If there are so many standards, why can't my avatar dance with yours?

Sandy Ressler NIST

Virtual Humans 97

6/19/97

What I'm going to tell you.

- NIST Motherhood
- Formal Standards and Conformance Testing
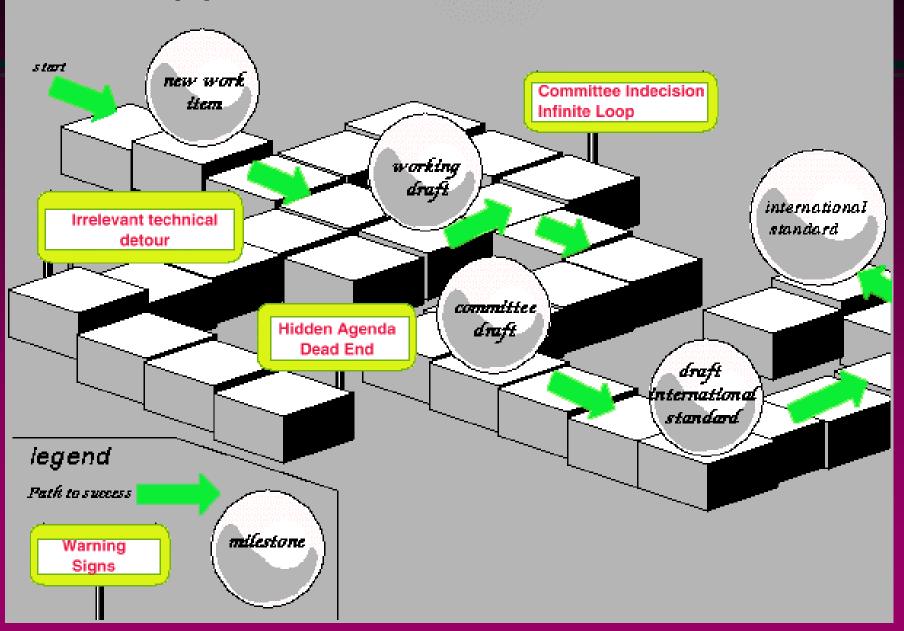- Anthropometry and AnthroKids and Information Visualization

NIST Mission/Role

- We're here to help industry - REALLY!!
- Provide a testing infrastructure - test methods
- Tradition of "evaluated data" with Standard Reference Data (SRD)
- Make data accessible and usable

Standards Everywhere

- VRML (Humanoid Animation Working Group)

- MPEG4 - Synthetic Natural Human Coding

- Functional Metrics - NIOSH Lifting, ANSUR Strength

- No standard for anthropometric data

The Bumpy Path to an International Standard

Conformance where standards rubber meets the road.

- Conformance testing is incredibly important and REALLY boring.

- Conformance testing is an authoritative method ensuring that one vendor's implementation of a standard is the same as another.

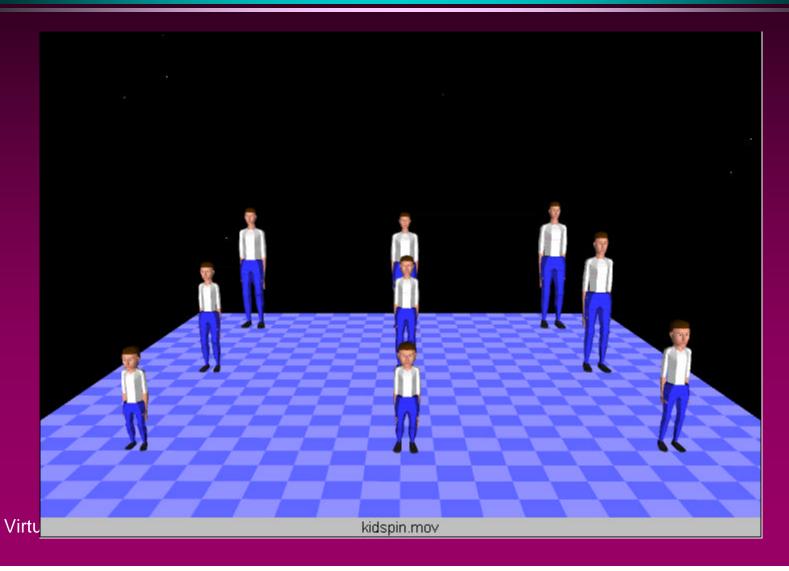- Conformance is essential for interoperability.

What is Anthropometry?

- Traditional Anthropometry <img from study>
- Scanned (CyberWare) bodies
- <img from my scan>
- Video measurement methods

AnthroKids

- The only survey of children's anthropometric data in the U.S.
- Freely available
- www.nist.gov/itl/div894/ovrt/anthrokids
- Visualization via *Jack*

Jack and AnthroKids

kidspin.mov

Visual Anthropometric Glossary

From Proprietary to Public

- **Translation to VRML and Java**
- **Interoperability promotes commerce and enables the creation of industries.**
  - clip art
  - clip motions
  - clip analyses

Some Proprietary to Public Format Translators

- <insert deneb, transom, workingmodel3D examples here>

jd1.mov

jd2.mov

Today's Situation

● Data is difficult to use.

● Different formats are used by different systems (reach, strength, dynamics, fit)

Possibilities

- Pluggable Humanoid Avatars
- Clip-art like databases for joint limits, strength, mass, motion capture, anthropometry.
- Shared, distributed worlds with interoperable communicating avatars.
- Interoperable "serious" engineering applications.