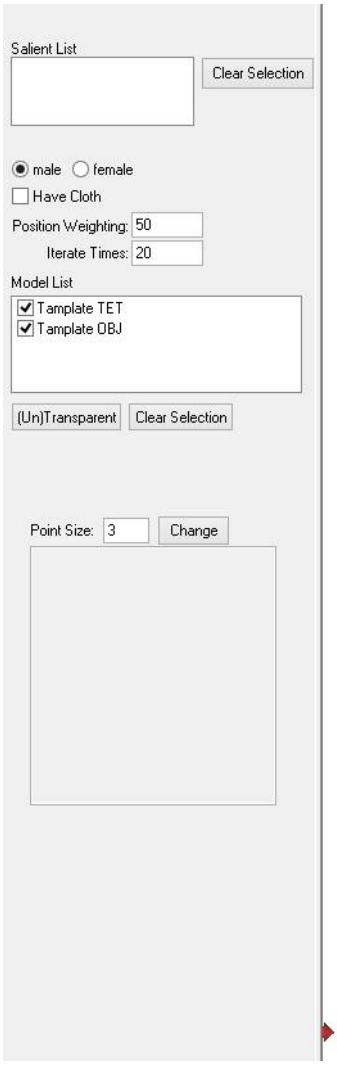
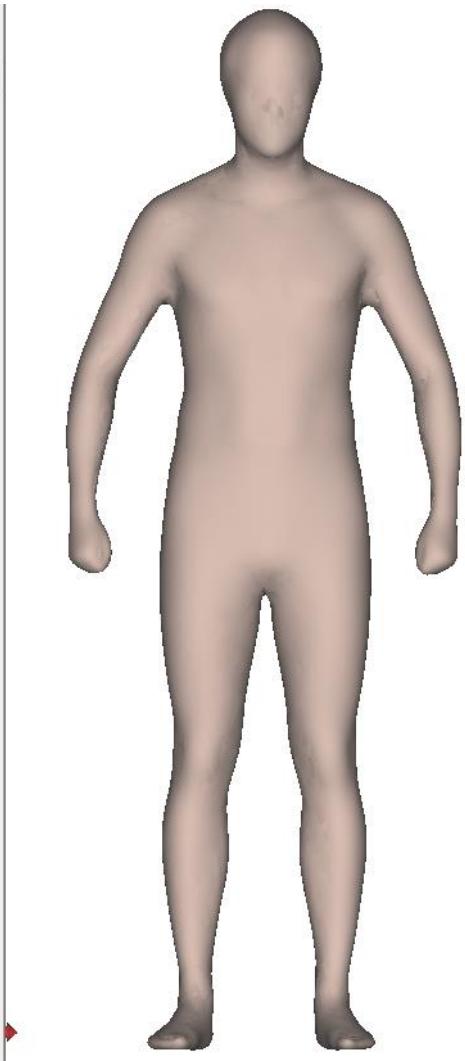
Simple guideline:

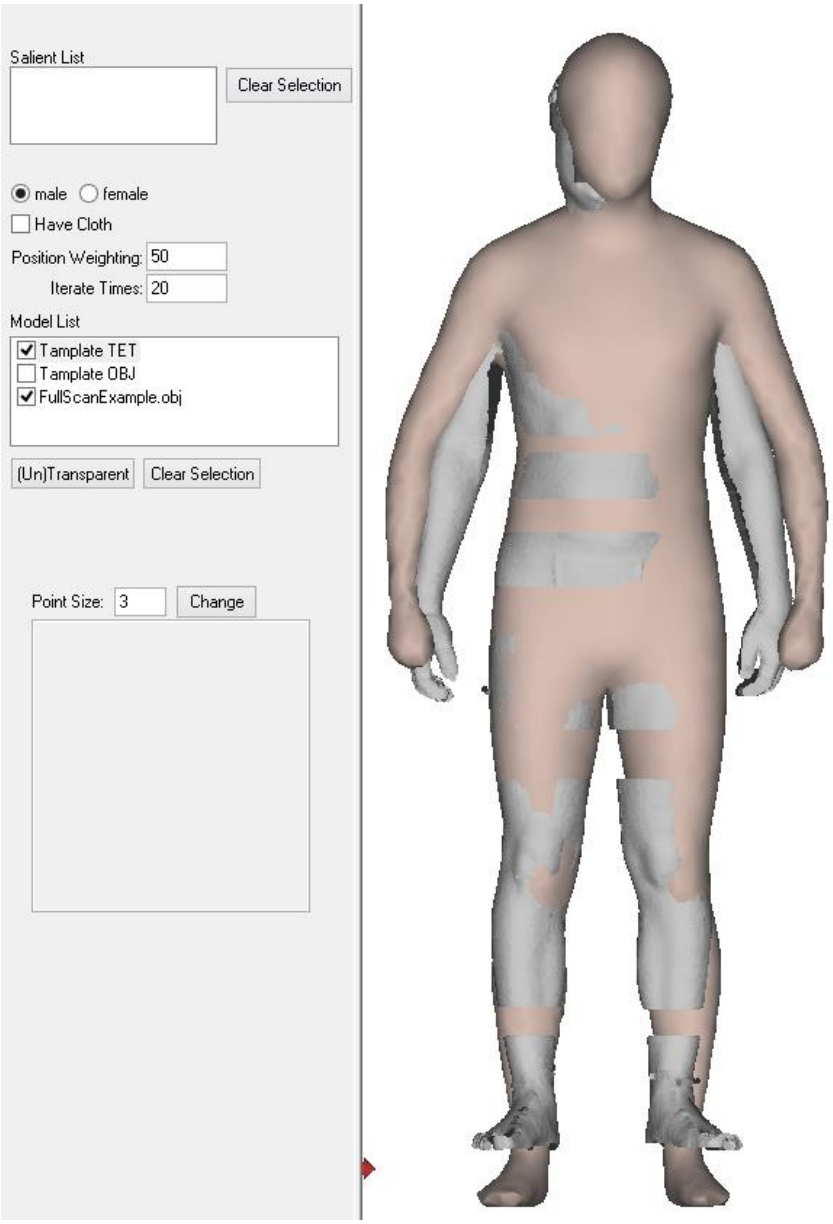
1. Start program: “Program\VolFitting.exe”
2. Load the default templates: “Database & Template -> Load Default Template”
   A volume template (TET) and a surface template (OBJ) will be loaded





The surface template is a dense mesh that is encode to the volume template by FFD. The fitting is based on the volume template. Therefore, we can untick the template OBJ (in the Model List) at this moment to hide the surface mesh.

3. Load the target point cloud (with normal defined), e.g., “Example\FullScanExample.obj”, by menu or drag-and-drop.



4. Run volumetric template fitting: “Deformation Tool -> Run Full Algorithm”
   It will automatically align the template and point cloud at the first place by height. After that, it includes three main steps as presented in the paper:
   i) Posture alignment by low position weighting (20 for cm scale, i.e., 180cm tall)
   ii) Template selection with high weighting (500), but it is skipped automatically in this example, as database is missing
   iii) Final fitting (weight = 50)

   These steps can be applied manually by “Deformation Tool -> Run ARAP”

5. The results can be exported by first selecting the result (either volume or surface template) in the Model List, and then export: “File -> Export -> OBJ/TET Files”. Volume template can be exported as TET or OBJ, but surface template can only exported as OBJ.

FAQ

1. Can I use my own template?
   Yes, you can generate you own TET mesh, and import into the program instead of loading the default template. TET is a must, but OBJ is optional.

2. How to generate TET mesh?
   Tetgen can be used, please refer to http://wias-berlin.de/software/tetgen/
   We will provide a program for generating TET from OBJ later.

3. Why the position weights used are not the same as that mentioned in paper?

   The position weights depend on the scale used. For a smaller scale (e.g., mm), a larger position weight is needed (i.e., hundreds). In this readme, cm scale is used, which uses tens.

4. Can I use my own database for template selection?
   Yes, it is supported, but the corresponding readme will be ready later.