



NOVA SCHOOL OF  
SCIENCE & TECHNOLOGY

## Interação Pessoa-Máquina

2024/2025

# CityMix

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## Stage 5: Heuristic evaluation



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## Evaluation

We received *the SmHouse* project for evaluation on **November 22** and we delivered this report on **November 28**. The following table summarizes the problems we encountered while using the application. We also mention some positive aspects below it.

Nº	Problem	Heuristic	Description	Severity	Solution	Screenshot
1	Delete button of the "Edit Room Name" popup	Match The Real World	When the user edits the room name, since the popup title is "Edit room name", the delete button seems that it's used for deleting the written name. However, the button deletes the room, so its function may not correspond to the user's mental model.	2	Instead of "Edit Room Name", changing the title only to "Edit Room" could be a better option.	<a href="#">Fig. 1</a>
2	Remove the name of a room or device	Error Prevention	The user can edit the name of a room or a device to an empty string.	2,25	Show an error message when the user tries to save the changes with no name entered.	<a href="#">Fig. 2</a>
3	Simplicity of room's creation	Flexibility and Efficiency of Use	When the user creates a new room, he can only choose the name. To add new devices to it, the user needs to then navigate to room's page and add one by one.	1,75	When the user creates a new room, additionally to the name option, add the possibility of also choosing new devices to add to the room.	<a href="#">Fig. 3</a>
4	On and off button on device's screen	Visibility of System Status	The device's status isn't very visible since the user knows the current status by looking at the color of the border of the on/off button. Since the button is on the bottom of the screen, the button may be hidden.	2,75	Changing the on/off button to the top of the screen may be a good solution. Also coloring all the button instead of only the border with green/red may highlight the status of the system even more.	<a href="#">Fig. 4</a>
5	Control devices only when the button is on it's not very intuitive	Error Reporting, Diagnosis and Recovery	Isn't very clear that the user can only change device's elements when the button is on.	3,25	When the button is off and the user tries to change something, show a message saying the user first needs to turn on the device by clicking on the on/off button. Another solution is coloring the buttons with grey to show that they can't be used when the device is off.	<a href="#">Fig. 5</a>

6	Labels of AC buttons are equal to the selected modes	Aesthetic and Minimalist Design	On AC devices screens, the titles of “AC Mode” and “Timer” have the same style as the selected modes, making difficult the distinction between labels and selected modes.	1,5	Use different colors for labels and modes or put the titles outside and above the buttons.	<a href="#">Fig. 6</a>
7	Home screen button that shows weather and house temp. isn't fully clickable	Consistency And Standards	The button that shows the Weather and House temperature looks like a button since it has the same format of the other buttons but only the right half of it is clickable.	2,25	The whole button should be clickable or instead remove the weather from it and place it outside the button.	<a href="#">Fig. 7</a>
8	Prohibited rooms display is color confusing	Match The Real World	The user prohibits access to a room by a toggle that turns green. But usually, green is used to give permission.	2,75	When the toggle is active, the color should be changed to red or instead change the section's name to “Rooms with access”.	<a href="#">Fig. 8</a>
9	Select temperature of the AC or hours/minutes on prohibition time is not very efficient	Flexibility and Efficiency	When selecting the temperature of the AC or the start and ending times for prohibition time, the user can only go one by one value.	2,5	Using a scroll picker can help making the selection process a bit more efficient.	<a href="#">Fig. 9</a>
10	The family member's screen is too simplistic	Aesthetic and Minimalist Design	Each family member's screen has too much white space.	1,5	Instead of having a button that leads the user to a different screen, the permissions of each family member could be already on this screen, occupying the empty space available.	<a href="#">Fig. 10</a>
11	Settings' screen is too simplistic	Aesthetic and Minimalist Design	The settings' page has empty space above the information.	2	The contents of settings' page should start on the top of the screen and not on the center.	<a href="#">Fig. 11</a>
12	Invite invalid members	Error Prevention	Even though the app doesn't really add an invalid member, the user can type invalid usernames or emails.	3	Show an error message when the user tries to invite a member with invalid username or email.	<a href="#">Fig. 12</a>
13	Virtual Assistance device doesn't let me see music progress	Visibility Of System Status	On this page, it's only possible to know what song is playing, but it's not possible to see or adjust the progress of the music.	2,25	A progress slider could be added, allowing the user to select a specific part of the song they want to listen to.	<a href="#">Fig. 13</a>

14	Virtual Assistance device has a generic name	Aesthetic And Minimalist Design	The name and symbol of the Virtual Assistance device seems too generic, as it only allows to control music.	1,75	The symbol could be changed to something more music-related (e.g., a musical note). The name could be updated to "Speaker" or something more indicative of music.	<a href="#">Fig. 14</a>
15	Lamp intensity doesn't match color intensity	Visibility Of System Status	The lamp color intensity doesn't match the brightness selected on the slider, which fails to provide the user with feedback reflecting the actual lamp intensity state.	1,5	When adjusting the brightness, update the intensity of the selected color displayed on the lamp in the application.	<a href="#">Fig. 15</a>
16	Swing Mode Button off-screen	Aesthetic And Minimalist Design	The button appears off-screen on some devices.	2	Adjust the elements to be relative to the sizes of different devices.	<a href="#">Fig. 16</a>
17	Color of the editing icon doesn't match other clickable elements	Consistency And Standards	The icon for editing rooms and devices doesn't have the same color (turquoise) as the other clickable elements on the app.	1,75	Change the color of the icon to the one used in other clickable elements.	<a href="#">Fig. 17</a>
18	Family members visualization for non-admins	Consistency And Standards	The non-admin user profile has a list of family members, which are clickable, but the user can't actually open the profiles. This being clickable implies a functionality that doesn't exist for non-admin users.	2,25	Changing the layout of the list, so it doesn't look like clickable buttons, but more like a simple list.	<a href="#">Fig. 18</a>
19	Missing fields during registration too generic	Error Reporting, Diagnosis and Recovery	While creating a new account, if there is a blank field, the error shown is vague and doesn't indicate what field is missing.	1,75	On the error message, specify which field is missing,	<a href="#">Fig. 19</a>

## Other comments

We found a typo on the settings' screen where instead of "Account Settings" is written "Acoout Settings". While evaluating the application we also couldn't really understand the purpose of using a Family Code on the "Add Member" popup since we can't use the code anywhere in the app. Another aspect that is important to mention is that after the user registration, we think the app should navigate to the login or home screen, instead of keeping the user on the registration screen.

Besides these problems we also find the app easy and simple to use. The choice of few colors helps the app become pleasant to our eyes since it doesn't have too many distractions on screen. The font, size and color chosen for each label was also a nice choice since it's easy to read and doesn't take too much cognitive effort. The logo is also very catchy and suitable for the app's concept. On the login page we consider the

possibility of the user seeing the password he wrote very useful. Finally, we think that the existence of a shortcut for turning on the devices without entering the device's screen contributes to user efficiency, making the app even more enjoyable.

### Screenshots

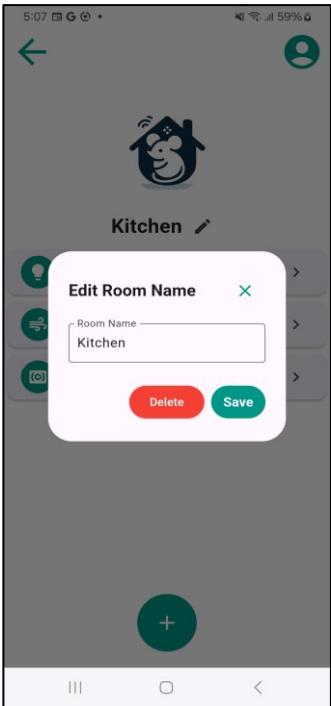


Fig. 1 - Delete button of the "Edit Room Name" popup

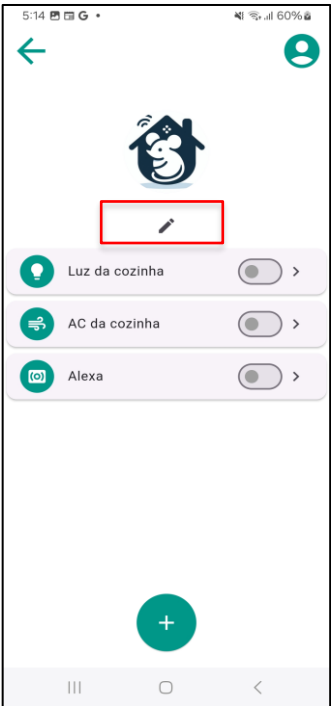
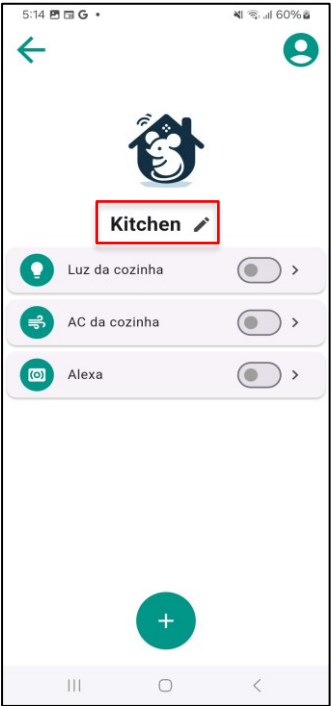


Fig. 2 – Remove the name of a room or device

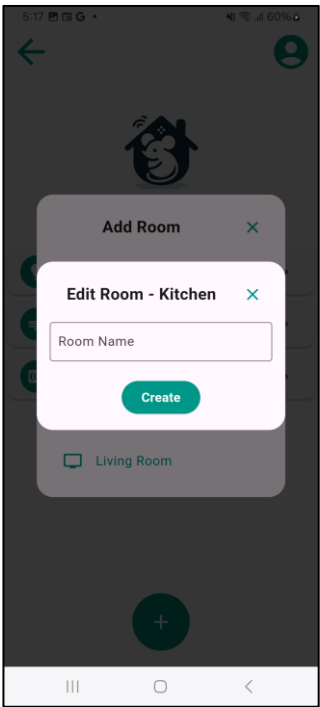


Fig. 3 - Simplicity of room's creation

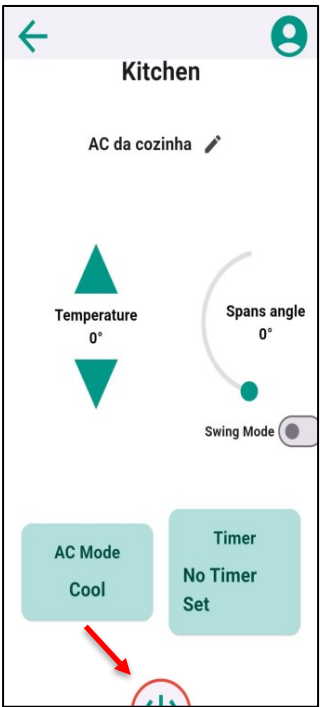


Fig. 4 - On and off button on device's screen is cut

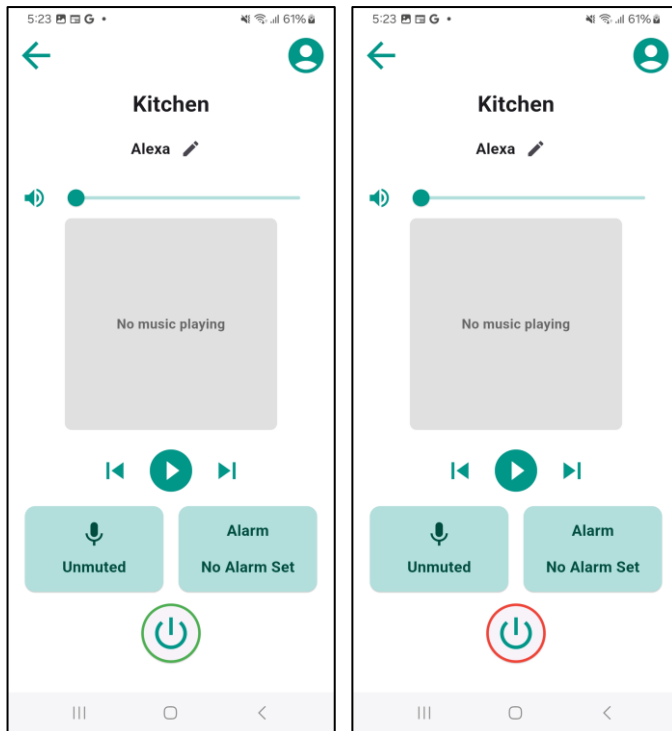


Fig. 5 – Similar interface for on and off modes

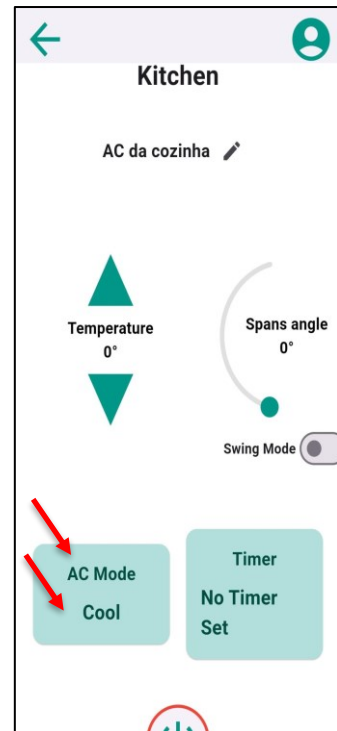


Fig. 6 - Labels of AC buttons are equal to the selected modes

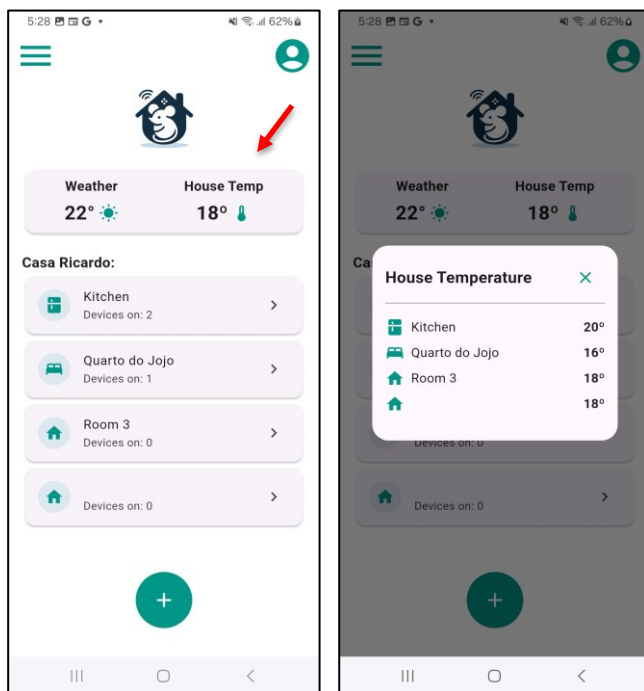


Fig. 7 - Home screen button that shows weather and house temperature isn't fully clickable

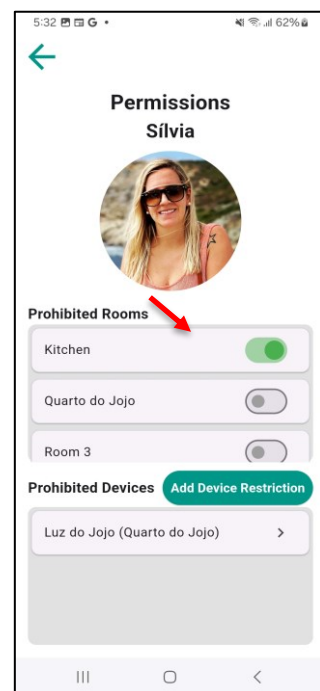


Fig. 8 - Prohibited rooms display is color confusing

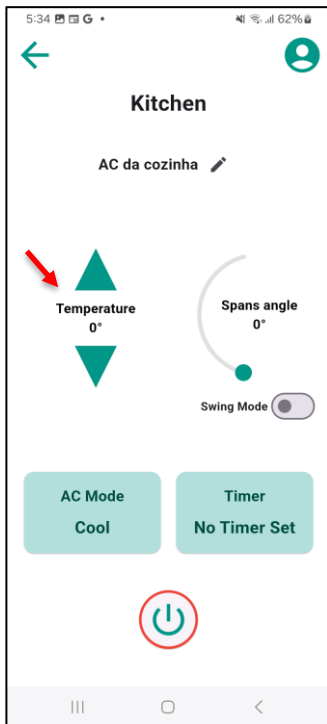


Fig. 9 - Select temperature of the AC or hours/minutes on prohibition time is not very efficient

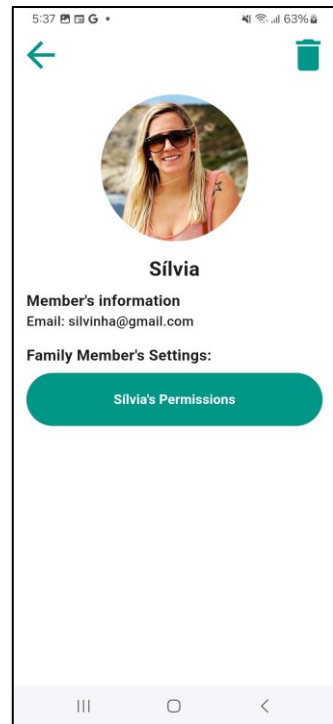
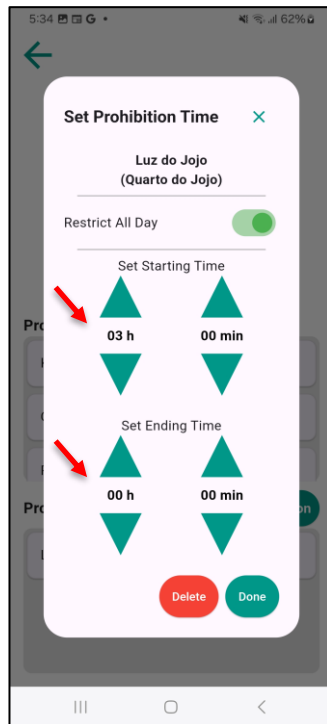


Fig. 10 - The family member's screen is too simplistic

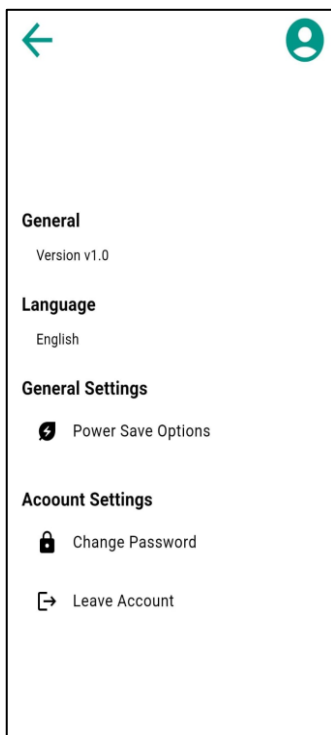


Fig. 11 - Settings' screen is too simplistic

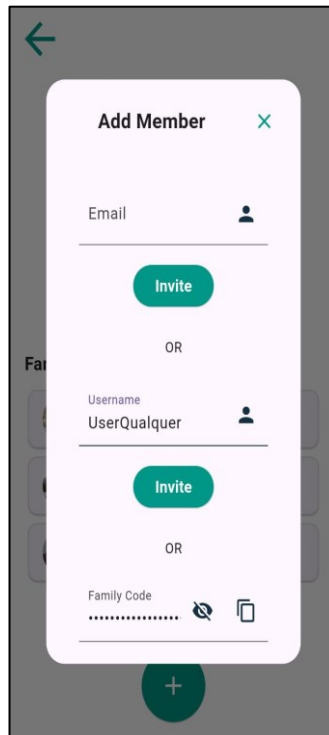


Fig. 12 - Invite invalid members

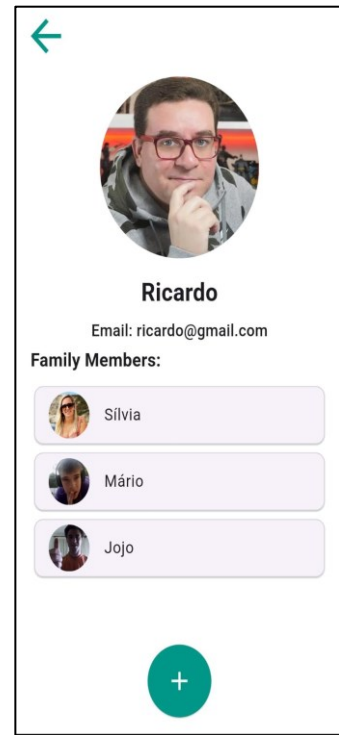




Fig. 13 - Virtual Assistance device doesn't let me see music progress

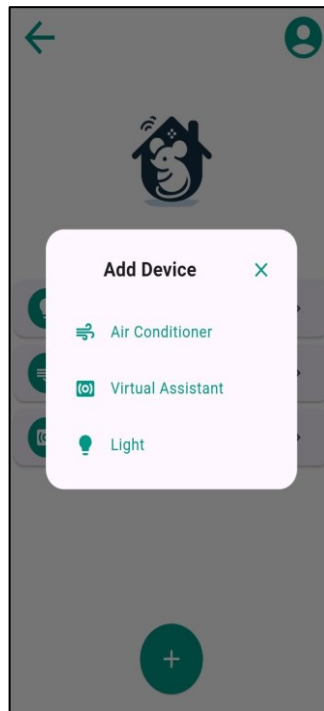


Fig. 14 - Virtual Assistance device has a generic name

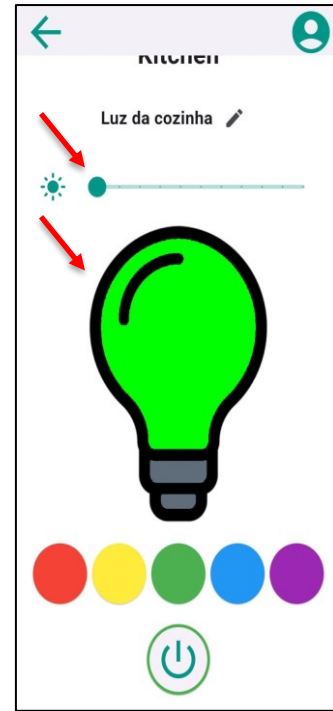


Fig. 15 - Lamp intensity doesn't match color intensity

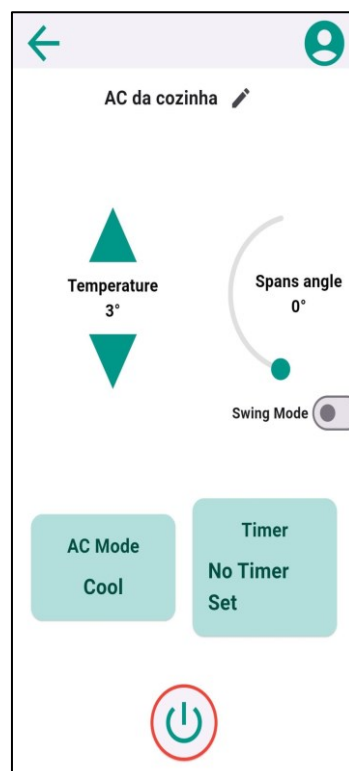


Fig. 16 - Swing Mode Button is off the screen

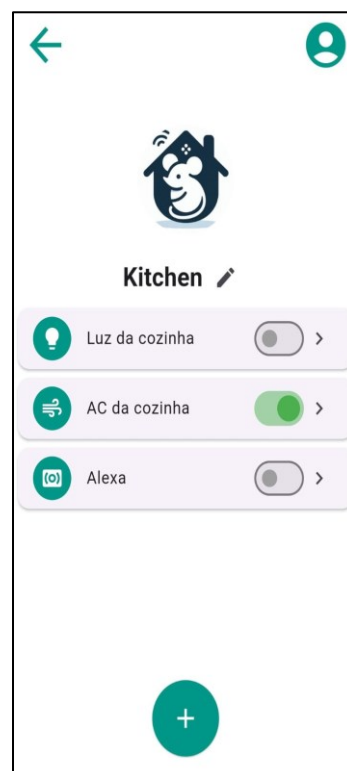


Fig. 17 - Color of the editing icon doesn't match other clickable elements



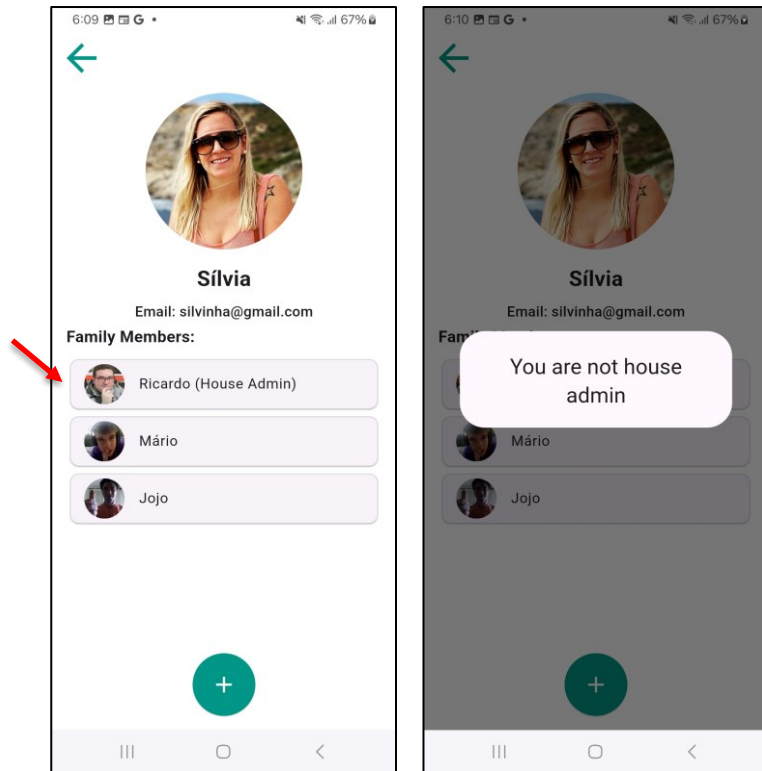


Fig. 18 - Family members visualization for non-admins

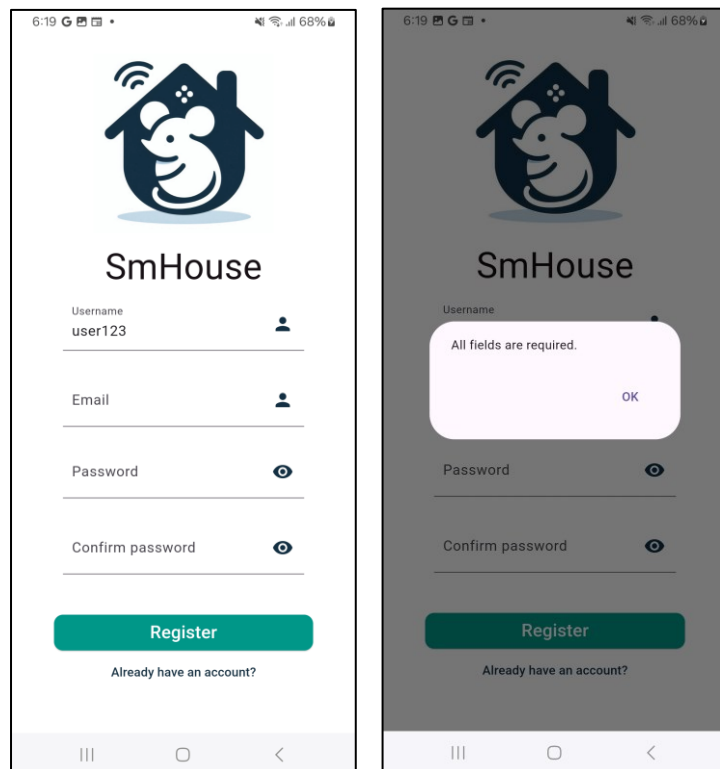


Fig. 19 - Missing fields during registration too generic