



Fusion of Culture and Technology

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Bust: 35", Waist: 26.5", Hip: 36"

Cross-cultural communication refers to how people with different cultures and background communicate with each other. In designing Fusion of Culture and Technology, I applied a cross-cultural communication perspective (Gudykunst, 2003) to integrate an element from Persian culture within the western silhouette. The research objective of creating this design was to incorporate three different technologies (laser cutting and engraving, digital printing and pattern digitizing) to create a garment using the cross-cultural communication concept.

The traditional colorful and geometric patterns of Persian tiles belonging historical buildings and mosques were the source of inspiration of this garment. Since ancient times, tile-work has been extensively used as a decorative element in Persian architecture. "In the Islamic period of Persia tiles lavishly decorated the interior and exterior walls of religious buildings, imperial palaces, and residence of dignitaries" (Carboni & Masuya, 1993, p. 2). Various shapes such as eight-pointed star, six-pointed-star, cross-shaped tiles, and hexagonal tiles block repeated to form dados inside buildings. In the current piece, the eight-pointed stars were designed and developed in Adobe Illustrator for laser cutting and digital printing.

The design and construction process of Hwang (2016) was studied to format a method for incorporating emerging technologies into the apparel design process. The garment was first draped on a size 8 dressform. The patterns were directly digitized into Optitex PDS and then exported to Illustrator. Then the tile pattern was placed on the digitized pattern piece with ¼ of an inch away from the sewing line. The Universal Laser Systems (ULS) X-660 machine was used to laser etch and laser cut the 100% cotton denim cotton fabric. There were two reasons behind choosing 100% cotton denim fabric: (a) to create a two-color effect by engraving and etching;(b) Using ULS X-660 machine required fabrics with natural fibers. The power of the laser-cut was adjusted differently for rasterizing and cutting. For cutting purpose, the power of the laser-cut was adjusted high enough to fuse the cutting edges and prevent them from fraying and raveling. For etching purpose, the power was adjusted lower than cutting, in order to remove and burn the indigo color from the cotton denim to create a two-color effect. The settings were tested on a 8" by 8" denim sample to make sure that the power for engraving was not too high. After adjusting all the required setting for the laser cutter, the pattern was cut and engraved on the center front panel of the dress, which took about an hour.

Next stage was to prepare the tile pattern for digital textile printing. The same pattern of the tile was colored with vibrant and warm colors using Adobe Illustrator. The print was then digitally printed by Spoonflower.com on the 100% cotton fabric, which was used as the lining of

the skirt with unbalanced hem. Finally, the bodice was lined with golden yellow polyester to create a three-color effect at the top to be coherent with the three-color effect of the digital print of the lining.

The technology-based integration of Persian tile element within a western silhouette led to an innovative garment that provided insights regarding the implication of cross-cultural communication in fashion design.

References:

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- Gudykunst, W. B. (2003). *Cross-cultural and intercultural communication*. Thousand Oaks: Sage Publications.
- Hwang, C. (2016). Stokes of a Garden Gate. *International Textile and Apparel Association (ITAA) Annual Conference Proceedings*. 65.



Front View



Back View



Side View



Front detail & lining detail