Template summary

- Symmetric mesh – low resolution about 2000 points [statistical purposes]
- Symmetric mesh – high resolution about 200000 points [visualisation purposes]

Template description

1. Points are symmetric across the mid-line (there should be points on the mid-line as well)
2. Triangulation is symmetric across the mid-line (there are points on the mid-line to fulfil this requirement)
   2.1 higher density around important anatomical structures [lower half of the nose, vermilion area (in Fig 1 left is the density very low), lips, eyes]
   2.2 slightly lower density on the forehead and cheeks
   2.3 homogeneous triangulation (see Fig 1 right)
3. Closed lips as in Fig 1 right [as in our recent stereo-camera captures]
4. Eyes – as in Fig 1 left but with triangulated eye balls (as in Fig 1 right)
5. From (1)-(2) it is clear that the template is symmetrically cut, but there are more requirements around the boundary
   5.1 chin cut – should be in the plane parallel to the *xz*-plane (if the face is oriented roughly in anatomical coordinate system, where nose is facing front) or parallel to the chin (visually the Euclidean distance of the boundary to chin should be about 5cm) [much lower than in Fig 1]
   5.2 ear cut – following the line of the ear lobe
   5.3 forehead cut – parallel to the *xz*-plane (visually the Euclidean distance of the boundary to the brow ridge should be about 5cm since we do not have landmarks on the forehead) [higher than in Fig 1 left] long as the facial width (around most lateral parts of zygomatic bone)
   5.4 cut between forehead and ears – geometrically similar than in Fig 1 left or better as a geodesic between *otobasion superius* and forehead cut (see 5.3)

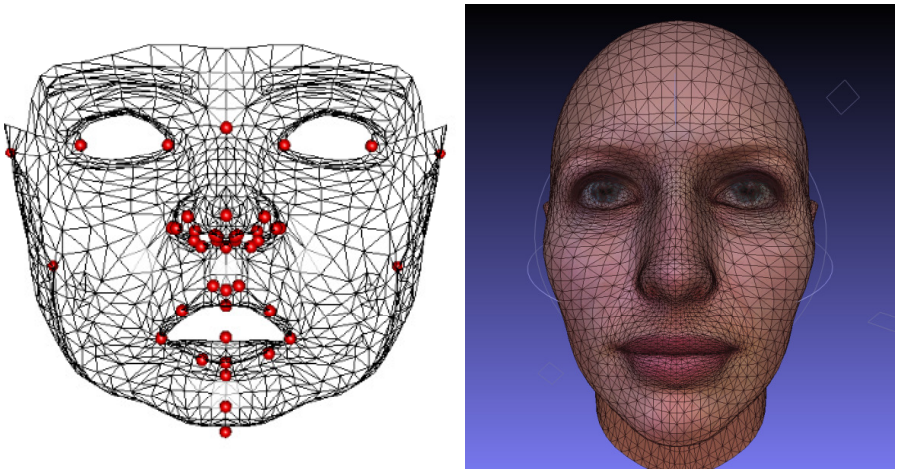

Fig. 1: Examples

LEFT Old template created by some of the members of Paul S team a while ago for cleft children study, symmetrized recently by Joanna (missing ears, very low resolution, open lips, quite thin boundary around the face; sometimes inhomogenous triangle structure in, for example, cheek area)

RIGHT Example of required difference in density between eyes, nose, vermilion, and lips vs the rest of the face; also better example of good (homogenous) trianglulation structure than in the Fig 1 left