

There are 5 folders in the submitted material. The folder called 'effect_of_noise' is the addition in the revised material (as requested by the reviewers). The contents of each folder are described below:

Folder1: "Naive vs Proposed"

This folder contains 6 videos.

- The Zeroth video shows the input video overlaid with actor tracks.
- The First video shows the SSC obtained using a naive approach i.e. computing the virtual camera feed for each actor and frame independently by simply following the tracks. It uses a fixed layout and hence the order is not preserved. We can also observe the redundancies and the noisy camera movement.
- The Second video shows the same video but here relative arrangement among actors is taken care of.
- The Third video SSC is obtained with smooth camera motion and preserving the relative order.
- The Fourth video shows the SSC obtained after the dynamic layout selection and the optimization but without transition constraints. Please observe the jerks at the point of layout transitions (time 00:04,00:06,00:10/00:11,00:13 sec).
- The Fifth video shows the final result including the layout transition constraints.

* A table is also included to show the visual goals and drawbacks of each of the videos .

Folder 2, Folder 3, and Folder 4 contain rendered SSC examples with sequences of two actors, three actors and four actors respectively. The position aware subtitles are also provided for the two actor sequences, which can be played through any suitable player (we recommend vlc player).

Folder 5: "effect_of_noise" contains 2 videos.

We synthetically simulate and add noise to the input actor tracks to test the robustness of our system with inaccurate tracking. We also add larger errors at random positions (shift up to 200 pixels) to simulate momentary tracking failures.

- First video called 'simulated_noise_results.mp4' shows the close-up view estimation done individually in each frame (red) and the optimised result (blue). We can observe that since the input tracks are noisy, close-up view on individual frames can go completely wrong (fully off the actor at times), however the optimized close-up view is reasonably good.
- Second video called 'SSC_with_noise.mp4' shows the SSC rendered from the

noisy input trajectories. We can observe that the final result is acceptable even after the input actors tracks are such noisy. However, the results are slightly inferior (in terms of camera stability and consistency in composition) as compared to the original case (with less noisy actor tracks) shown in folder 2.

This experiment clearly demonstrates that the proposed SSC creation algorithm is fairly robust to significant noise in input actor tracks (at least to random noise). A more systematic bias or long term drifts in input actor tracks may possibly lead to noticeable errors. The effect of noise may also be more significant with tighter close-up views or with increase in number of actors.

Please note that the hard constraint on actor bounding box (Equation 6) was relaxed to allow for convergence of the optimization function (Equation 12).

We have submitted the videos in compressed form to keep a check on the upload size. The original resolution videos can be provided to the reviewers through an anonymous link, if required.