

DATS Delivers

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DATS Delivers is a wearable art garment created to exemplify DATS (Digital Apparel Textile Studio) at Iowa State University. The garment integrates all the steps and technology needed to digitally print textiles with the Mimaki TX2-1600 digital textile printer. DATS Delivers integrates a new approach of teaching the digital textile printing process.

The process started with draping 8 sweetheart neckline strapless pieces, 3 paneled, half-circle, skirt pieces, 4 extruding bust pieces, and 44 geometric shaped panel pieces. The 44 panel pieces were created in 3 different sizes with the intentions to be inserted into the 3 different panels of the underskirt. Using Optitex PDS Digitizing table, all pattern pieces were digitized into Optitex PDS 11 software. Once in Optitex software, pattern pieces were tried to ensure each corresponding seam was the same length and they lined up accordingly when sewn together. Once opened in Adobe Illustrator CS6 the image was reduced to half scale for ease of use in the program and each piece was saved individually. From Adobe Illustrator CS6 the files were transferred to Adobe Photoshop CS6 to start the textile print design process.



The textile print patterns were created numerous ways. The purposes of the chosen patterns were to exemplify the printing and sewing process. A photograph of lava in rock formation under a microscope was taken and this pattern is the pattern that was used for the bodice and underskirt pieces. The lava created a bright colorful pattern incorporating all of the primary colors. The print was engineered and strategically placed on the bodice and skirt pieces so that it seamlessly lined up at each seam, creating a seamless print that flows around the entire garment. The extruding panels out of the bust was also engineered and printed with the lava in rock form pattern. The panel pieces consist of 16 different print patterns and 8 gradient patterns. All patterns are original patterns created in Adobe Photoshop CS6. A red, blue, green, purple, and blue gradient print was created and using the filter tool each gradient incorporated a different textured pattern. The 16 print patterns were created numerous ways.

The first and third layer of skirt panels incorporate the same print patterns. There is a thread pattern which was created in Adobe Photoshop where the colors of the thread clip art were changed and

placed into a repeat pattern. This print was used on the first and third layers of panels and in two different scaled. A paint-splattered pattern was created using different brush tools and different colors. A photograph was taken of the Mimaki TX2-1600 user manual and imported into Adobe Photoshop where the colors were altered and it was strategically placed in a set pattern. Using photographs of buttons, a button pattern mimicking a stripe pattern was created. The sewing machine pattern uses multiple pictures of sewing machines showing the evolution of the machines over time. The last print created was with images of different scaled mannequins, altering the colors, and creating a repeat design. The middle layer of panels was created to offset the intricate detail of the top and bottom panel layers. All of these prints incorporated the lava in rock form photograph and then using the clipping mask was combined with abstract patterns. A photograph of the end of the metal core from the labs DigiFab fabric steam was taken and meshed with the lava in rock form photograph creating an interesting eye catching design. Using a honeycomb photo effect filter, swirl filter, and displaced filter; the lava in rock photograph was combined creating the other prints. All of the pattern prints were directly placed on the appropriate pattern piece in Adobe Photoshop CS6 and a marker was created. The lining of panel piece is the lava in rock form pattern, using the same pattern on all 44-panel pieces.

From there, Wasatch software was used to upload the textile print and printed on a Mimaki TX2-1600 textile printer. The bodice, skirt, and panels were all printed on 52" wide cotton canvas. The lining panel pieces were printed on cotton canvas. The chosen fabrics were already PFP (prepared-for-printing) to work with reactive inks loaded in the textile printer. Once printing of fabric was complete, the paper backing was removed and fabric was rolled on a coil to steam on the DigiFab fabric steamer. At the completion of steaming, the fabric was washed, and dried. The pieces were cut from the fabric and sewn together. The panel pieces were sewn to the lining panel pieces and inserted into the half-circle skirt panels. The extruding bodice pieces were lined with 3 layers of thick interfacing and inserted in the princess bodice seam. An invisible zipper was inserted in the back and the garment was fully lined.

To take the design process one step further, surface design was then added to the design. On the button panel pieces, buttons of the matching colors were stitched directly on top of the corresponding button. Blue and purple rhinestones were glued on the mannequin panel pieces to add a bit of sparkle and depth. Machine embroidery stitches were stitched around the edges of the sewing machine panel pieces to exemplify the many uses of the sewing machine. Blue, red, and purple glitter fabric paint was used to paint on the paint-splattered panel piece to create a more realistic effect. Throughout the garment, buttons shaped as scissors, garment pattern pieces, and rulers were randomly sewn on to top off the entire design process. DATS delivers incorporates everything from photography and textile design, to digital textile printing and surface design exemplifying the entire design process in one garment.

