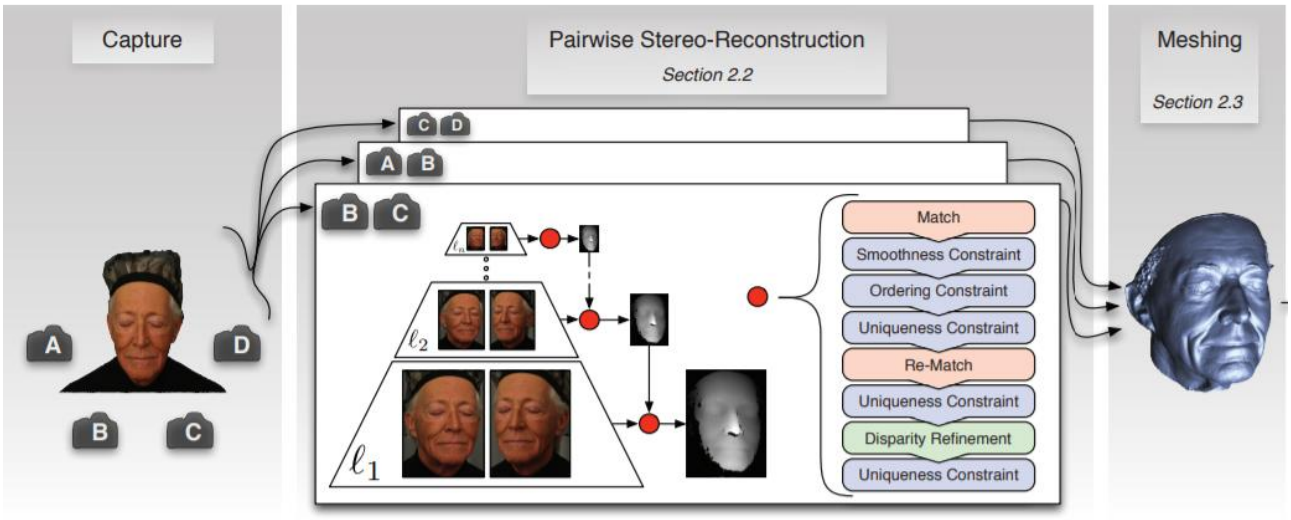
High quality single shot reconstruction

Background:

- Face reconstruction is a scanning technique for creating a high quality 3d facial geometry from multiple images.
- A stereo face reconstruction takes 2 images, runs image matching between them and triangulates the 3d positions based on the camera parameters acquired from calibration.
- Optical flow is often used as an image matching technique for its accuracy.



Goal :

- Given 2 images and their camera calibration parameters (intrinsic and extrinsic), generate high quality reconstruction with the algorithm given in section 2.2 of the paper [High-Quality Single-Shot Capture of Facial Geometry].
  Note - Optical flow implementation (source code section) given [here] can be used for image matching as it already has the pyramid structure setup described in the paper for reconstruction.
  Alternatively, any suitable approach can be used for image matching.

Expected outcome:

- Reconstructed high quality mesh.
- Submit the generated high quality 3d mesh as obj/ply file and the link of the github repository.

References:

- High quality single shot reconstruction (Section 2.2)
- Robust optical flow estimation (For image matching)
- Camera calibration theory (For loading camera parameters and converting to projection matrices)

Data Required:

- Multiview images and Camera calibration parameters