This document is related to the correction step, where we update our previous versions of correction technique.

**Process:**

**Assumptions:**

1. There is always correspondence between at least two images.
2. There is an Nmax restriction for each feature.

**Steps:**

1. Detect features and store them in a data structure, and augment C1.
2. Start tracking features and keep augmenting Ci’s.

Cases:

1. No of features fall below a threshold.
2. Features are tracked up to Nmax frames.
3. Subset of features go out of view between Nmin and N­­max.

**Cases Handled:**

Case 1:

1. Detect new features at that frame, and start tracking then. Remove already tracked features from the new ones [otherwise it could be duplicate].
2. Only a subset of features would be tracked up to Nmax frames. When a feature ft reaches Nmax correct using that, and at the same time, other features are also being tracked. Similar process would be repeated for other features.

**Questions:**

**Q1): When do we detect new features?**

Ans: At any instant I (ith camera frame), when the number of tracked features fall below a threshold tf, we detect new features.

**Q2): How could we blend newly detected features at instant i, with existing tracked features?**

Ans: We would augment the newly detected (and then tracked) features {from i} with the previously detected features. So the shape becomes:

**Q3): How would the min-case would be handled?**

Ans: At any camera frame I, check if a feature goes out of view. If so, check how long is its history. If greater than Nmin, correct using that, otherwise simply discard.

**Q4): What if all features go out of view before Nmax?**

Ans: We are making sure this does not happen, by implying Q1.

**Adding another Level**

Detecting and handling when number of features go below a threshold

**Problems:**

* If number of features fall below a threshold, detect new features.
* When a feature gets out of view, how to find the track range?
* How to handle the case where two out of view features have different out of view track ranges?

**Proposed Solutions:**

1. Process each feature one by one. Place observation Matrix inside the loop, indicating the range of each feature.

**Notes:**

1. We need to handle track range only in the case of out of view features, because in Nmax case, the track range has to be Nmax.
2. Both features f1 and f2 can go out of view at the same time, but have different track ranges/lengths.