# EXPERIMENT -2 PROGRESS REPORT

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**Create a template of the biker and girl from Frame 1 in each of the videos. Find the location of the template in the last frame of the videos without using any of the frames in between.**

In frame 1, I plan to create a template by extracting a small portion of the image from the full image. The small portion/template will be defined by using a four element position vector values which will extract the desired part of the image.
Inorder to find the location of the template in the last frame, the normalized cross correlation between the template and the last frame will be calculated. The maximum value of the normalized cross correlation and its location will help me identify the best match for the template in the last frame. I will also use histogram and distribution of pixel densities to track the object along the frames.

**Design a tracking algorithm (must be your own) to track the biker and girl through the Videos.**

For the tracking algorithm, my main idea is to perform background subtraction to identify the object of interest for tracking since the background remains the same in these videos. By taking the difference between the object of interest and the stationary part of the image, the background can be computed across all the frames. From these set of background images the mean/median can be considered to form a reference background image. Morphological operations(For perfect edges) need to be performed to get better results of object of interest. Using this information, the object can be identified across all the frames.
Additionally, through literature readings I also came to understand colour histograms across the frames can be used to identify objects using average shift in frames. I will try to incorporate this feature for better results. I am yet to understand this concept in detail.

While I am working on the code for question 1 with progressing results in the right direction, I have written my main idea for question 2 by analysing it to the best of my understanding and knowledge.

**Compare your results to the ground truth provided with the datasets.**

As from the introduction for Experiment-2 lecture, various evaluation metrics such as Success Plot/Rate and Precision Plot/Rate will be used to establish the accuracy with respect to the ground truth.