

## Fire Blossoms

Anna Perry, Colorado State University

*Key words:* New technologies, textile innovation, couture techniques,

### Measurements

Bust = 34.5 inches, waist = 25.5 inches, hip = 35.5 inches, length = 76 inches.

### Design statement

#### *Contextual review and concept.*

Previous literature suggests that technologies have revolutionary impacts on designs (Wong, Teo, & Russo, 2012). In the apparel design field, new technology forces designers to alter design methods and thus potentially generate new designs (Parsons & Campbell, 2005). Fashion designers are inspired by architecture and sculpture's three-dimensional structure and therefore create dramatic three dimensional effects (Hodge & Mears, 2006; Rissanen, 2007). However, very few designs have combined the above two aspects together to create designs. Therefore, the purposes of the current design were to incorporate the latest high technologies into a three-dimensional shape to generate cohesive art-wear.

#### *Process, technique, and execution.*

Sketches and ideas were created and one was chosen to be made. The top, from neck to waistline, was covered with various sizes of solid red color leaves. A total of sixteen sizes of leaves, from 3cm to 12.5cm and each size increased by 0.5 or 1cm were cut by laser cutter. Each leaf was folded in the middle and then machine stitched with a flexible wire inside. The wire supported and changed the opened leaf's shape and curved direction.

The A-line shape skirt was made by four layers of laser-cut patterns. Different patterns of laser-cut fabric overlap each other, creating rich levels of repetition. The patterns are a painting created by the designer: two ducks are swimming in a pond, fish are jumping around, willows and water plants are crossing over, and a butterfly is flying over the pond. The designer transferred the painting into an illustration file and then used a laser cutter to cut the fabric into the design.

The bottom of the dress was constructed by of 4 sizes of layered 3D leaves: 5, 7, 9, and 12 inches. The leaves were not solid fabric but were of a hollow texture which was created by the laser cutter. To achieve the desired round 3D shaped leaves, all laser-cut leaves were dipped in fabric stiffener and then molded on paper models. To create rich levels of 3D-leaf shape, the same size of four leaves were slightly off overlapped with each other and then constructed together. For example, there were 16 3D-leaf shapes in the 12 inches size. Each 3D-leaf shape

actually contained 4 same size leaves slightly overlapped with each other. Therefore, there were a total of 64 3D-leave shapes in 12 inches on the dress bottom.

The focus point of the current design was rich-layer-leaf shapes around the waist. A wired pannier, which was covered by transparent fabric, supported the rich-layer-leaf shapes around the waist. Each shape contained 7 sizes of leaves: 16, 12, 9, 7, 5, 4, and 3 inches. Similarly, each size included 4 layers of slightly off overlapped leaves. Therefore, one rich-layer-leaf shape included 28 leaves. To create the rich-layer overlap effects, the current design required 35 yards of a red polyester fabric and four yards of a transparent polyester fabric.

#### ***Aesthetic properties and visual impact.***

To achieve balance and unity, the dress were combined together on a dress form. Details and proportion were slightly adjusted. This symmetrical garment balanced left and right and emphasized the waist part. A contrast effect was created by the solid fabric and the transparent fabric. Hundreds of leaves with various shapes were placed on the dress, creating a rich layers repetition and rhythm pattern. Visually, this design created an overall harmonic effect.

#### ***Cohesion.***

In summary, with the design techniques and skills, the current design integrated laser cutting technology to create a geometric shape and aesthetic pleasant cohesive art-wear.

#### ***Design contribution and innovation.***

This design refined what is known: laser cutting technology and three dimensional effects of apparel design. This design contributed to a new original and innovative way to use laser cutting technology and 3D effect. The design was significantly different from the existing design domain in creating a rich-layer laser cutting effect.

#### Reference

- Hodge, B., & Mears, P. (2006). *Skin + Bones: Parallel Practices in Fashion and Architecture* by Brooke Hodge. London: Thames & Hudson.
- Parsons, J. L., & Campbell, J. R. (2005). 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.
- Rissanen, T. (2007). Types of fashion design and patternmaking practice. *Nordic Design Research - Design Inquiries*, 7, 1-6.
- Wong, K-T., Teo, T., & Russo, S. (2012). Influence of gender and computer teaching efficacy on computer acceptance among Malaysian student teachers: An extended technology acceptance model. *Australasian Journal of Educational Technology*, 28(7), 1190-1207.

