Ruchir Sharma (/ruchir1674)
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Video Streaming On Flask Server Using RPi

Live video streaming using RPi and RPi camera module in Flask server.

Easy(/projects?difficulty=beginner) Full instructions provided 3 hours 6,643

(https://www.avnet.com/wps/portal/silica/products/new-products/npi/2018/avnet-multi-camera-fmc-module/)

Things used in this project

Hardware components

Raspberry Pi 3 Model B (/raspberry-pi/products/raspberry-pi-3-model-b?ref=project-ef3d75)	× 1	(/products/buy/192093?s=BAhJIhY1ODg4M3xCYXNGXJ0aWNsZQY6BkVG%0A)
Raspberry Pi Camera Module (/raspberry-pi/products/camera-module?ref=project-ef3d75)	× 1	(/products/buy/205682?s=BAhJIhY1ODg4M3xCYXNGXJ0aWNsZQY6BkVG%0A)

Story

Live video streaming server using RPi

There are many ways to stream video to browsers, and each method has its benefits and disadvantages. The method that works well with the streaming feature of Flask is to stream a sequence of independent JPEG pictures. This is called Motion JPEG

(http://en.wikipedia.org/wiki/Motion_JPEG) . This method has low latency, but quality is not the best, since JPEG compression is not very efficient for motion video.

1. Connect the camera module and enable it

First of all, with the Pi switched off, you'll need to connect the Camera Module to the Raspberry Pi's camera port.

Read more

Schematics

Camera-RPi connection

(https://halckemy.s3.amazonaws.com/uploads/attachments/370308/camera_bc

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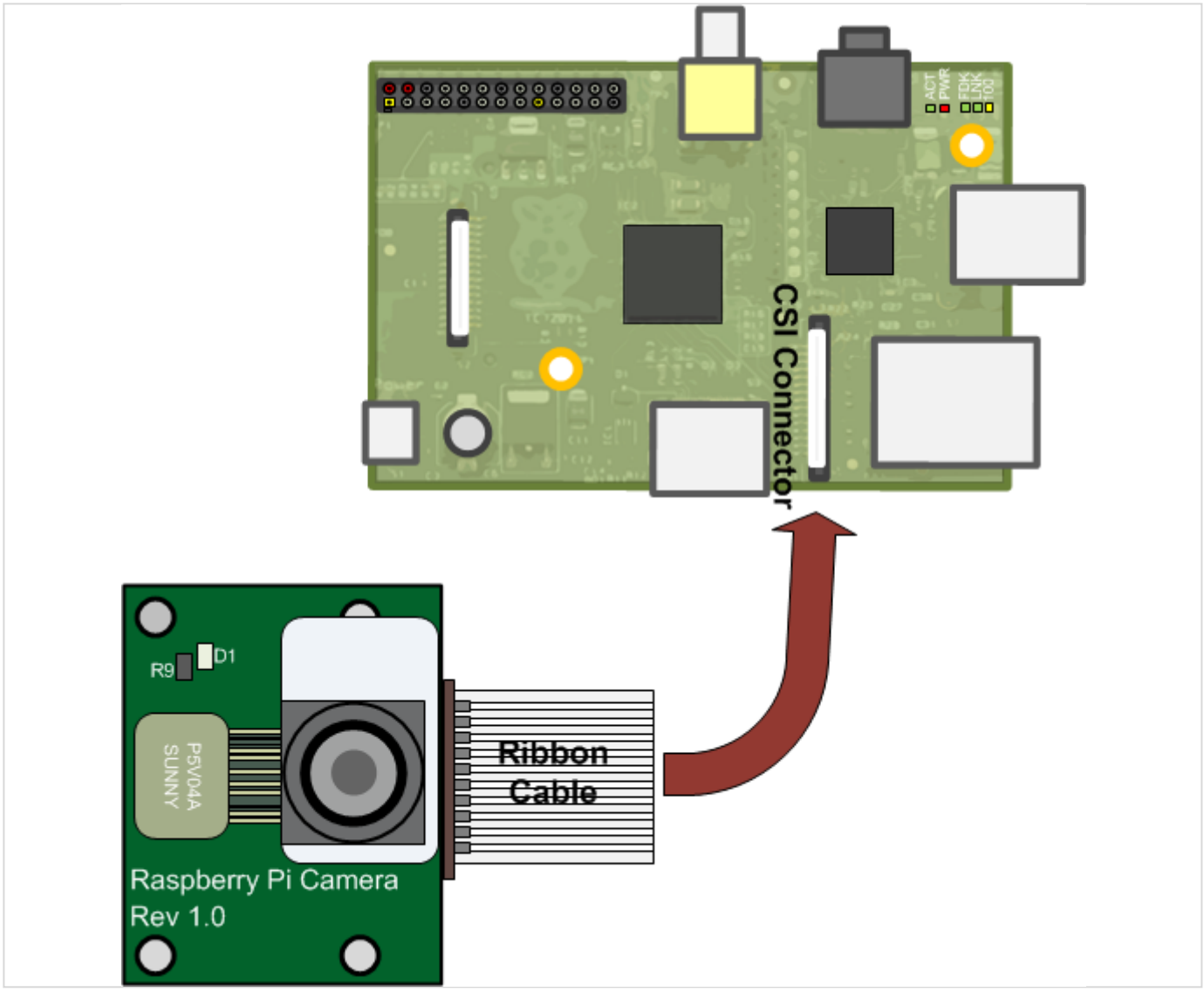

Code

main file index.html

main file Python (/code_files/146903/download)

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```
#!/usr/bin/env python
from flask import Flask, render_template, Response
import picamera
import cv2
import socket
import io

app = Flask(__name__)
vc = cv2.VideoCapture(0)

@app.route('/')
def index():
    """Video streaming"""
```

Credits

(/ruchir1674) **Ruchir Sharma (/ruchir1674)**

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(/greymatter1729) **James (/greymatter1729)**

a year ago

Nice beginner project! My only question is how to restart the stream once you close it?

Thank

(/ruchir1674) **Ruchir Sharma (/ruchir1674)**

a year ago

sudo service uv4l_raspicam restart

Thank Thank

(/greymatter1729) **James (/greymatter1729)**
a year ago

thanks! Also will it work with opencv3?

Thank

(/ruchir1674) **Ruchir Sharma (/ruchir1674)**
a year ago

I have not tried it with opencv3 but it should work.

Thank • 1 thank

(/K50504) **Kevin (/K50504)**
a year ago

This comment has been deleted.

(/ruchir1674) **Ruchir Sharma (/ruchir1674)**
a year ago

with picamera.PiCamera() as camera:
camera.resolution = (1024, 768)

Thank

(/ruchir1674) **Ruchir Sharma (/ruchir1674)**
a year ago

Welcome man !!!

Thank

(/tidusbaey) **Tidus Baey (/tidusbaey)**
a year ago

Hi Ruchir

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I saw you have a login page for the stream. I had also tried to add login function for the raspicam live stream but I had an error I cant logout and my camera still on when I try logging out

Thank

(/ruchir1674) **Ruchir Sharma (/ruchir1674)**
a year ago

Hi Tidus,

Tell me one thing are you using any background image on video page.

Thank

(/ycdaskingg) **Yusuf Çağrı Daşkın (/ycdaskingg)**
4 months ago

Hello,

First, you don't need to save every frame. Saving and replacing every frame in a loop is a terrible idea for SD cards. Instead you can use a global variable on memory to hold the frame data. It will be better like this:

```
def gen():
"""Video streaming generator function."""
while True:
rval, frame = vc.read()
byteArray = cv2.imencode('.jpg', frame)[1].tobytes()
yield (b'--frame\r\n'
b'Content-Type: image/jpeg\r\n\r\n' + byteArray + b'\r\n')
```

Second, in this way you can make only one request at a time. When you make second request application will not response.

Thank

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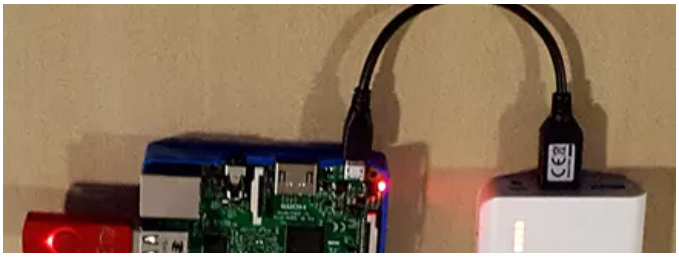

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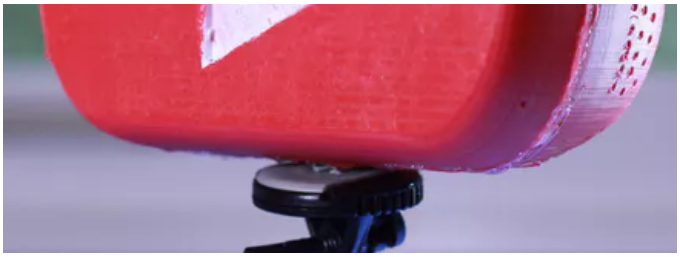

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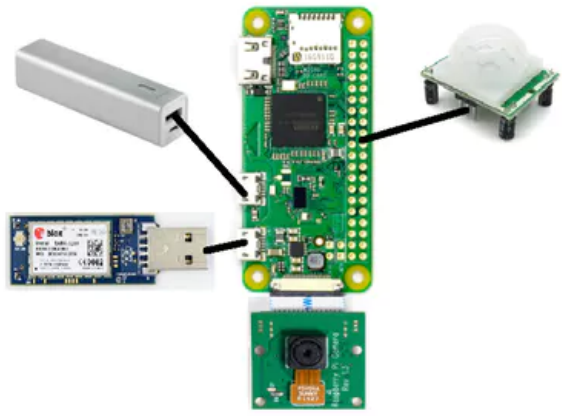

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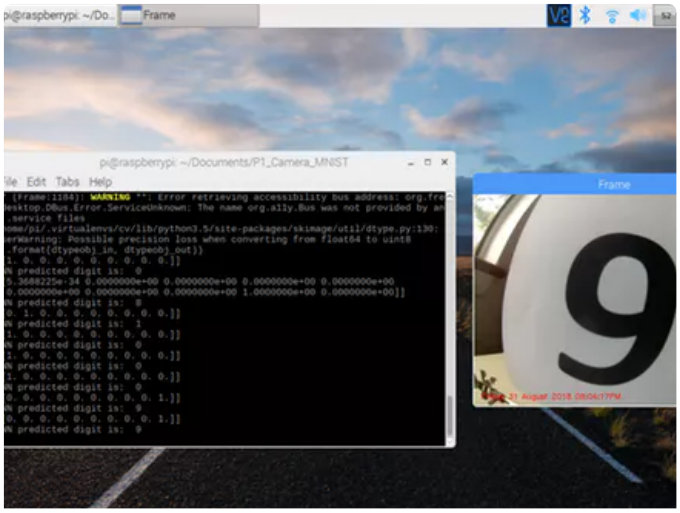

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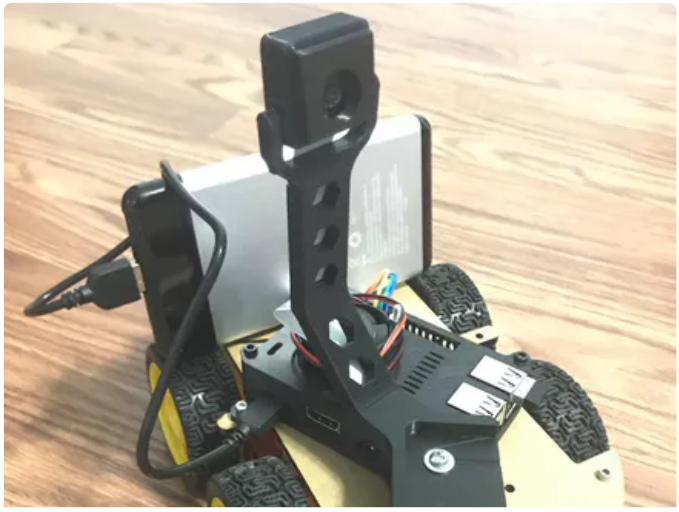

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