Experiment No - 5

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Aim : Understanding and connectivity of Raspberrypi Beagle board with camera. Corite an application to capture and Store the images.

Theory :

Raspberrypi camera Module v2 replaced the original Camera module in April 2016. The v2 camera module has a Sony IMX219 8-mp Sensor. The camera module can be used to take high Definations Video & paragraphs. Its easy to use for beginers. but has plenty to offer advanced user if. you're looking to expand your Knowlege. We can use the libraries we bundle with Camera to create effects It's leaps forward in image quality, colors fidelity, and low-light performance, It supports 1080p30. 720p60 and VGA90 vido modes as well as SHll captures. It attaches via a 15 cm ribbon cables to the CSI port on the Raspberry pi. The camera works with all models of Raspberry pi.

Pi camera:

open Raspberry pi, configurations & enable the camera.

Camera preview:

```
from picamera import Pi Camera.
from time import Sleep.
Camera = Picamera()
Camera.start_preview()
Sleep (10)
Camera.stop_preview()
```

Rotating the camera.

```
Camera.rotation = 180
Camera.start_preview()
  sleep(10)
Camera.stop_preview()
```

Starting the Image.

```
from picamera import Picamera
from time import Sleep.
Camera = pi camera()
Camera.start_preview()
Sleep(10)
Camera.Capture('/home/pi/Desktop
  /image1.jpg')
Camera.stop_preview().
```

Recording the video

```
from Pi camera import pi camera
from time import Sleep.
camera = pi camera.
Camera.start_preview()
 Camera.Start-recording ('/home/pi/
  video.h264')
  Sleep(10).
Camera.Stop-recording()
 Camera.Stop_preview().
```

Converting and playing ~~vedo~~ video.

The video format need to get converted to mp4

So install gpac.

```
sudo opt-get install gpac.
```

Now converted the video to mp4.

```
MP4 Box - FPS 30 - add video.F264 videomp
```

Conclusion → Thus, we have Studied, pi camera and also stored. the images and videos using pi camera.