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Taylor, Andrew

Thinking, Drawing & 3D Technologies: Preparing Learners For The Future.

Original Citation

Taylor, Andrew (2011) Thinking, Drawing & 3D Technologies: Preparing Learners For The Future. In: JISC E-Learning Conference 2011. 'Preparing Learners for the Future', 16th June, 2011, The Rose Bowl, Portland Crescent, Leeds Metropolitan University. UK.

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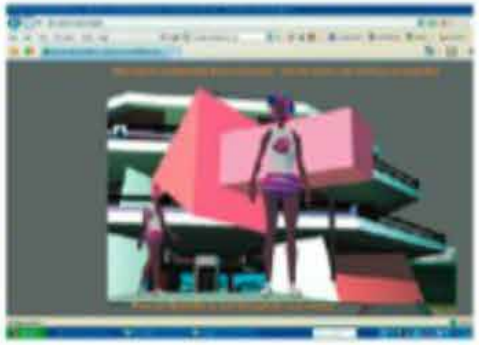
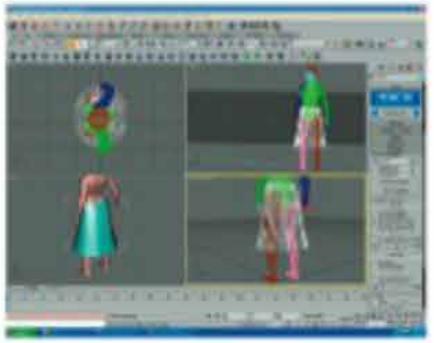
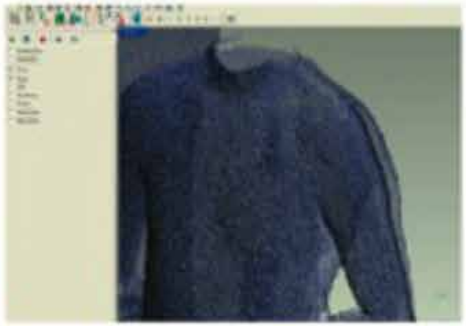
Andrew Taylor: design research

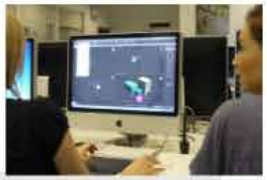
Andrew Taylor is a senior lecturer, designer and researcher; at the School of Art, Design & Architecture, University of Huddersfield.

Andrew's research is integral to his design practice, and his current work is focused on applying experimental approaches by-using traditional & digital 2D and 3D virtual interactive tools to develop innovative methods in art and design production.

:2D, digital, 3D CG and CAD, virtual 3D interactive technologies:

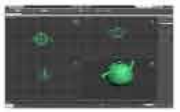




Thinking, drawing & 3D technologies

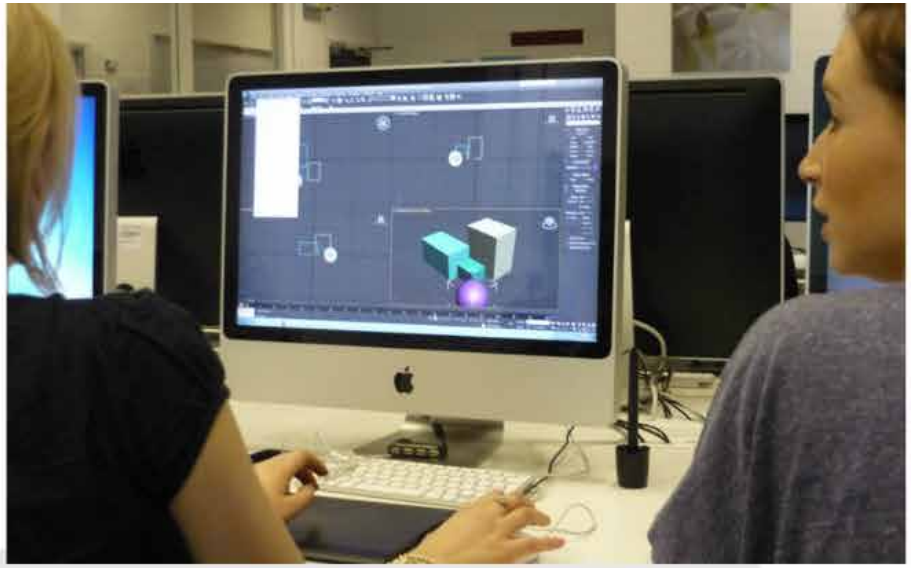
Preparing learners for the future ?

http://extraordinary-3d-materials.blogspot.com/2011_02_12_archive.html



- The following research questions can explored
- —
- — • What value can 3D CG software and virtual technologies add to your new or traditional subject methods and what evidence exists to support their use in the concept and production of the future?
- —
- — • What resources and teaching and learning approaches are needed to make the best use of 3D and virtual technologies

- what evidence exists to support such approaches in your educational experience and/or professional practice?
- —
- — • What frameworks and innovative methods can be developed to support effective, engaging and transformative usage of 3D technologies in your specialism



Thinking, drawing & 3D technologies

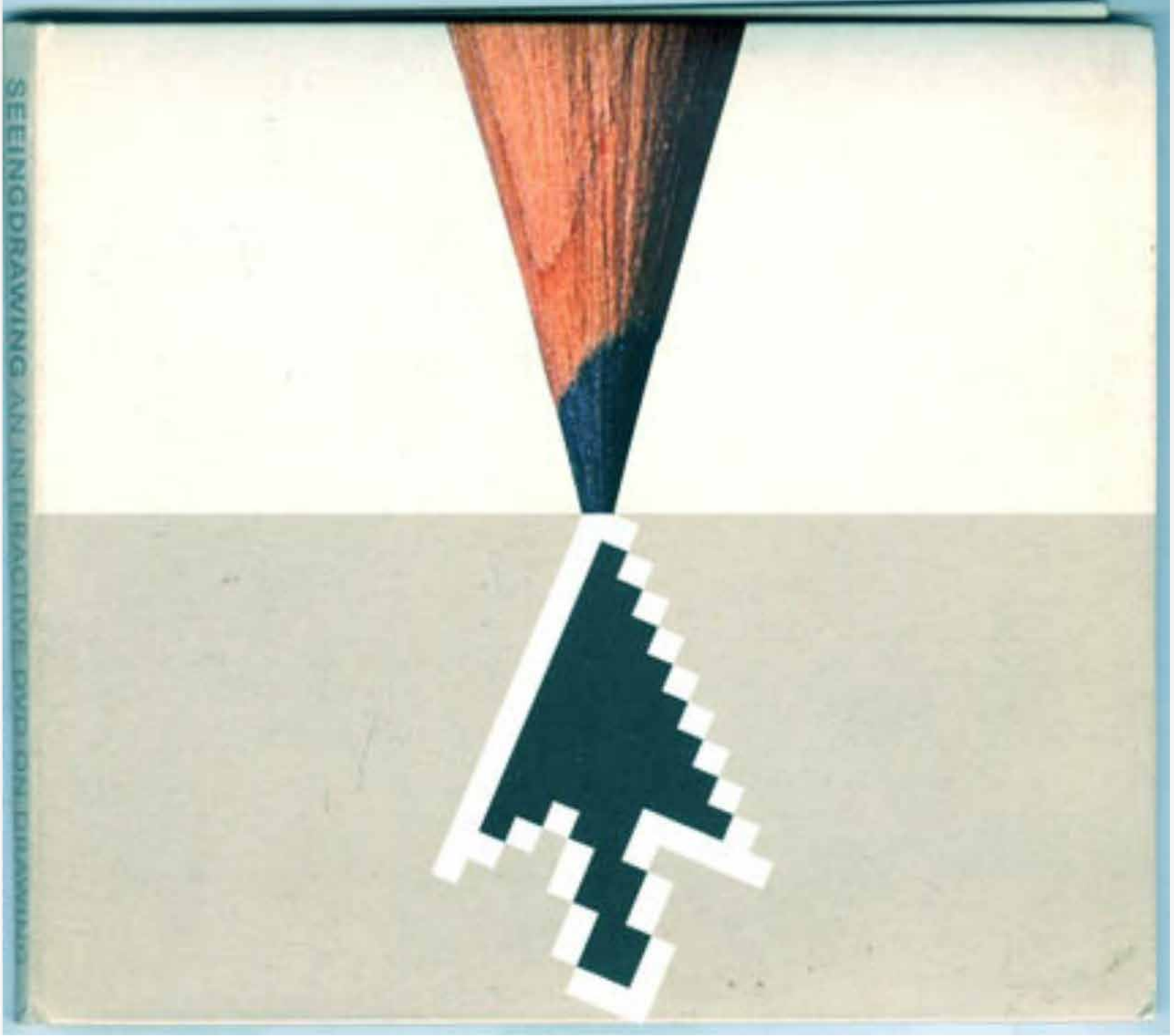
Preparing learners for the future ?

http://e
materia
html

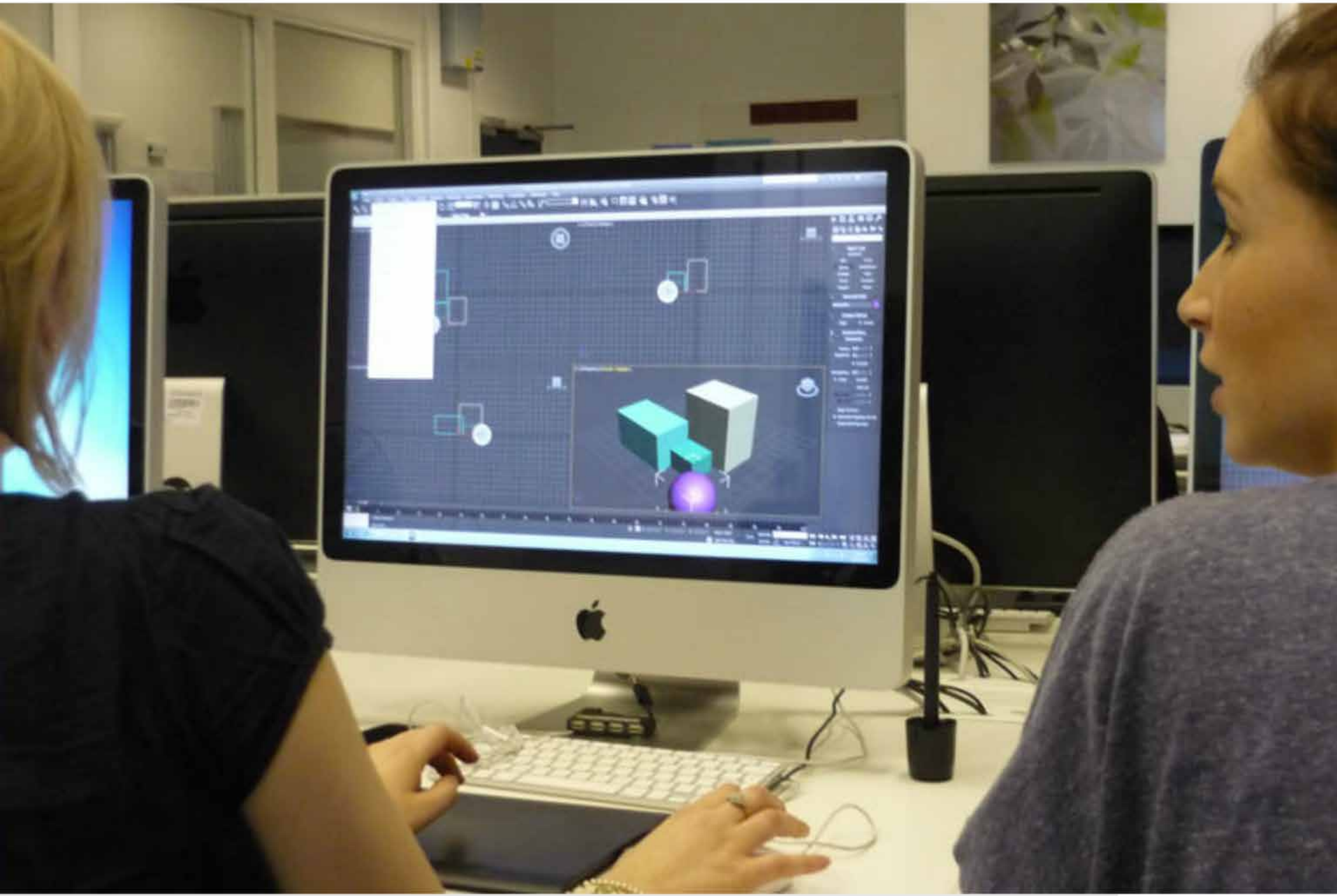
Andrew Taylor
Senior Lecturer
School of Art, Design & Architecture
University of Huddersfield
andrew.taylor@hud.ac.uk

JISC E-Learning Conference 2011.
'Preparing Learners for the Future'

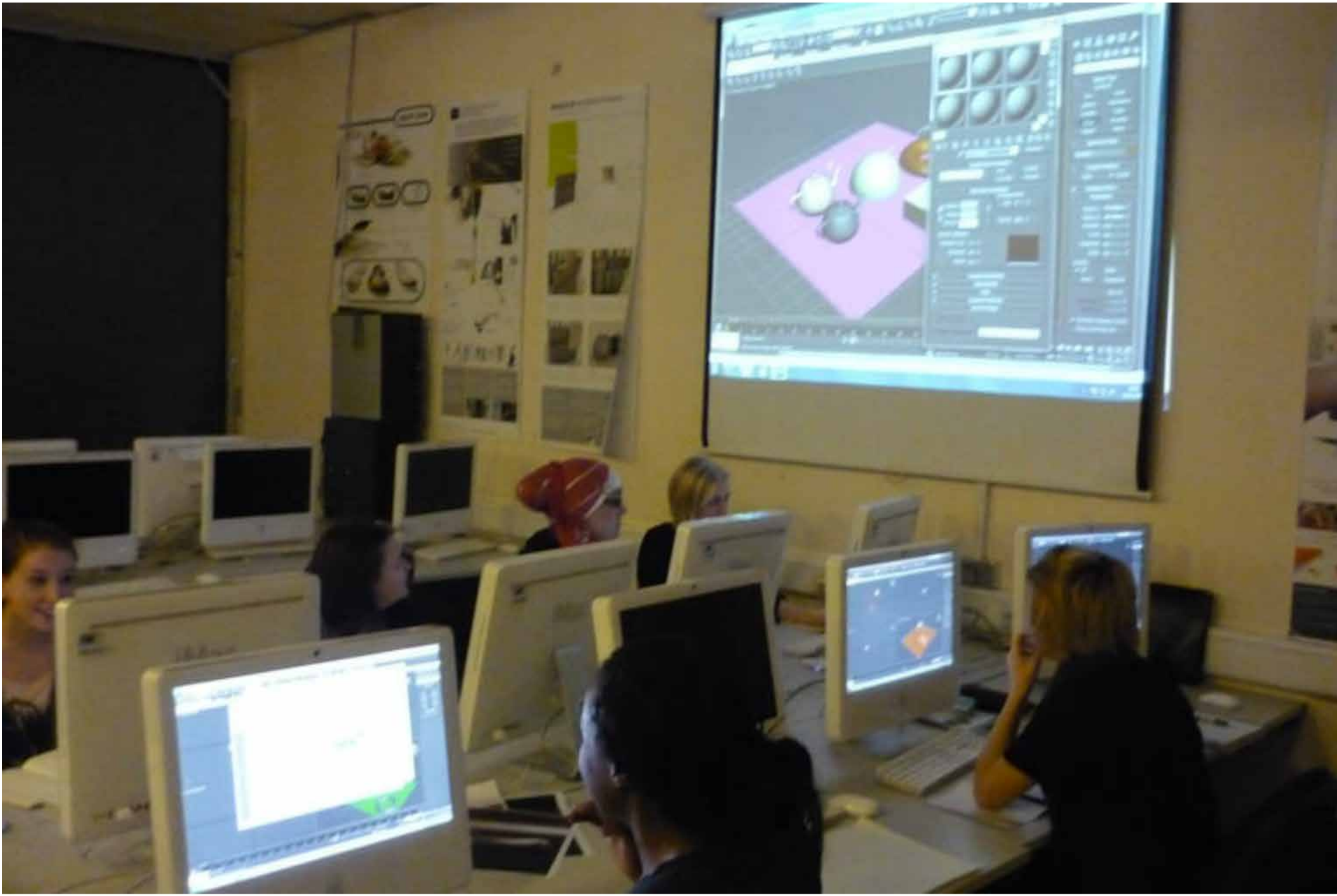
The Rose Bowl, Leeds Metropolitan University



Seeing Drawing: An Interactive DVD on Drawing. London Institute, [2001] www.seeing drawing.com

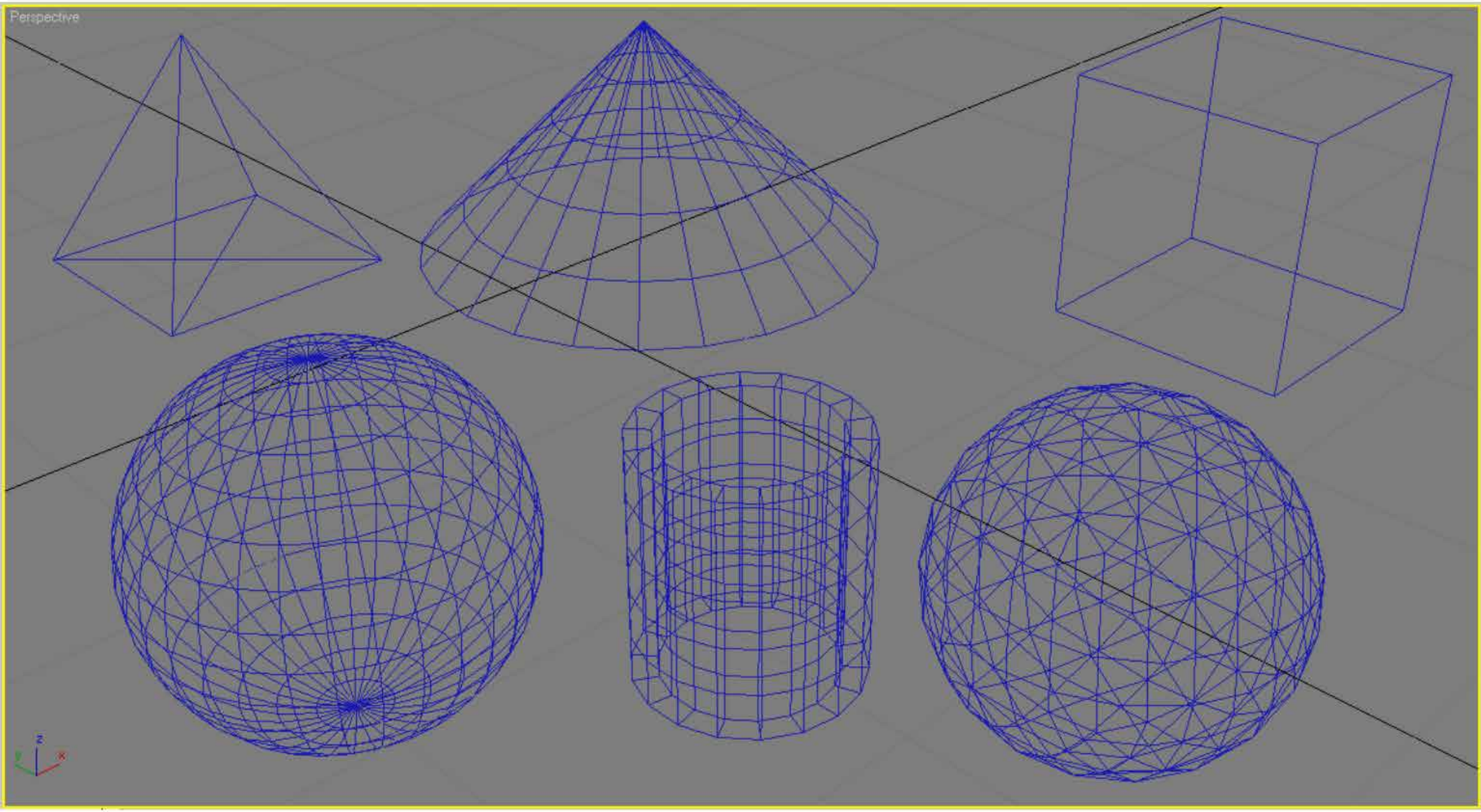


Extraordinary 3D Research Materials project:
BA(Hons) Surface Design Student final year research group. Learning 3D modelling for the first time in Term2.
Taylor, A. 2011.Recorded during 3D T&L research workshop 1* in January 2011.

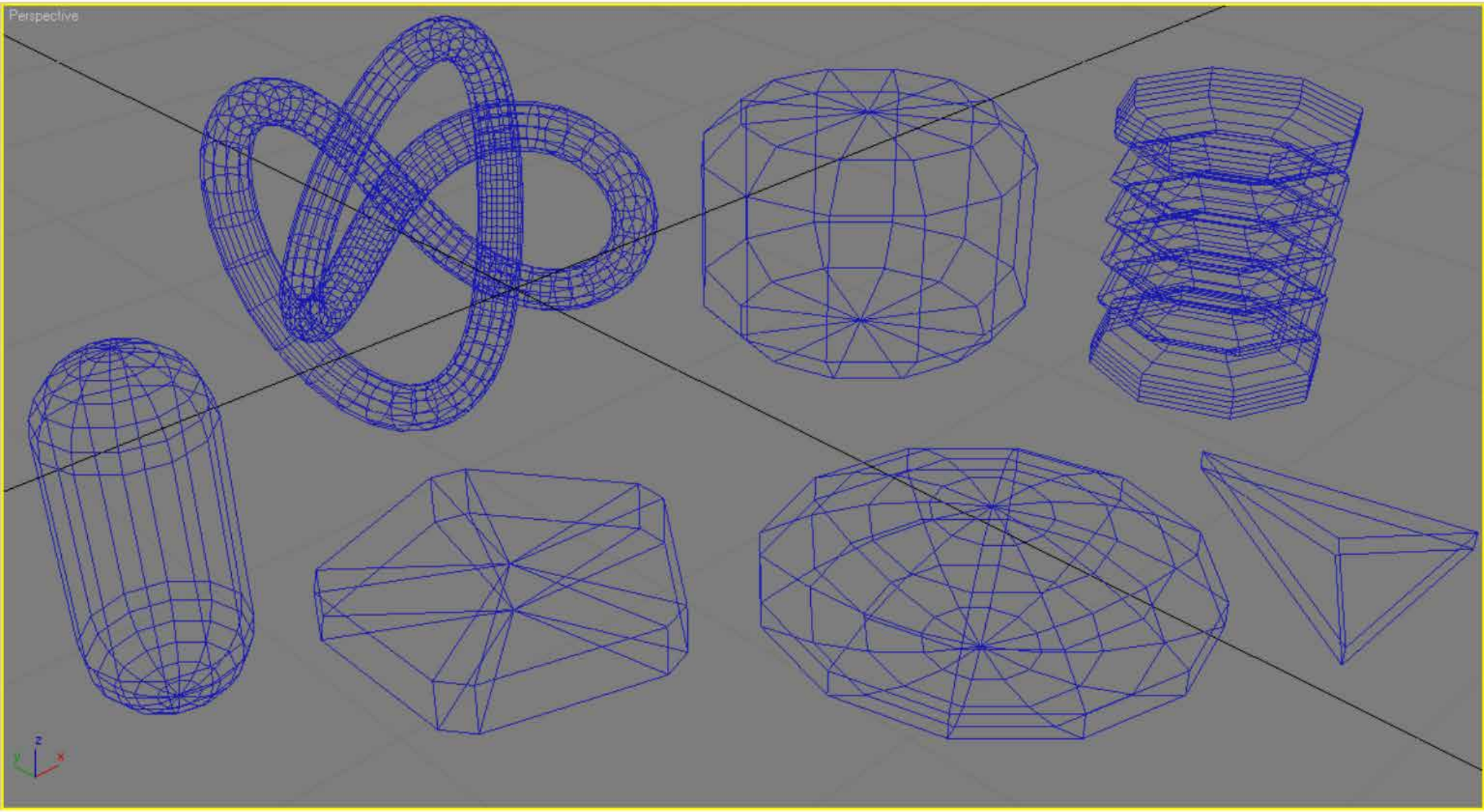


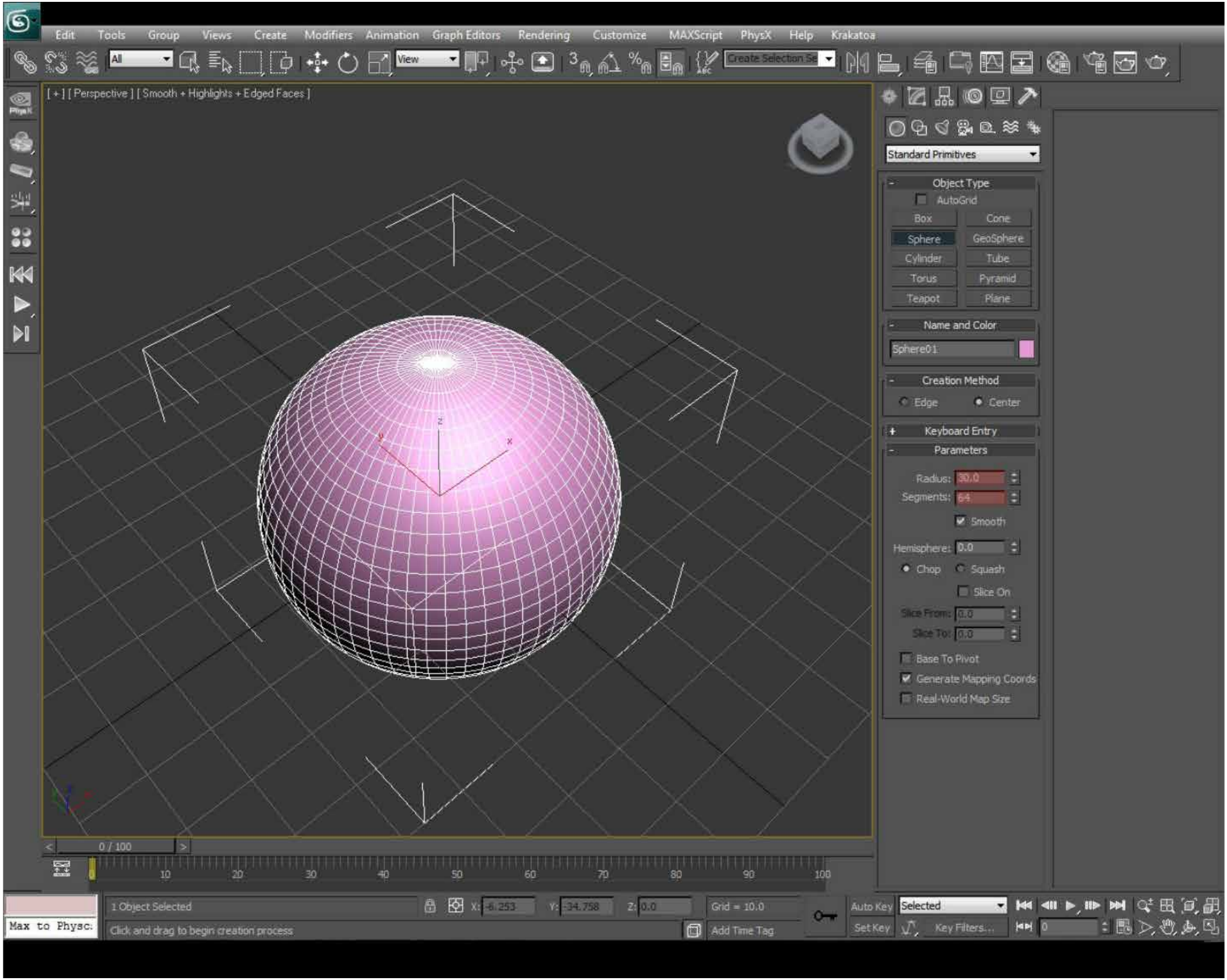
Extraordinary 3D Research Materials project:
BA(Hons) Surface Design Student final year research group. Learning 3D modelling for the first time in Term 2.
Taylor, A. 2011. Recorded during 3D T&L research workshop 2* in January 2011

Extraordinary 3D Research Materials project: BA(Hons) Surface Design Student final year.
3D modelling primitives. Taylor, A. 2011. Recorded during 3D research workshop, January 2011.



Extraordinary 3D Research Materials project: BA(Hons) Surface Design Student final year.
3D modelling standard primitives. Taylor, A. 2011. Recorded during 3D research workshop, January 2011.




Edit
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Rendering
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Standard Primitives
Object Type
AutoGrid
Box
Cone
Sphere
GeoSphere
Cylinder
Tube
Torus
Pyramid
Teapot
Plane
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Sphere01
Creation Method
Edge
Center
Keyboard Entry
Parameters
Radius:
Segments:
Smooth
Hemisphere:
Chop
Squash
Slice On
Slice From:
Slice To:
Base To Pivot
Generate Mapping Coords
Real-World Map Size
0 / 100
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1 Object Selected
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Add Time Tag
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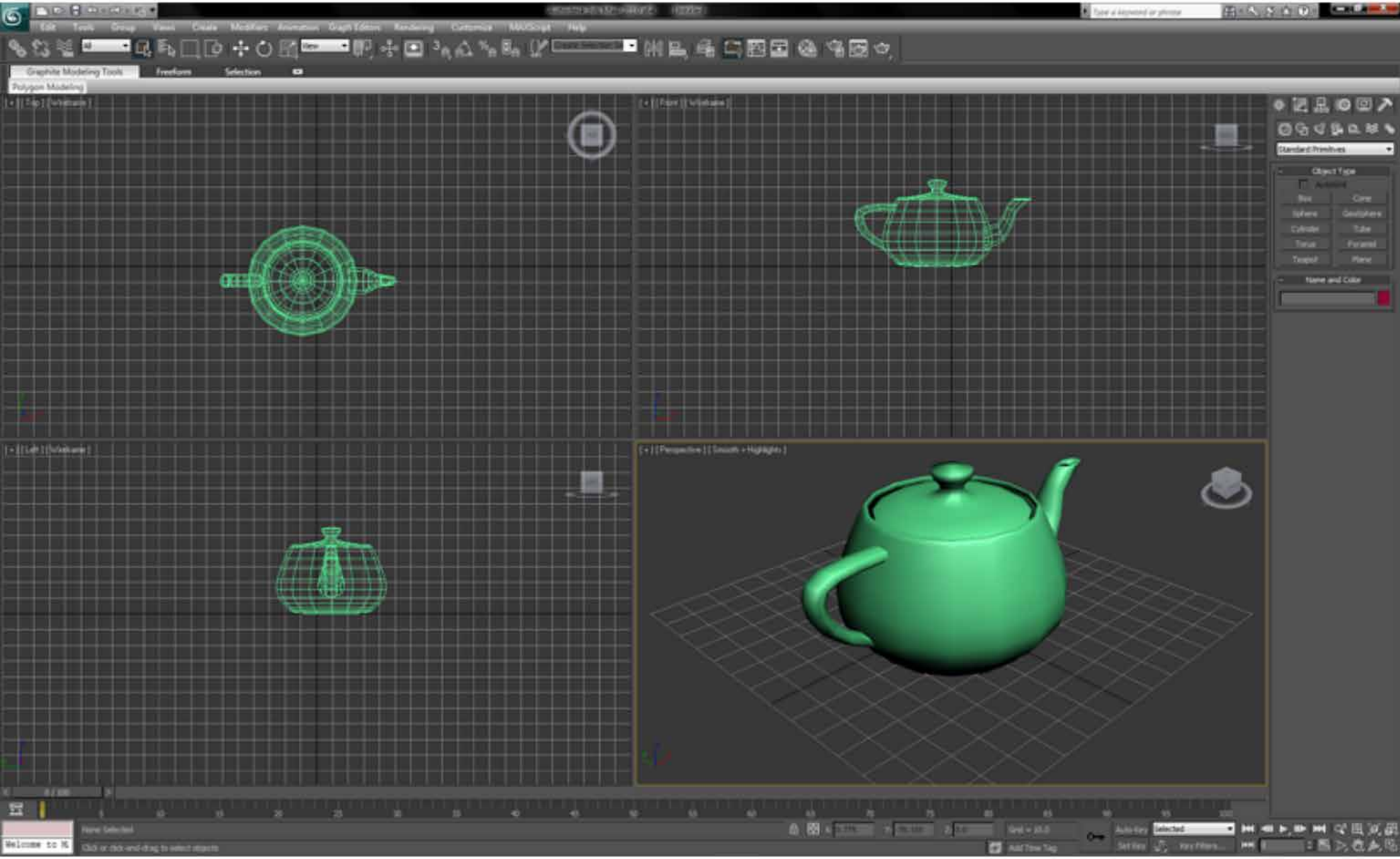
Edit Tools Group Views Create Modifiers Animation Graph Editors Rendering Customize MAXScript Help
Graphite Modeling Tools
Freeform
Selection
Polygon Modeling
Standard Primitives
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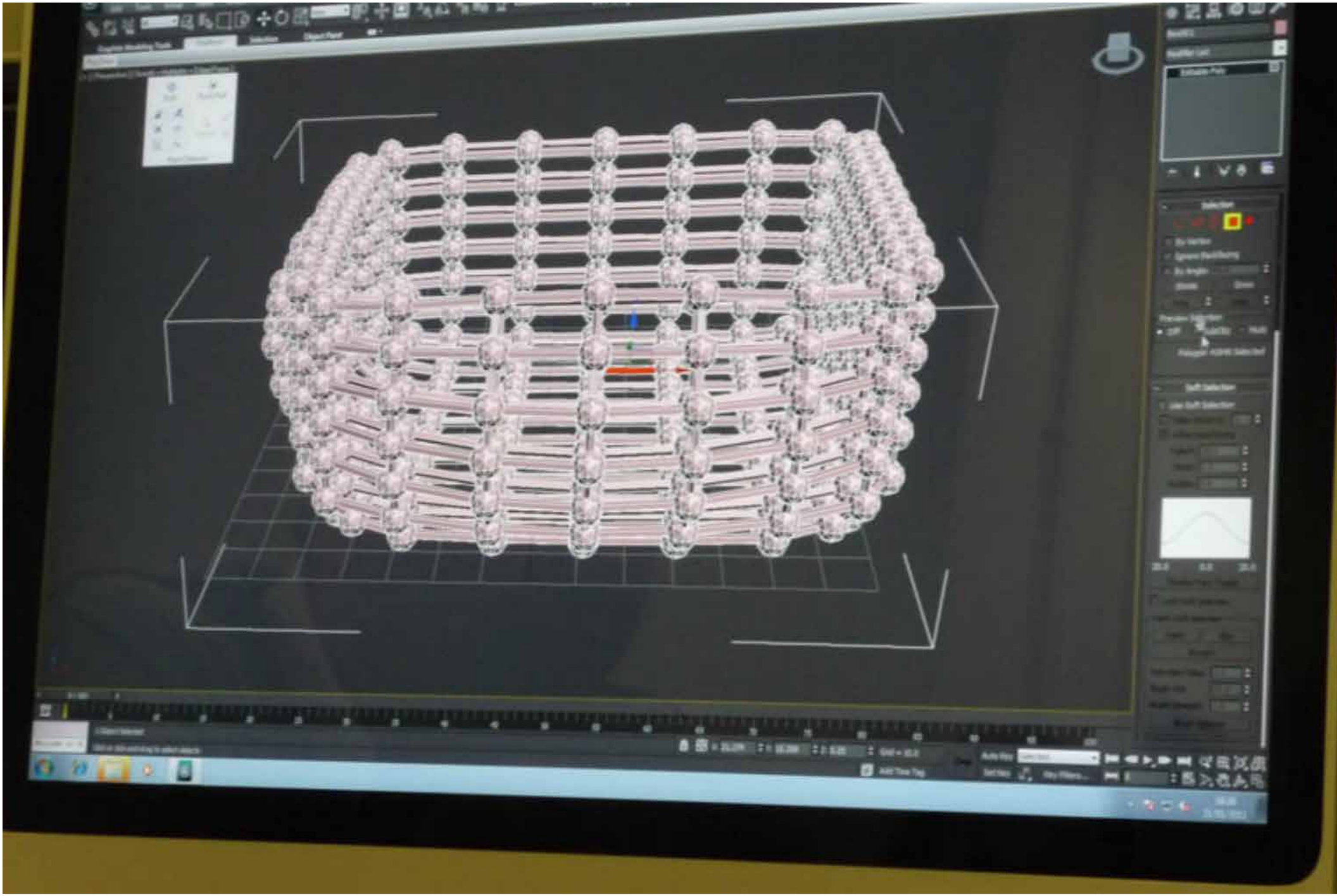


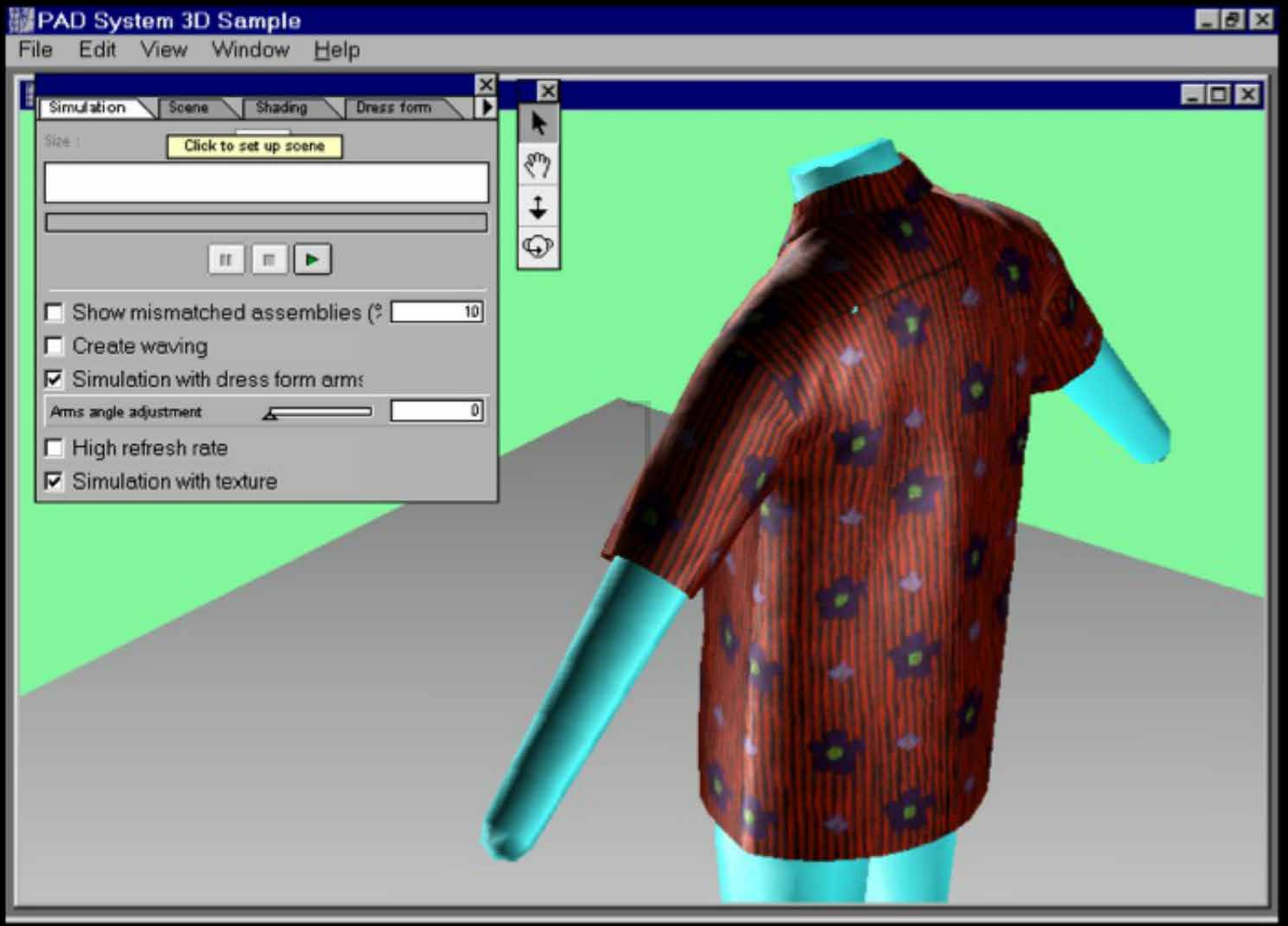
Extraordinary 3D Research Materials project:
3D model created by Dr. Ertu Unver during 3D research workshop demonstration
Taylor, A. 2011. Recorded during 3D research workshop 2* January 2011.

http://extraordinary-3d materials.blogspot.com/2011_02_12_archive.html

CLICK

BLOG

Taylor,A. 1998, Screen captured during evaluation of Fashion Studio 3D software.
HEFCE funded research studentship at MMU, Department of Clothing Design & Technology. 1998 - 2000



Taylor,A. 1999, Screen grab during research evaluation of PAD System 3D Visualisation software.
HEFCE funded research studentship at MMU, Department of Clothing Design & Technology.

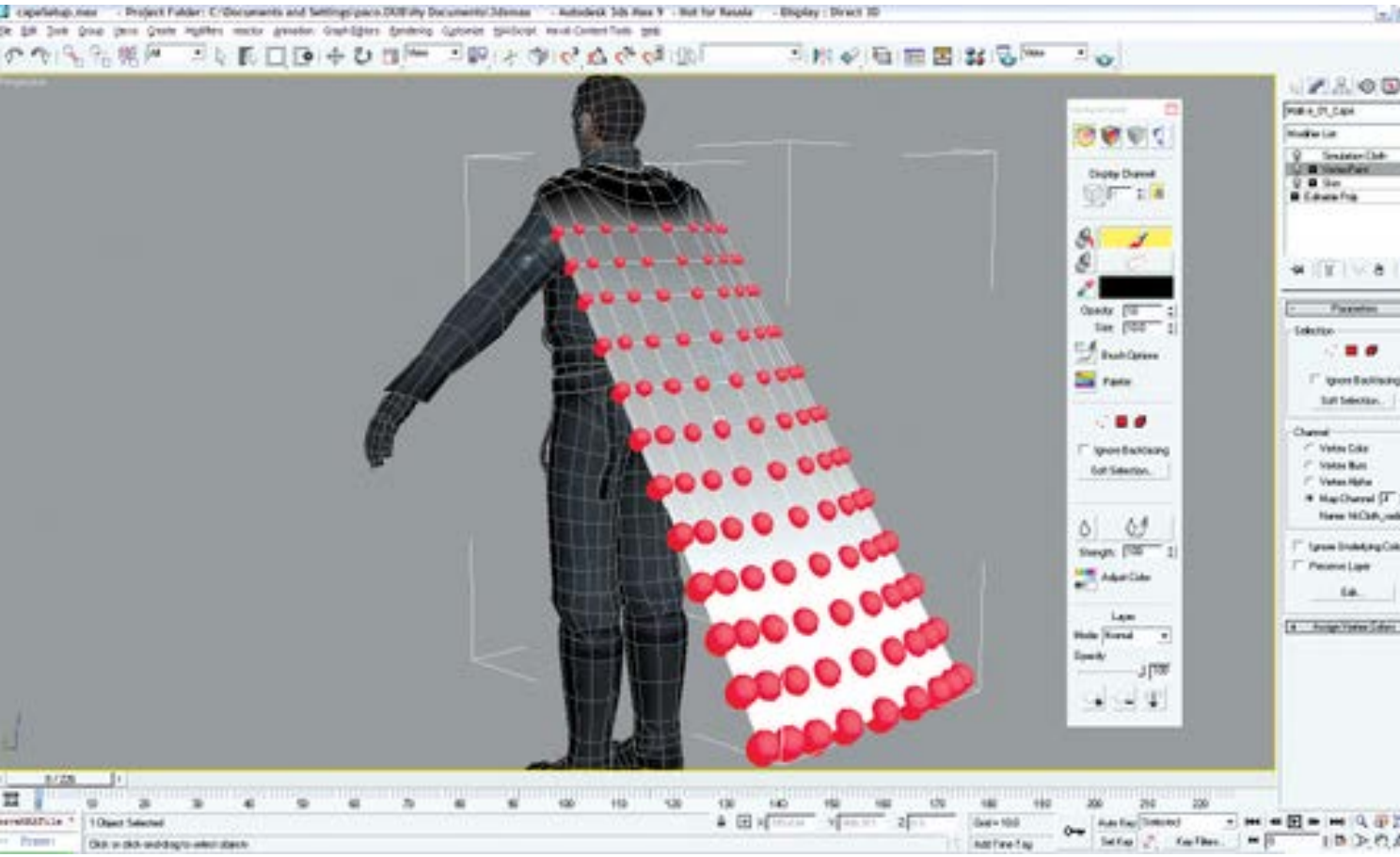
PAD System Haute Couture 3D, powered by Syflex, 3D garment visualisation software.
Haute Couture provides digital tools to 'sew' your patterns, simulate them on any 3D model or dress form and apply cloth properties, colour and textiles swatches. [http://www.padsystem.com - screen image sourced 2004]

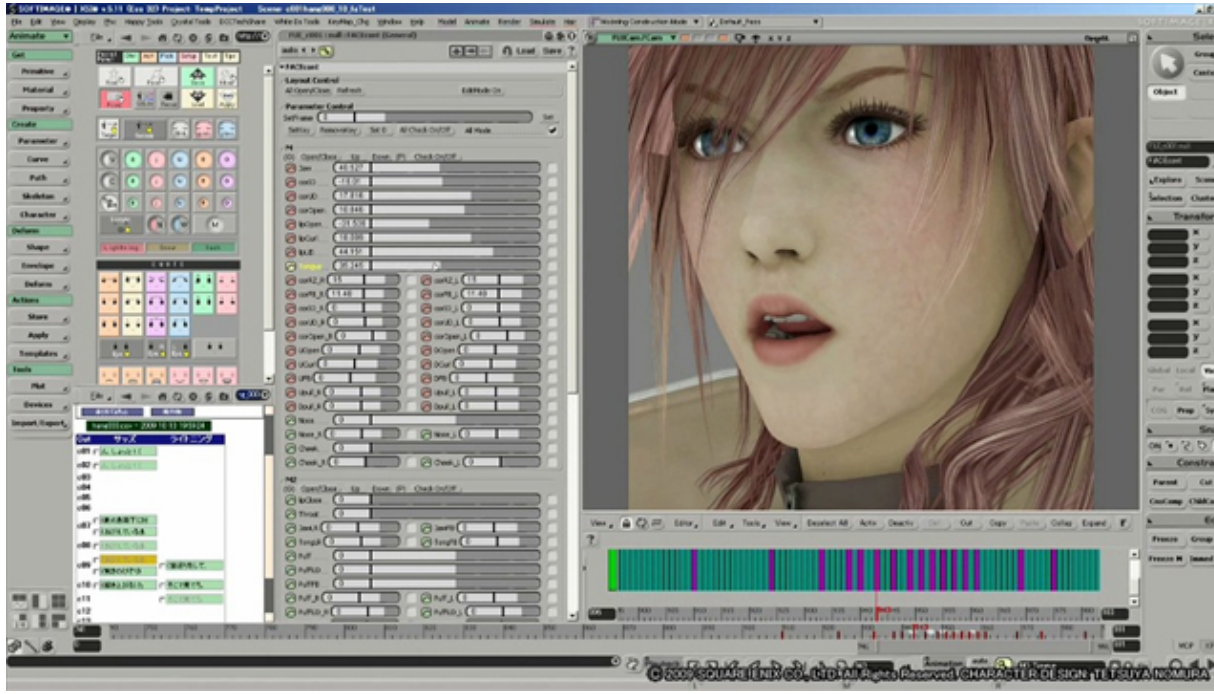
PDI/Dreamworks was able to do much more with cloth simulation in Shrek the Third both due to software and processing improvements. ClothNew wardrobe and advancements in Cloth simulation technology make it possible for main characters to be build with more layered decorative costumes utilizing Maya Cloth. (Sourced, 2011. from http://www.fxguide.com)

Clothing software for game development:

Havok Cloth was introduced to add cloth simulation capabilities (both character clothing and environmental cloth) in 2008 to the original Havok Physics suite.
Cloth can be authored via Havok Cloth Tools plug-ins for popular modelling packages and is optimized for PC, Mac, Xbox 360, PS3 and Wii platforms.

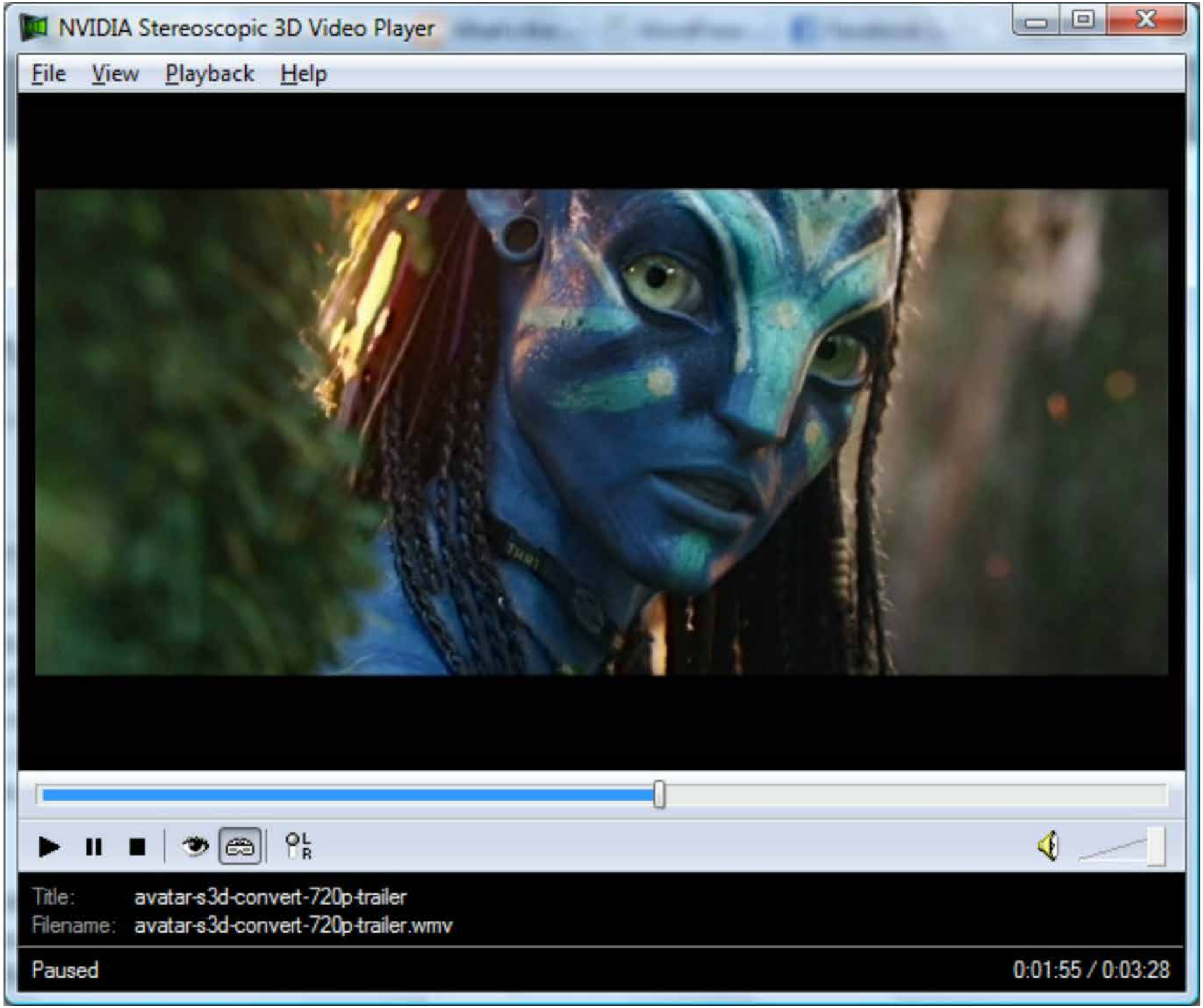
Zogrim || March 22nd, 2011. http://physxinfo.com/





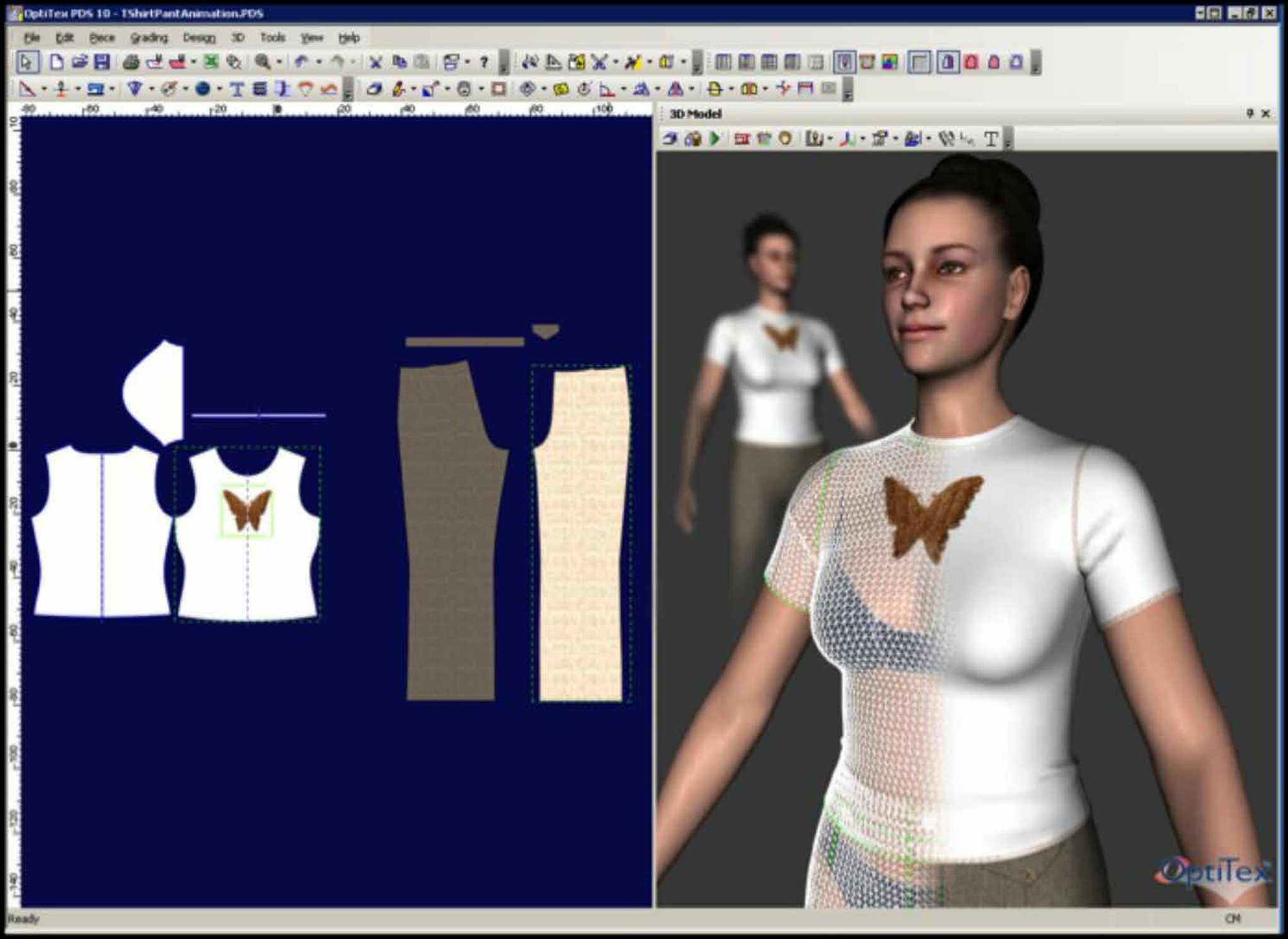
Final Fantasy XIII Cutscene Process
July 25th, 2010: http://www.gameanim.com/

IGN.COM


NVIDIA Stereoscopic 3D Video Player
File View Playback Help
Title: avatar-s3d-convert-720p-trailer
Filename: avatar-s3d-convert-720p-trailer.wmv
Paused
0:01:55 / 0:03:28

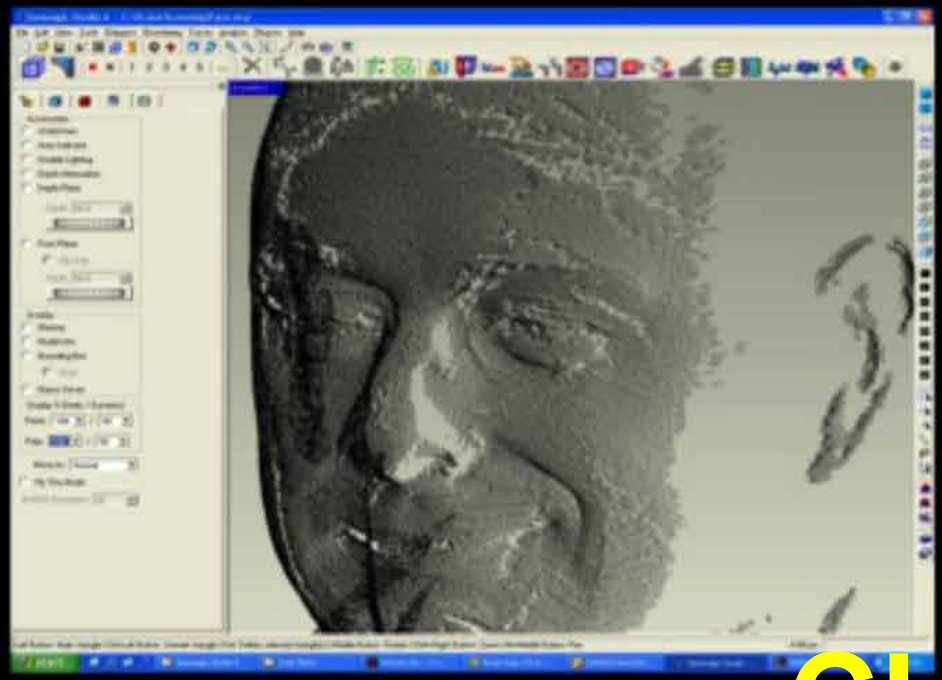
Simulating cloth using flex modifier tool in 3D Studio Max

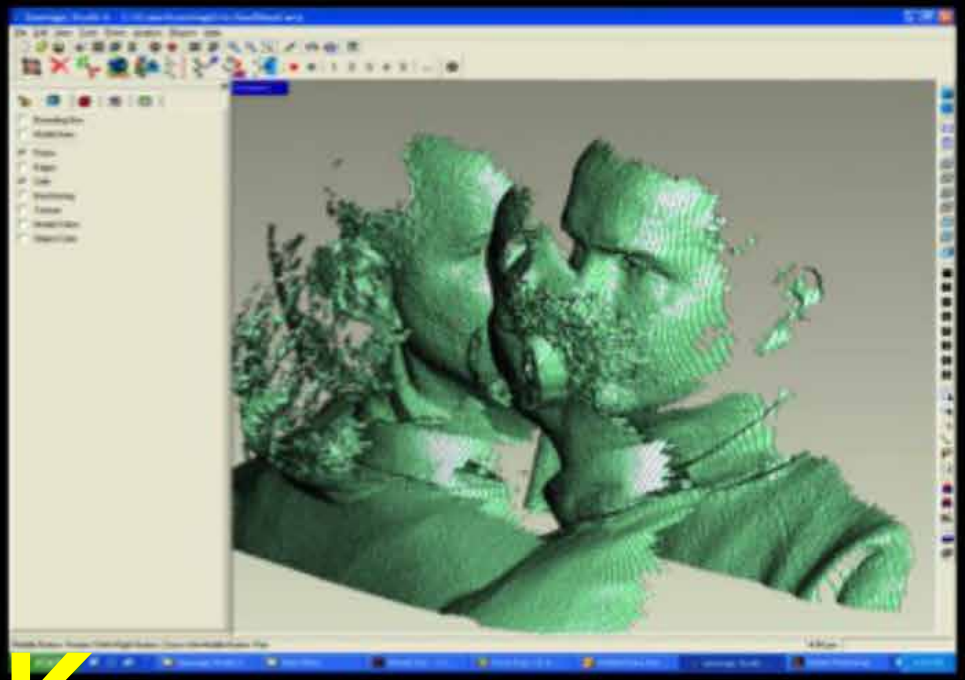
Taylor, A. 2003. Cloth simulation experiments using Reactor physics and modifiers in 3DSMax



Sourced from www.Optitex.com

3D laser scanning face and body experiments. Taylor, A & Unver, E. 2005. University of Huddersfield





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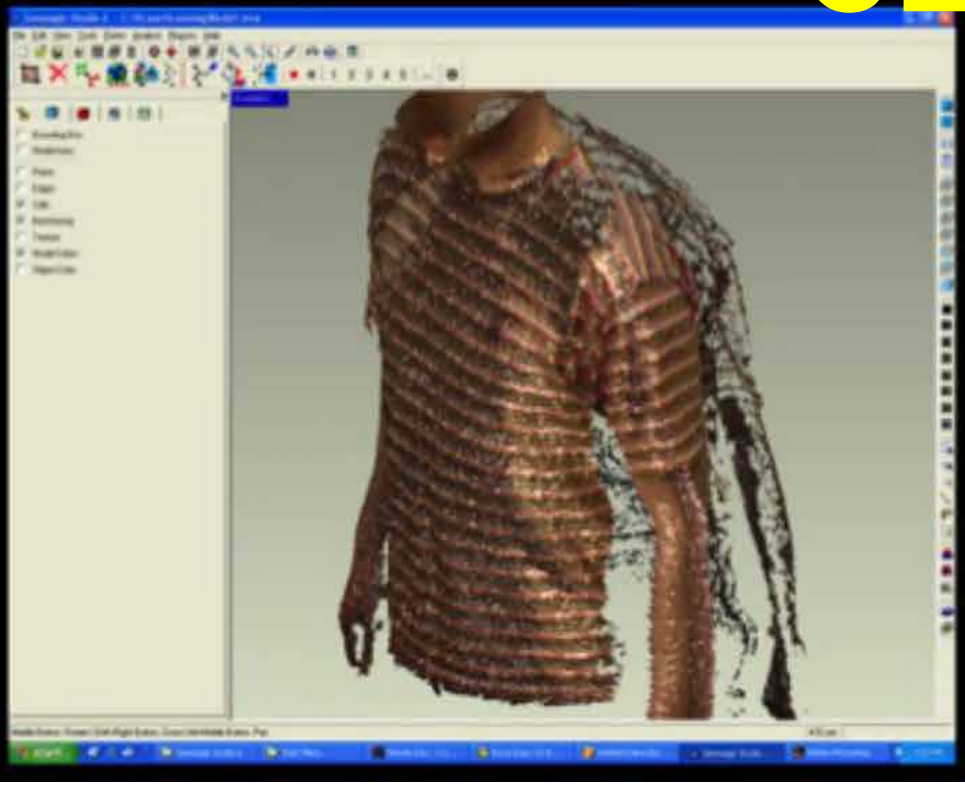
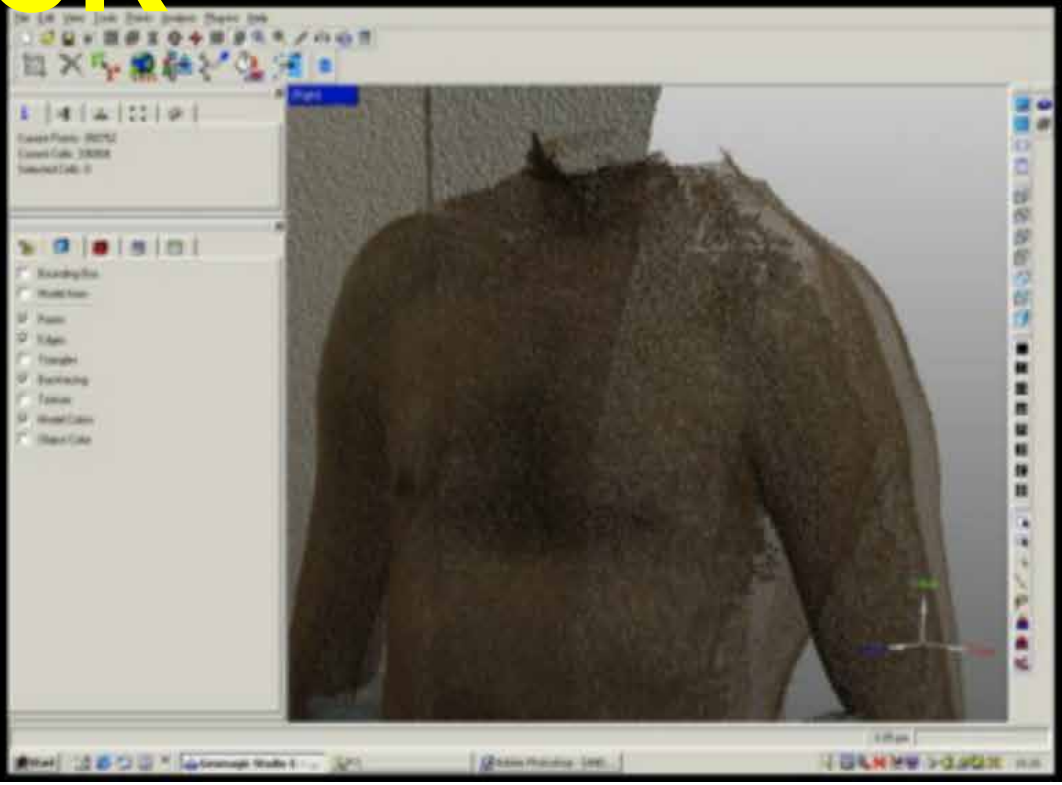
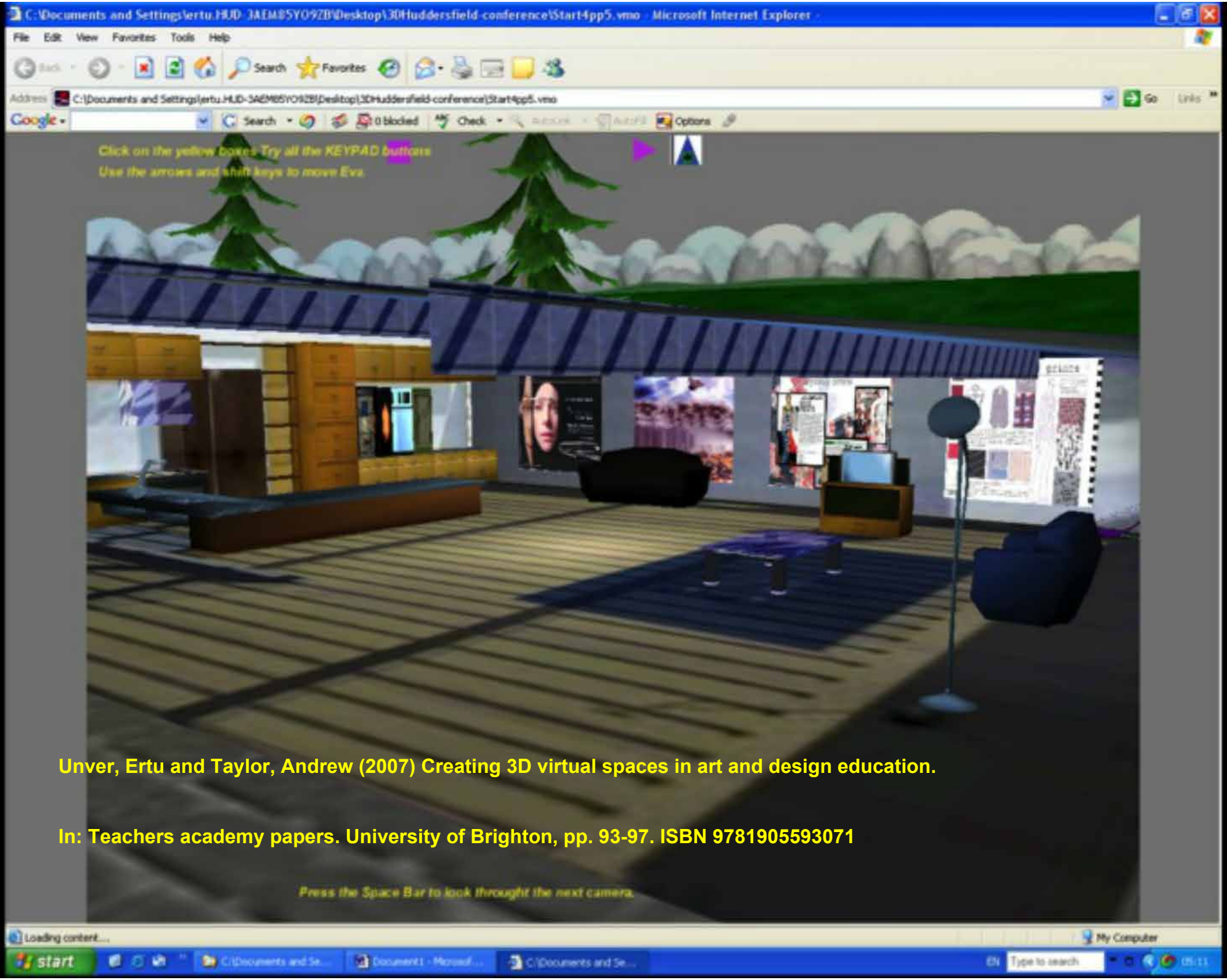




Virtual learning spaces: FE fashion collaboration 2004

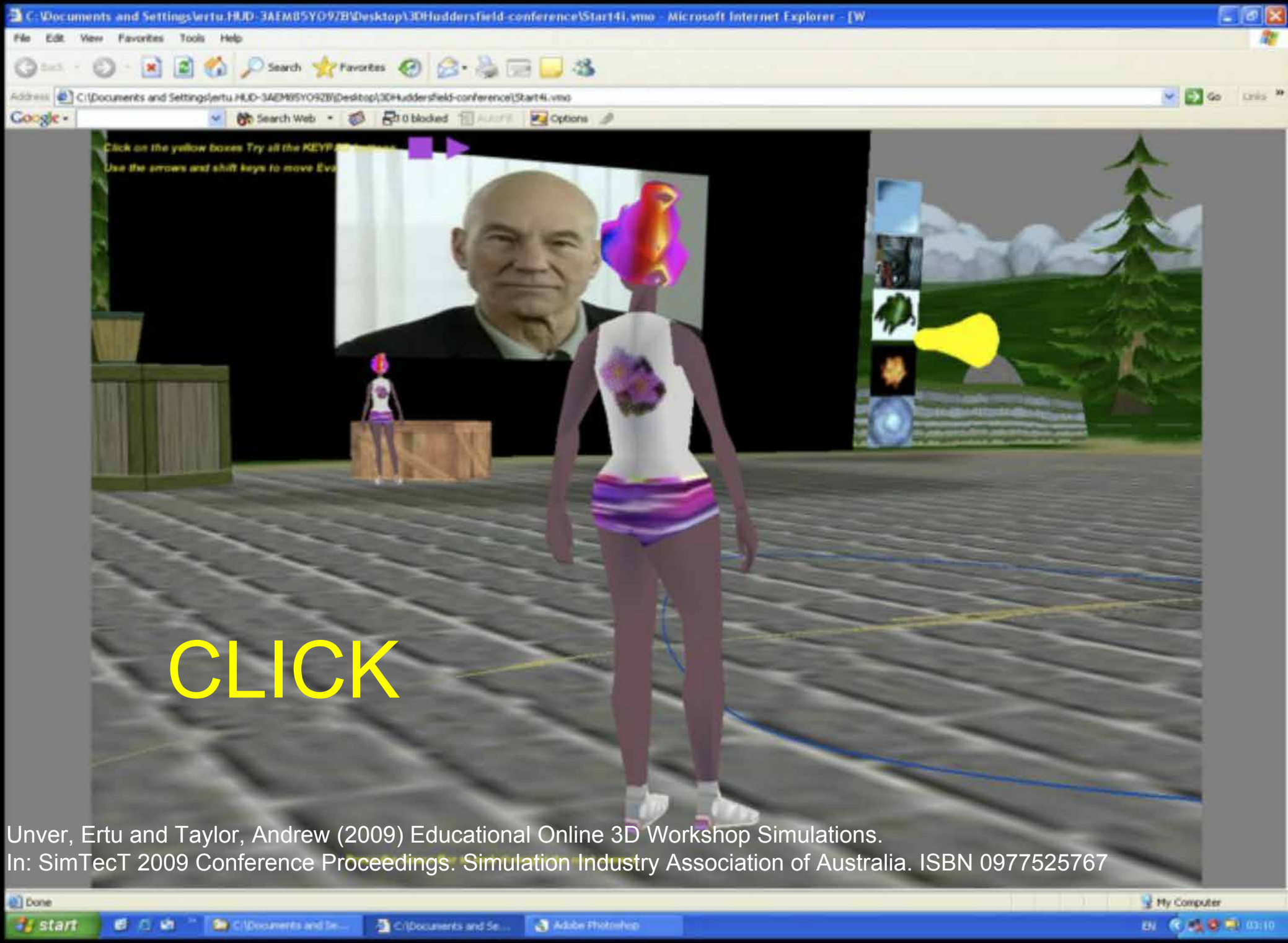
Taylor, A, 2004. CoVE Centre of Vocational Excellence UK Collaborative Fashion project. Virtual co creative online space.

FE BTEC ND Fashion courses: London College of Fashion, Chesterfield College, Batley School of Art & Design



Unver, Ertu and Taylor, Andrew (2007) Creating 3D virtual spaces in art and design education.

In: Teachers academy papers. University of Brighton, pp. 93-97. ISBN 9781905593071



Unver, Ertu and Taylor, Andrew (2009) Educational Online 3D Workshop Simulations.
In: SimTecT 2009 Conference Proceedings. Simulation Industry Association of Australia. ISBN 0977525767

This video shows University of Huddersfield, Creative Arts Building interactive game environment development for a single user operating as virtual character and driving aroud campus in a Car. Huddersfield 3D ADA researchers modelled the buildings from architect plans and satellite maps in 3DS Max. Using 3DVIA Virtools technology the team added movemement and single user game functionality for the character, sliding doors, lift moving up to floor above and a drivable car with a camera.

This University of Huddersfield T&L funded research has developed interactive real-time applications for future educational multiuser teaching and learning game environments. This collaborative interdisciplinary project includes real-time complex interactivity, character operation and 'live' environmental physics effects within a online grealistic game experience for teaching, learning, research and marketing.

Please visit www.huddersfield3d.co.uk. For further interactive and 3D research projects.

University research funded project developed a interactive muti user online Virtual 3D Workshop. The huddersfield 3D researchers from ADA developed this interactive real time educational game, modelling buildings, rooms,and machines exactly from plans and photos recorded in the real life workshops, and modelled using 3DS Max and adding interactivity in game engine development software Virtools. This project aimed to enhance the students, technical staff and academics experience of learning and remembering real 'live' health and safety workshop information through participating online in collaborative game based activites.

Image of Ay Taov from inside Second Life - Andrew Taylor's Second Life research avatar. Ay Taov explored Second Life extensively and was 'virtual researcher' on several research projects aimed at investigating the potential for fashion students and academics in using 3D virtual worlds for teaching and learning in fashion education.

CLICK LINK

CLICK LINK

The Clik links to two research papers on Fashion design research in virtual environments. Experiential experiments were adopted and develop methods for real time design business gaming using a 3D online tools for sharing ideas and co-changing the appearance of the avatar, designing clothing and buying, merchandising and retail branding in Second Life.

- The following research questions can explored
- —
- —• What value can 3D CG software and virtual technologies add to your new or traditional subject methods and what evidence exists to support their use in the concept and production of the future?
- —
- —• What resources and teaching and learning approaches are needed to make the best use of 3D and virtual technologies

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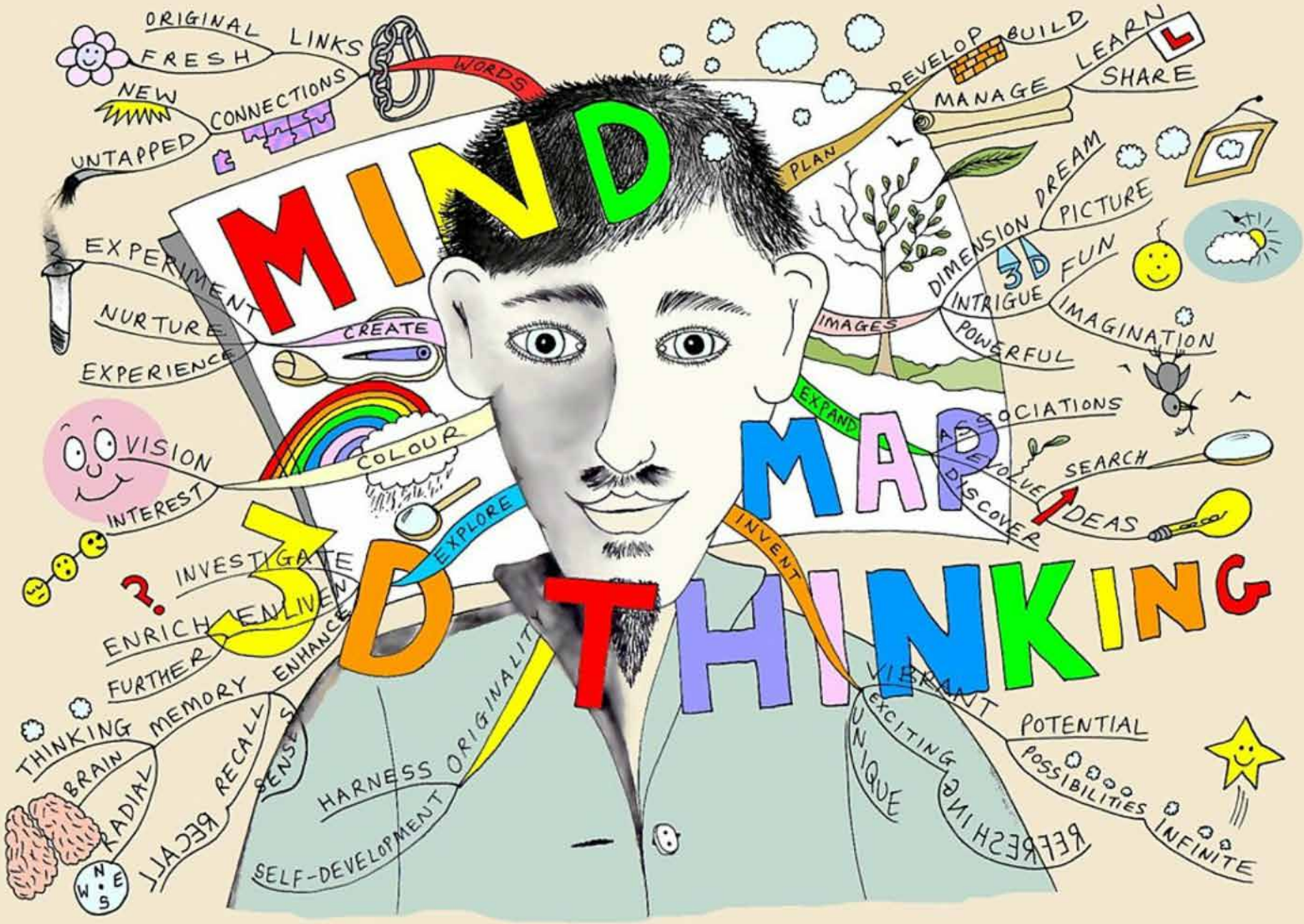
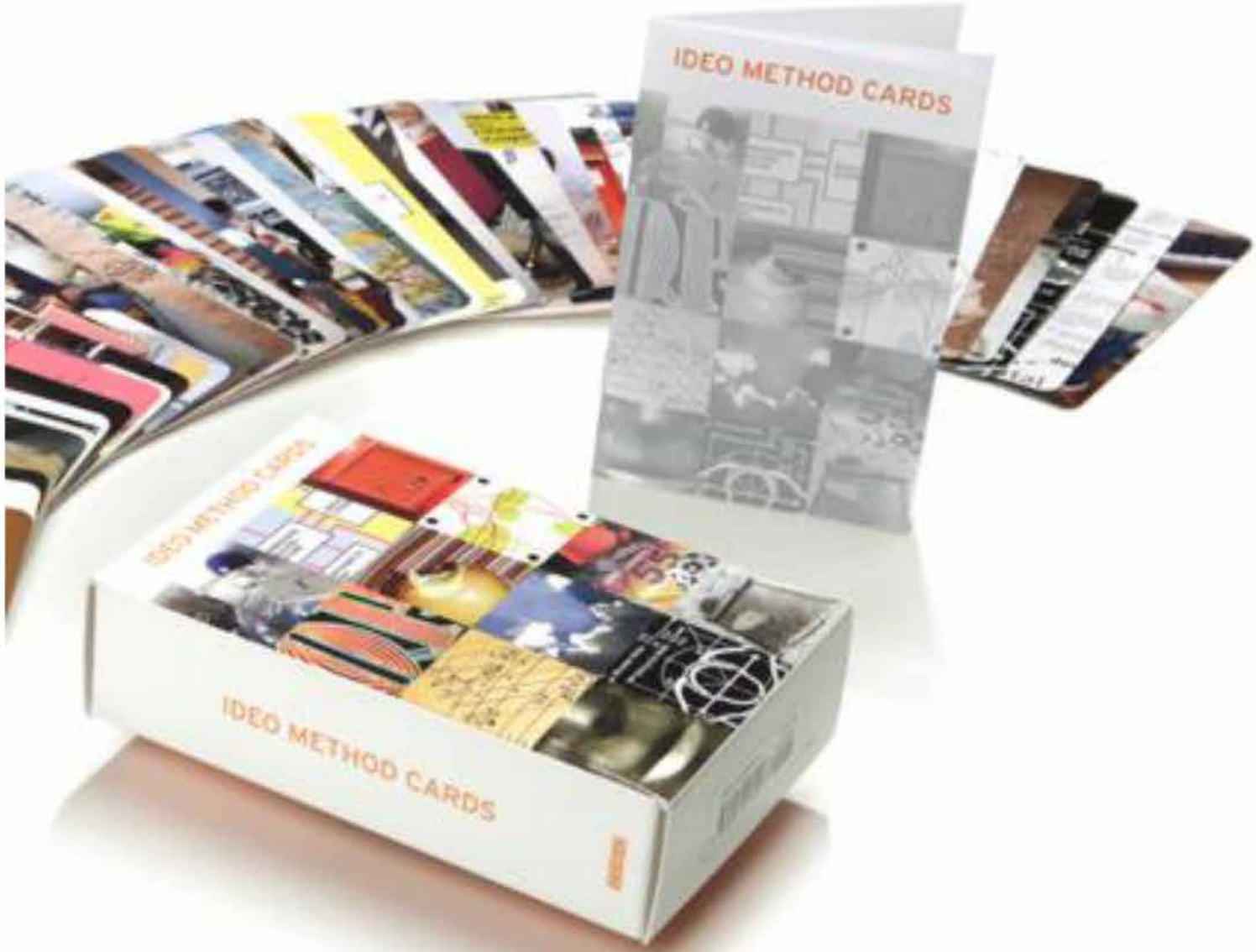


© Paul Foreman http://www.mindmapinspiration.com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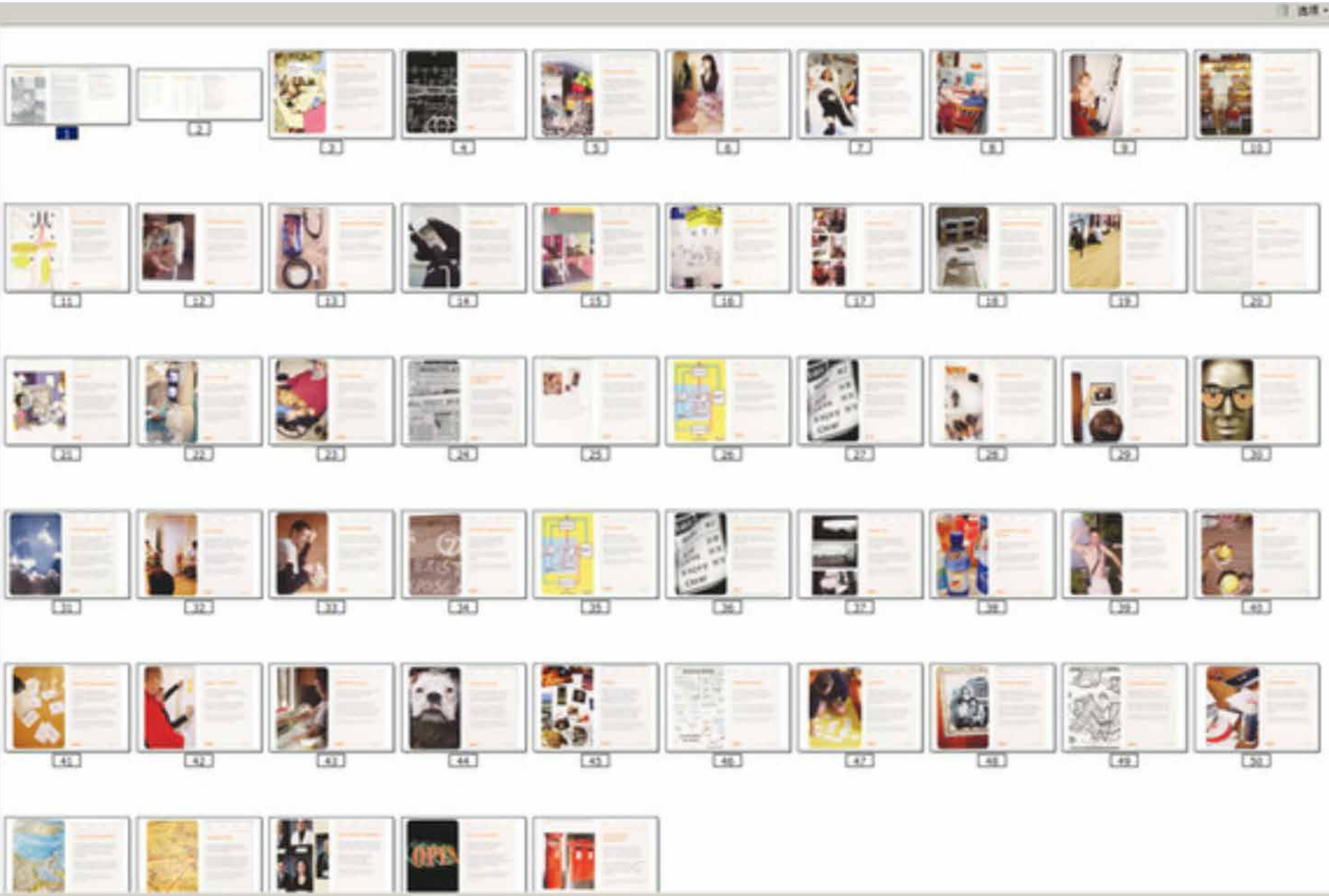

[redacted]

Learn :

Analysis the information you've collected to identify patterns and insights.

- Activity Analysis
- Affinity Diagrams
- Anthropometric Analysis
- Character Profiles
- Cognitive Task Analysis
- Competitive Product Survey
- Cross-Cultural Comparisons
- Error Analysis
- Flow Analysis
- Historical Analysis
- Long-Range Forecast
- Secondary Research

Look :

Observe people to discover what they do rather than what they say they do.

- A Day in the Life
- Behavioral Archaeology
- Behavioral Mapping
- Fly on the Wall
- Guided Tours
- Personal Inventory
- Rapid Ethnography
- Shadowing
- Social Network Mapping
- Still-Photo Survey
- Time-Lapse Video

Ask :

Enlist people's participation to elicit information relevant to your project.

- Camera Journal
- Card Sort
- Cognitive Maps
- Collage
- Conceptual Landscape
- Cultural Probes
- Draw the Experience
- Extreme User Interview
- Five Whys
- Foreign Correspondents
- Narration
- Survey & Questionnaires
- Word-Concept Association
- Unfocus Group

Try :

Create simulations to help empathize with people and to evaluate proposed designs.

- Behavior Sampling
- Be Your Customer
- Bodystorming
- Empathy Tools
- Experience Prototype
- Informance
- Paper Prototyping
- Predict Next Year's Headline
- Quick-and-Dirty Prototyping
- Role-Playing
- Scale Modeling
- Scenarios
- Scenario Testing
- Try It Yourself

ASK Try

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materials and
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h, creative, and
ns from potential
tions, and opens

fetishist, an artist, a
l others to work
l concepts for a new

www.ideo.com

Learn Look **Ask** Try

Draw the Experience

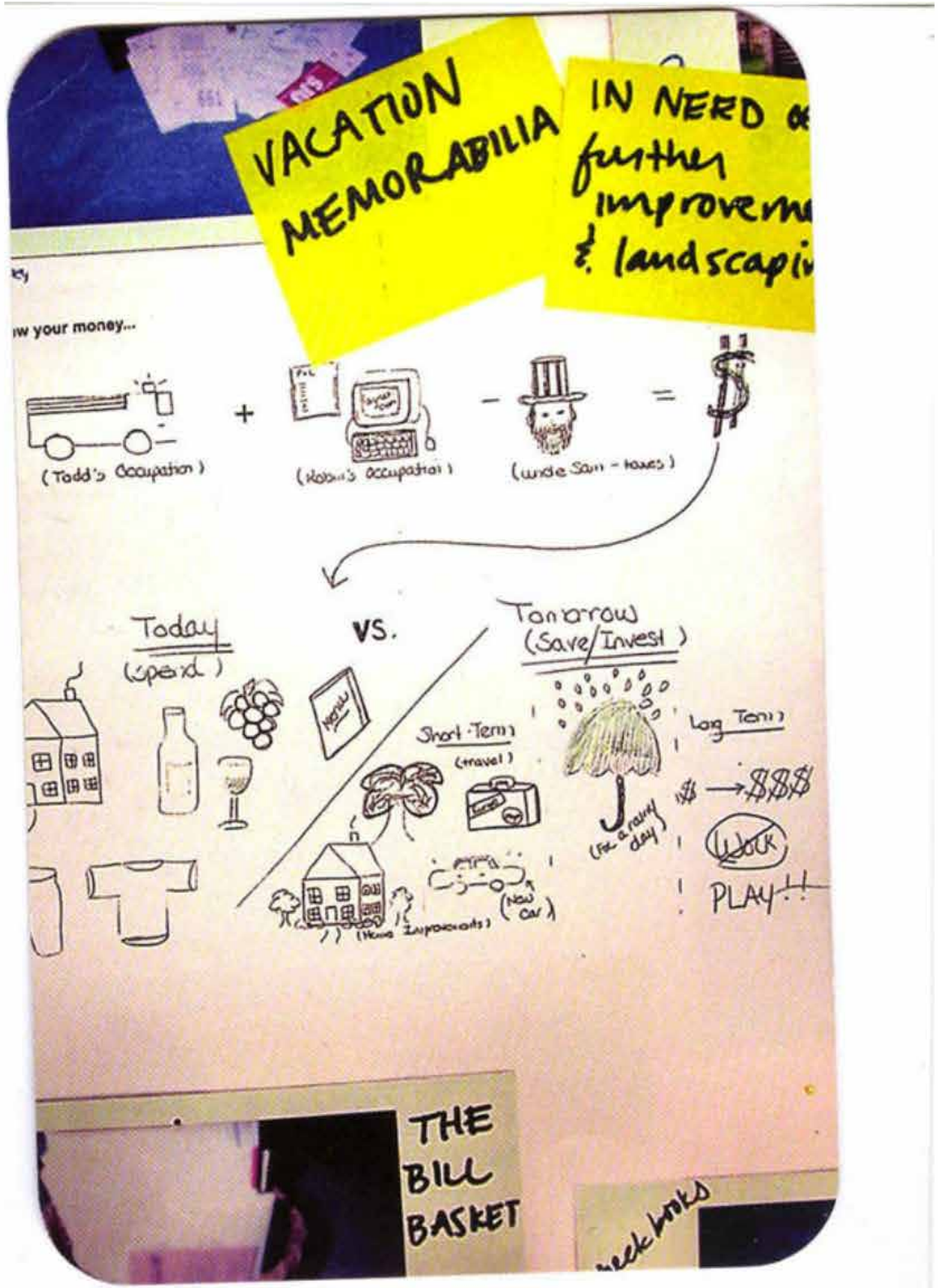
HOW: Ask participants to visualize an experience through drawings and diagrams.

WHY: This can be a good way to debunk assumptions and reveal how people conceive of and order their experiences or activities.

By asking people to "draw your money," the IDEO team designing an online bank was able to discern people's attitudes towards their finances.

IDEO

www.ideo.com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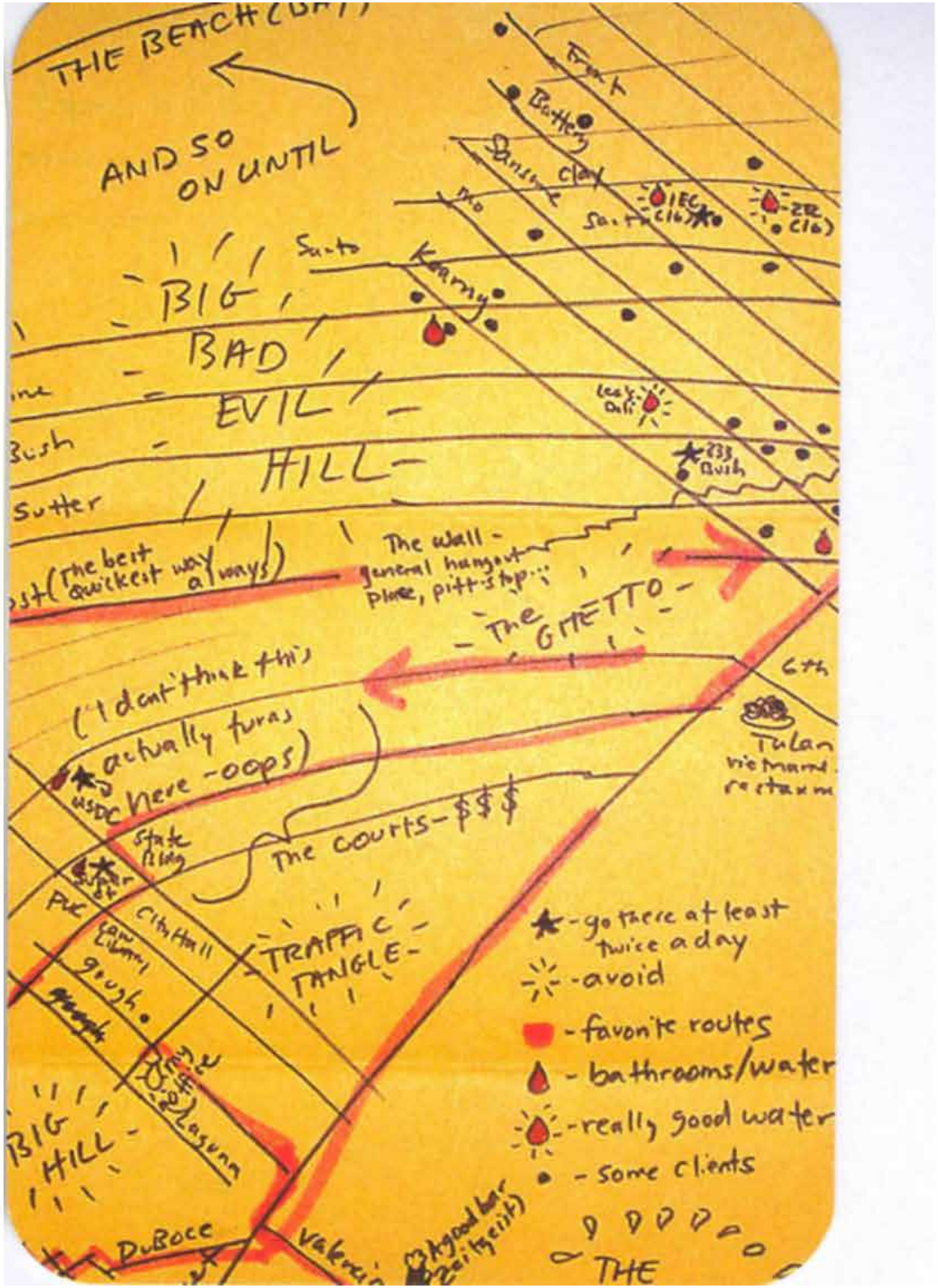
+
(Kelsi's occupation)
-
(uncle Sam - taxes)
=
Today
(spend)
VS.
Tomorrow
(Save/Invest)
Short-Term
(travel)
(new car)
Long Term
(for a rainy day)
$ → $$$
Work
PLAY!!
THE BILL BASKET

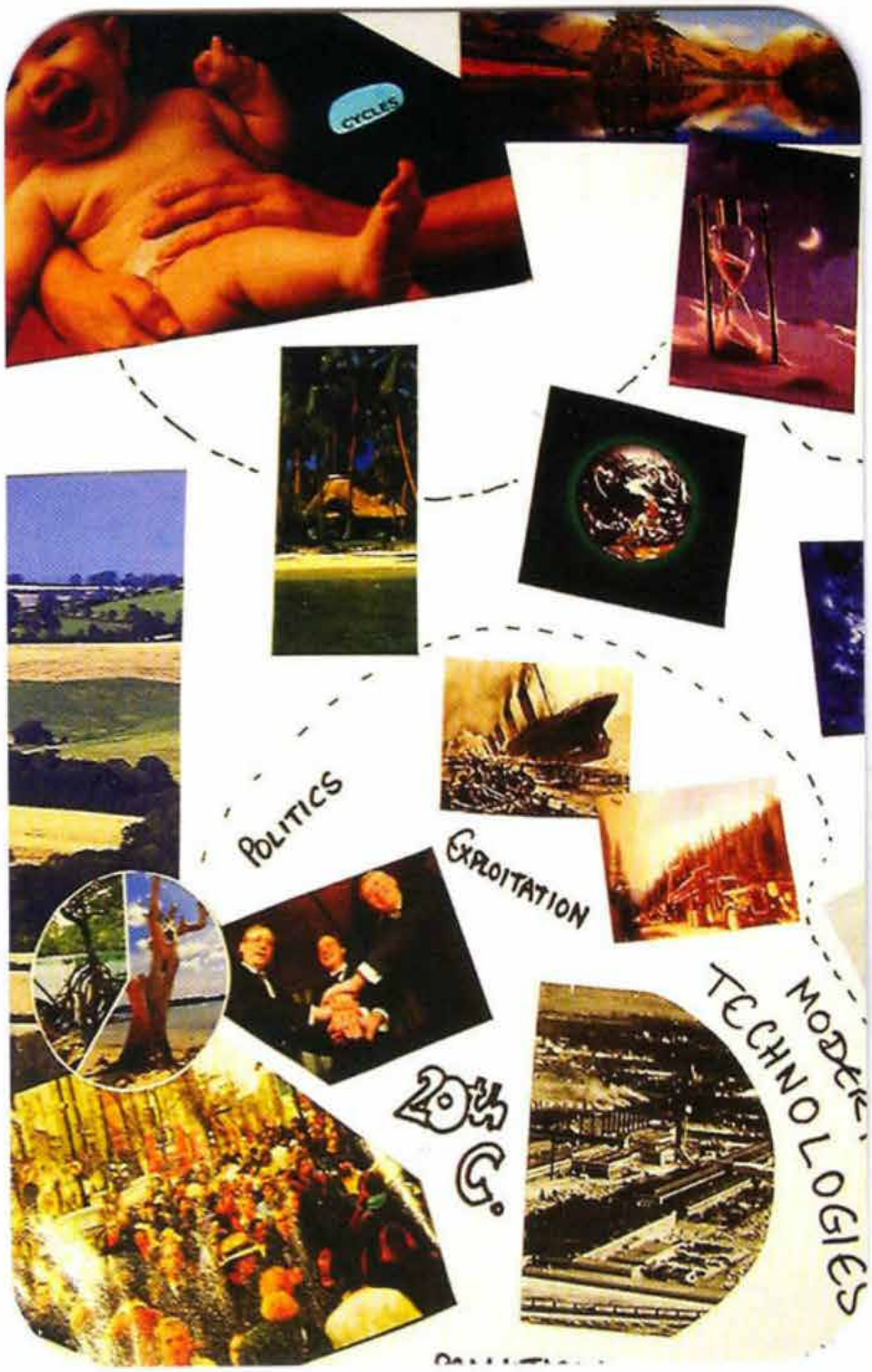
Cognitive Maps

HOW: Ask participants to map an existing or virtual space and show how they navigate it.

WHY: This is a useful way to discover the significant elements, pathways, and other spatial behavior associated with a real or virtual environment.

Mapping how they occupy or pass through different zones of the city, the IDEO team asked bike messengers to indicate where water oases are located and how they reach them.


THE BEACH (GA
AND SO ON UNTIL
BIG
BAD
EVIL
HILL
Bush
Sutter
The wall - general hangout place, pit-stop
(I don't think this actually turns here - oops)
- The GHETTO -
The courts - $$$
TRAFFIC TANGLE
BIG HILL
DuBoce
- go there at least twice a day
- avoid
- favorite routes
- bathrooms/water
- really good water
- some clients
THE


CYCLES
POLITICS
EXPLOITATION
20th C.