

UNIVERSIDAD AUTÓNOMA DE MADRID

ESCUELA POLITÉCNICA SUPERIOR



STORM - USER MANUAL

VERSION 1.0

January 15th, 2025

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1 English

1.1 Home Page

1.1.1 Layout

The screenshot shows the 'Rooms Summary' page of the STORM application. At the top right are theme and alert icons. Below them is a table with columns: Room, Doors (open), Windows (open), Lights (on), Cooling Devices (on), Nº of People, CO₂ (ppm), and Temperature (C°). The table contains three rows: room01, room02, and Lobby1. Each row has edit and delete buttons. Red numbers 1 through 8 are overlaid on specific elements: 1 is on the theme icon, 2 is on the alert icon, 3 is on the 'Rooms' header, 4 is on the alert count, 5 is on the 'My Rooms' dropdown, 6 is on the 'Create Room' button, 7 is on the 'Windows (open)' column header, and 8 is on the 'CO₂ (ppm)' column header. The footer includes a copyright notice and navigation links.

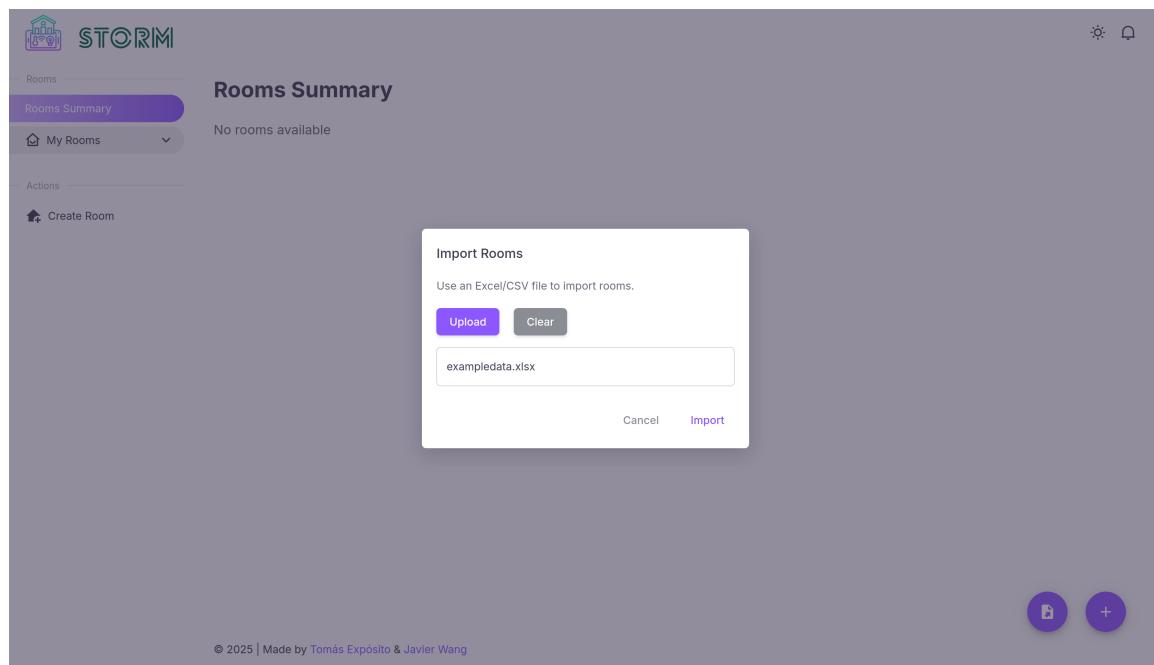
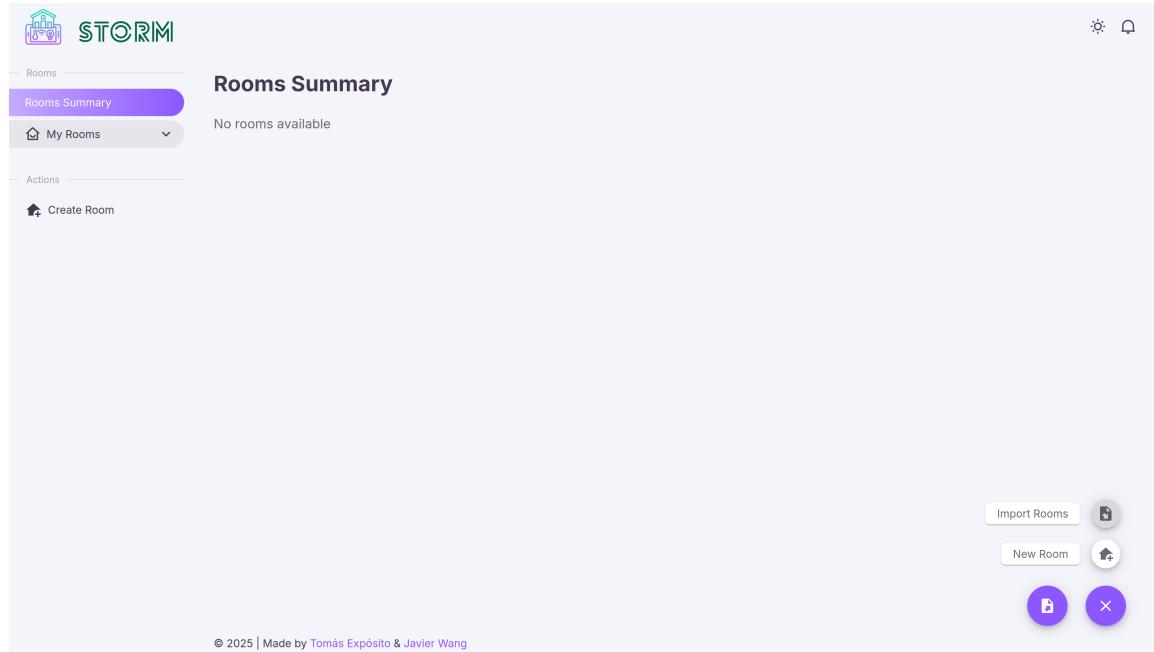
Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	Nº of People	CO ₂ (ppm)	Temperature (C°)	Edit	Delete
room01	1/2	1/2	0/0	0/1	5	500	23.00		
room02	1/1	0/2	0/0	0/1	5	500	23.00		
Lobby1	0/1	0/1	0/0	0/0	5	500	23.00		

Figure 1: Home Page

1. **Export.** Exports the database to a xlsx file. Includes information about rooms and devices, but not metrics.
2. **Actions.** Click to expand the menu. Allows the creation of new rooms and imports from an xlsx file.
3. **Theme.** Click to change between Light Theme and Dark Theme.
4. **Alerts.** Click to see recent room alerts.
5. **Rooms.** Lists rooms within the app. Each room can be clicked to be redirected to the *Room Details* page.
6. **Create Room.** Starts the creation of a room, like in 2.
7. **Device Status.** The number of active devices (on, open...) are shown on the left, and the total on the right.
8. **Metrics.** Shows in-real-time status of all rooms. Can be either Green, Yellow (warning) or Red (danger).

1.1.2 Importing Rooms

To import a pre-existing set of rooms into the application, click the *Actions* (2, bottom right) button, and press on *Import Rooms*. Then, upload an .xlsx file and click on *Import*.



The screenshot shows the STORM web application interface. At the top left is the logo 'STORM' with a building icon. On the top right are icons for brightness, refresh, and user profile. The main header is 'Rooms' with a dropdown menu. Below it is a sub-header 'Rooms Summary' with a purple background. A sidebar on the left lists 'My Rooms': room101, Room102, and Lobby1. There's also a 'Create Room' button. The central area is titled 'Rooms Summary' with a search bar. It contains a table with columns: Room, Doors (open), Windows (open), Lights (on), Cooling Devices (on), Nº of People, CO₂ (ppm), Temperature (C°), Edit, and Delete. The table has three rows corresponding to the rooms listed in the sidebar. At the bottom of the table are buttons for 'Rows per page: 10', '1-3 of 3', and navigation arrows. Below the table are two circular buttons: one with a minus sign and one with a plus sign. At the very bottom is a copyright notice: '© 2025 | Made by Tomás Expósito & Javier Wang'.

Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	Nº of People	CO ₂ (ppm)	Temperature (C°)	Edit	Delete
room101	1/2	1/2	0/0	0/1	5	500	23.00		
Room102	1/1	0/2	0/0	0/1	5	500	23.00		
Lobby1	0/1	0/1	0/0	0/0	5	500	23.00		

Figure 2: Room Import

1.1.3 Exporting Rooms

To export the current room-set, click on the *Export* (1) button.

Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	Nº of People	CO ₂ (ppm)	Temperature (C°)	Edit	Delete
room01	1/2	1/2	0/0	0/1	2	445	33.90		
Room102	1/1	0/2	0/0	0/1	16	485	31.20		
Lobby1	0/1	0/1	0/0	0/0	24	475	30.80		
Mi habitación EDITADA	0/0	0/0	1/1	0/0	19	355	36.20		

Rows per page: 10 < >

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Export Rooms to CSV

Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	Nº of People	CO ₂ (ppm)	Temperature (C°)	Edit	Delete
room01	1/2	1/2	0/0	0/1	0	445	33.60		
Room102	1/1	0/2	0/0	0/1	15	470	30.60		
Lobby1	0/1	0/1	0/0	0/0	26	465	29.80		
Mi habitación EDITADA	0/0	0/0	1/1	0/0	20	345	36.30		

Rows per page: 10 < >

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Figure 3: Room Export

1.2 Room Details

1.2.1 Layout

Room Structure

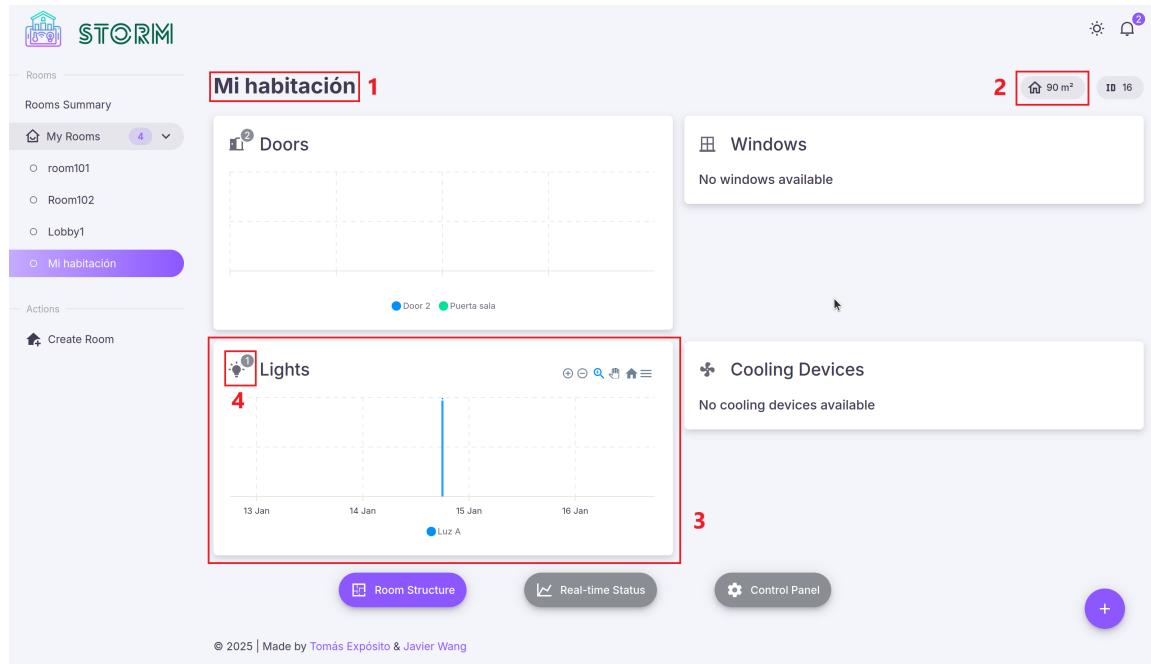


Figure 4: Room Structure screen

1. **Room Name.** Displays the name of this room.
2. **Room Size.** Displays the size of this room
3. **Devices.** Displays a graph with the status (on/off, open/closed, etc) of a device type. The data shown is of up to one hour from the last status change.
4. **Number of Devices.** Displays the device count of that type.

Real-Time Status

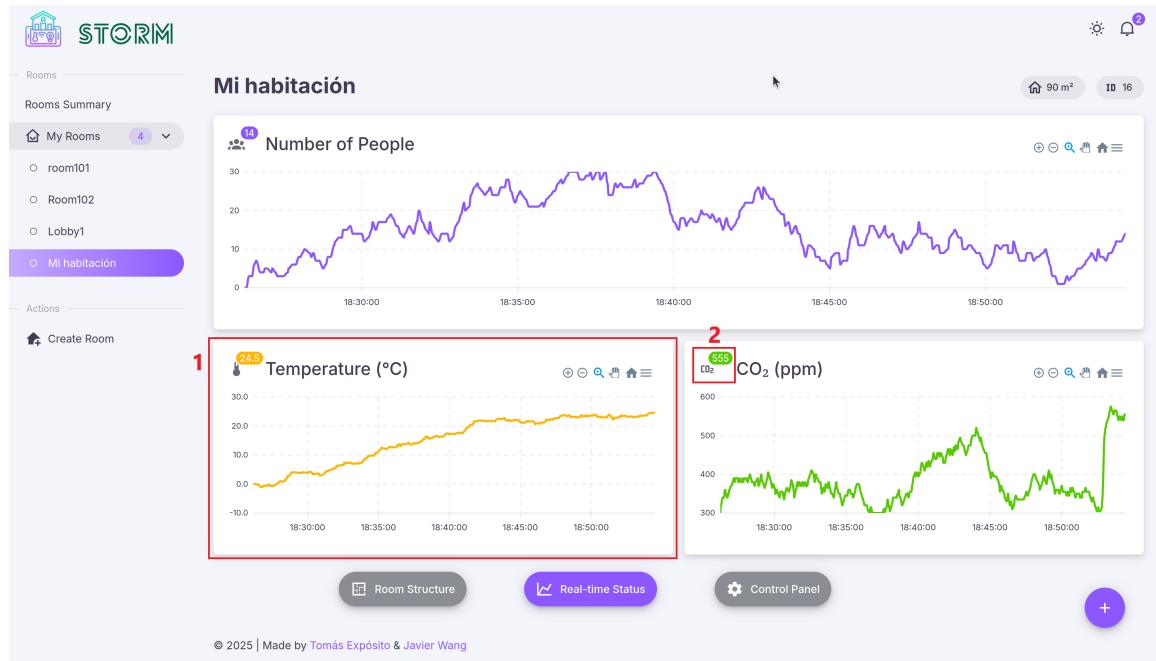


Figure 5: Real-Time Status screen

1. **Metric Graphs.** Displays a graph with values for a metric. The data shown is of up to one hour from the last registered value
2. **Metric Value.** Displays the last registered value.

Control Panel

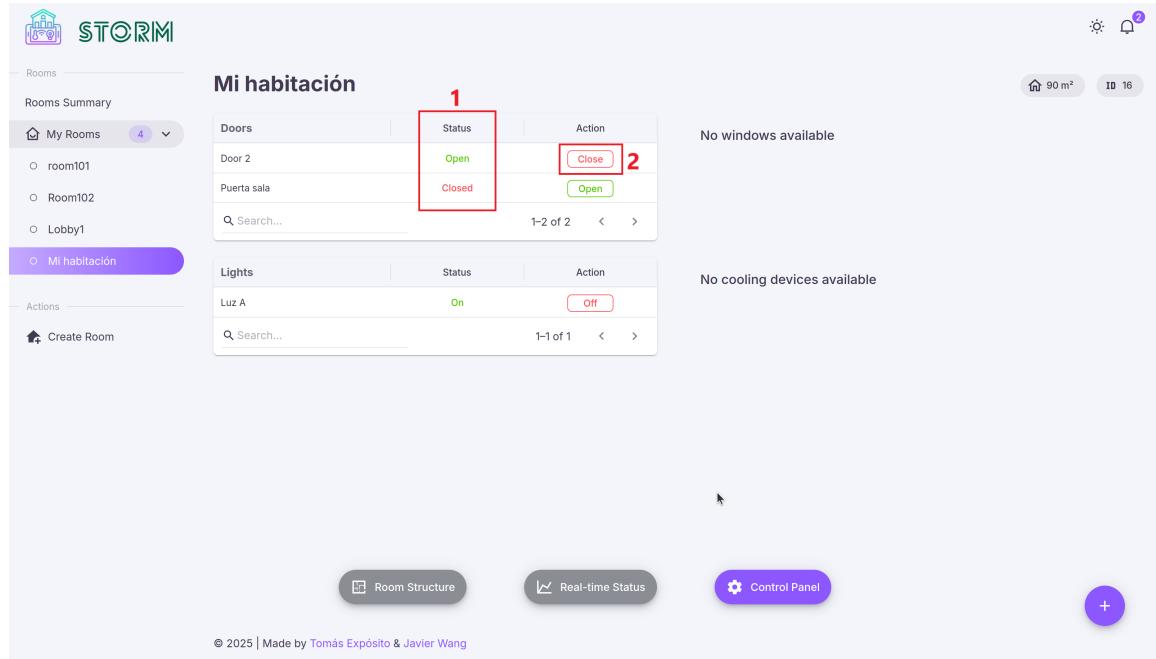


Figure 6: Control Panel screen

1. **Status.** Displays the current status for all devices.
2. **Action Button.** Activates/Deactivates the chosen device.

1.2.2 Alerts

To see all room alerts, click on *Alerts* (4, top right). There, alerts will be shown by severity. Emergency (red) alerts are displayed first, Warning (yellow) alerts second, and Information (blue) alerts last.

Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	Nº of People	CO2 (ppm)	Temperature (C°)	Edit	Delete
room101	2/2	1/2	0/0	0/1	5	480	25.30		
Room102	1/1	0/2	0/0	0/1	5	510	23.10		
Lobby1	1/1	0/1	0/0	0/0	0	555	23.10		

Figure 7: Warning list on the Home Page

Warning and Emergency alerts are also shown on the bottom left of the application. These show up on every page of this application.

The screenshot shows the 'Rooms Summary' section of the STORM application. It displays a table with columns: Room, Doors (open), Windows (open), Lights (on), Cooling Devices (on), Nº of People, CO₂ (ppm), Temperature (C°), Edit, and Delete. The rows include 'room101' (2/2 doors, 2/2 windows, 0/0 lights, 1/1 cooling, 4 people, CO₂ 801 ppm, Temp 24.00°C), 'Room102' (1/1 doors, 0/2 windows, 0/0 lights, 0/1 cooling, 7 people, CO₂ 480 ppm, Temp 23.00°C), and 'Lobby1' (1/1 doors, 0/1 windows, 0/0 lights, 0/0 cooling, 4 people, CO₂ 500 ppm, Temp 23.40°C). Below the table are buttons for 'Rows per page' (10), '1-3 of 3', and navigation arrows. At the bottom left, there is a yellow warning box for 'room101' stating 'Co2 levels are nearing dangerous ppm values'. The bottom right features two circular icons: one with a camera and another with a plus sign.

The screenshot shows the 'room101' details page. On the left, a sidebar lists 'My Rooms' with 'room101' selected. The main area contains three line charts: 'Number of People' (purple line, current value 9), 'Temperature (C°)' (orange line, current value 23.6), and 'CO₂ (ppm)' (green line, current value 80). Each chart has a date range from 19:50:00 to 20:45:00. Below the charts are several buttons: 'Room Structure', 'Real-time Status', 'Control Panel', and a large blue '+' button. A yellow warning box at the bottom left states 'Co2 levels are nearing dangerous ppm values'. The bottom right features a circular icon with a plus sign.

Figure 8: Warnings on the Home Page and Room Details

Rooms Summary

Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	No of People	CO ₂ (ppm)	Temperature (C°)	Edit	Delete
room101	2/2	2/2	0/0	0/1	5	520	22.90		
Room102	1/1	0/2	0/0	0/1	3	490	70.10		
Lobby1	1/1	0/1	0/0	0/0	4	510	23.10		

Rows per page: 10 < 1–3 of 3 >

Room102
Temperature levels too high, opening doors

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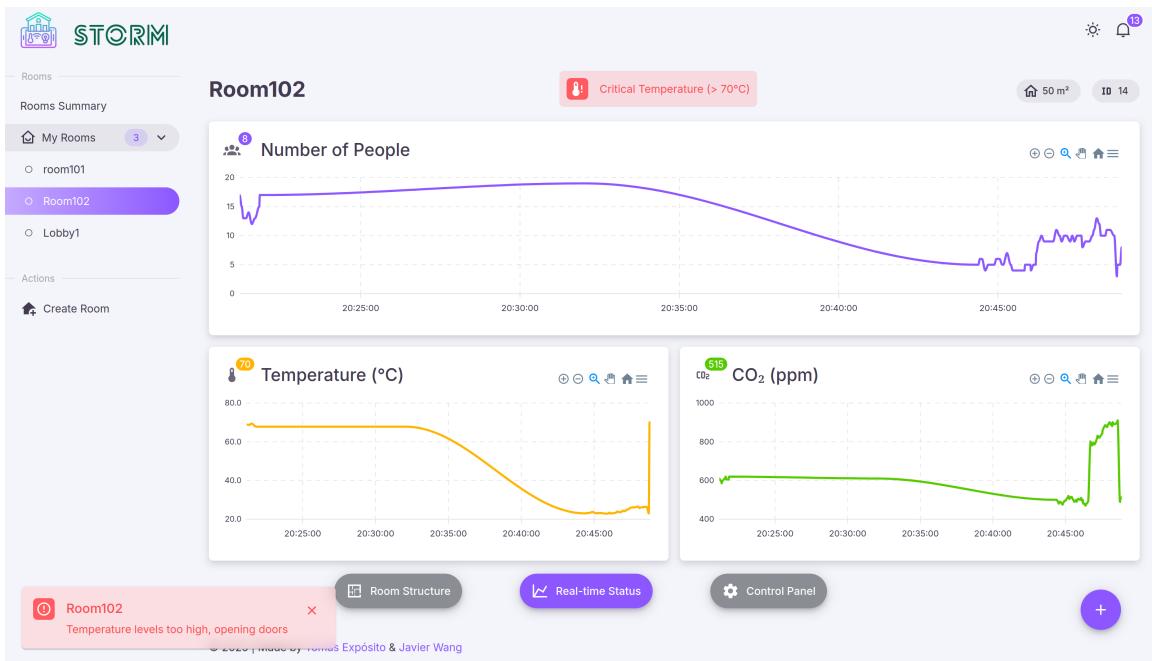


Figure 9: Emergencies on the Home Page and Room Details

1.2.3 Creation

To create a room, simply click on either *Actions* (2) or the *Create Room* (6) buttons. Then, fill out a name and size for your new room.

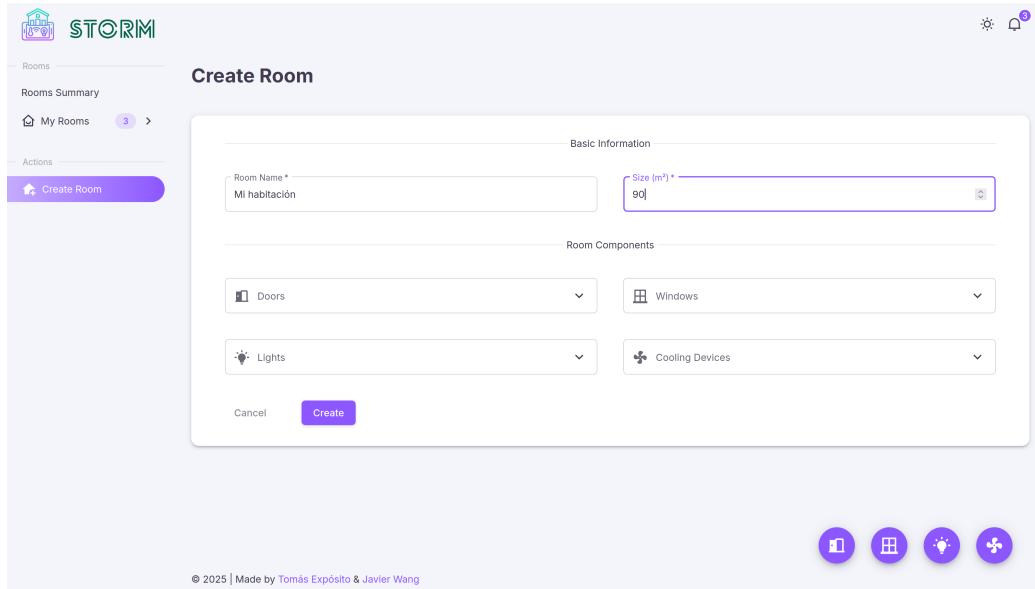


Figure 10: Creation Page

From here, you can either choose existent devices to set into your room, or create new ones. The devices shown here are either **doors** that have not been connected yet, or other devices whose room was deleted.

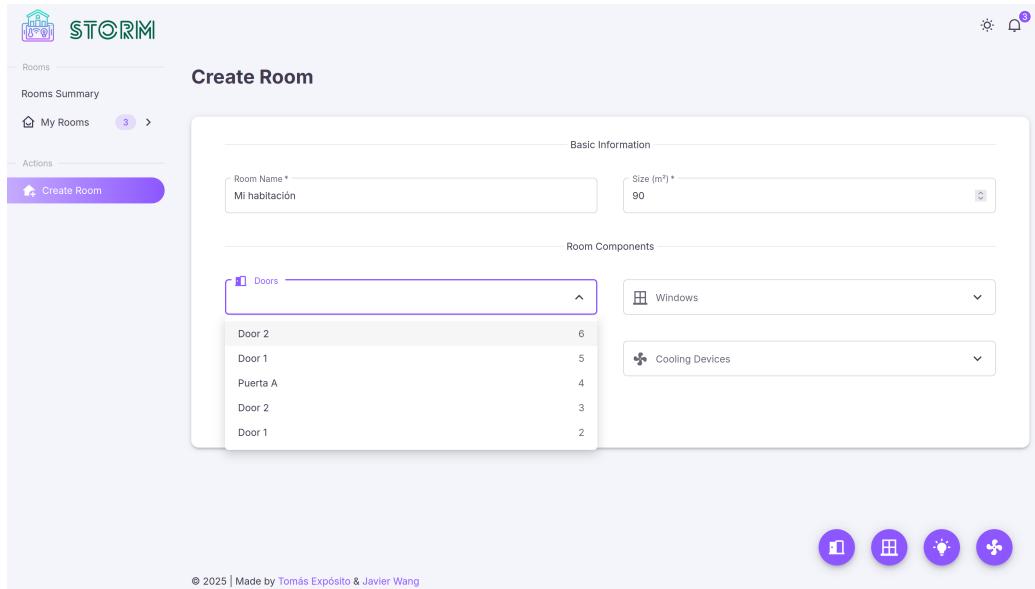


Figure 11: Addition of existent door

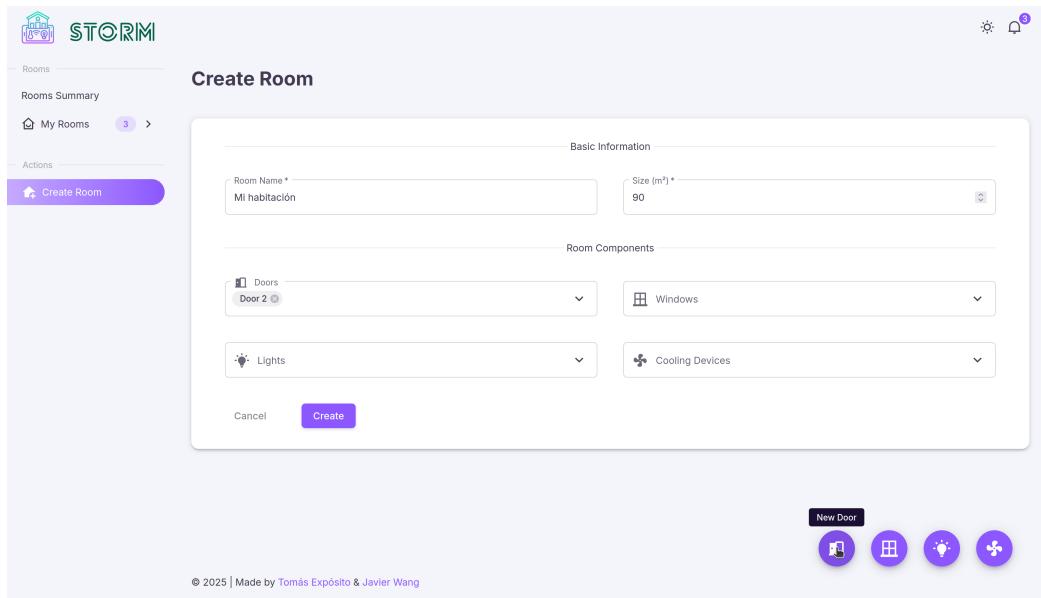


Figure 12: Button to create new door

1.2.4 Edition

To edit a room, click the *Actions* button for the Room Details page, then on *Edit Room* (You can also click the pencil icon on the home page). You will be taken to a page similar to Room Creation, where you can change the name and size. Additionally, you can delete any devices currently associated with the room. **Deleting a device this way removes it permanently, even if you cancel the operation.**

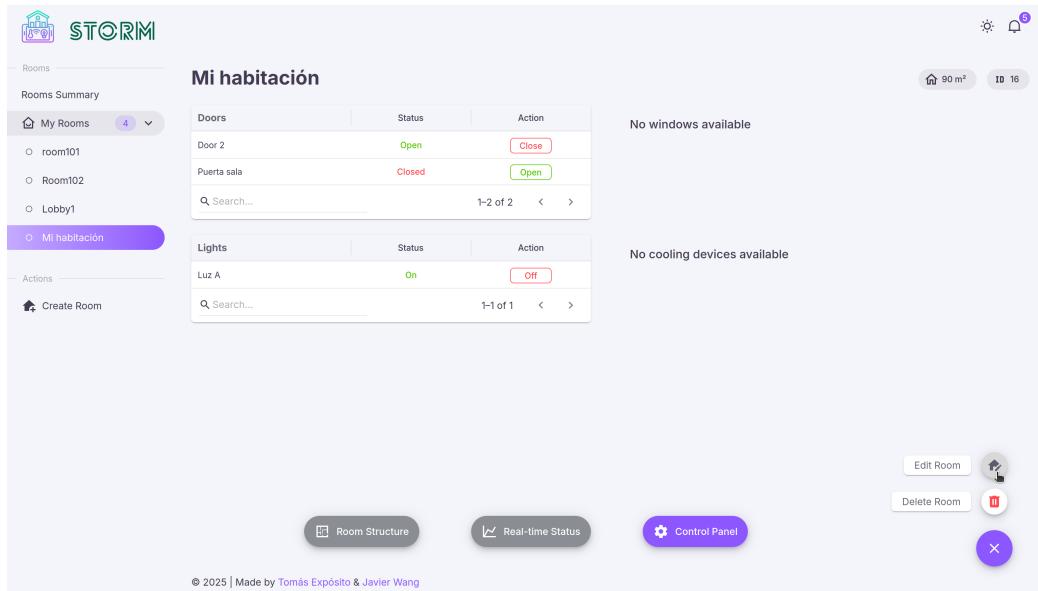


Figure 13: Edition Page

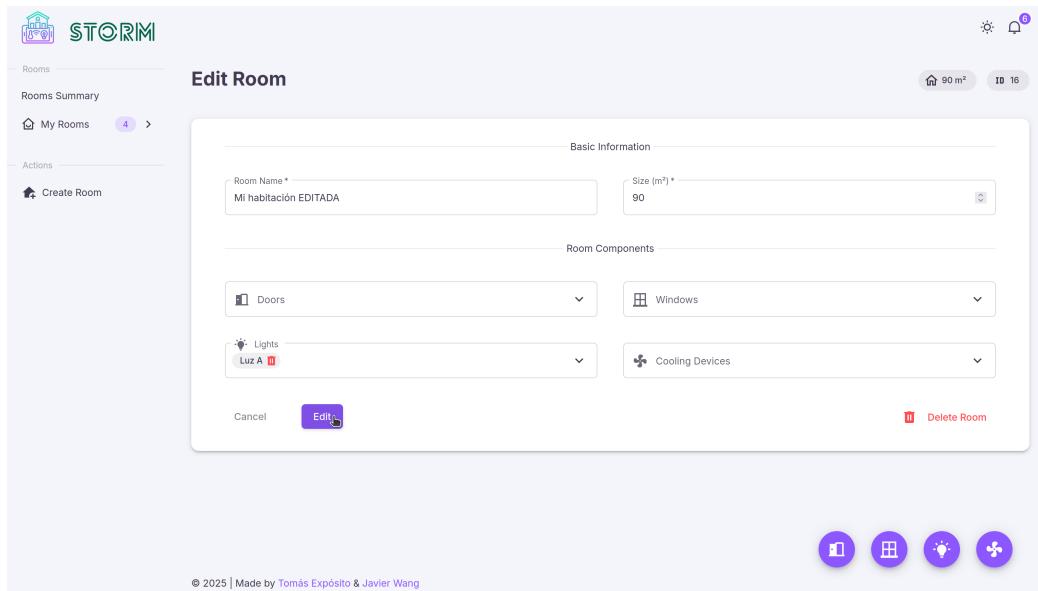


Figure 14: Changes before edition

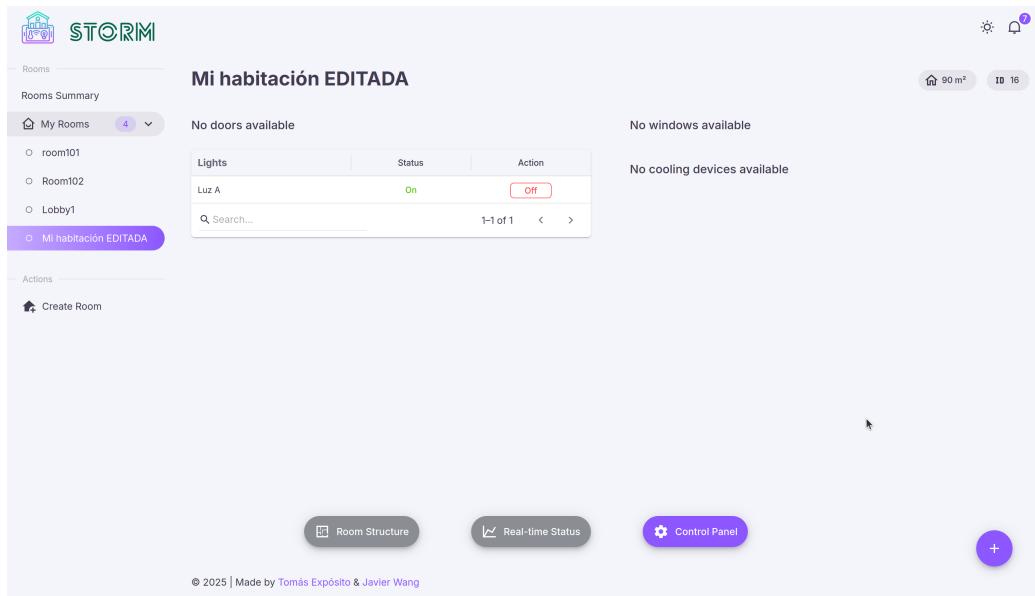


Figure 15: Room after applying changes

1.2.5 Deletion

To delete a room, click the *Actions* button for the Room Details page, then on *Delete Room* (You can also click the red bin icon on the home page). You will be prompted to delete the room, and redirected to the home page afterwards. Devices (other than doors) from that room **will not be removed** upon its deletion, and can be used again in Creation.

The screenshot shows the 'Rooms Summary' page of the STORM application. The interface includes a sidebar with 'Rooms', 'My Rooms' (4), 'Actions', and 'Create Room'. The main area displays a table with columns: Room, Doors (open), Windows (open), Lights (on), Cooling Devices (on), Nº of People, CO₂ (ppm), Temperature (C°), Edit, and Delete. The rows represent different rooms with their respective data. A modal dialog box at the bottom right of the table asks 'Delete Mi habitación EDITADA?' with 'Cancel' and 'Delete' buttons. The 'Delete' button is highlighted with a red border.

Room	Doors (open)	Windows (open)	Lights (on)	Cooling Devices (on)	Nº of People	CO ₂ (ppm)	Temperature (C°)	Edit	Delete
room101	1/2	1/2	0/0	0/1	3	450	34.20		
Room102	1/1	0/2	0/0	0/1	21	450	31.10		
Lobby1	0/1	0/1	0/0	0/0	24	435	30.70		
Mi habitación EDITADA	0/0	0/0	1/1	0/0	18	365	35.50		

Figure 16: Deletion (Home page)

This screenshot shows the same 'Rooms Summary' page as Figure 16, but with a modal dialog box centered over the table. The dialog title is 'Delete Mi habitación EDITADA?' and contains the message 'Are you sure you want to delete Mi habitación EDITADA? Static components will remain available for other rooms.' There are 'Cancel' and 'Delete' buttons at the bottom of the dialog. The background table and interface elements are visible through the semi-transparent dialog.

Figure 17: Deletion Prompt