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Assignment: 5. TE A 19

Aim: Understanding and connectivity of Raspberry-Pi / Beagle board with camera write an application to capture and store the image

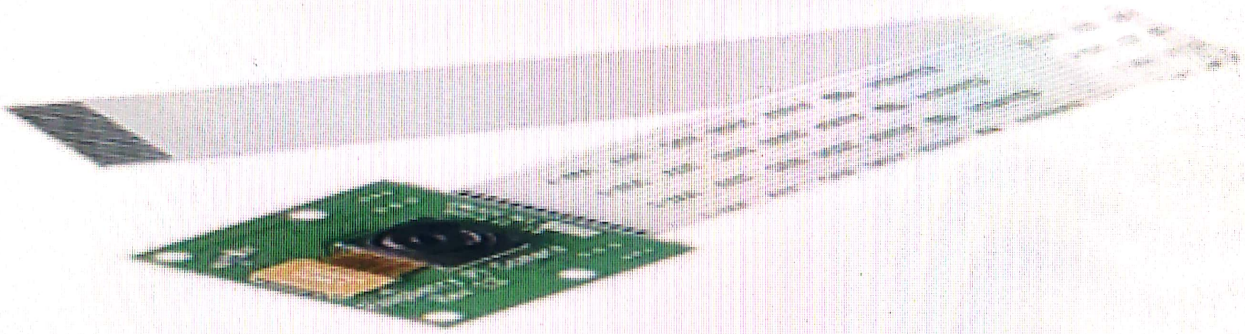
Theory

- Raspberry Pi camera module is replaced the original camera module in april 2016
- The camera module can be used to take high definition video as well as stills photographs we can read all glory details about IMX219 · Exmore Rbach - illuminated sensor architecture on sony's website
- It supports 1080p30, 720p60 + VGA90 as still capture.
- The camera works with all models of Raspberry Pi 1, 2, & 3. It can be access through MMAL & V4L HPL, there are numerous third party libraries built for it.

Camera preview-

```
from picamera import PiCamera
from time import sleep
camera = PiCamera()
camera.start_preview()
sleep(10)
camera.stop_preview()
```

Pi Camera



Rotating the camera

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

storing the image

```
from picamera import PiCamera
from time import sleep
camera=PiCamera()
camera.start_preview()
sleep(10)
camera.capture('/home/Pi/desktop/image.jpg')
camera.stop_preview()
```

Recording the vedio

```
from picamera import picamera
from time import sleep
camera=Picamera()
camera.start_preview()
camera.start_recording('/home/pi/video.h264')
sleep(10)
camera.stop_recording()
camera.stop_preview()
```

converting and playing vedio

The video format need to get converted to MP4.
So install gpal sudo apt-get install gpac
Now convert video to MP4

```
MP4BOX -Fps30 -add vedio.h264 video.mp4
```

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Conclusion

We have studied Pi Camera & stored images & vedio Pi camera