

NII International Internship program

Segmented Fusion

Registration

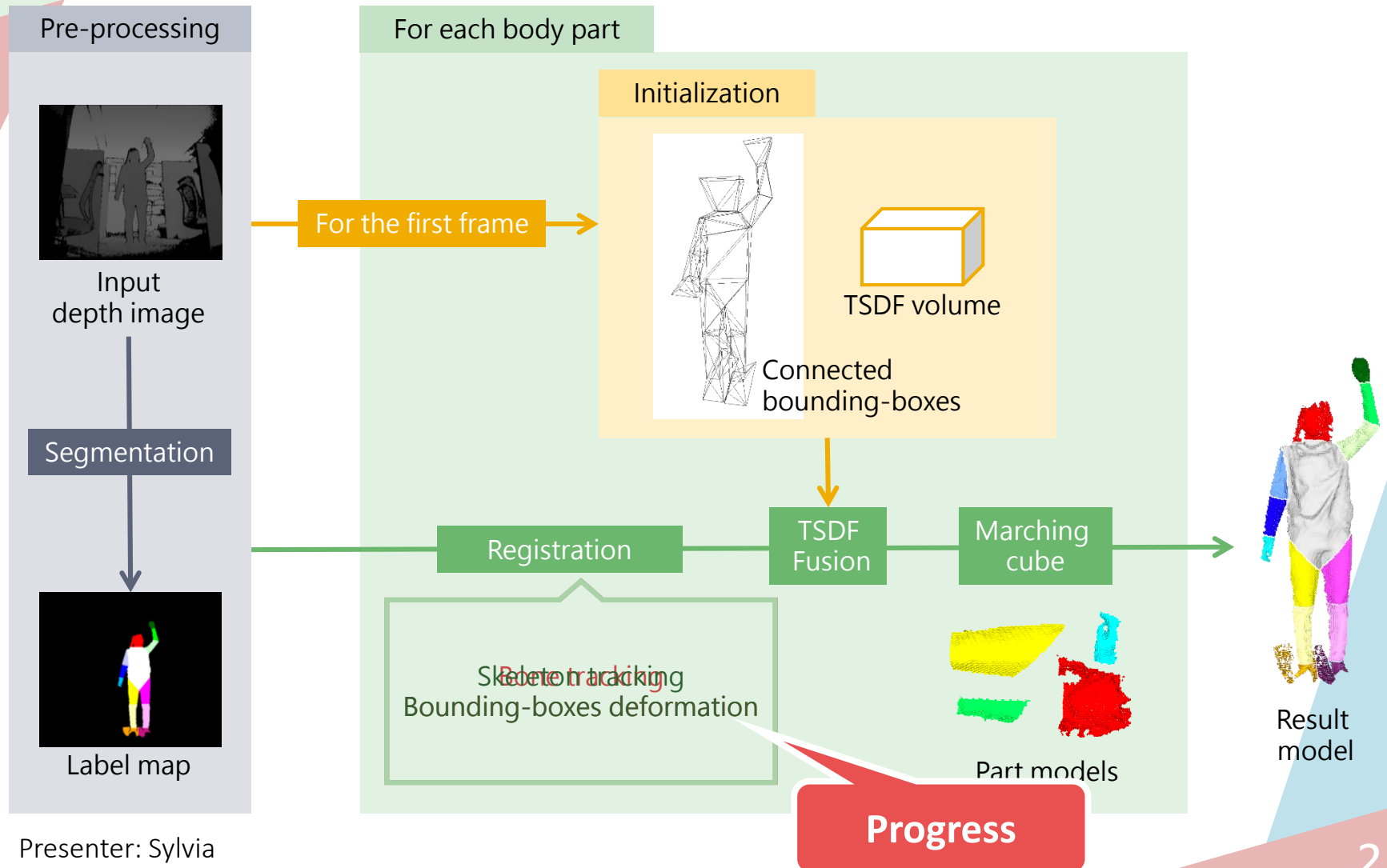
20171208

Sylvia

Advisors: Prof. A.Sugimoto

Ass.Prof. D.Thomas

Summary



Presenter: Sylvia

Advisors: Prof. A.Sugimoto, Ass.Prof. D.Thomas

Summary

♣ Previously

- ♣ BodyFusion
- ♣ Registration: get new bounding-boxes by skeleton motion

♣ Progress

- ♣ Registration: get new bounding-boxes by bone motion
- ♣ Create ground-truth
- ♣ Solve holes between meshes of body parts

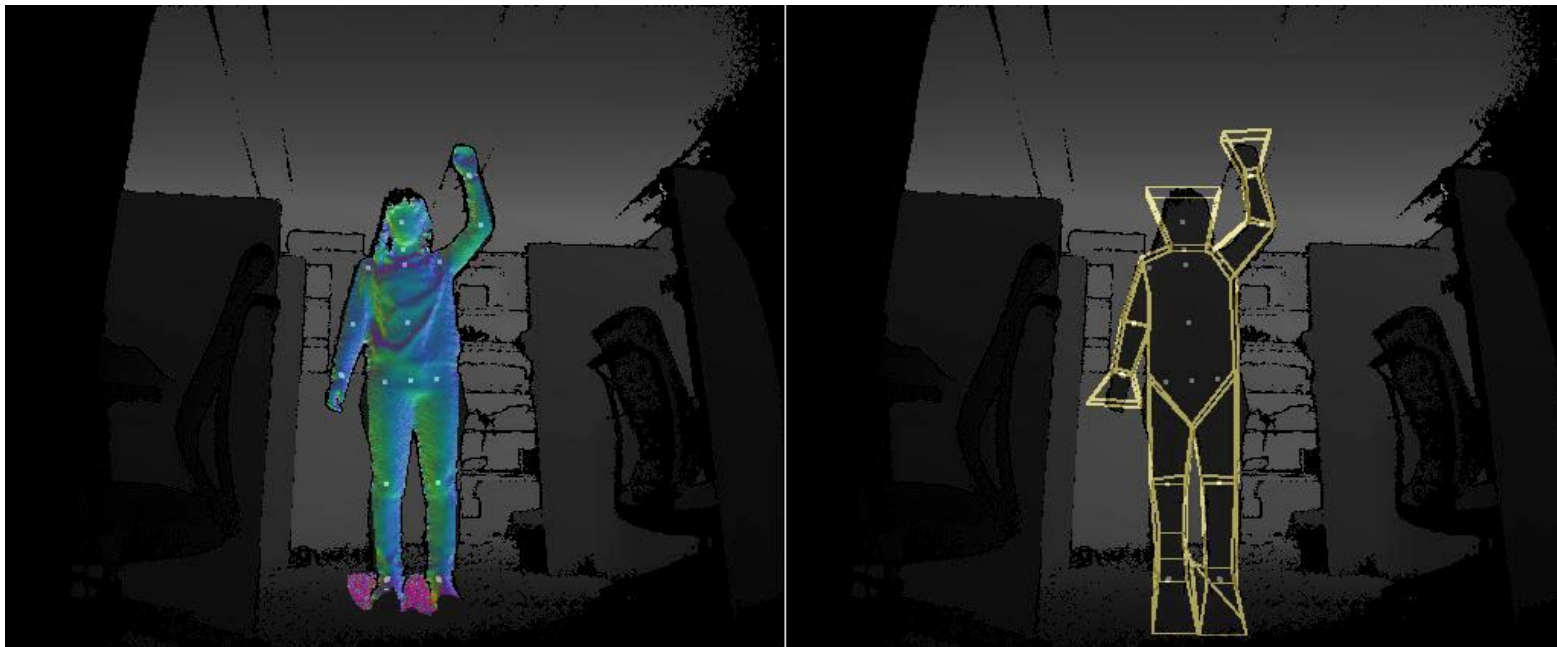
[1] Rünz, Martin, and Lourdes Agapito. "Co-fusion: Real-time segmentation, tracking and fusion of multiple objects." *Robotics and Automation (ICRA), 2017 IEEE International Conference on*. IEEE, 2017.

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Progress Tracking

- ♣ System tracks bone motion and gets new corners by interpolated transform. By least square, transform matrix is calculated and used to deform mesh.



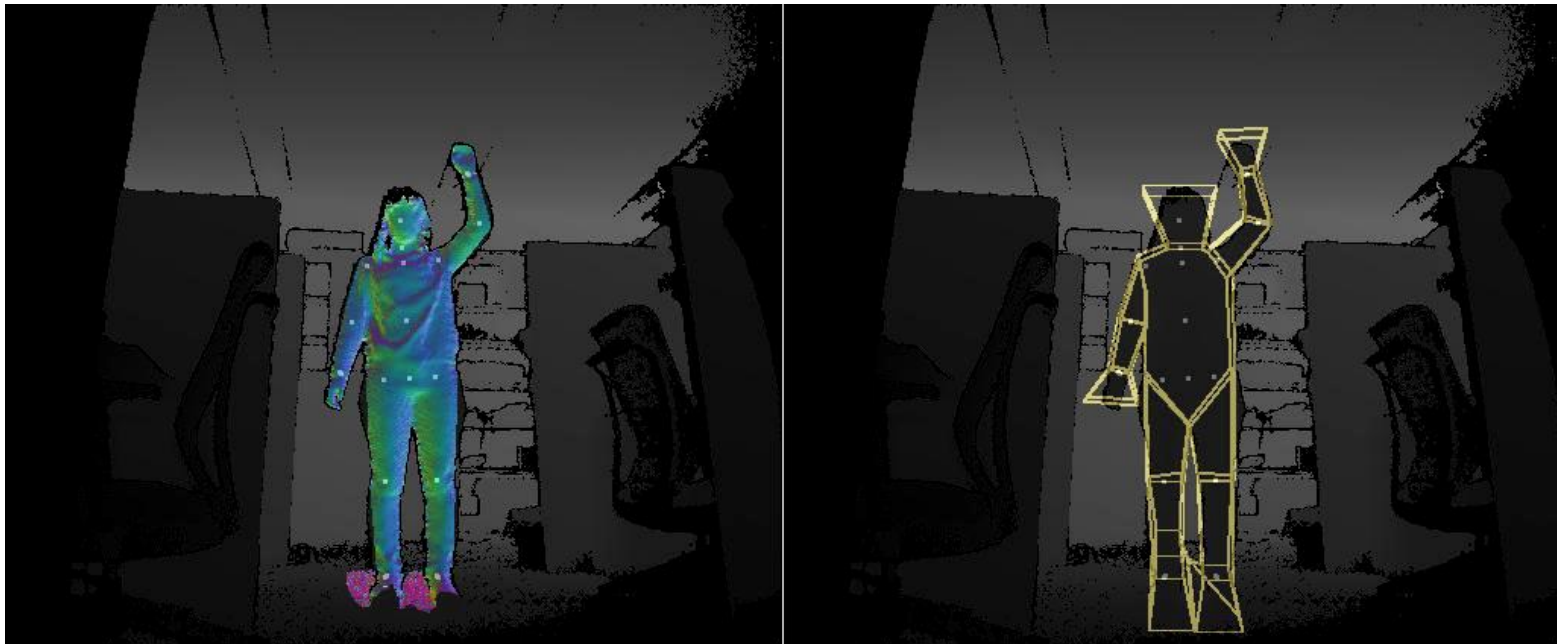
Resources: 031.avi

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Ground-truth

- ♣ The corners of bounding-boxes are manipulated by hand and be used to get transform matrix.



Resources: 031_GT.avi



Ground-truth

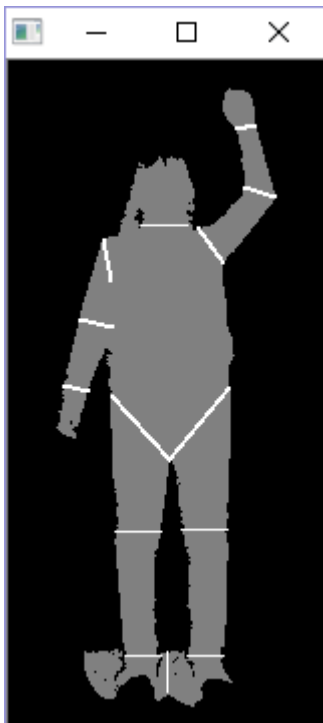


Bone tracking

Resource: compare.avi

Progress Holes

- ♣ By adding boundary vertices to each body part, the holes between two mesh would be solve automatically.



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Next step

- ♣ Fuse the model with new depth information