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Taylor, Andrew

Investigating the Application of 3D CG Technologies in Fashion Education

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An Investigation into 3D Software Tools for Apparel Design and Construction in a Virtual Environment

Andrew Taylor
HEFCE funded Research Student: 1998-2000
Department of Clothing Design & Technology & Department of Textiles/Fashion
Faculty of Art & Design
Manchester Metropolitan University
Overview

- Starting at the Beginning and Learning new things: body, measurement, clothing, fashion, illustration, pattern design and construction and presentation/merchandising
- Exploring the software available and how it is used in Fashion/Clothing Education and Industry
- Introducing 3D software to learning and teaching
- 3D now
RESEARCH OF 3D BODY & MEASUREMENT

Body Measurement
Made-to-Measure Clothing
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3D Scanning and construction software developed by government military research
Scanned body data
Dummy Toile, workroom stand....
block is a foundation pattern constructed to fit an average figure
Identifying the 3D Design development gap in process in fashion / apparel design and manufacture (Fozzard, G & Hardaker, C. 1994)
Sourced from CDI. 1998.
Department of clothing design & Technology, MMU
Taylor, A. 1998. Source Screen grab in CAD suite
Department of Clothing Design & Technology. MMU
Fashion Studio + Dress Maker
Corel 6 Dream 3D
Three-Dimensional Illustration Software

Taylor, A. 1999. 3D Texture mapped on 3D Text
Department of Clothing Design & Technology. MMU
Poser 2+3+4

The Remarkable Figure Design and Animation Tool

Taylor, A. 1999. 3D body animation experiments using Poser. Department of Clothing Design & Technology. MMU
Taylor, A. 1999. 2D - 3D. 3d Print experiments using PAD system
Department of Clothing Design & Technology. MMU
Fit for Profit Conference

June 1999

Department of Clothing Design & Technology

Hollings Faculty

Manchester Metropolitan University
AIMS

- To demonstrate the interface between 2D and 3D software applications
- To simulate 2D style developments in a 3D CAD environment

2D-3D PATTERN DESIGN & CONSTRUCTION OF APPAREL IN A VIRTUAL ENVIRONMENT

by
Andrew Taylor
Terry Bond
### SIZES

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2D Pad Pattern Design Module

STYLE1: LONG SLEEVE SHIRT
2D Pad Pattern Design Module

STYLE2: SHORT SLEEVE SHIRT
3D PATTERN SEWING SEQUENCE
ADDING COLOUR AND TEXTURE TO SHIRT STYLE 2
3D Virtual Sample Model
ADJUSTABLE DIALS FOR SIZING & CUSTOMISATION OF THE 3D MODEL
3D SHIRT SIMULATION
With PRINT DESIGN MAPPED
3D SIMULATION OF FIT & DRAPE
“..the most straightforward way of taking 2D data and presenting it as 3D data is to use a 3D model.”


3D EXPERIMENTS
2D working drawings

Corel Draw 9
graphics drawing, painting software

Department of clothing design & Technology
Fitted trousers with print/textile mapped to pattern in 2D & 3D in PAD SOFTWARE

Taylor, A. 1999. 3D textile mapping experiments Department of clothing design & Technology. MMU
Taylor, A. 1999. 3D textile mapping experiments Department of clothing design & Technology. MMU

Development Animated 3D learning tools using PAD Software
Taylor, A. 1998. Evaluation experiments with Poser. Department of clothing design & Technology. MMU
Taylor, A. 1998. Evaluation experiments with Poser. Department of clothing design & Technology. MMU.
POSER4 AS A LEARNING TOOL
Taylor, A. 1999. 3D Areas of suppression visualisation experiments
Department of clothing design & Technology. MMU

AREAS OF SUPPRESSION FOR BASIC BLOCK PATTERNS

A) Above and under the bust prominence
B) Above and under the shoulder the blade
C) Between underarm and side hip
D) At the elbow or between the elbow and wrist
Taylor, A. 1999. 3D modelling experiments using primitive shapes and Poser software.
Department of clothing design & Technology. MMU
Taylor, A. 1999. 3D animation hoodie visualisation. Department of Clothing Design & Technology. MMU
MMU:

FINAL PHASE EVALUATION OF GERBER AP3DS 3D -2D DESIGN, FIT & KES_FABRIC MEASUREMENT
Taylor, A. 2000. 3D Gerber AP3D-S experiments with 3D-2D pattern
Department of Clothing Design & Technology. MMU
Department of Clothing Design & Technology. MMU
Department of Clothing Design & Technology. MMU
MMU:
3D Software
Design Research
2000-
FUTURE PHASE
3D Studio Max and clothReyes collaboration
- Catwalk simulation by
  Thierry Mugler
Virtual Reality: The ultimate future textile design experience?
“If the artist does not perfect a new vision in his process of doing, he acts mechanically and repeats some old model fixed like a blueprint in his mind.”

John Dewey, (1935) Art as Experience, p. 50

in Strauss, A Corbin, J Basics of Qualitative Research - Grounded Theory Procedures and Techniques
“Minds are like parachutes, they only function when they are open.”

Sir James Dewar