Assignment:- Device Control and Monitor

-Amogh G. Okade (EP22B020)

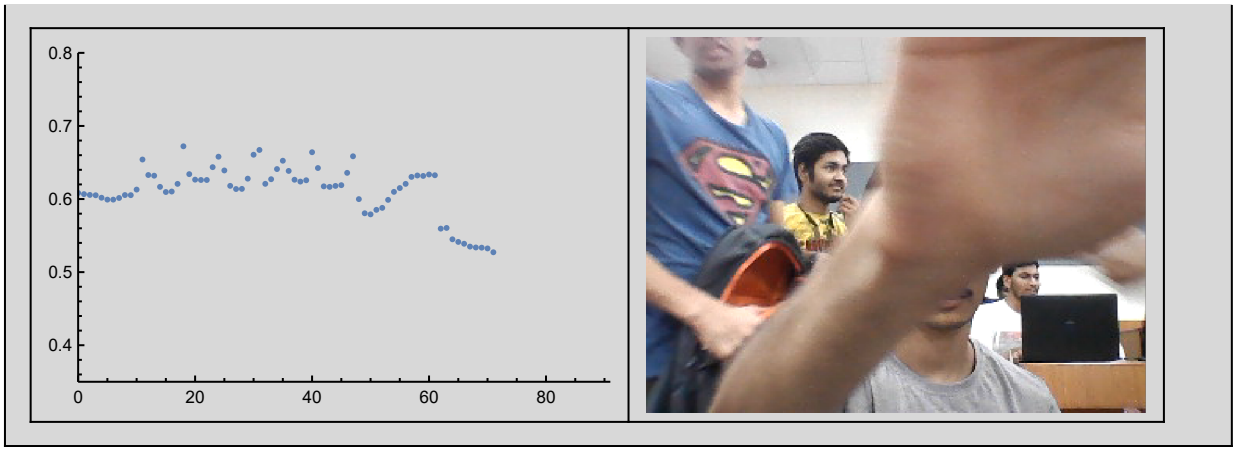
In[ ]:=

```
devlist = FindDevices[];
cam = devlist[[1]];
DeviceOpen[cam];
Pause[2]
img0 = DeviceRead[cam];
imgDat0 = ImageMeasurements[img0, "MeanIntensity"];
Print["Reference intensity is ", imgDat0]
Print["Alarm will ring if intensity is more than ",
 imgDat0 + 0.075, " or less than ", imgDat0 - 0.075]
t = 0;
imgLst = {{t, imgDat0}};
plt = Dynamic[ListPlot[imgLst, PlotRange → {{0, t + 20}, {0.35, 0.8}}]];
vid = Dynamic[img];
minInt = imgDat0;
maxInt = imgDat0;
finalImg = GraphicsRow[{plt, vid}, Frame → All]
n = 0; While[n == 0, If[Abs[imgDat0 - imgDat] > 0.075, n = 1];
 img = DeviceRead[cam];
 imgDat = ImageMeasurements[img, "MeanIntensity"];
 t++;
 AppendTo[imgLst, {t, imgDat}];
 If[imgDat < minInt, minInt = imgDat];
 If[imgDat > maxInt, maxInt = imgDat];
]
If[minInt < imgDat0 - 0.075,
 Print["The final intensity which caused the alarm to ring is ", minInt],
 Print["The final intensity which caused the alarm to ring is ", maxInt]]
EmitSound[Play[Sin[2000 × 2 Pi t^2], {t, 0, 2}]]
(*DeviceClose[cam]*)
```

```
Reference intensity is 0.608333

Alarm will ring if intensity is more than 0.683333 or less than 0.533333
```

Out[ ]=




```
The final intensity which caused the alarm to ring is 0.52719
```

In[ ]:=

```
Print["This system can be used to detect any intruders if they make any
    sudden movements and to also capture the picture of the intruder."]
```

```
This system can be used to detect any intruders if they make
  any sudden movements and to also capture the picture of the intruder.
```