

Transformable Blossom

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A transformable garment is a type of clothing that can be changed into multiple looks and functions based on consumer's needs and wants. Strategies and techniques to transform garments seek to increase efficiency and allow the consumer to have more possibilities with a single piece of clothing (Fletcher & Grose, 2012). According to Koo, Dunne, and Bye (2013), the four types of transformable clothing include reversible and folded styles, modular pieces, smart clothing, and do-it-yourself pieces - of which, modular pieces "feature small components that can be worn independently, detached, or replaced with other components, thereby creating an infinite number of combinations (p. 11)."

As a concept, modular design has been explored by textile and apparel designers. Fashion label, The Post-Couture Collective, launched in 2015 by designer Martijn van Strien, allows consumers to download modular pieces and self-assemble clothing designs without the need of sewing machines (Tucker, 2015). Modular design could also transform and create personalized designs by consumers. Researcher Eunsuk Hur explored this design method by creating several textile pieces that can be rearranged to transform one item to various other hybrid designs including hats, dresses, bags, scarves and interior accessories (Hur, Cassidy, & Thomas, 2013).

While designers can use the modular concept to create original garments, some customers with low levels of skill may find it difficult to rearrange a whole garment that was made from many modular pieces into a different design. This would suggest that a modular garment must also accommodate all levels of consumer skill (Fletcher & Grose, 2012). Previous studies have explored the use of modular pieces to create wearable art by utilizing different fabrics and techniques (XXX, 2018). The primary focus for this project was to create a modular garment which could be easily constructed by consumers of all skill levels. The design concept therefore is to specifically design for a wider market and appeal to a broad spectrum of customers. This design process is a continuation of a study on the use of modular concepts in apparel design exploring the potential of ready-to-wear modular garments for women. The researcher combined the concept of modularity with a simple sheath dress to create this design. The primary aim was to create a transformable garment for a special event, as well as create the foundation for an easily adaptable garment for other occasions.

As a proof of concept, one customer was interviewed and based on the subject's cultural background and the nature of the event, the researcher used inspiration from the art of Chinese paper cutting, traditionally used to transfer patterns on walls or windows for decorative purposes during special events and often cut from red paper. The common motifs in Chinese paper cutting

art includes flowers and animals (Melichson, 2009). The purpose of this exploration was to explore a ready-to-wear garment by integrating the concept of modularity and cultural inspiration that can be transformable. The challenge of this design therefore was to create modular pieces that cannot only be combined to form a basic sheath dress but can also be assembled and disassembled by the customer to create different looks for other occasions.

To begin the process, one modular shape was developed, inspired by a Chinese paper cutting flower on Adobe Illustrator. A flower shape was created representing the outline of a flower and cut outs were added to accomplish the modularity required. These cut outs were also inspired by the paper cutting techniques. One set of slots on each of the petals of the module were carefully positioned for interlocking purposes based on previous studies. However, after laser cutting the modular shape on red sportswear fabric, a Poly Rayon Spandex Twill, the modules were not able to be held together stably. This initial test as demonstrated in Figure 1, failed to interlock together due to the softness and stretchiness of the fabric. After several explorations with the fabric and laser cutter, the researcher modified the slot position and created three interlocking slots on each of the flower petals to increase stability of the modular component (Figure 2).

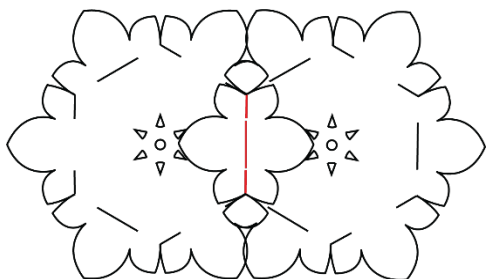


Figure 1. Initial module design.

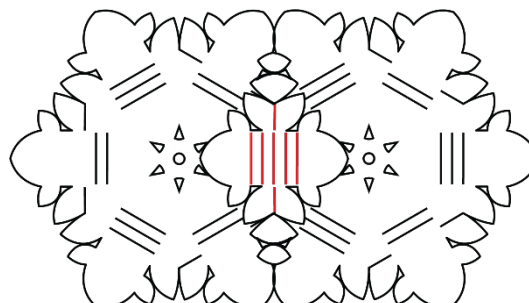


Figure 2. Modified module design.

Next, the researcher drafted the patterns for the sheath dress on Optitex. When drafting the dress patterns, the researcher transferred all darts on the bodice from the basic sloper pattern into seams so that the edges could be developed into flower petals for joining the flower modular pieces. A yoke was created on the skirt. All hems of each pattern pieces were modified to conform to the flower module. Figure 3 demonstrates the finished front skirt patterns for the laser cutter file. After cutting all pieces out on the same red sportswear fabric with a laser cutter, the pieces were sewn by overlapping the seams together allowing for each of the seams to be used to add flower modules if desired. Side pockets were added and a shell fabric was used for the lining. An invisible zipper was used on the center back of the dress for closure.

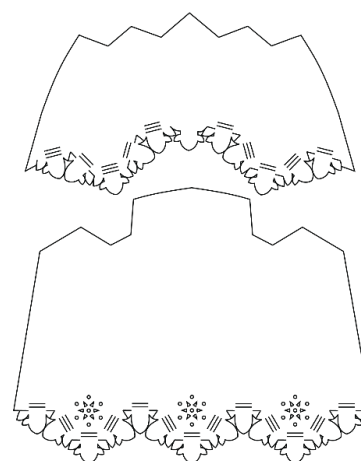


Figure 3. Front skirt pattern.

The modular concept allows a consumer to create endless possibilities for her dress. The dress can be worn as a simple sheath dress or transformed to be different looks by attaching the modular shapes provided, such as adding flared sleeves or lengthen the skirt on the hem. The modular shapes could also be added on the bust seam, waist seam, and yoke seam on the front and the back of the dress to achieve different looks. Unlike traditional textile designs, there is no sewing involved in this transformation. With a sheath dress as the base of the design, this transformable dress could be easily accepted by a wide range of consumers at all skill levels. Additionally, by providing customers more options with one single garment, this transformable design has the potential to be sustainable by extending the garment's life span and therefore minimizing the waste of clothing. Future studies will include the exploration of different modular designs for other markets to increase versatility and sustainability.

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