
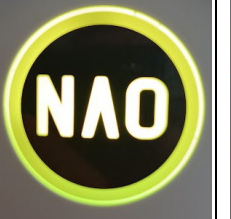

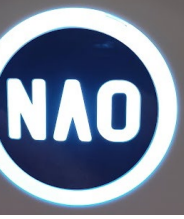


## Principles to follow during the interactions:

While we hope that you can have a conversation with the robot that is as smooth as possible, you have to remember that Nao is still just a machine with its own technical limitations.

For this reason, you should try to adhere to the following simple principles during the interaction with the robot, in order to assist with the success of the experiments.

1. You will notice a round button on the chest of the robot that will regularly change color in the course of interactions. Different colors have different meanings and imply different expected behaviours from you. The meaning corresponding to each color is given in the table below. Please check this table in advance, but be aware that we will also provide you with this table to keep with you during the experiment in case needed.

RED	GREEN	YELLOW	BLUE	WHITE
				
<b>Starting up or internal processing</b>  <i>Please be patient, and <b>wait</b> until this color changes.</i>	<b>Listening</b>  <i><u>You can speak</u> as long as the button remains green, and the robot will listen (i.e., will record your voice).</i>	<b>Processing your voice</b>  <i>Please be patient, and <b>wait</b>. If your voice (which has been recorded when the button was green) is successfully detected, then the light will turn into blue, otherwise the light will turn into green again.</i>	<b>Thinking</b>  <i>The robot is thinking. Please, be patient and <b>wait</b> for a reply from the robot. After that, the light will become green again.</i>	<b>Transition</b>  <i>Please, be patient and <b>wait</b>. Soon the light will change color.</i>

2. The robot will listen to your voice (green light) for maximum 7 seconds at a time. Try to use sentences that are no longer than 7 seconds.

If you speak for more than 7 seconds, the robot may miss parts of the sentence. But don't worry, that's ok! Wait for the robot to reply, and if you are not satisfied, you can repeat what you said before and the robot missed.

If you don't say anything, the chest button will become yellow for a short instant, and then it will turn into green and the robot will start listening to you again.

**Tip:** If you are in doubt of how much time you have left, just wait for the next cycle.

3. You should assume that if you say something in English (even just a word) during the green phase the robot will always give you a reply accordingly.  
However, if after the yellow light, the chest button becomes green again and it does not transition into blue, this means that the robot did not catch your voice during the green phase. Thus you may want to repeat what you said before.

**Tips:**

- a. **Speak clearly and minimize mumbling.** This will help the robot catching what you say.
  - b. **Speak loud.**
  - c. Take your time and **be patient.**
  - d. **Use simple phrases.**
  - e. If the robot cannot understand what you say (for example, your name), try to **rephrase your sentence in a more simple way** (for example, if your name is not very standard in English, you can use a simpler nickname of your choice).
4. If the colors do not transition as expected, please wait a moment. If nothing changes, move on with the experiment.
  5. Even though interacting with a robot might be new for you, we encourage you to try to keep the interaction as natural as possible, similarly to when you interact with another human. Try to have a meaningful interaction. Do not (only) try to challenge the robot!
  6. We ask you not to move the robot from its position. Touching the robot is not necessary for this experiment (**you can touch the grey tip of its foot**, though).

**Tip:**

If the robot is not looking at you, try to **catch its attention.** How?

- a. **Place your face in front of his view** (stand up if necessary),
- b. Touch the tip of its foot.
- c. Say “look down”

You will notice that it detects you if its eyes change color, or if it follows your movements.