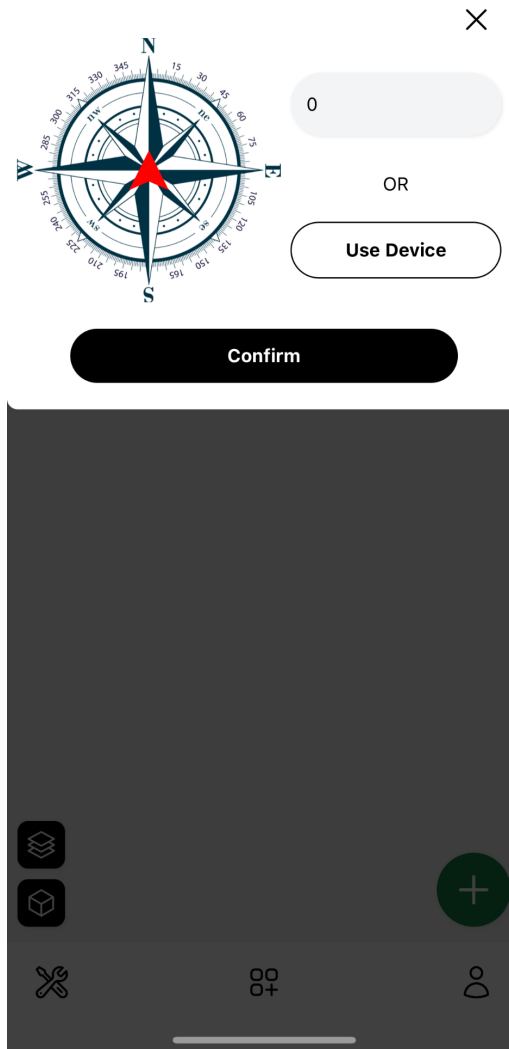
3.3.2. Room/ Roof Modal

The user can add a room and a roof from this modal, in the first floor users are unable to add a roof so the roof starts to appear from the second floor.
*Note that the width, height, and length all are in meters.
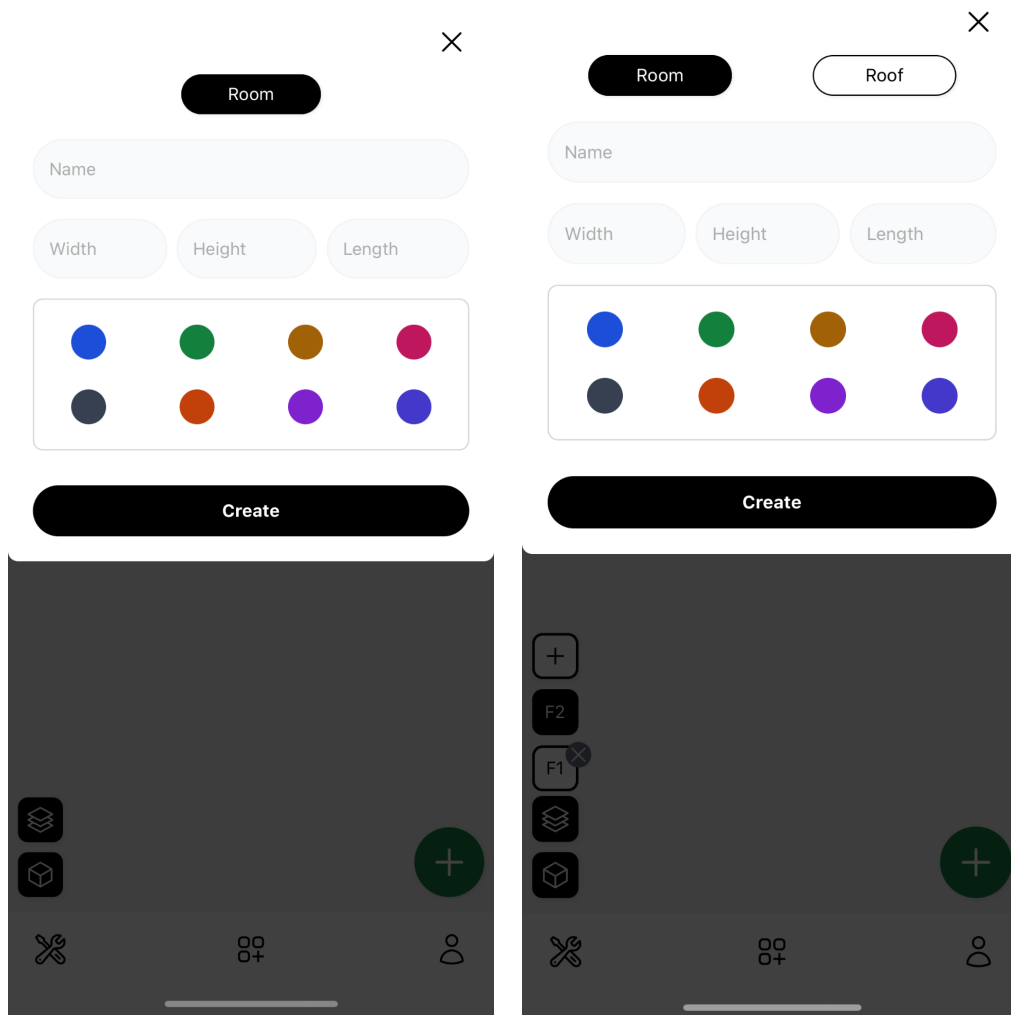
3.3.3. 2D Room

If the user long press on the room that has been created, a small popup will appear on the room it has three icons in it:

1. **Plus Icon:** When user clicks on plus icon the popover will change to be 2 options either a window or a door, here the user will be able to add a window or add a door
2. **Edit Icon:** When user clicks on edit it will redirect to edit room page
3. **Delete Icon:** When user clicks delete icon the room will be deleted
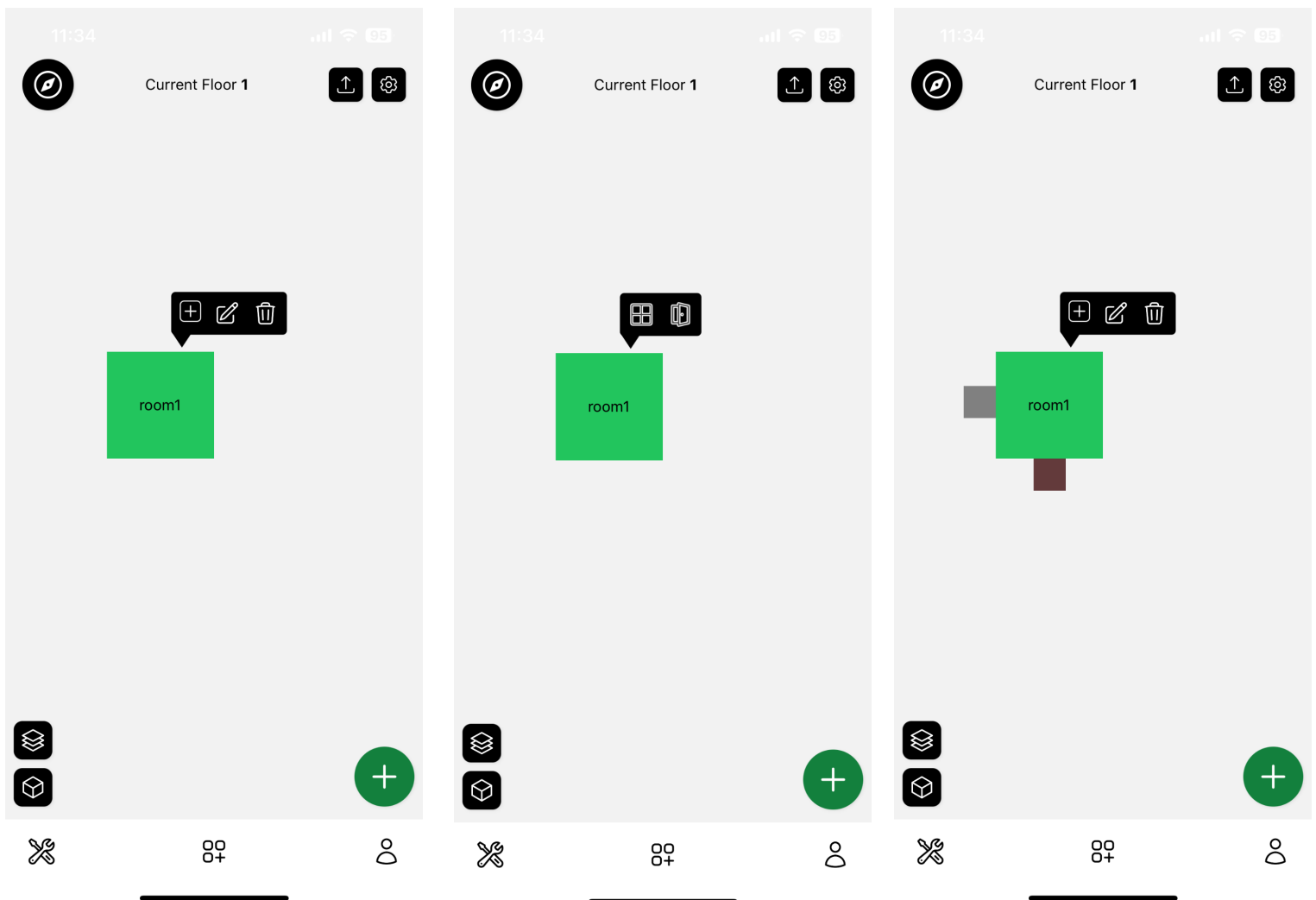
3.3.4. Edit 2D Room

If the user clicks on edit icon in the small popover it will open this page which has all of the details regarding the created room, if user click on any card of the floor or roof or wall a popup will appear in order to change the construction of the selected card
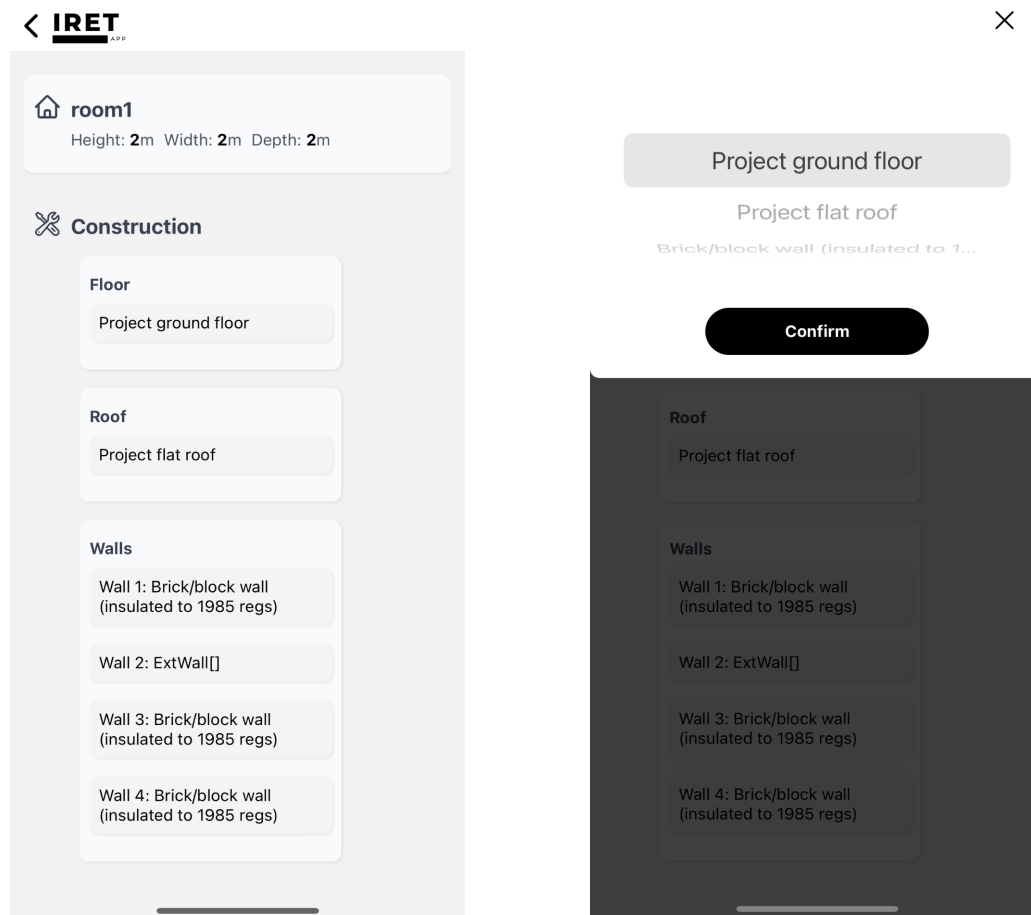
3.3.5. Multiple floors

After the user clicks on the stack icon a button of the current floor will appear as "F1" which is Floor 1, click on the plus button and create a second floor and navigate to it, you will then notice the first floor room placement where the user should build on top of.
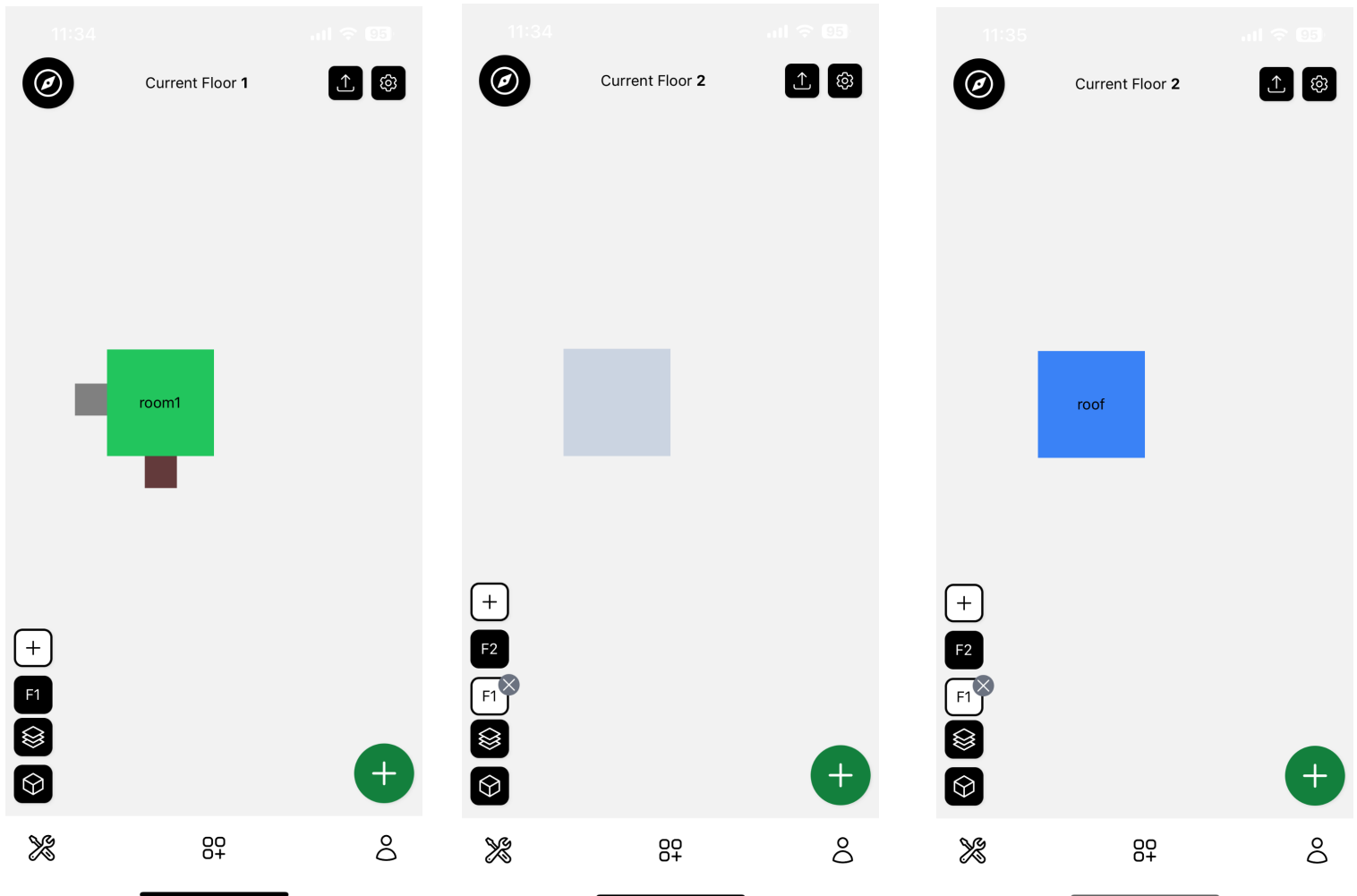
3.3.6. Convert to 3D

When user click on the cube icon, the design that has been created in the 2D playground will be reflected as 3D design
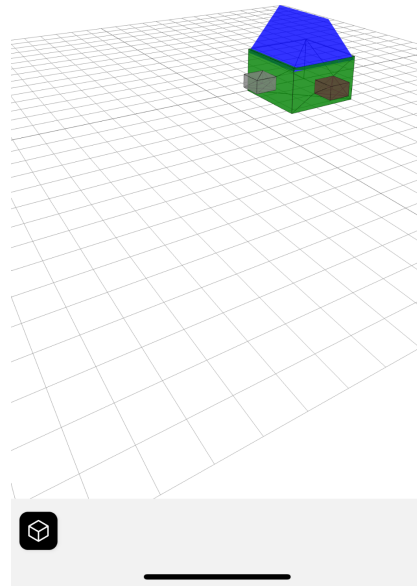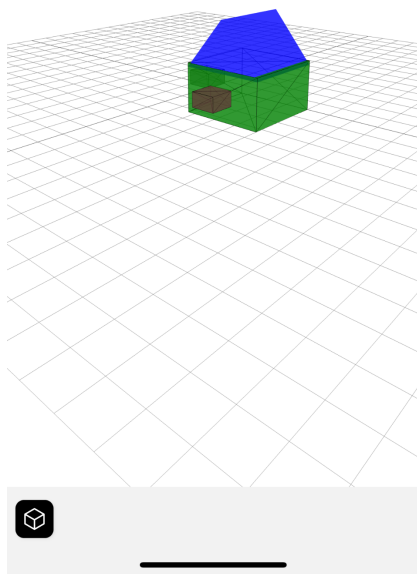
3.3.7. Global HVAC Parameters

When the user clicks on the settings icon in the top right of the screen the global parameters screen will appear, the user can modify the data in the fields and this will affect the simulation API.

3.4. Construction page

When the user clicks on the construction icon in the navigation bar the construction page which will have all of the constructions for that user, and the user can add a new construction by clicking on the green plus icon.
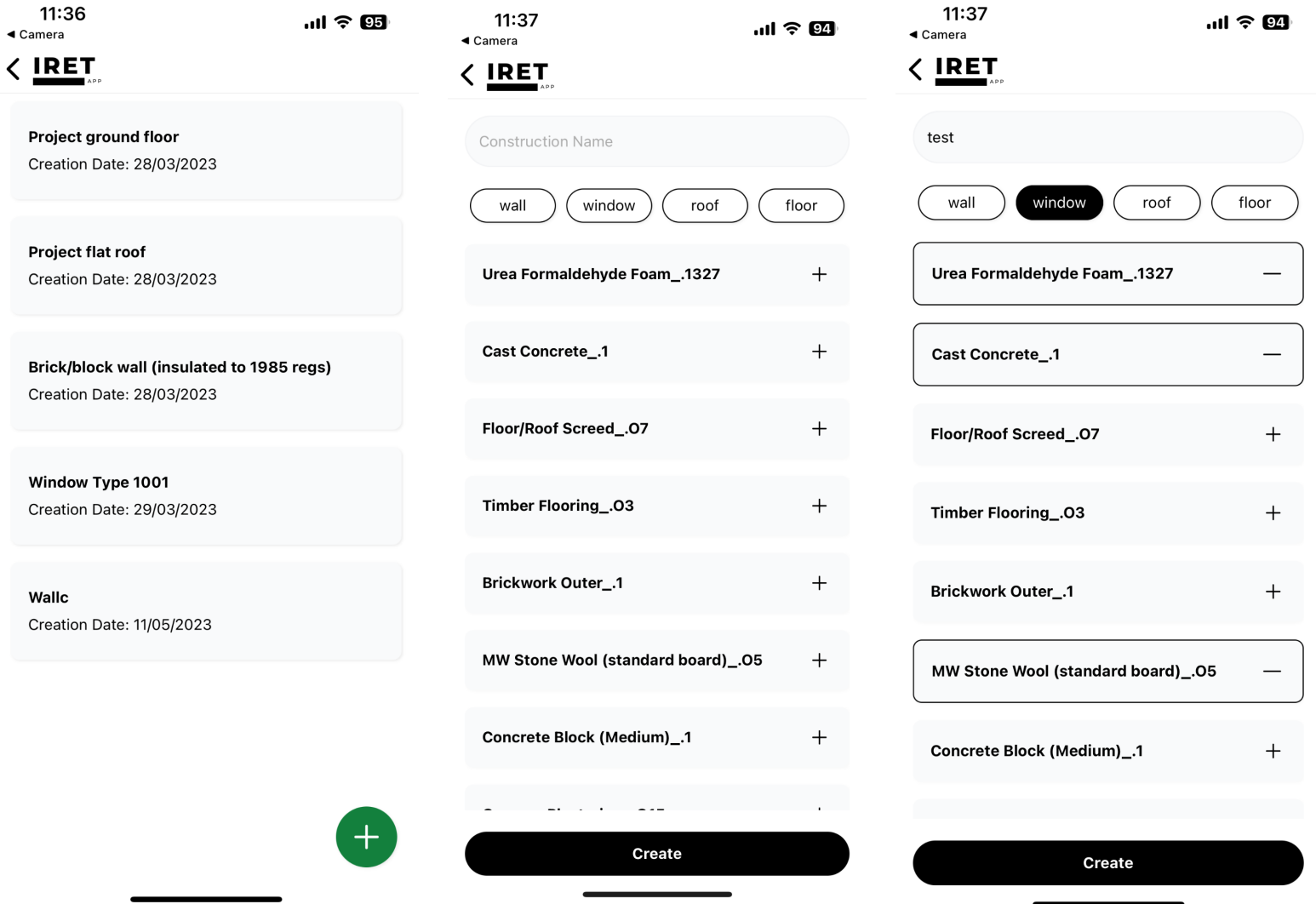
3.5. Material page

This material page is a page where the user can create a new material to be used in the construction page.

Screen 1

Air Gap | Window Gas | Glazing | Mas

Front Solar Reflectance

Back Solar Reflectance

Visible Transmittance

Front Visible Reflectance

Back Visible Reflectance

Infrared Transmittance

Front Infrared Hemispherical

Back Infrared Hemispherical

Conductivity

Create

Screen 2

Window Gas | Glazing | Mas | No Mas

Name

Thickness

Conductivity

Density

Specific Heat

Roughness

Thermal Absorptance

Solar Absorptance

Visible Absorptance

Create

Screen 3

Window Gas | Glazing | Mas | No Mas

Name

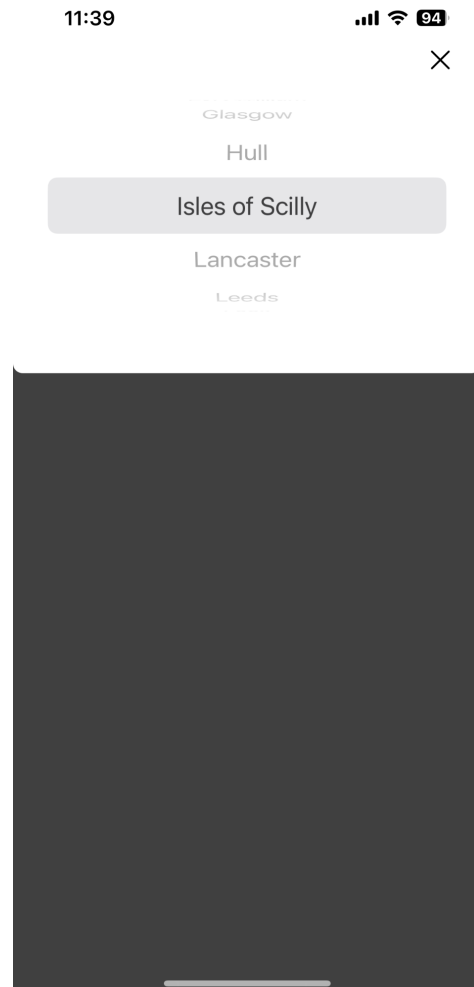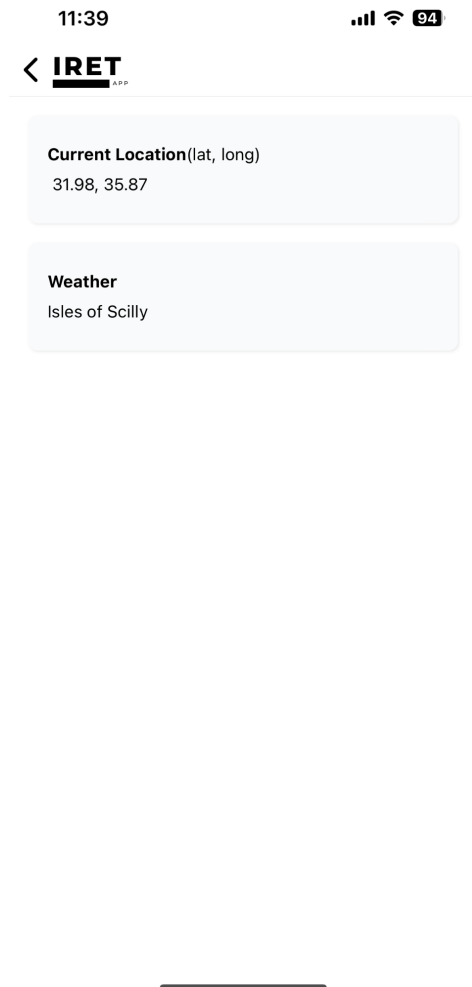Thermal Resistance

Roughness

Thermal Absorptance

Solar Absorptance
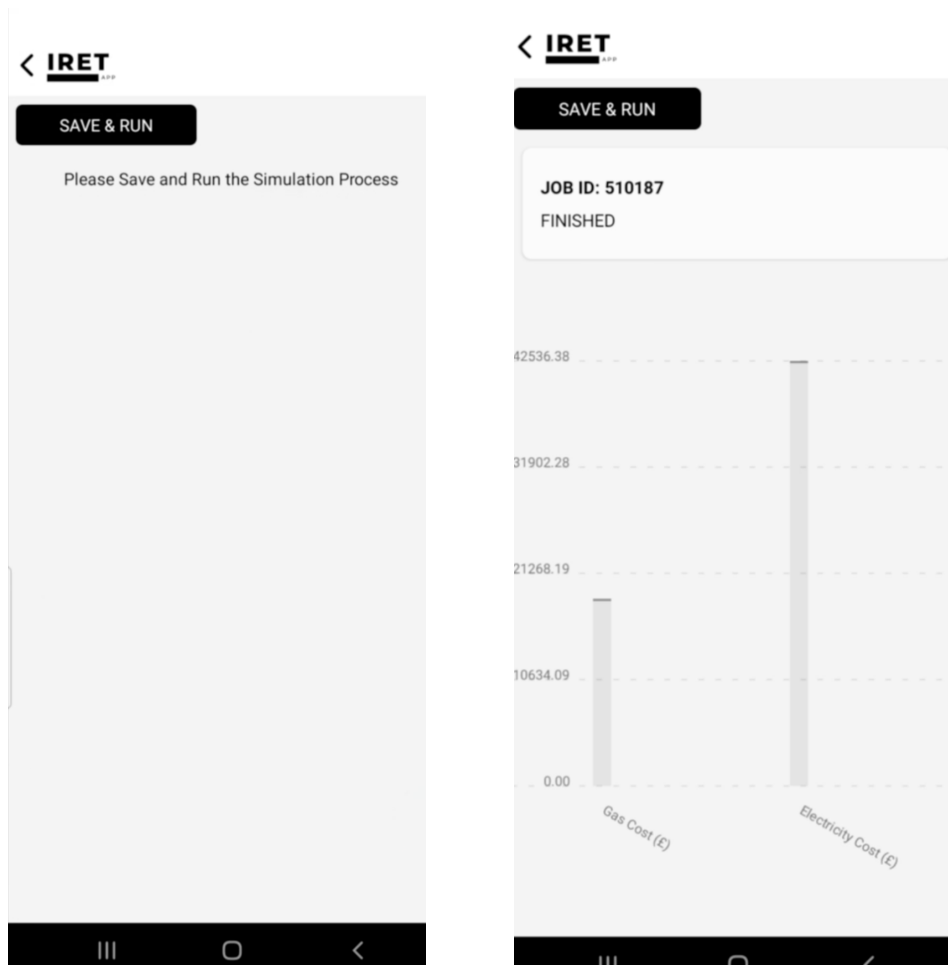
Visible Absorptance

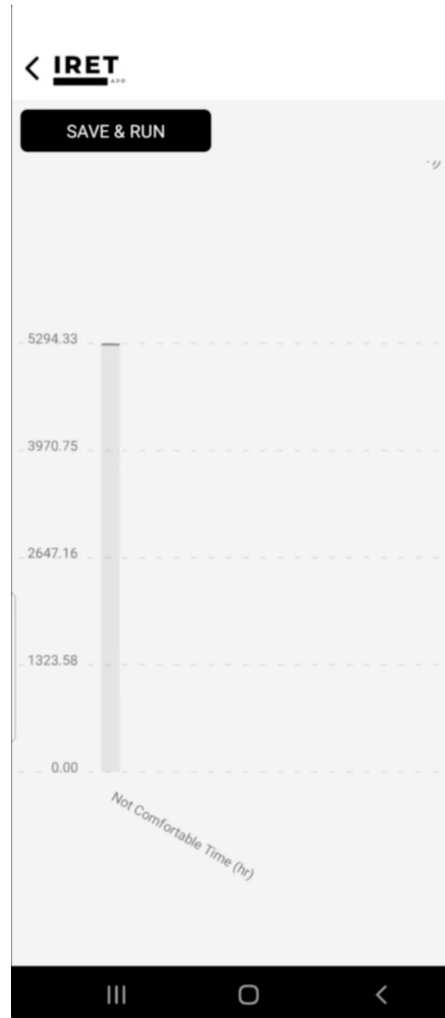**Create**

3.6. User Management page

User current location will be fetched once the user opens the page, the user can click on the current location card in order to change the location.

3.7. Simulation page

User clicks on the "SAVE & RUN" button to run the simulation, and it will fetch the results based on the inputs provided.

< IRET
APP

SAVE & RUN

1818.15

1363.61

909.08

454.54

0.00

Gas Facility (KwH)

Electricity Facility (KwH)

| | | O   <

< IRET
APP

SAVE & RUN

5294.33

3970.75

2647.16

1323.58

0.00

Not Comfortable Time (hr)

| | | O   <

4. Conclusion

Congratulations! You have completed the user manual for iRet Application. I hope this manual has provided you with the necessary information to install, set up, and use the software application effectively. If you have any further questions or require assistance, please refer to the contact details provided.