



Timelapes with Raspberry Pi Camera

Will guide you to build a timelapse camera with Raspberry Pi and a Camera module.

 Difficult  Facile

 Dur e 1.5 heure(s)

 Cat gories  lectronique

 Co t 30 USD (\$)

Sommaire

Introduction

 tape 1 - Hardware Setup

 tape 2 - Get PCBs for Your Projects Manufactured

 tape 3 - Software Setup

 tape 4 - Testing the Camera:

 tape 5 - Python to take an image

 tape 6 - Creating Time-lapse

Commentaires

Introduction

This tutorial will walk you through setting up your own Raspberry Pi time-lapse setup from beginning to end.

Mat riaux

Outils

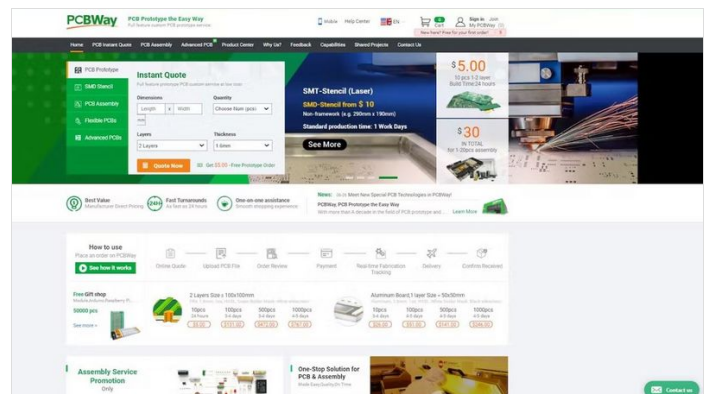
 tape 1 - Hardware Setup

To install the camera use the ribbon cable and press the side of the connector and pull up.



 tape 2 - Get PCBs for Your Projects Manufactured

You must check out PCBWAY for ordering PCBs online for cheap! You get 10 good-quality PCBs manufactured and shipped to your doorstep for cheap. You will also get a discount on shipping on your first order. Upload your Gerber files onto PCBWAY to get them manufactured with good quality and quick turnaround time. PCBWay now could provide a complete product solution, from design to enclosure production. Check out their online Gerber viewer function. With reward points, you can get free stuff from their gift shop.

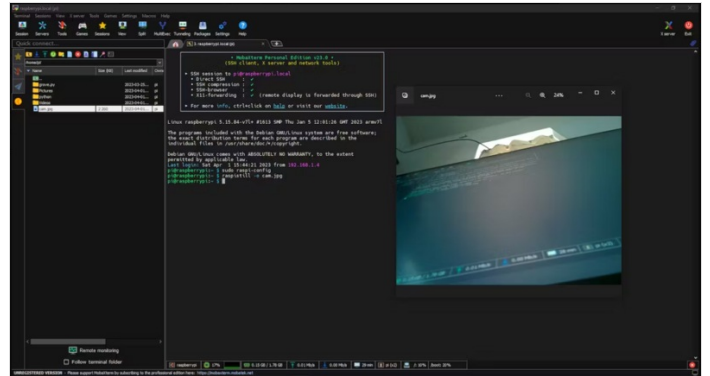
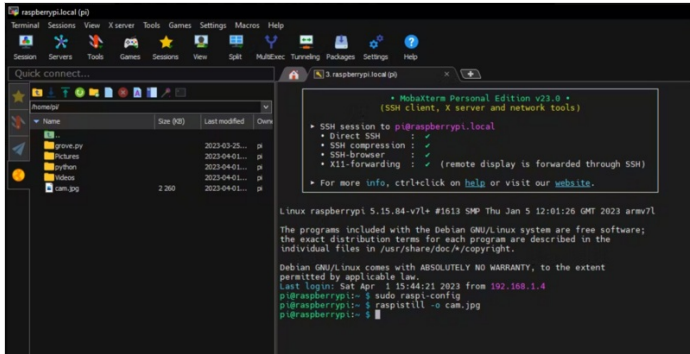


Étape 4 - Testing the Camera:

Use the following command to test the camera.

```
raspistill -o cam.jpg
```

You can see this command will take a picture, and it will save that. Just double-click on the image and check the image.



Étape 5 - Python to take an image

So, now our camera is working fine, the next step is to take multiple images and convert them, to a video. Use the following command to create a new python file.

```
touch timelapse.py
```

Next, open and edit the python file.

Use the following command to edit the python file.

```
nano timelapse.py
```

And these codes in it.

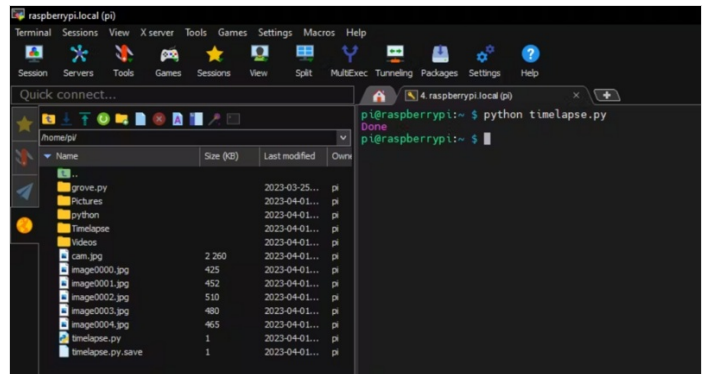
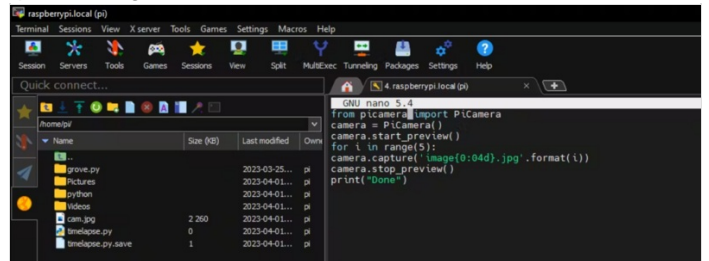
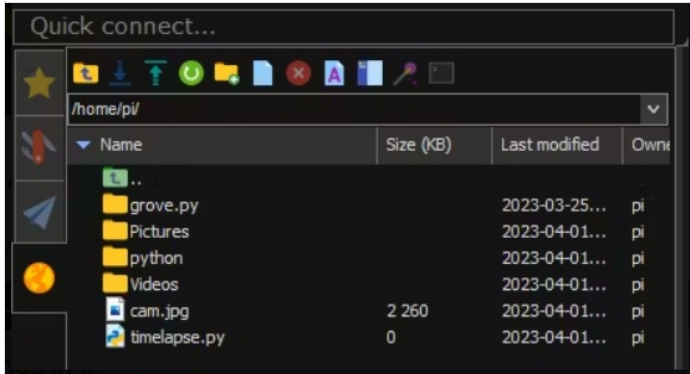
```
from picamera import PiCamera
camera = PiCamera()
camera.start_preview()
for i in range(5):
    camera.capture('image{0:04d}.jpg'.format(i))
    camera.stop_preview()
print("Done")
```

Then save the file using ctrl+x.

Note: Make sure the intentions.

Next, run the script by using "python timelapse.py".

Once it finished the process, it will print "Done". And you can see all the captured images.



Étape 6 - Creating Time-lapse

Next, create two new folders in the name of Pictures and Video. We are going to use these two folders to capture and store the images and videos.

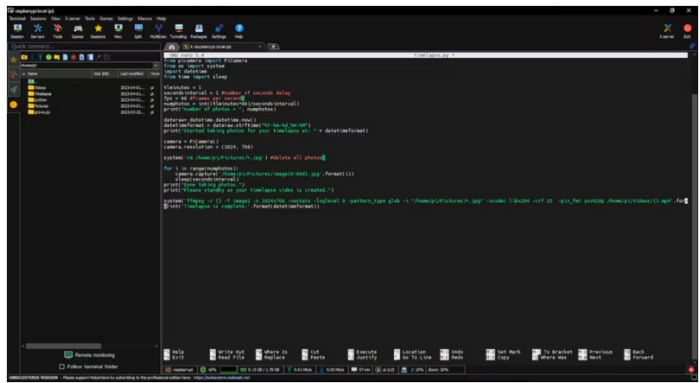
```
from picamera import PiCamera
from os import system
import datetime
from time import sleep
tminutes = 1
secondsinterval = 1 #number of seconds delay between each photo taken
fps = 60 #frames per second timelapse video
numphotos = int((tminutes*60)/secondsinterval) #number of photos to take
print("number of photos to take = ", numphotos)
dateraw= datetime.datetime.now()
datetimeformat = dateraw.strftime("%Y-%m-%d_%H:%M")
print("RPi started taking photos for your timelapse at: " + datetimeformat)
camera = PiCamera()
camera.resolution = (1024, 768)
system('rm /home/pi/Pictures/*.jpg') #delete all photos in the Pictures folder before timelapse start

for i in range(numphotos):
    camera.capture('/home/pi/Pictures/image{0:06d}.jpg'.format(i))
    sleep(secondsinterval)

print("Done taking photos.")
print("Please standby as your timelapse video is created.")
system('ffmpeg -r {} -f image2 -s 1024x768 -nostats -loglevel 0 -pattern_type glob -i "/home/pi/Pictures/*.jpg" -vcodec libx264 -crf 25 -pix_fmt yuv420p /home/pi/Videos/{}.mp4'.format(fps, datetimeformat))

print('Timelapse is complete'.format(datetimeformat))
|
```

In this code, you can define how long you want a video and frames per second. Next, just run the script. Once the time-lapse is done it will show this message. Navigate to the pictures you will see the captured images. Same as in the videos folder



```
tminutes = 1
secondsinterval = 1 #number of seconds delay
fps = 60 #frames per second
```

```
pi@raspberrypi:~/Timelapse $ nano timelapse.py
pi@raspberrypi:~/Timelapse $ python timelapse.py
number of photos = 60
Started taking photos for your timelapse at: 2023-04-01_16:36
Done taking photos.
Please standby as your timelapse video is created.
Timelapse is complete.
pi@raspberrypi:~/Timelapse $
```

