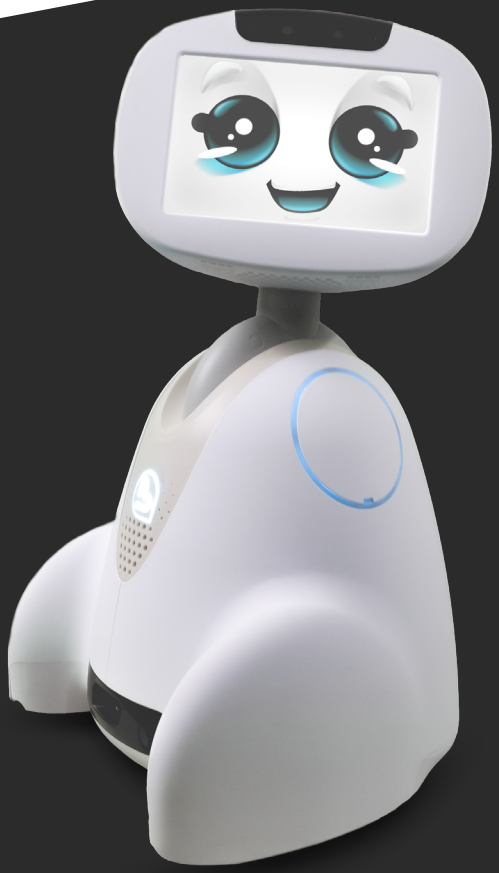
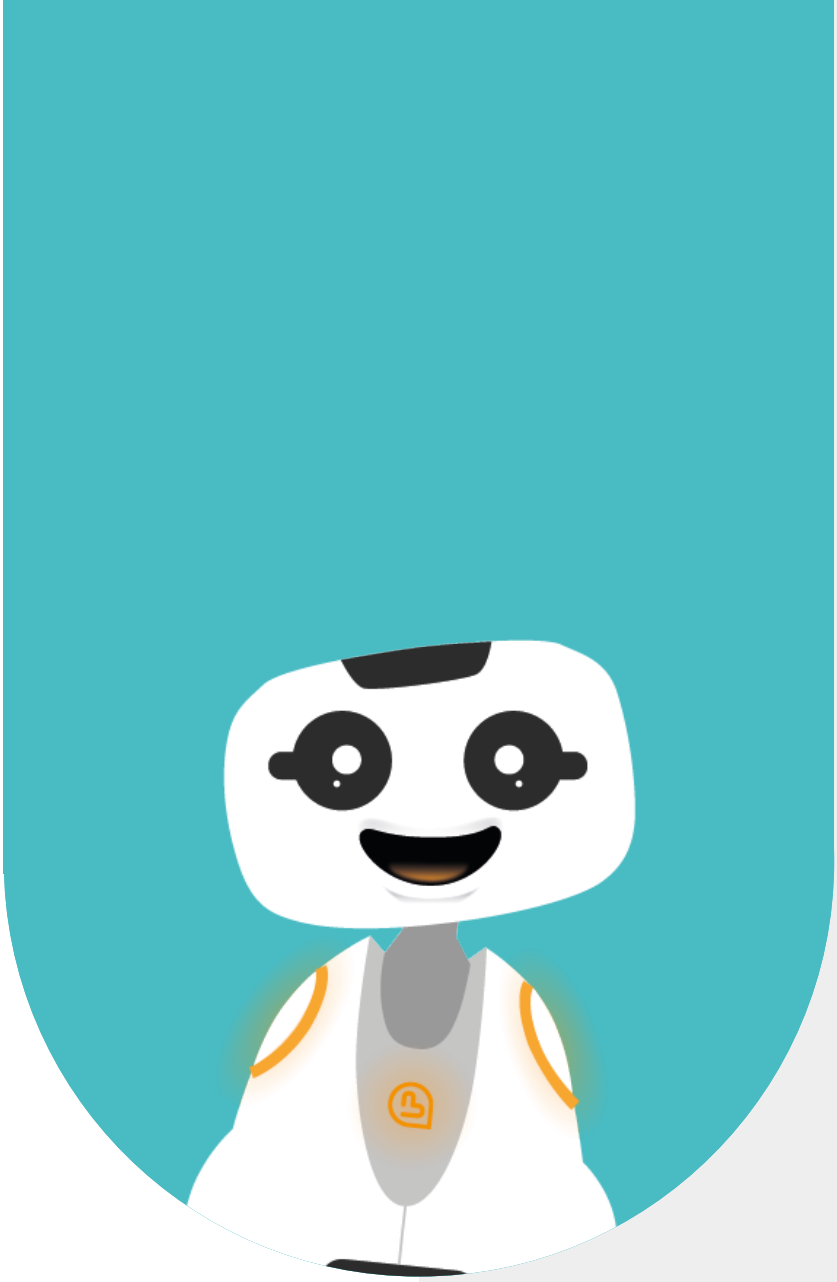
Buddy Lab

User guide V1.1



Buddy®
The Emotional Robot



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2 - ABOUT

2.1 - ABOUT BUDDY

BUDDY is an emotional robot capable of improving the quality of life of its users, and more specifically, of creating social links, offering educational activities for children, and looking after our elders.

2.2 - ABOUT BUDDY LAB

Buddy Lab is an introduction to programming. Fun and easy to learn, it is suitable for children from kindergarden. Users can create sequences of actions and have Buddy play them instantly. Buddy can move its neck, move around, talk, change its facial expression, make sounds, recognize cards or detect movements and obstacles.

3 - GENERAL PRESENTATION

3.1 - OPERATION

With this application, you can create projects and save them for replay at different times. To create a project, simply drag and drop action bricks onto the creation line. You can move your bricks within the creation line and add as many actions as you like. To make Buddy play the edited sequence instantly, simply click on the button “Open”.

This application works without Internet. The application comes with a set of cards featuring animal images, letters, numbers and colors. One of the action bricks lets you ask Buddy to recognize one or other of the cards during the sequence.

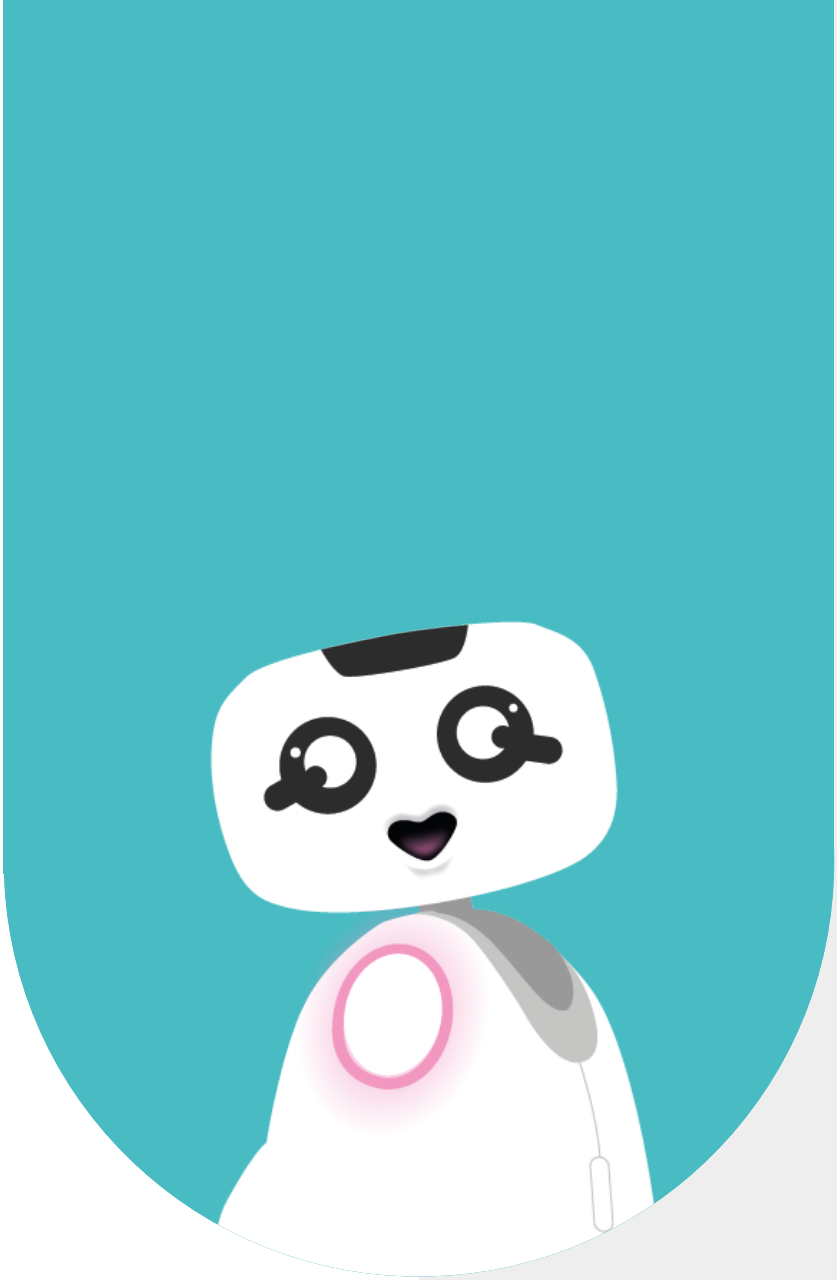
3.2 - USE CASES

In the classroom or at home, an adult offers a programming workshop using the «Buddy Lab» application. This application can be used for a variety of purposes. It can be used to learn how to program a robot, or to make learning more fun. All you need to do is get creative! You can purchase an exercise book with the application to access turnkey games and exercises for Buddy. You can also acquire a play mat to make programming more concrete and dynamic for younger children (e.g. move the robot 3 squares forward to reach coins/animals/garbage to collect).

3.3 - APPLICATION BENEFITS

This application offers several advantages:

- It makes programming accessible to younger children
- It trains fine motor skills
- It lets you practice project creation, acquire logical skills and anticipate a sequence of actions.
- It makes learning fun
- It makes programming concrete and Buddy a real reinforcer



4 - PREPARATION

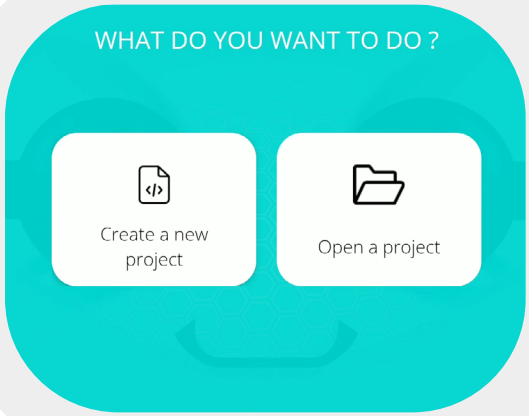
4.1 - LAUNCHING THE APPLICATION

This application is launched from the BuddyCore menu. To open the application, simply click on the «BuddyLab» application icon.

When the application is launched, the loading page is displayed for a few seconds. The application's main menu then appears.

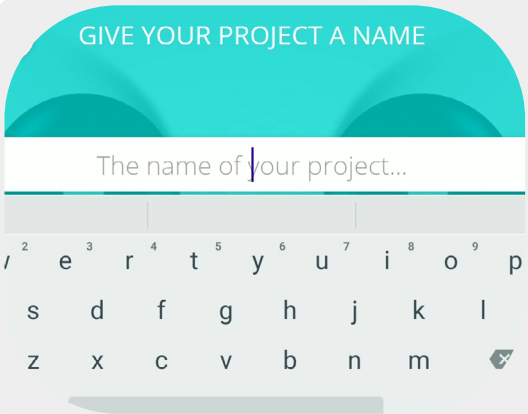
4.2 - MAIN MENU

The first screen of the application lets you choose whether to open a recorded sequence or create a new one. This choice can be made by touch or voice command.
- The button at the top left of the screen returns you to the robot's application menu.
- The arrow button returns you to the previous page. This is a back button.
- The cross button is used to exit and close the application

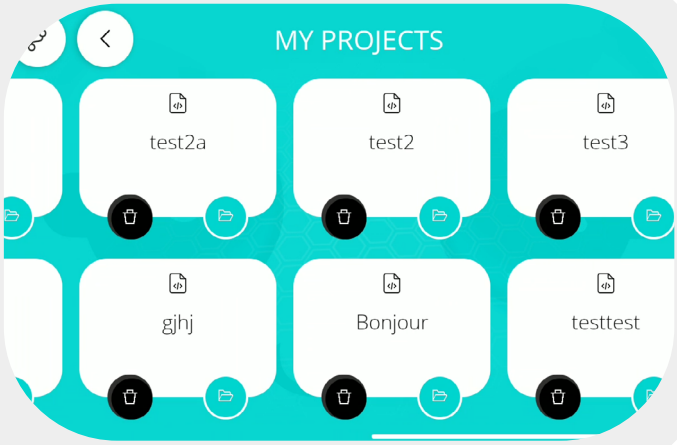


4.3 - CREATE A PROJECT

The creation of a simple project begins by entering the project name. A keyboard appears when you click on the text box. You cannot assign the same name to 2 different projects.
Once you've entered the name, click on the validation button
(green arrow at bottom right of keyboard).
The project editing screen opens with a new, empty project..

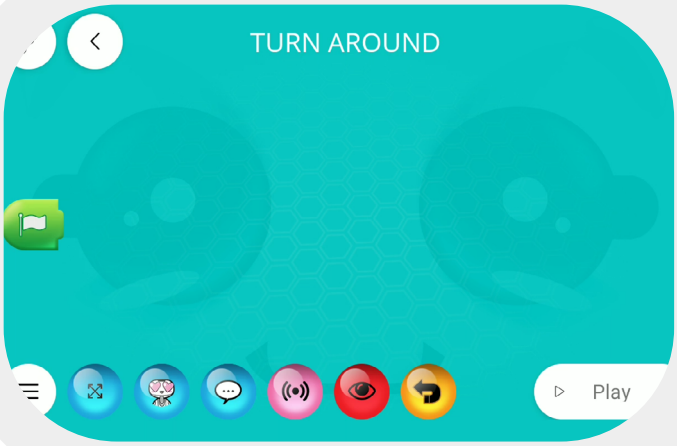


4.4 - OPEN AN EXISTING PROJECT



To open a saved project, go to the application's main menu, and click on the «Open project» button. The list of created projects appears.

Select the project you wish to open and click on the green folder button.
The editing page with the saved action line appears.



4.4.1 - DELETE A PROJECT

To delete a project, go to the application's main menu and click on the «Open project» button.

On this page, you can select the project you wish to delete and click on the associated «trash» button. All actions edited in this project will be deleted.

4.5 - ADD AN ACTION

If you have just created a project, the creation page is empty.

You need to add actions on the creation line opposite the green flag.
The various actions are grouped into 6 categories at the bottom of the screen.
Each button opens a panel containing several action blocks.
You can choose a block and add it to the creation/action line by drag and drop.

From right to left, here's a description of the action categories:

Movements

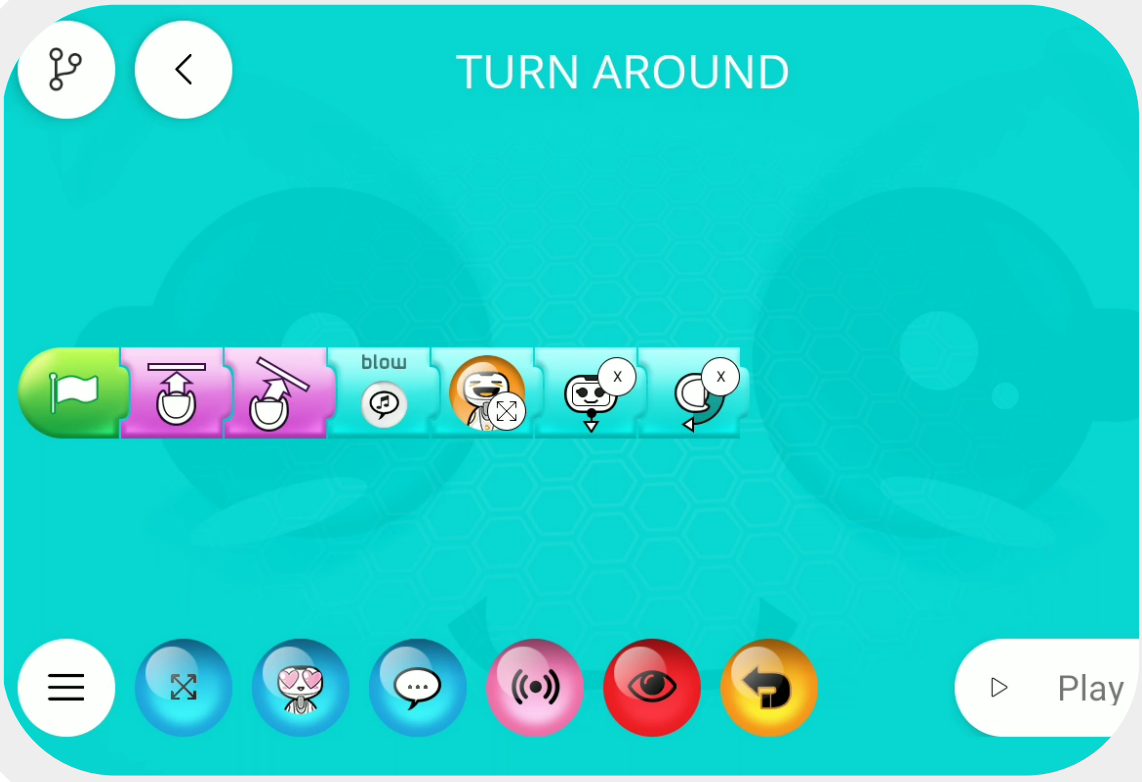
Text and sound

Markers and colors

Facial expressions

Detections and conditions

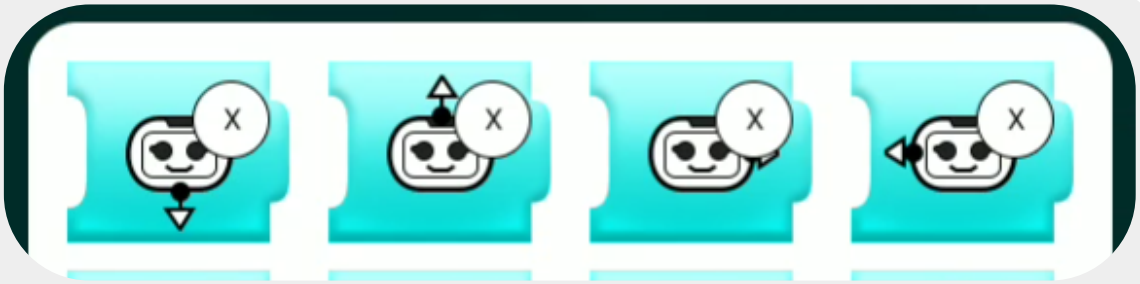
Loops



4.5.1 - MOVEMENTS

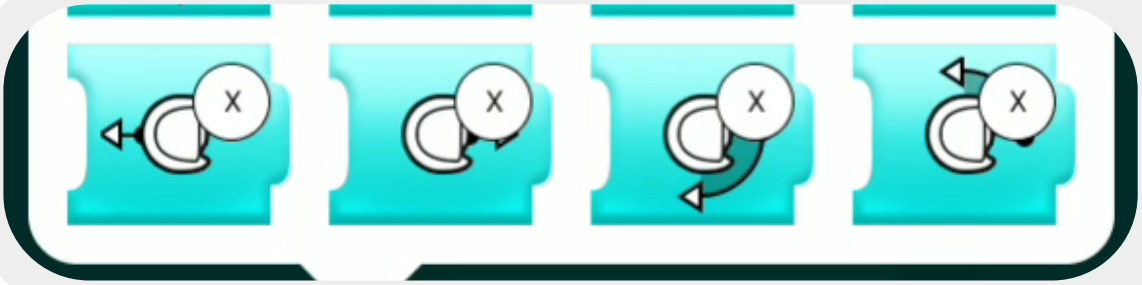
To add a movement and make Buddy move, click on the blue button representing 2 intersecting arrows, choose a movement and drag it onto the creation line.

Description of actions Left-to-right and top-to-bottom movements:



The blocks in the first row allow you to choose a movement for Buddy's head

- Head downward rotation
- Head upward rotation
- Rotate head to the right
- Rotate head to the left



The blocks in the second row allow you to choose a movement for Buddy's body

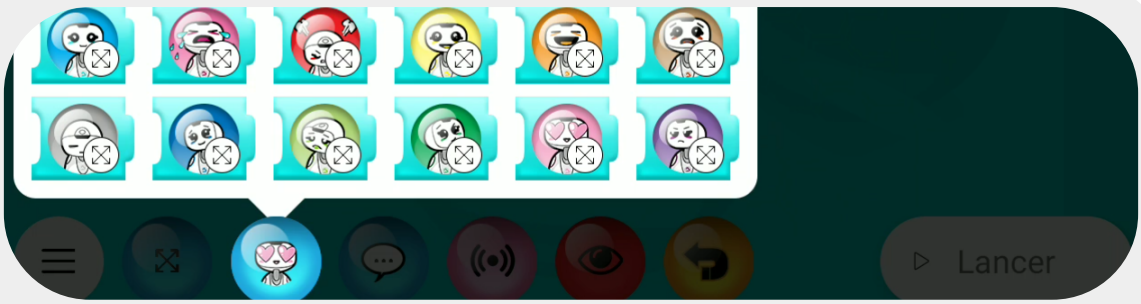
- Body forward
- Shift body backwards
- Rotate body right
- Rotate body left

Once the motion block has been added, click on it to open the motion settings window. You must define the value of «x» for Buddy to perform the movement. In this way, the parameter window lets you specify the displacement distance for translation, or the rotation angle for rotation. You can change the value of «x» using the numeric keypad or the slider below Buddy's animation in the selected block.

4.5.2 - EXPRESSIONS

To add or change Buddy's facial expression, click on the corresponding button, choose your expression from the panel and add it to the action line.

From right to left and top to bottom:



- Neutral
- Sad
- Angry
- Happy
- Laughing
- Frightened
- Tired
- Listening
- Sick
- Reflecting
- In love
- Grumpy

4.5.3 - TEXTS & SOUNDS

To add a sound or make Buddy speak, click on the corresponding button, choose your sound from the panel and add it to the action line.
The buttons on the first line correspond to make sounds:

- Curious
- Focus
- Laughning
- Breath
- Surprise
- Yawn
- Beep

The buttons on the second line correspond to text to make Buddy talk:

- Good afternoon
- Goodbye
- See you soon
- Thank you
- Hug ?
- Great !
- Edit

The «Edit» button lets you edit text yourself. Drag this button onto the action line and click to enter your own text.
Note: Text size is limited, so you can use several successive Edit blocks if Buddy has a lot to say.

4.5.4 - DETECTIONS

Detection blocks correspond to «conditions». Buddy waits for the selected condition to be fulfilled before playing the next action block.

To add a detection block, click on the corresponding button, choose your block from the panel and add it to the action line.

The following types of detection are possible:

- Motion detection
- Obstacle detection in front
- Obstacle detection left
- Obstacle detection right
- Obstacle detection behind
- Buddy button
- Touch Buddy's torso
- Touch Buddy's face
- Touch left eye
- Touch right eye
- Touch the mouth
- Sound detection
- Detection of specific text
- Sound detection: Buddy moves on to the next action as soon as it hears a sound

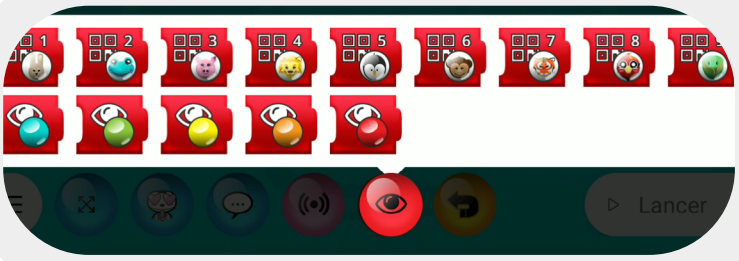
If you add a free sound detection block, you must then click on this block to enter the text that Buddy should detect. A keyboard appears on Buddy's screen.

4.5.5 - MARKERS AND COLORS

Buddy can recognize specific colors and markers.
If you add a marker block, Buddy will wait to see the marker before moving on to the next action.
Similarly, if you add a color block, you'll need to show Buddy an object of that color to continue the sequence of actions.
There are 9 markers recognized by Buddy, each associated with an animal and a number.

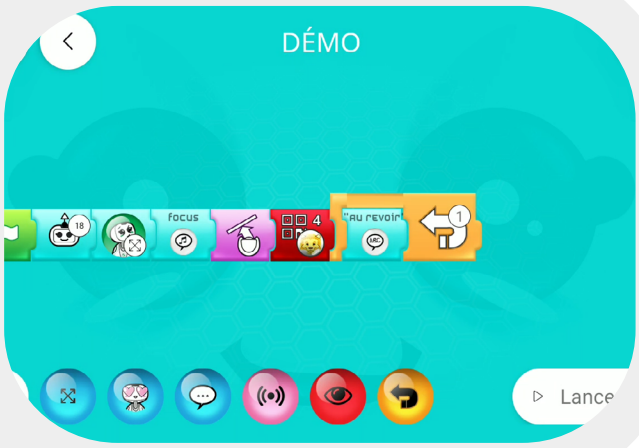
Buddy can recoqnize 5 distinct colors

- Blue
- Green
- Red
- Yellow
- Orange



4.5.6 - LOOPS

It is possible to loop Buddy through a series of actions within a sequence. To add a loop, click on the corresponding button, select your block in the panel and add it to the action line.

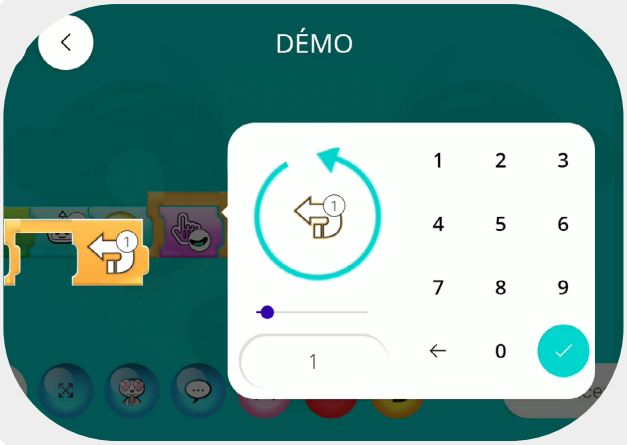


You can choose to add:

- A loop to be executed one or more times (first loop).
- An infinite loop that will execute actions until the sequence is stopped
- with the stop button.

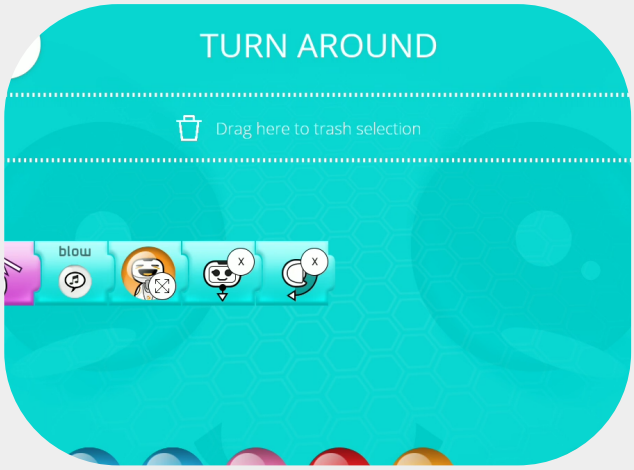
Once the loop has been added, you can move actions within the loop.

If it's a loop with a configurable number of iterations, you need to set this parameter by clicking on the loop and entering the desired number of iterations.



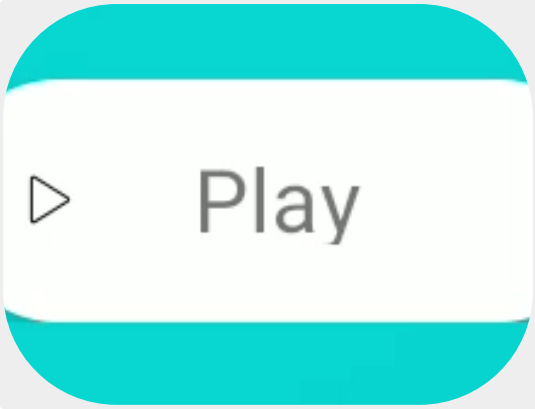
4.6 - REMOVE AN ACTION

To delete an action, move the block to be removed to the delete zone at the top of the screen. The delete zone only appears when you hold your finger down on an action in the creation line



4.7 -PLAY A SEQUENCE

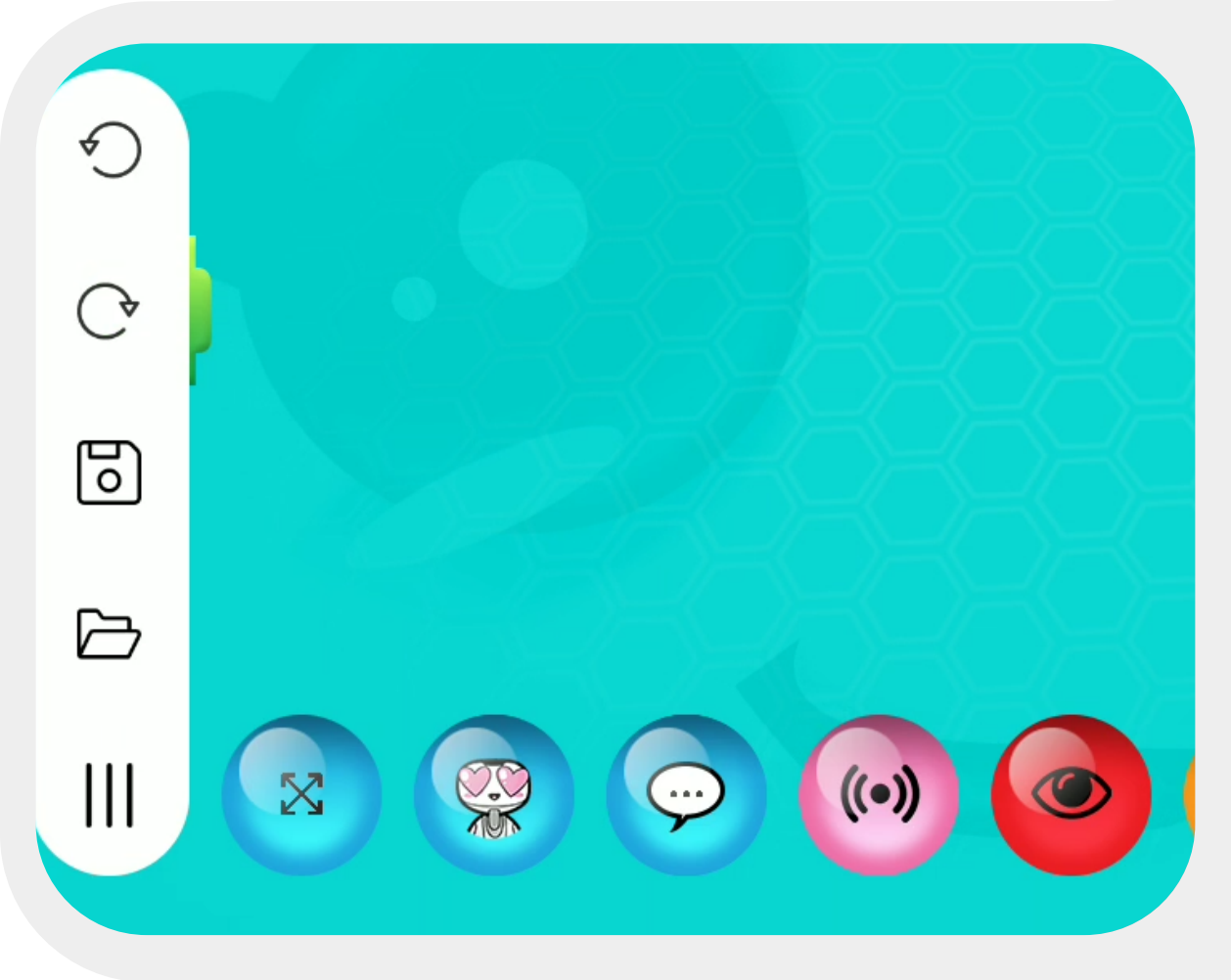
To play a sequence, click on the PLAY button at the bottom right of the project editing page.
Buddy will successively play the various actions in your sequence. You can see the action in progress thanks to the action line at the top of the screen.The replay button at the bottom right of the screen allows you to restart the sequence from the beginning. the stop button at the bottom left allows you to return to sequence editing.

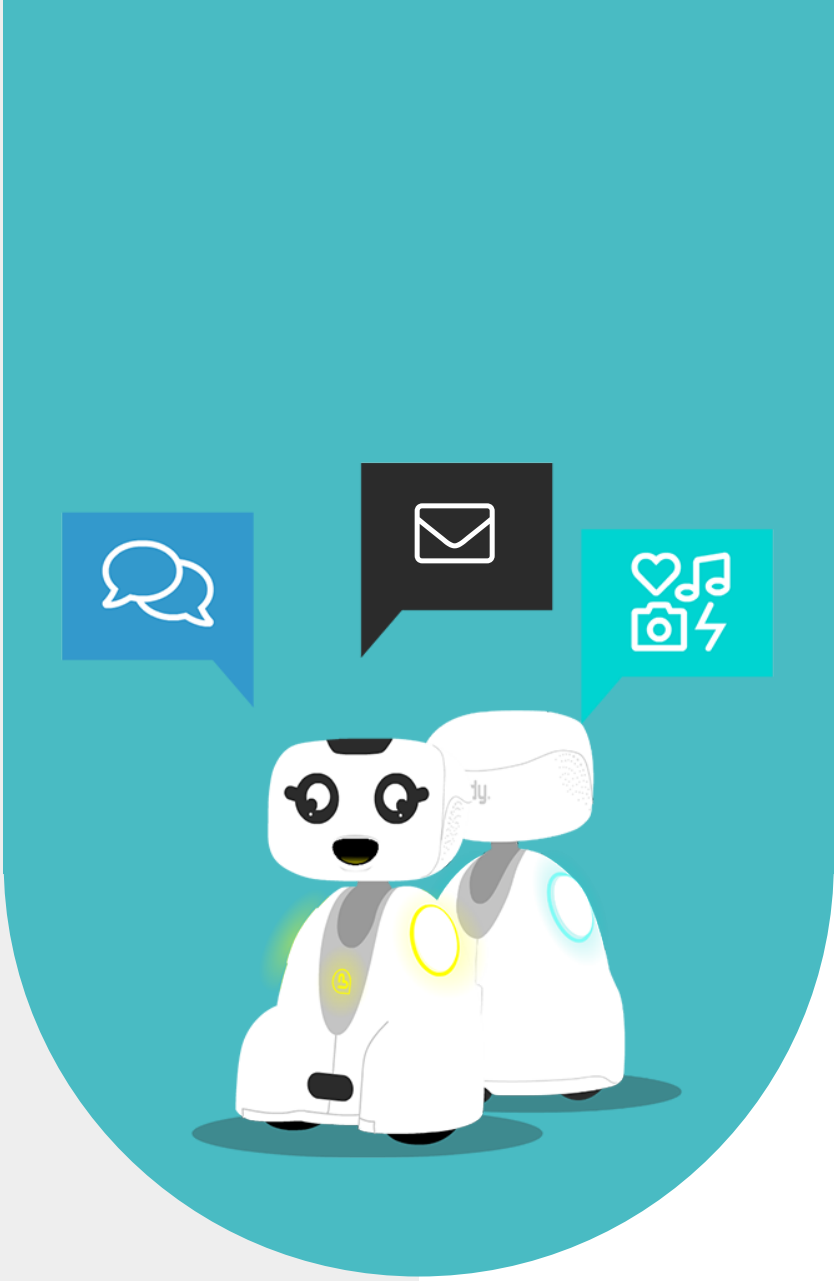


4.8 - OTHER FEATURES

The menu button at the bottom left of the editing page allows you to access the following actions from bottom to top:

- Show/Hide this menu
- Back to saved projects page
- Save project (the project is automatically saved as soon as the sequence is played)
- Undo (up to 10 actions)
- Redo





5 - CONTACT US

5.1 - CONTACT INFORMATION

If you wish to contact us for further information, please refer to the following address:

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GENERAL INFORMATION
info@bluefrogrobotics.com