



Euclidean Sunrise

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The purpose of this design is twofold. First, the designer wanted to create a woven fabric surface inspired by the floral pattern created when eight tangentially connected circles are symmetrically intersected. Second, the designer wanted to create an engineered digital textile print with a hand weaving technique. Several other designs have been created by the designer using hand weaving techniques previously, but this is the first time that the designer developed engineered garment patterns with a digitally textile pattern designed from a software rendered pre-visualization.

First, the jacket and skirt patterns were developed using flat pattern and draping methods. Second, those patterns were digitized to develop an engineered textile pattern using Adobe Illustrator (Chapman & Istook, 2002). Two sets of textile patterns were developed for each jacket and skirt pattern. One textile pattern with ½” width stripes was created for weft strips and the other textile pattern with ½” width stripes was created for warp strips. These two set of textile patterns for both jacket and skirt were created in Adobe Illustrator and Photoshop and then printed on 100% cotton chambray. To minimize fabric edge raveling, each of the pattern pieces were designed and printed on a bias grain line. Each 1/2” strip was then hand-cut and woven together to match the original weft and warp engineered patterns that were created in Photoshop for both the jacket and skirt designs. The original textile patterns was composed of four tangentially connected circles filled with a yellow-orange to black color gradient and then arranged in a North, South, East and West orientation. The weft circle patterns were then rotated, in software, 45 degrees off of the North / South orientation, and then woven together, a new flower like pattern emerged from eight-fold symmetry displayed from the woven intersecting the circles.

This is design is a unique and original composition using both engineered digital textile printing and hand weaving techniques to create an elegant two piece outfit that is inspired by the Euclidean Geometry.

References:

Chapman, L. P., & Istook, C. (2002). Virtual designing in 3D for textile printing. *IS&T's NIP18:2002 International Conference on Digital Printing Technologies*, San Diego, CA. p.249-252.

