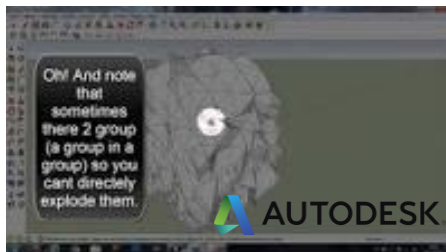


Chris Lane,
Board Member, Web3D Consortium
CEO 3dMD LLC



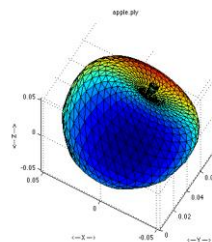
The rich nature of 4D human data - Case Study

OBJ (file format)



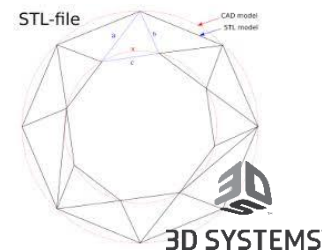
Wavefront

PLY (file format)



Polygon File Format/
Stanford Triangle Format

STL (file format)



Stereolithography

TSB (file format)



3dMD January 1999 Temporary Format



There are millions of Humans enrolled in these formats





Raymond Edler, BDS, D.Orth, M.Orth, FDSRCS.

Consultant Orthodontist

Lead Orthodontist for the Cleft Palate Service for South
Thames at Guy's Hospital from 2003 to retirement
1946-2015



CPD

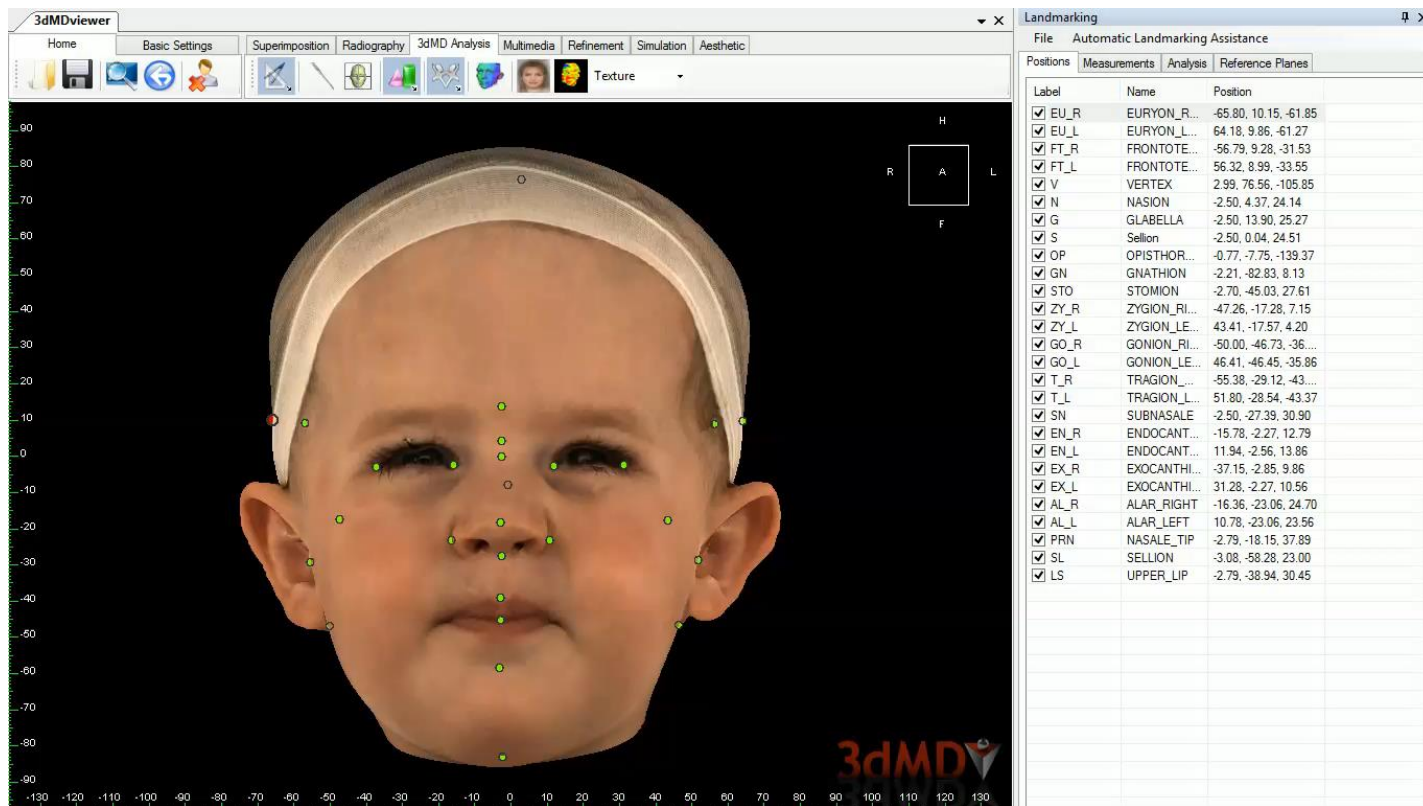
**Advances in 3D imaging technology use in
craniomaxillofacial surgery**

Royal School Medicine London 9th May 2019

Does the Community Really Need Standards?



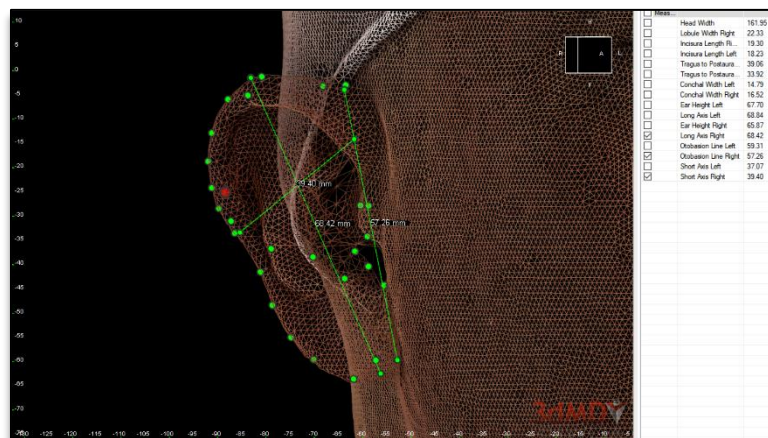
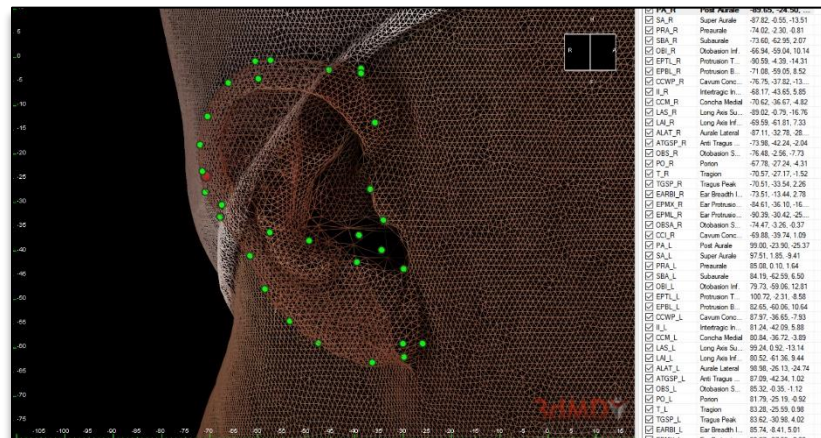
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Analyzing The Craniofacial Complex

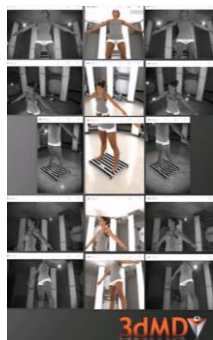


ML based 3dMD Face & Ear Landmarking

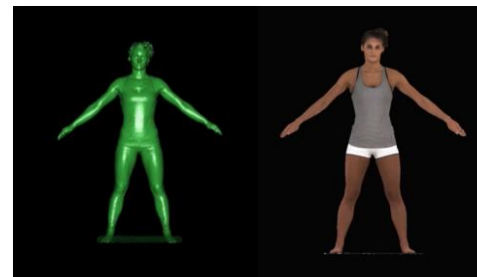




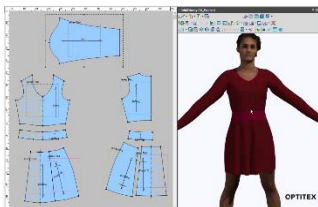
3dMDbody.t System captures full body subject motion at 10 3D frames per second



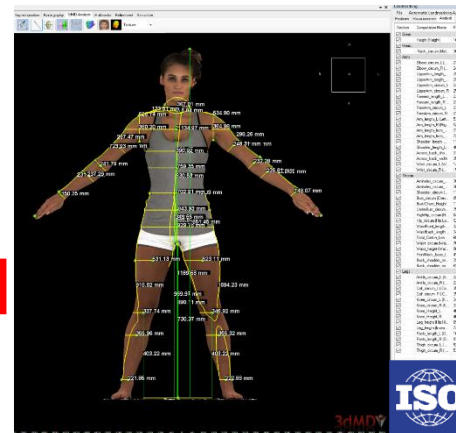
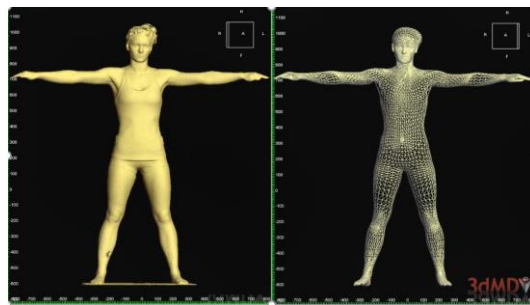
Option for operator to select best 3dMD image from sequence



3dMD software automatically renders highly-precise 3dMDbody shape information with full-color texture applied



3dMD software generates a 3dMD-aligned mesh for ease of integration with third party software



3dMD software automatically landmarks 3dMDbody image and extracts measurements




3dMDbody image imports into third-party virtual prototyping & simulation CAD software



Temporal 3dMDbody System Workflow Overview



➤ **3dMD X3D Projects:**

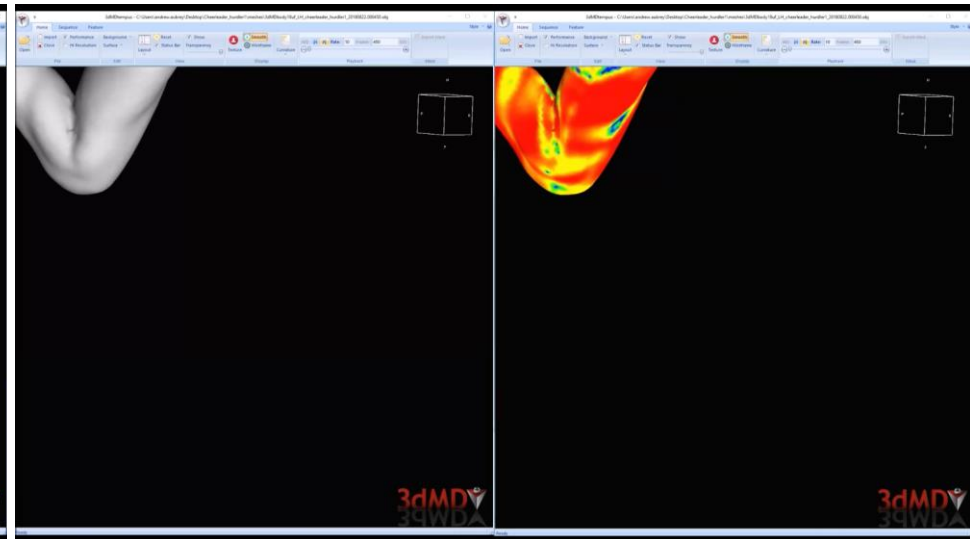
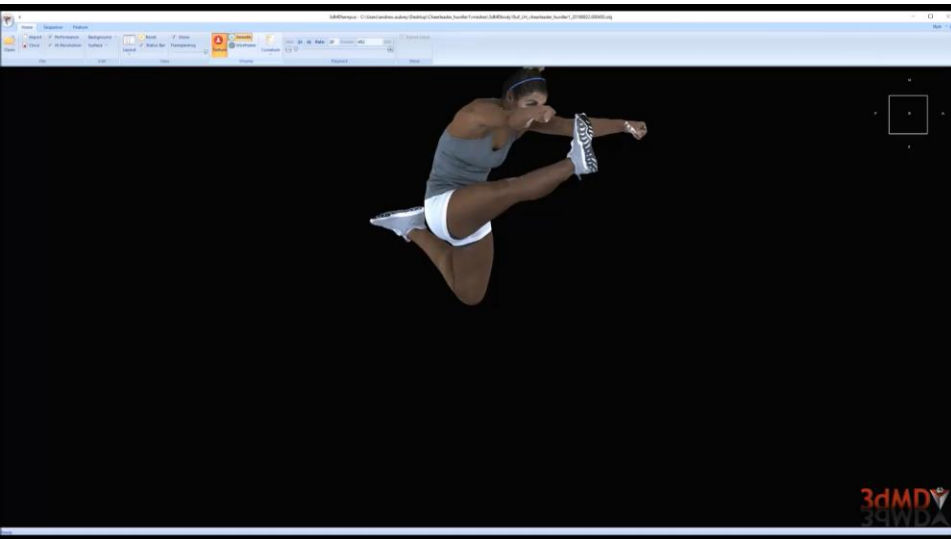
- Supplementary 3D Thermal texture MAP project
- Static Landmark files (.csv) 
- Communication between Rendering and Analysis (Machine Learning)
- Dynamic dense 4D Landmark tracking (gITF Unity transients)



➤ **Why we use X3D:**

- Meta-data Extensibility
- Can pre-empt standards – or train standards maybe
- Security and traceability ready – blockchain
- Can be made to work with 4D data sets





Very Rich 4D data: Soft Tissue Deformation. The Hurdle Jump –



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Frame	115	118	119	123	126	129	135	143
Angle	44.1°	45.5°	46.4°	48.8°	63.7°	65°	72.9°	75°

Thank-you for your attention

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