Distance Measure

April 28, 2019

In [1]:
```
import numpy as np
import cv2
import matplotlib.pyplot as plt
```

In [2]:
```
img = cv2.imread('Echoes1.jpg')
img = np.array(img)
img[:,:,0],img[:,:,2] = img[:,:,2],img[:,:,0].copy()
plt.imshow(img)
```

Out[2]:
```
<matplotlib.image.AxesImage at 0x1298e2c88>
```

In [6]:
```
print(img[0][0])
```

```
[88 77 57]
```

```
In [1]: class Pixel():

            def __init__(self,x,y):
                self.x = x
                self.y = y

In [3]: np.power(2,3)

Out[3]: 8

In [4]: def euclid(p1,p2):
            dis = np.sqrt(np.power((p1.x-p2.x),2)+np.power((p1.y-p2.y),2))
            return dis

In [5]: def city_block(p1,p2):
            return np.absolute(p1.x-p2.x)+np.absolute(p1.y-p2.y)

In [6]: def chessboard(p1,p2):
            return max(np.absolute(p1.x-p2.x),np.absolute(p1.y-p2.y))

In [8]: p1 = Pixel(2,10)
        p2 = Pixel(8,6)

In [9]: print(euclid(p1,p2))

7.211102550927978


In [10]: print(city_block(p1,p2))

10


In [11]: print(chessboard(p1,p2))

6


In [ ]:
```