

Visualization for Anthropometric Data Bases

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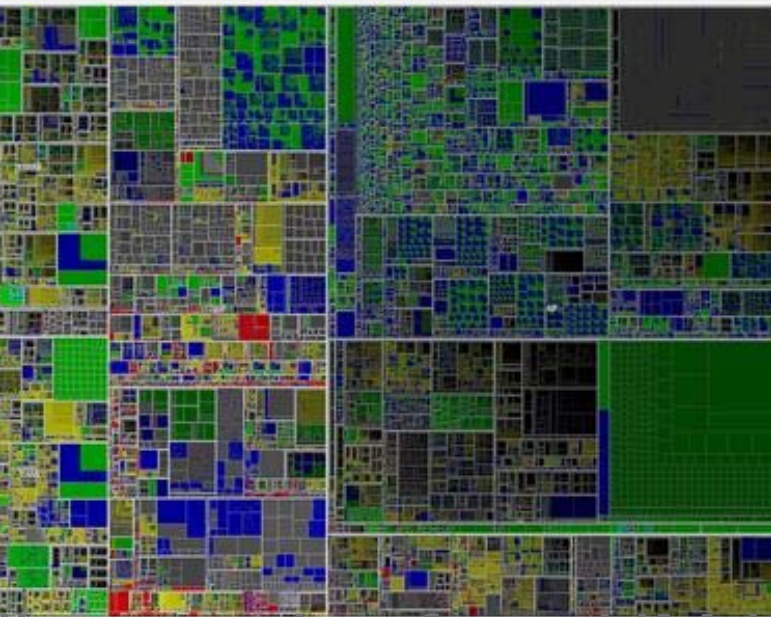
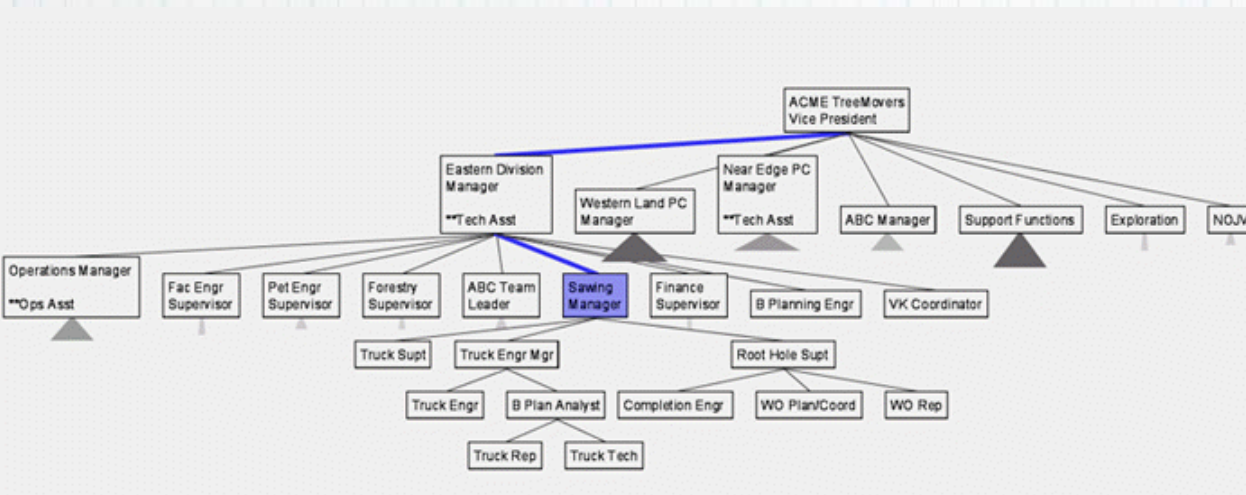
Obligatory Outline

- * Visualization
- * 3D and the Human Body
- * Example CAESAR Visualizations

Visualization

- * Broad Domain of Information
Visualization versus Scientific Visualization
- * InfoViz - abstract information with no physical analog
- * Scientific Viz - usually info about a physical object (storm, human body, brain)

Information Viz



ll examples from UMD
UQU

- Wanted Shopping
- Expedia Travel
- Fashion Mall
- FreeAgent
- Free Merchant Business
- Free Shop
- Furniture
- Garden
- Gateway 2000
- Georgia Tech
- Google Search
- Guru Net
- HiFi
- HotBot Search
- HotJobs
- Hot Office
- ICQ Online Communication
- Info Space
- Internet Movie Database
- iQVC Shopping
- Land's End
- Lonely Planet
- Lycos
- Massachusetts Institute of Technology
- McAfee Anti-Virus
- Mercata Shopping
- Wired Spring ISP
- Wanted Job Search
- X
- Y
- Z

Scientific VIZ

QuickTime™ and a
YUV420 codec decompressor
are needed to see this picture.

QuickTime™ and a
YUV420 codec decompressor
are needed to see this picture.

y 1995 Oklahoma
nderstorm Activity

QuickTime™ and a
YUV420 codec decompressor
are needed to see this picture.

Heart Mus
Fiber

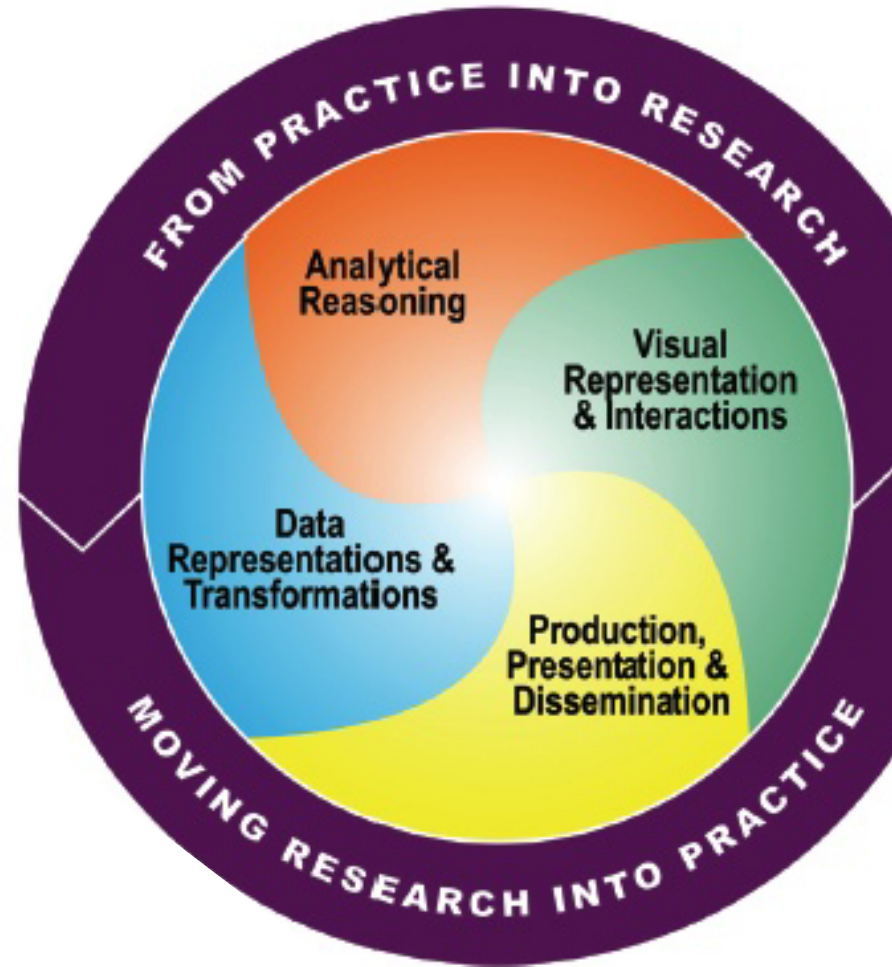
Tornado
Simulation

Visual Analytics

Visual Analytics is the science of analytic reasoning facilitated by interactive visual interfaces.

Research Agenda
from National
Visualization and
Analytics Center
(NVAC)

<http://nvac.pnl.gov/>



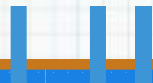
User Interfaces

- ✱ Desired to be highly visual
- ✱ Does it work?? Is it functional - or just “cool”?
- ✱ UI Evaluations are critical (and difficult)

Video of AnthroGloss

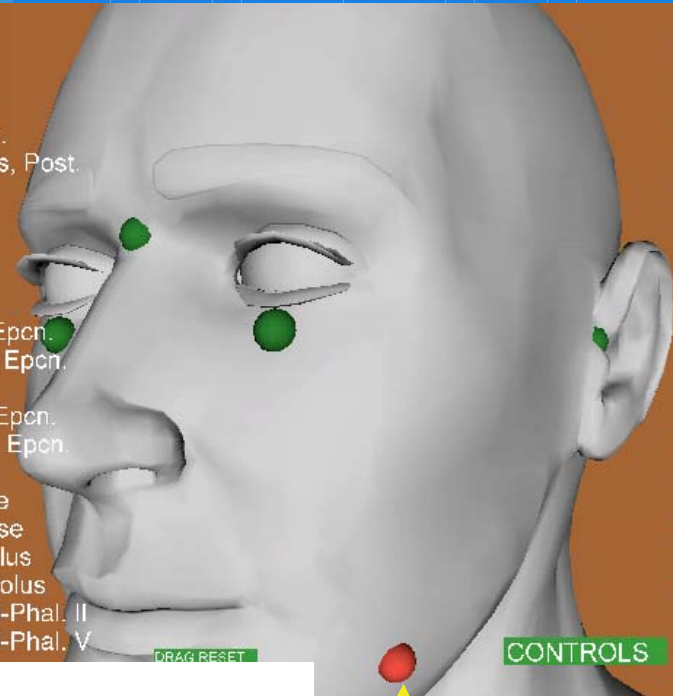
QuickTime™ and a
Sorenson Video 3 decompressor
are needed to see this picture.

Integration both visualization

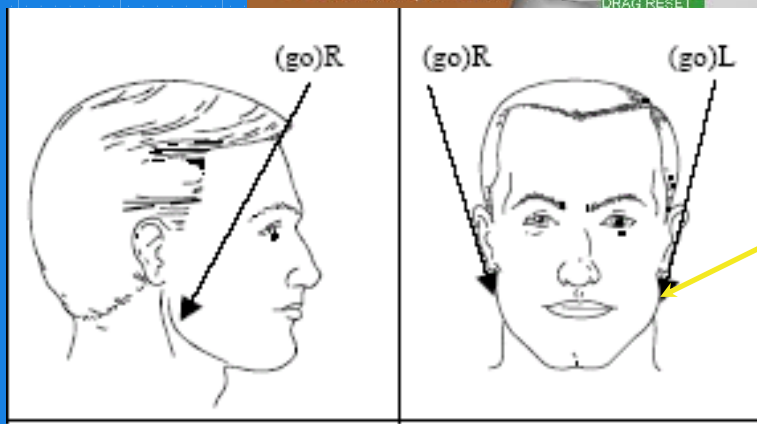


- Frontotemporale
- Glabella
- GlutealFurrowPoint
- **Gonion**
- HeelPointLateral
- HeelPointMedial
- HeelReferencePoint
- HipLateral
- HipLateralSitting
- HPoint
- HumeralEpicondyleLateral
- HumeralEpicondyleMedial
- Iliocristale
- InferiorBreastPoint
- Infrathyroid
- Inion
- KneeCrease
- KneePointAnterior
- KneePointSuperior
- Knuckle
- KnuckleII
- KyphosionInferius

- ASIS
- Acromion
- Axilla, Ant.
- Axilla, Post.
- Calcaneous, Post.
- Cervicale
- Clavicale
- Crotch
- Dactylion
- Digit II
- Fem. Lat. Epcn.
- Fem. Med. Epcn.
- **Gonion**
- Hum. Lat. Epcn.
- Hum. Med. Epcn.
- Iliocristale
- Infraorbitale
- Knee Crease
- Lat. Malleolus
- Med. Malleolus
- Metacarpal-Phal. II
- Metacarpal-Phal. V



- Metatarsal-
- Metatarsal-
- Navel
- Neck Base
- Nuchale
- Olecranon
- PSIS
- Radial Style
- Radiale
- Sellion
- Sphyrion
- Substernale
- Suprament
- Suprastern
- Tenth Rib
- Tenth Rib M
- Thelion/Bus
- Tragion
- Trochanter
- Ulnar Stylo
- Waist, Pref



Gonion

DRAG RESET

CONTROLS

Web Based

- ✱ VRML/X3D for 3D Viz
- ✱ Flash for 2D high quality interaction

CAESAR

Bodies

(video

scrubbing

)

360 view s



Ordered Static Thumbnail Arrays



car0001a.g.psd



car0002a.g.psd



car0007a.g.psd



car0008a.g.psd



car0009a.g.psd



car0010a.g.psd



car0012a.g.psd



car0013a.g.psd



car0014a.g.psd



car0015a.g.psd



car0016a.g.psd



car0017a.g.psd



car0024a.g.psd



car0025a.g.psd



car0026a.g.psd



car0027a.g.psd



car0028a.g.psd



car0029a.g.psd



car0030a.g.psd



car0047a.g.psd



car0048a.g.psd



car0049a.g.psd



car0050a.g.psd



car0051a.g.psd



car0052a.g.psd



car0053a.g.psd



car0054a.g.psd



car0055a.g.psd



car0056a.g.psd



car0057a.g.psd



car0058a.g.psd



car0059a.g.psd



car0060a.g.psd



car0062a.g.psd



car0063a.g.psd



car0064a.g.psd



car0065a.g.psd



car0067a.g.psd



car0068a.g.psd



car0069a.g.psd



car0070a.g.psd



car0071a.g.psd



car0072a.g.psd



car0073a.g.psd



car0074a.g.psd



car0075a.g.psd



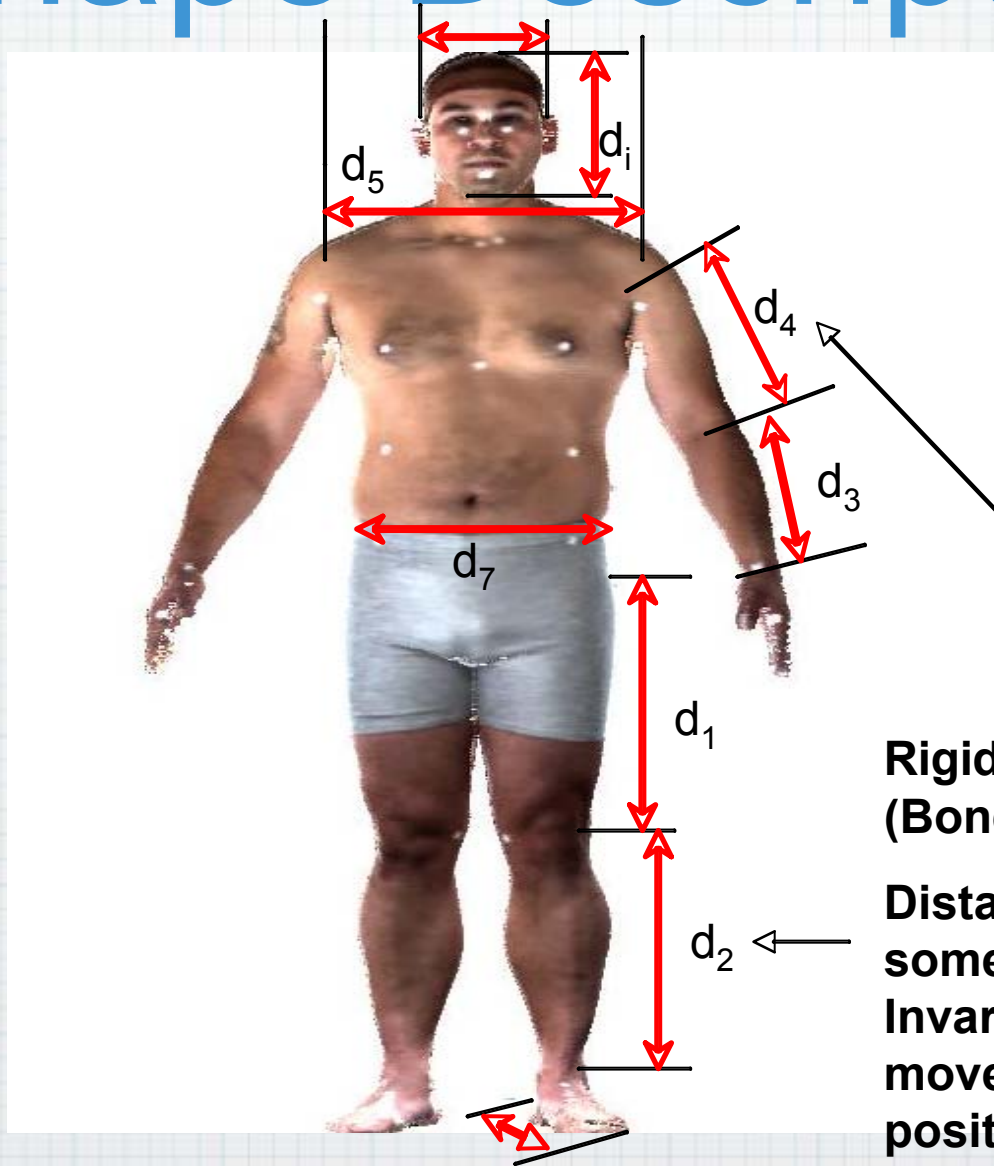
car0076a.g.psd



car0078a.g.psd



Shape Descriptor



**Rigid Connections
(Bones)**

**Distances are
some what
Invariant to
movement,
position,
and pose**

















Shape Similarity Matrix

Similarity based on body shape for 16270 - Microsoft Internet Explorer

Address <http://localhost/cgi-bin/similaritynew.cgi?subject=16270&bio=body>

Similarity based on body shape for 16270

After the Image: subject id , gender, age (years), height (mm) , weight (kg) , [click on body/face for similarity based on body/face]

 16270 Female 20 1630 97 body face	 11175 Female 52 1670 82 body face	 11333 Female 55 1640 84 body face	 00327 Female 51 1536 85 body face
 00226 Female 43 1600 86 body face	 02059 Female 36 1676 86 body face	 15480 Female 56 1650 69 body face	 01721 Female 43 1574 88 body face
 00438 Female 27 1600 80 body face	 02632 Female 48 1625 77 body face	 02536 Female 41 1651 89 body face	 02080 Female 39 1651 72 body face
 12261 Female 51 1640 85 body face	 02074 Female 43 1625 86 body face	 01493 Female 19 1651 74 body face	 00094 Female 29 1600 74 body face

<http://zingy/-godil/caesar/Images/11333.jpg> Local intranet

And for those wondering what to do with those 3D body scans

QuickTime™ and a
DV/DVCPRO - NTSC decompressor
are needed to see this picture.