



Engineering Art Nouveau

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Keywords: New technologies, Textile innovation, Sustainability

Women Size 6: Bust (34.5”), Waist (25.5”), Hip (36”)

Contextual Review and Concept: Digital technologies such as CAD patternmaking and digital printing allow apparel designers to develop new and creative designs (Parsons & Campbell, 2004). Further, digital tools enable textile designers to create an engineered print that can be merged with digitally-fitted garments. (Bowles & Issac, 2009), and an engineered print is tailored to fit the pattern pieces of a garment in a way that the design flows unbroken around the body. Thus, the purpose of this design is to virtually engineer digital textile prints and laser cut patterns to explore innovative design methods and create a complex dress: both laser cutting and digital printing explore various ways to replicate the stained leaded glass effects.

Aesthetic Properties and Visual Impact: The source of design inspiration of this design is Tiffany lamps, which is stained leaded glass lamps originally designed by Louis Comfort Tiffany (Frelinghuysen, Cooney, & Obniski, 2007): these lamps are considered part of the Art Nouveau movement. The A-line dress replicates a shape of a lamp, and the designer explored digital print patterns with different hues and saturations for the effects of lights that come out of the lamp. Cotton sateen was chosen as a main fabric since reactive dyes are particularly suited to cotton. As shown in the side view of the dress, two black tassels, made of cotton threads, are also attached to the side of the seam line.

Process, Technique, and Execution: The design and construction process for the dress include: 1) creating the garment pattern pieces through traditional patternmaking method, 2) manually sketch laser cut patterns of the Tiffany lamp on top of the pattern pieces, 3) digitizing the pattern pieces into Opti-Tex PDS garment pattern making software, 4) creating engineered textile prints in Adobe Photoshop for the digitized pattern pieces of the dress, 5) designing the engineered prints for laser-cut in Adobe Illustrator for the laser cut over dress, 6) merging the Opti-tex patterns with both patterns to engineer the layout of the patterns, 7) printing the dress fabric TX2-1600 printer on the 100% cotton sateen, 8) laser cut leather on Trotec Laser Cutter, and 9) constructing the garment.

Cohesion/ Design Contribution and Innovation: This design process of integrating various technologies give new insights to design students in an educational setting. These designs can contribute to a new way of integrating laser-cutting methods with textiles and demonstrate the critical thinking skills necessary to transform a 2 dimensional design (e.g., flat garment patterns, repeat patterns, engineered patterns) to 3 dimensional dresses. Therefore, designers can also take

opportunistic advantage of emerging technologies that give them access to new solutions and aid the productivity of the design process.

References

- Bowles, M., & Issac, C. (2009). *Digital Textile Design*. Lauren King: London.
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- Parsons, J. L., & Campbell, J. R. (2004). Digital apparel design process: Placing a new technology into a framework for the creative design process. *Clothing and Textiles Research Journal*, 22(1/2), 88-98.

(Image Size: 3.5" x 5")



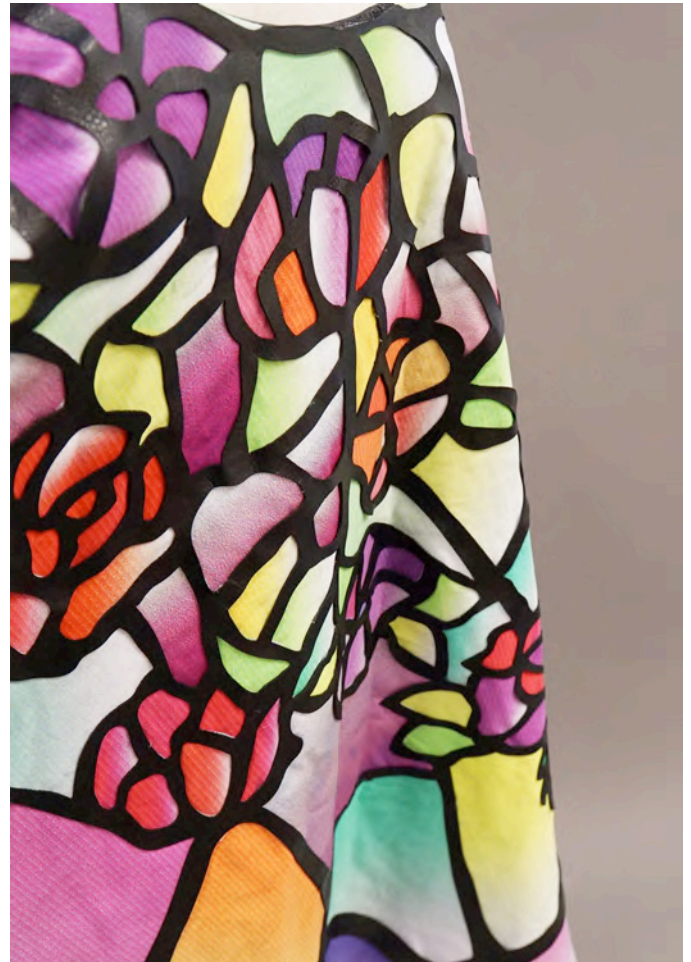
Front View



Back View



Side View



Detail