Flowers on a Pond

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Abstract
A solar powered LED dress with two lighting models is presented in the following section.

Introduction
Concept:
The original idea of this light-up design came from the safety consideration of walking during the night. For example, due to darkness, cars hit walking people.

Motivation:
Combine technology into apparel design. Use technology to improve people's life.

Intended audience:
This design is designed for young females who are aged from 16-30. It is a fun design for daywear or for a party.

End –use:
This solar powered apparel design can be used in different types of ready-to-wear. For example, it can be used as a decorative effect for a child's dress, adolescent dress, or a young lady's dress. It can be designed as an evening dress. It also can be used as fiber art to decorate a home. Although the major purpose of this design is decoration, it can be used in a

functional way too: remind car drivers that people are walking on the road.

Technological functionality:
Solar power panel, LED, light sensor, On/Off switch. Fabric: 100% recycled white and rose red polyester (top), 30% polyester and 30% cotton white fabric (skirt). During the day, the solar power panel collects energy. During the night, the LEDs will turn on. There are two models of the LED: flashing lights or continuous lights.

Execution:
SKIRT:
The skirt is a single piece circle without any darts and seam lines (Figure 1). The diameter of this circle is 53 inches. Originally, the designer wanted to use a laser cutter machine to make paper cutting effects. However, the bed of the laser cutter machine was not big enough for such a big circle. Therefore, the designer cut this skirt by hand. The pattern of this skirt is a drawing from the designer: a young lady wears leaves and flowers in a pond. Two birds (symbolic meaning of love forever) are on her left side. Fish, butterflies, and water are around her. A Chinese character, 福 ('happiness'), is also cut into this dress. A black pannier is under the skirt to support the volume of the skirt when a person wears it (Figure 5 and Figure 6).

Figure 1: Skirt

TOP:
The top is a square without any darts and seam lines either (Figure 2, 3, and 4). The side length of the square is 14 inches. 50 LEDs with 50 plastic crystals were sown on the top. The LED lights are solar powered. Once the surrounding environment becomes dark, the light sensor will turn on the LEDs.

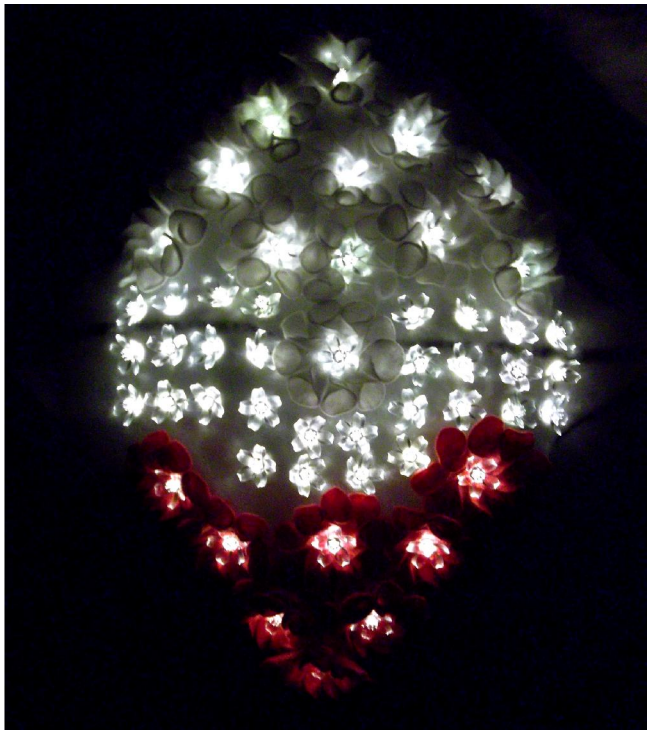

Figure 2: Top with lights turned off (left top)

Figure 3: Top with lights turned on in a bright place (left bottom)

Figure 4: Top with the lights turned on in a dark place (right top)

Figure 5: Front- lights turned on in bright place

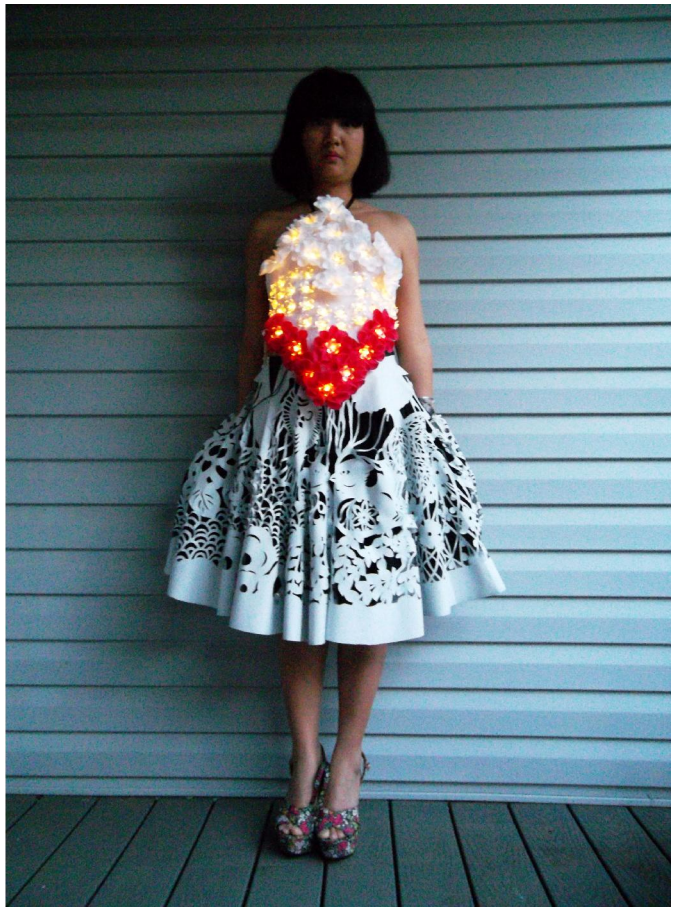

Figure 6: Front- lights turn on in a little bit dark place

Overall: The best effect of this design is a 2-D display. However, this design is also wearable (Figure 5 and 6).