



Codez la science

7 et 8 Octobre 2016

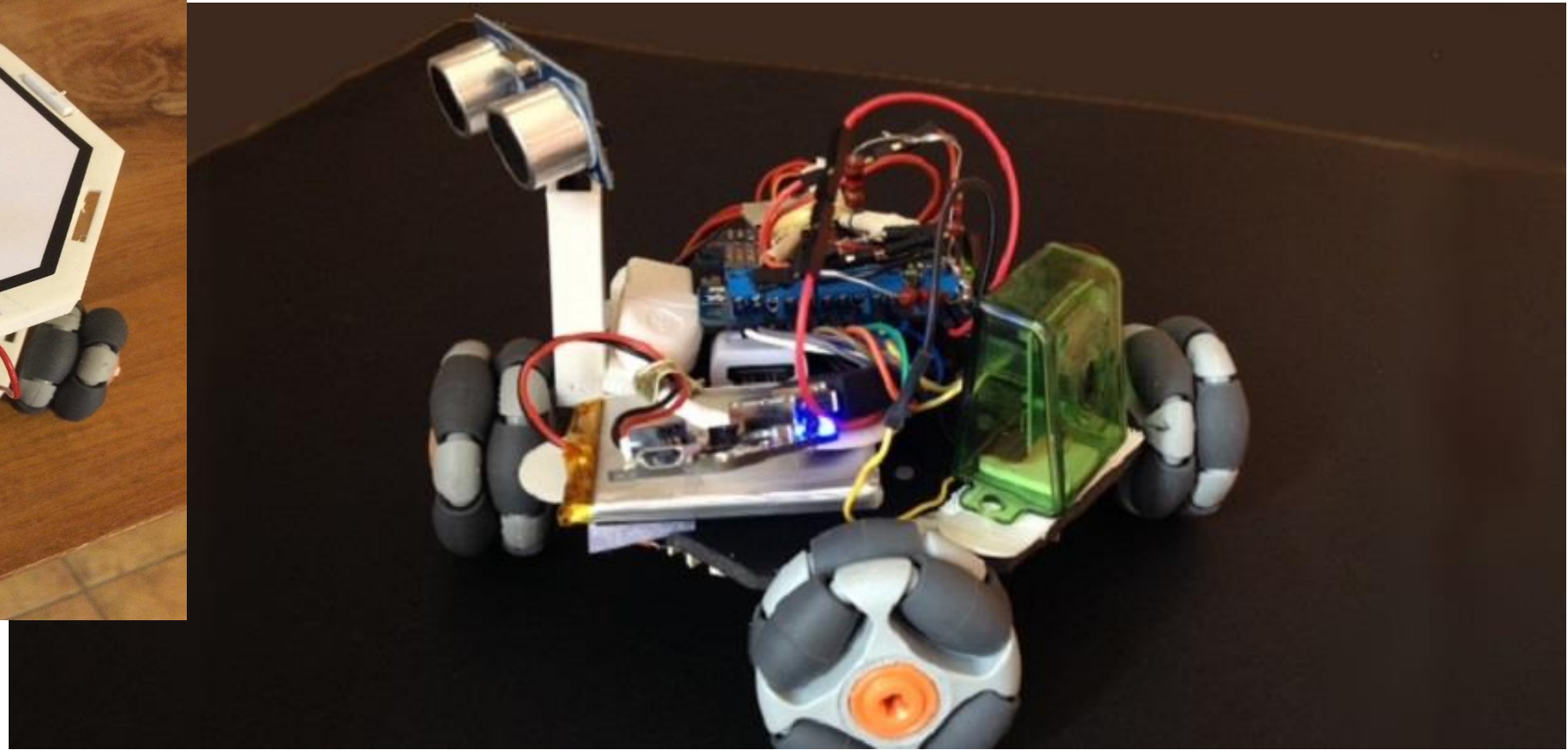
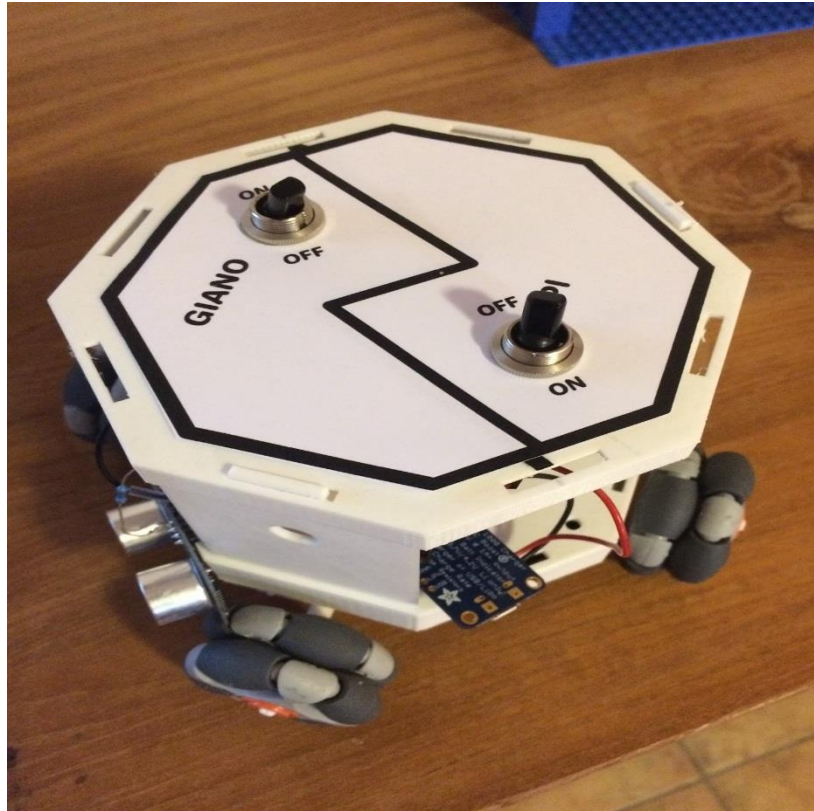
CodeWeek. 



Atelier GianoPi

GianoPi

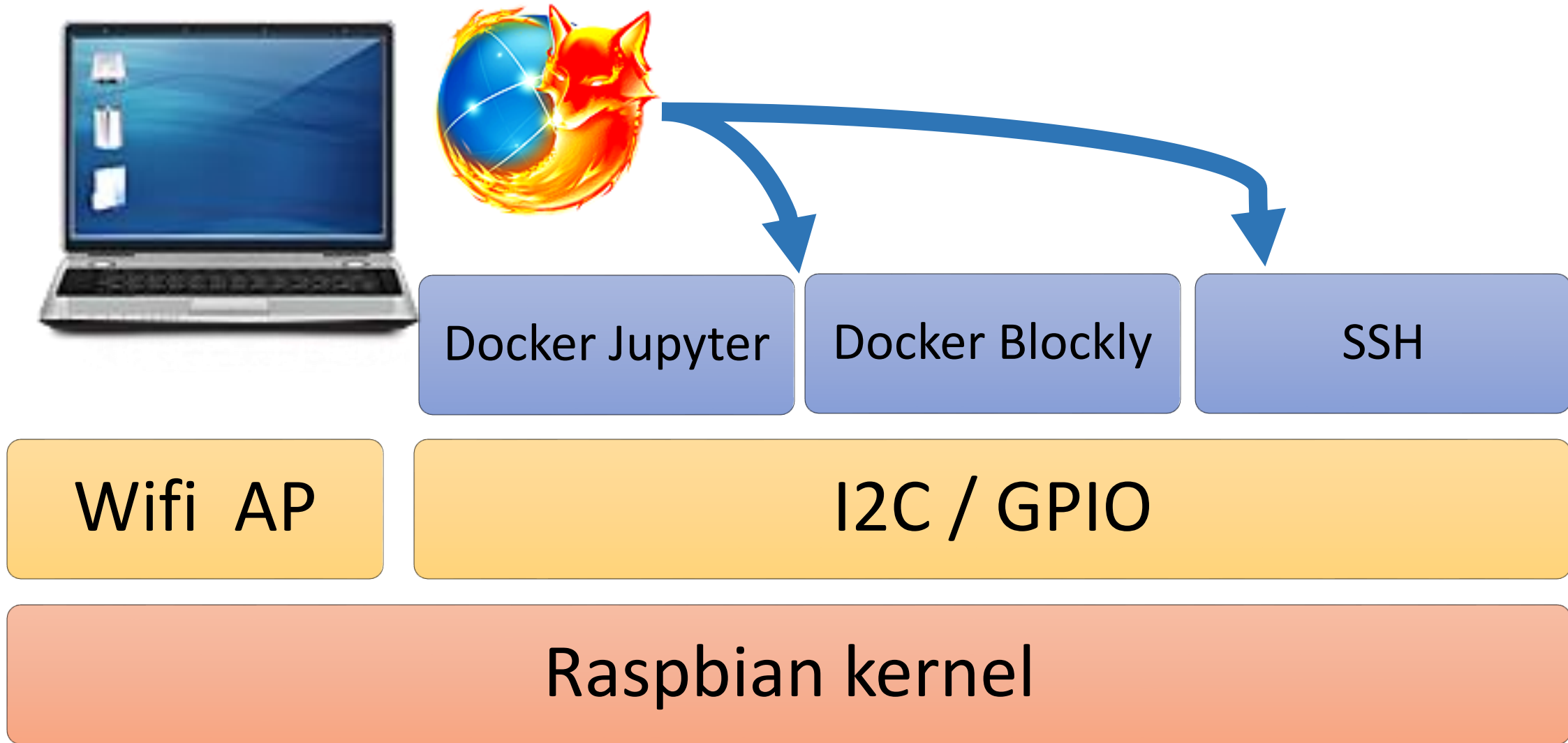
une voiture programmable



Assemblage

- Un châssis en PLA / ABS (Impression 3D)
- Un Raspberry Pi Zero + Dongle Wifi
- Un adaptateur moteurs DC (Adafruit DC Motor HAT)
- Quatre moteurs et supports associés
- Quatre roues holonomiques
- Une caméra 8 mégapixels
- Un détecteur d'obstacles à ultrasons

Architecture Logiciel



Programmer avec Blockly

The image shows a screenshot of the Blockly programming environment. On the left, there is a sidebar with categories: Logic, Loops, Math, Text, Variables, Functions, Lists, Movements, Sensors, and Time. The main workspace contains a script with the following logic:

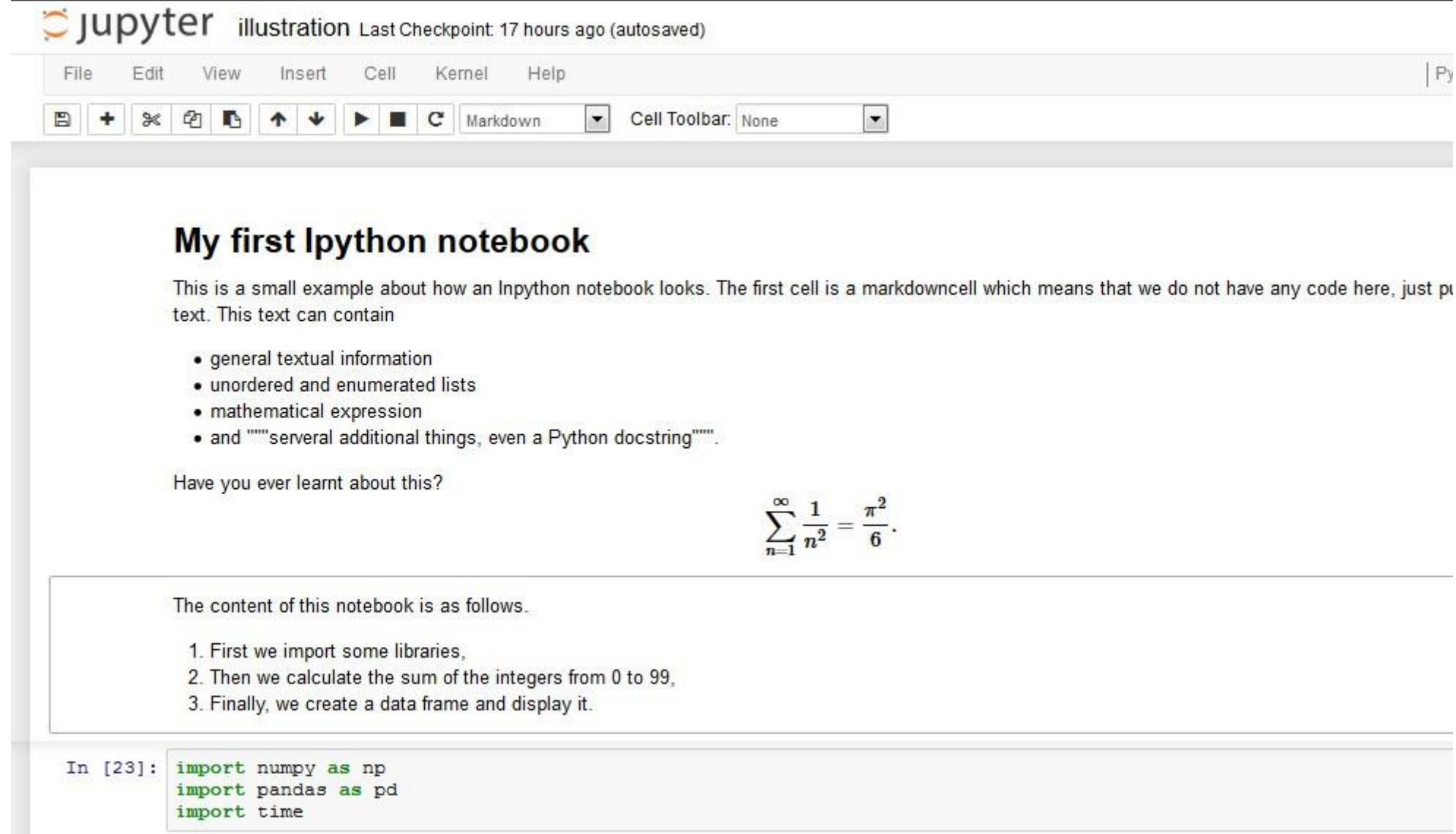
- repeat 4 times
- do
- if not There is an obstacle within 20 centimeters.
- do
- print "Going forward"
- Move Forward for 500 milliseconds.
- else
- print "Turning left"
- Turn left by 90° degrees.
- end if
- end do
- end repeat
- print "Program complete !"

On the right, there is a console and a script preview window. The script preview shows the following Python code:

```
from Drivar import Drivar
from DrivarNxt import DrivarNxt
drivar = DrivarNxt()
drivar.initialize()

for count in range(4):
    if not (drivar.isObstacleWithin(int(20))):
        print('Going forward')
    else:
        print('Turning left')
        drivar.turn(direction=Drivar.DIR_LEFT,angle=int(90))
print('Program complete !')
```

Programmer avec Jupyter Notebook



The screenshot displays the Jupyter Notebook interface. At the top, the Jupyter logo is followed by the text "illustration" and "Last Checkpoint: 17 hours ago (autosaved)". Below this is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, and Help. A toolbar contains icons for file operations (save, new, copy, paste, undo, redo) and execution (run, stop, refresh), along with a dropdown menu set to "Markdown" and a "Cell Toolbar" dropdown set to "None".

My first Ipython notebook

This is a small example about how an Ipython notebook looks. The first cell is a markdowncell which means that we do not have any code here, just plain text. This text can contain

- general textual information
- unordered and enumerated lists
- mathematical expression
- and "several additional things, even a Python docstring".

Have you ever learnt about this?

$$\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}.$$

The content of this notebook is as follows.

1. First we import some libraries,
2. Then we calculate the sum of the integers from 0 to 99,
3. Finally, we create a data frame and display it.

```
In [23]: import numpy as np
import pandas as pd
import time
```


Driver sur GitHub


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Driver a hardware abstraction layer for a collection of wifi programmable RC cars. — Edit

25 commits [1](#)

Branch: [master](#) [New pull request](#)

 [bcopy](#) Added a final GPIO.cleanup

- [modules](#) Ac
- [.gitignore](#) Ju
- [LICENSE](#) Ini
- [README.md](#) Up

[README.md](#)

Driver



Raspbuggy

An autonomous Wifi-enabled programmable RC car

Driver a hardware abstraction layer for a collection of wifi programmable RC cars, such as the [GianoPi holonomic car](#) or the [Raspbuggy](#) and a variety of hardware control adapters (Pimoroni Explorer HAT, Push-pull drivers, Adafruit DC Motor, Lego Mindstorm).

Merci à nos sponsors et partenaires



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