

```

1  """test_communication.py | Robin Forestier | 16.02.2022
2
3  This file is used for communication test with the server flask.
4  The programme send the current time (13:46), the temperature of the camera (054) for
5  54°C and a bool value 1 or 0
6  (1 is for entry).
7  """
8
9  # `time` is a module that contains a lot of functions to work with time.
10 # `datetime` is a module that contains a lot of functions to work with date and time.
11 import time
12 from datetime import datetime
13
14 # `requests` is a module that allows to send HTTP requests.
15 import requests
16
17 while True:
18     # `t` is a variable that contains the current time.
19     t = datetime.now()
20     # `strftime` is a function of the `datetime` module. It allows to convert a date
21     into a string.
22     current_time = t.strftime("%H:%M")
23
24     # Take the temperature of the RPi
25     # Error also temp is 0
26     try:
27         with open('/sys/class/thermal/thermal_zone0/temp', 'r') as ftemp:
28             temp = int(int(ftemp.read()) / 1000)
29     except OSError:
30         temp = 0
31
32     # Creating a string with the current time and the temperature of the camera.
33     data = "{}{:03d}1".format(current_time, temp)
34     data_length = len(data)
35     data = {'data': '$,RPWCSD,{:03d},{},0*'.format(data_length, data)}
36
37     print(data)
38
39     try:
40         # Sending the data to the server (change the ip to your server IP).
41         r = requests.post("http://172.16.32.27/camera", data=data, timeout=0.5)
42         # Checking if the status code is bigger than 299.
43         if r.status_code > 299:
44             print("[Error] Communication error")
45         else:
46             # Reading the data send by the server.
47             data = r.text
48             # if the data is a correct trame ($,...,*)
49             if data[0] == "$" and data[:: -1][0] == "*":
50                 data = data.split(',')
51
52                 # Communication OK
53                 if data[1] == "RPWCOK":
54                     print("ok")
55                 # Communication Error
56                 if data[1] == "RPWCER":
57                     print("[ERROR] The cam had send a bad trame.")
58
59     # This is a way to catch all the exceptions that can occur when you try to send
60     a request to the server.
61     except requests.exceptions.RequestException as e:
62         print(e)
63
64     time.sleep(10)

```