



NOVA SCHOOL OF  
SCIENCE & TECHNOLOGY

**Interação Pessoa-Máquina**

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# **Futurhouse**

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Stage 6: Evaluation results and presentation



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Index

Colleagues Review ..... 3

Justification of the Review ..... 4

1. Light sliders inconsistency ..... 4

2. Order of favourite accessories ..... 4

3. Kitchen screen similar to home screen ..... 4

4. Circular slider to change oven temperature ..... 4

5. Thermostat Color ..... 4

6. Scrolls when deciding duration times ..... 5

7. Impossibility to add a new house division ..... 5

## Colleagues Review

Nº	Problem	Heuristic	Description	Severity	Solution	Image
1	Light sliders inconsistency	Match the real world	Light intensity should be at 0% when entering the screen and when the light is turned off.	2	Light intensity should be 0% when turned off and entering.	Figure 1
2	Order of favorite accessories	Consistency and Standards	In the main menu the favorite accessories are randomly ordered. This induces wasted time for the user to find a wanted accessory.	1	Icons should be ordered by type, to reduce the amount of time it takes for the user to find the respective accessory.	Figure 5
3	Kitchen screen similar to home screen	Consistency and Standards	The kitchen and home layout are the exact same. However, the kitchen corresponds to a specific division of the house and the home page is general.	1.5	The main page and the specific divisions should have different layouts from each other.	Figure 6
4	Circular slider to change oven temperature	Error prevention	To change the temperature the user has to make a hard and unconventional motion with touch controls that may induce user error.	3	Bigger temperature step, for example 10°C and a slider range from 100°C to 250°C. Another alternative should be a text input where the user types the temperature they want.	Figure 3
5	Thermostat color	Aesthetic and Minimalist Design	Thermostat color is purple from 15°C to 20°C.	1	The transition color, from 5°C to 20°C, should be yellow.	Figure 2
6	Scrolls when deciding duration times	User control and Freedom	The scroll to change the duration time of some task (ex: oven duration) have a minimum step between minutes (ex: 1 min).	3	There should be a text input alongside the scrolls or without the scroll so that the user can quickly change the duration time.	Figure 4
7	Impossibility to add a new house division	User control and Freedom	We are not able to add a new house division in the app.	4	There should be a button that lets the user add a division of the house or a new smart device.	

## Justification of the Review

### 1. Light sliders inconsistency

In the proposed evaluation, it is pointed out that the light intensity should be zero when we enter the respective screen with the light off. A solution to this problem would be to implement the backend to simulate the state of the house, saving all changes. As the backend was not the focus of the project it was not implemented. With the current structure of the application, the proposed solution would not be possible and would require much more work than just changing the state of the light when entering.

### 2. Order of favourite accessories

Another improvement proposed by colleagues would be sorting accessories by type, to save the user time. Perhaps it is something that is not highlighted enough in the application, and this can be misleading, however the favourite accessories are the most used accessories by the user and being these organized by use, in most cases the user will save time, as these are the more accessible features.

### 3. Kitchen screen similar to home screen

An improvement also proposed by the evaluating group was the fact that the kitchen and other specific rooms in the house have their own unique and different design from the homepage. Our opinion on this subject is that having different designs can make the application more confusing and even to keep the consistency of the application and the layout of the buttons, in the same place according to the screen, we chose to leave the designs of identical pages, so the app has easier learnability curve.

### 4. Circular slider to change oven temperature

In this note, colleagues argued that the temperature of the oven should have a greater jump and have a range of 100°C to 250°C, as the current temperature can be misleading. We think these values are completely debatable and several values can be argued, in our case we use a range that allows the greatest possible temperature control. Either way, changing the application to match the proposal is as simple as changing two variables.

### 5. Thermostat Color

The evaluator group also pointed out the fact that the intermediate colour for the thermostat was purple and that this should be replaced by yellow. Since the colour that represents heat is red and blue is cold, we thought that for milder temperatures the best representation would be a mixture of the two components. Therefore, the colour of the

thermostat is given by a mathematical function that, according to the temperature value, generates the observed colour. To change the intermediate colour to yellow we had to arrive at a function that allows it and replace the current one.

## 6. Scrolls when deciding duration times

Another problem pointed out by the colleague was the fact that there is a fixed step of one minute for selecting the time and there should be a text input. This is not a problem since you can just click on the hour or the minute and change to whatever minute or hour you would like.

## 7. Impossibility to add a new house division

As mentioned before, the state of the house is not saved, in addition a hypothetical house is used just to see the functionalities working. With that said, there could be a representative button on the “rooms” screen, however there was some discussion in the group that ended up removing this button, because it was not sure if it made sense to simply add rooms and how that would correspond with add a division in real life, either way could add the button in the interface for visual purposes only. In addition to that, we discussed with the teacher the house would have a fixed plant which would be configured after installing the app (but since this is backend it is not implemented).