



Creating Pageant Apparel Using Industry Technology: A Graduate Course

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Introduction

Creating apparel for pageant contestants is part of the design and product development process. It is also unique due to the requirement of fit. Fit for pageant contestants is extremely important so that good body characteristics are enhanced and bad characteristics are hidden. The use of 3-D body scanning that is imported into a computer aided design (CAD) software system is essential in creating custom fit garments with desired fit. This allows for the creation of an avatar which is critical for providing and assessing adequate fit on screen (Apeagyie, 2010). Graduate students in a spring advanced apparel production course were challenged to produce three garments for the reigning a Mrs. "State" to compete in the Mrs. America pageant. A meeting was held to meet Mrs. "State" and determine what her preferences were for the garments to be produced. The garments consisted of a state pageant costume and two evening/cocktail garments. Discussions were held both in the classroom and with Mrs. "State" as to the style, length, fabrication and fit of each of the garments. At that time, Mrs. "State" was body scanned using the TC² NX-12 body scanner to determine accurate body measurements. The graduate students then created sketches and obtained swatches of potential fabrics for the garments. The graduate students and professor then traveled to a major metropolitan area to purchase fabrics. Mrs. "State" and her pageant director met the class to approve sketches, fabrics, linings and trim.

Method

To create the patterns, the graduate students were introduced to the Optitex PDS System with 3D modeling technology. The students were then trained on the system during the first 3 weeks of the class using their own laptop computers and a leased Optitex USB key. Once the graduate students were trained on the software, an avatar model for the pageant contestant was created within the program using the body scan taken for Mrs. "State". Each student developed patterns for one of the garments. The patterns were then "draped" on Mrs. "State's" avatar within the software program. One of the major advantages of using the 3D modeling software is fit was determined before garment muslins were ever created. This eliminated the need for continuous live fittings during pattern creation. This technology shortened the time it took to create samples, determine fit and create final patterns. Fit was determined prior to creating samples so

less time is spent on re-creating samples. Once the fit was accepted in 3D modeling, patterns were plotted in 2-D using a Graphtec CE5000 plotter.

The graduate students then headed to the production lab where they produced the sample muslin garments. Once the samples were ready, a fitting was scheduled with Mrs. "State". Small adjustments were made at the fitting. The garments were produced in the final fabrications and delivered to Mrs. "State" to be worn during competition week for Mrs. America.

Future Collaborations

The apparel program is currently in negotiations to produce up to three garments each year for the reigning Mrs. "State" to compete in the Mrs. America pageant. The advantage of using the Optitex 3D modeling software is the client does not need to be in the same location as the designers/producers. Once the body scan is taken and an avatar is created using the contestant's body measurements, all the fitting takes place on the avatar until the garment samples are produced. Future directions for the apparel graduate program is to obtain a new portable body scanner that will allow body measurement data to be collected offsite for the convenience of the contestant/client.

Apeageyi, P.R. (2010). Application of 3D body scanning technology to human measurement for clothing fit. *International Journal of Digital Content Technology and its Applications*, 4 (7), 58-68.