Creating Panorama Using OpenCV

In [1]:
```
#1: Find Keypoints in all Images
#2: Find Pairwise Correspondance
#3: Estimate Paiwise Homographies
#4: Refine Homographies
#5: Stitch With Blending
```

In [2]:
```
#Importing Libraries
import cv2
import numpy as np
import pandas as pd
import glob
import math
import matplotlib.pyplot as plt
```

In [3]:
```
#Read Images
imageFiles = glob.glob("boatImages/*")
imageFiles.sort()

images = []
for fileName in imageFiles:
    img = cv2.imread(fileName)
    img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
    images.append(img)

num_images = len(images)
```

In [4]:
```
#Display Images
plt.figure(figsize = (30, 10))
num_columns = 3
num_rows = math.ceil(num_images / num_columns)

for i in range(0, num_images):
    plt.subplot(num_rows, num_columns, i + 1)
    plt.axis("off")
    plt.imshow(images[i])
```

In [6]:
```
#Stitch Images
stitcher = cv2.Stitcher_create()
status, result = stitcher.stitch(images)
if status == 0:
    plt.figure(figsize = (30, 10))
    plt.imshow(result)
    plt.axis("off")
```