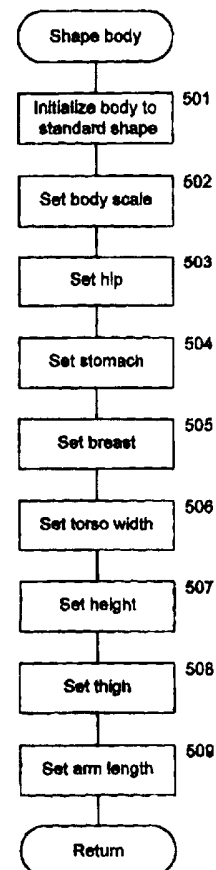




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : G06T 17/20</p>	A3	<p>(11) International Publication Number: WO 97/10573</p> <p>(43) International Publication Date: 20 March 1997 (20.03.97)</p>		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>(21) International Application Number: PCT/US96/14620</p> <p>(22) International Filing Date: 11 September 1996 (11.09.96)</p> <p>(30) Priority Data: 08/529,161 13 September 1995 (13.09.95) US</p> <p>(71) Applicant: PIXEL DUST, INC. [US/US]; P.O. Box 1049, Vashon, WA 98070 (US).</p> <p>(72) Inventor: CONE, Don; 13440 Cool Lake Way, San Diego, CA 92128 (US).</p> <p>(74) Agents: PIRJO, Maurice, J. et al.; Seed and Berry L.L.P., 6300 Columbia Center, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).</p> </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>(81) Designated States: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 26 June 1997 (26.06.97)</p> </td> </tr> </table>			<p>(21) International Application Number: PCT/US96/14620</p> <p>(22) International Filing Date: 11 September 1996 (11.09.96)</p> <p>(30) Priority Data: 08/529,161 13 September 1995 (13.09.95) US</p> <p>(71) Applicant: PIXEL DUST, INC. [US/US]; P.O. Box 1049, Vashon, WA 98070 (US).</p> <p>(72) Inventor: CONE, Don; 13440 Cool Lake Way, San Diego, CA 92128 (US).</p> <p>(74) Agents: PIRJO, Maurice, J. et al.; Seed and Berry L.L.P., 6300 Columbia Center, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 26 June 1997 (26.06.97)</p>
<p>(21) International Application Number: PCT/US96/14620</p> <p>(22) International Filing Date: 11 September 1996 (11.09.96)</p> <p>(30) Priority Data: 08/529,161 13 September 1995 (13.09.95) US</p> <p>(71) Applicant: PIXEL DUST, INC. [US/US]; P.O. Box 1049, Vashon, WA 98070 (US).</p> <p>(72) Inventor: CONE, Don; 13440 Cool Lake Way, San Diego, CA 92128 (US).</p> <p>(74) Agents: PIRJO, Maurice, J. et al.; Seed and Berry L.L.P., 6300 Columbia Center, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 26 June 1997 (26.06.97)</p>			
<p>(54) Title: METHOD AND SYSTEM FOR DISPLAYING A GRAPHIC IMAGE OF A PERSON MODELING A GARMENT</p>				
<p>(57) Abstract</p> <p>In a preferred embodiment, the present invention provides a computer system for displaying clothing on a rendered image of a human body referred to as a virtual dressing room system ("VDRS"). The VDRS receives a series of contour lines defining the three-dimensional shape of the human body. A contour line is a series of points that defines the perimeter of the body in a horizontal plane. The VDRS also receives a sequence of points defining the two-dimensional shape of the clothing. The VDRS also scales the sequence of points defining the two-dimensional shape of the clothing to the approximate width of a portion of the human body over which the clothing is worn. For each point of the two-dimensional shape, the VDRS identifies a corresponding point on a contour line, and adjusts the point of the two-dimensional shape of the clothing to correspond to the identified point. The VDRS renders the shape of the human body on a display device, and renders the scaled and adjusted two-dimensional shape of the clothing on the display device to effect the display of the human body wearing the clothing.</p>				



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GA	Gabon			VN	Viet Nam

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 96/14620

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G06T17/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G06T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	VISUAL COMPUTER, 1990, WEST GERMANY, vol. 6, no. 2, ISSN 0178-2789, pages 53-61, XP000610788 HINDS B K ET AL: "Interactive garment design" see page 54, paragraph 2 see page 56, paragraph 4 ---	1,2, 7-11, 24-31
A	US 4 888 713 A (FALK EDWARD K) 19 December 1989 see column 2, line 47 - line 65 see column 4, line 57 - line 62; claim 1 ---	1,2,31
P,A	US 5 530 652 A (CROYLE GENE F ET AL) 25 June 1996 see column 1, line 60 - column 2, line 9; figure 2 --- -/--	1,2,31



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

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Date of the actual completion of the international search

2 December 1996

Date of mailing of the international search report

22.05.97

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PEREZ MOLINA, E

INTERNATIONAL SEARCH REPORT

International Application No
PCI/US 96/14620

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 885 844 A (CHUN JOONG H) 12 December 1989 see column 2, line 35 - line 58 ---	1,2,31
A	US 4 546 434 A (GIOELLO DEBBIE A) 8 October 1985 ---	
P,A	US 5 504 845 A (VECCHIONE MAURIZIO) 2 April 1996 ---	
A	US 4 539 585 A (SPACKOVA DANIELA S ET AL) 3 September 1985 ---	
A	EP 0 447 222 A (HEWLETT PACKARD CO) 18 September 1991 see page 3, line 13 - line 20 see page 5, line 46 - line 52 see page 10, line 1 - line 8 ---	7-11, 24-31
A	EP 0 454 129 A (HONEYWELL INC) 30 October 1991 see page 6, line 45 - page 7, line 6 ---	7-11, 24-31
A	US 5 333 245 A (VECCHIONE MAURIZIO) 26 July 1994 see column 2, line 3 - line 30 -----	1,2, 7-13, 24-31

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 96/ 14620

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see annexed sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-2, 7-13, 24-31

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 96/ 14620

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

1. Claims 1-2, 7-13,24-31: Method in a computer for displaying clothing on a rendered image of a human body.
2. Claims 3-6,14: Method for representing a surface af a 3-D object.
3. Claims 15-18: Method for generating a polygon mesh.
4. Claims 19-23: Method for representing movement of a graphics object.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 96/14620

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4888713 A	19-12-89	NONE	
US 5530652 A	25-06-96	CA 2162599 A EP 0713590 A WO 9504975 A	16-02-95 29-05-96 16-02-95
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US 4546434 A	08-10-85	EP 0205683 A	30-12-86
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EP 0447222 A	18-09-91	US 5224208 A JP 4222074 A	29-06-93 12-08-92
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