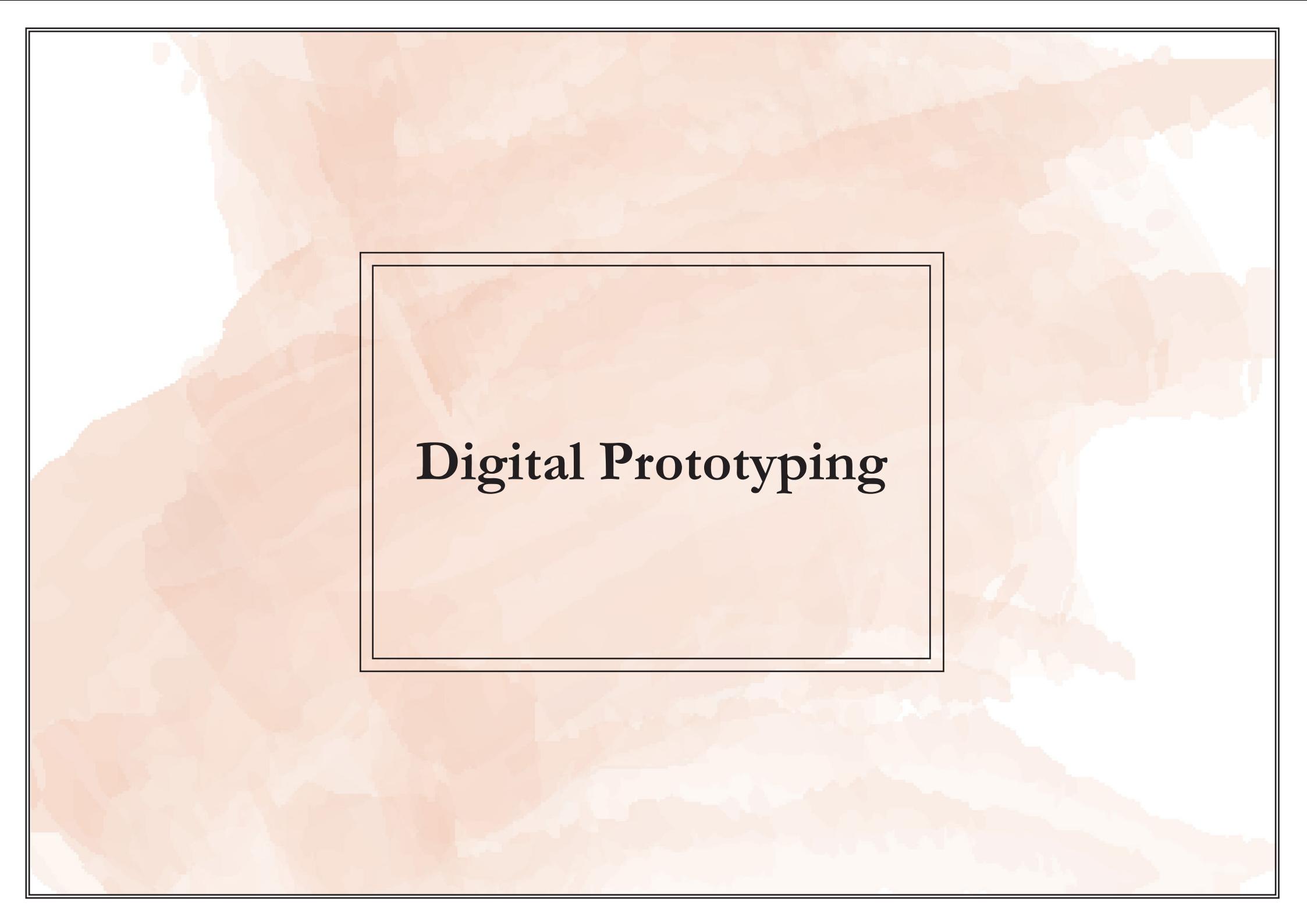


ADITI GALADA

Design Portfolio

2021



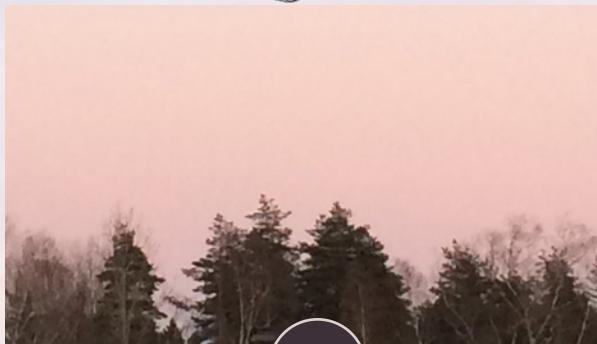
Digital Prototyping



HABITAT

CLOTHES TO LIVE IN

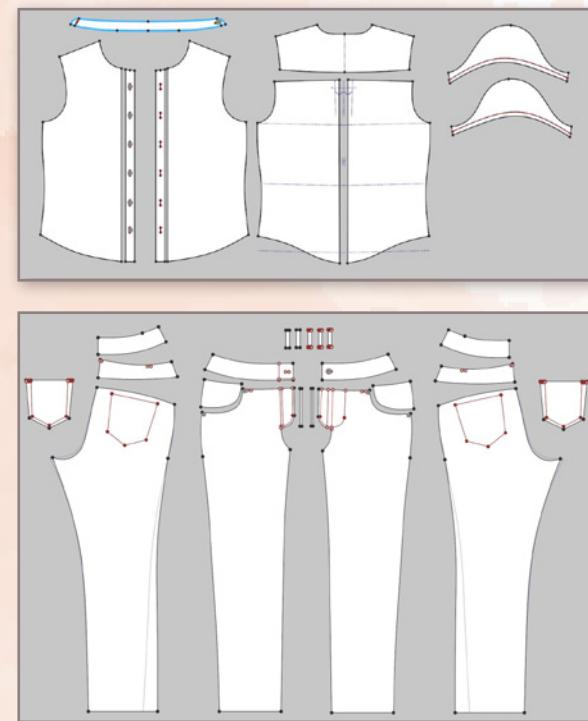
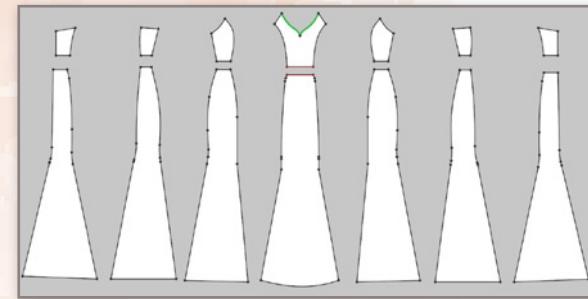
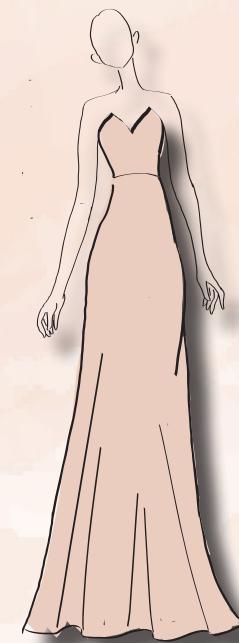
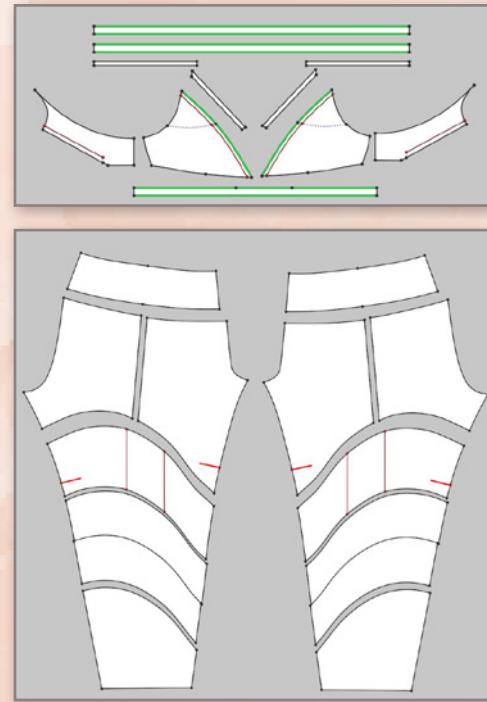
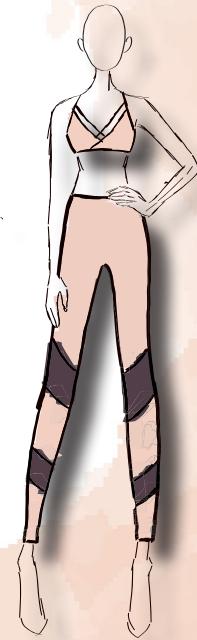
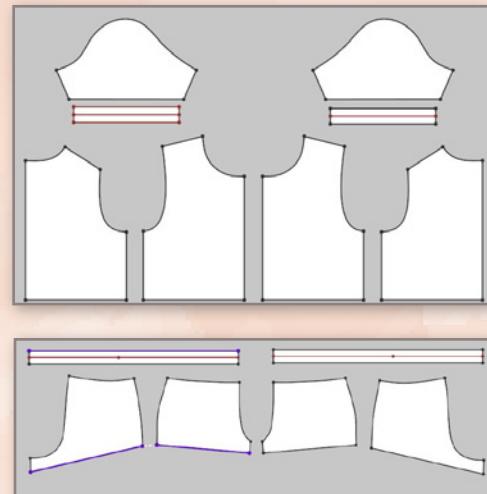
The collection supports the diverse roles a woman must play to succeed in various facets of life. Shades of peach represent the romantic side and shades of lavender represent grace, and luxury. Bold silhouettes make the ultimate juxtapose between power and elegance empowering the wearer to deal with everyday challenges.

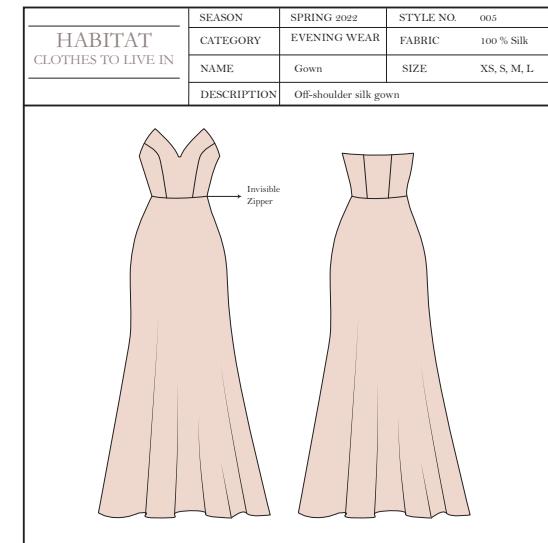
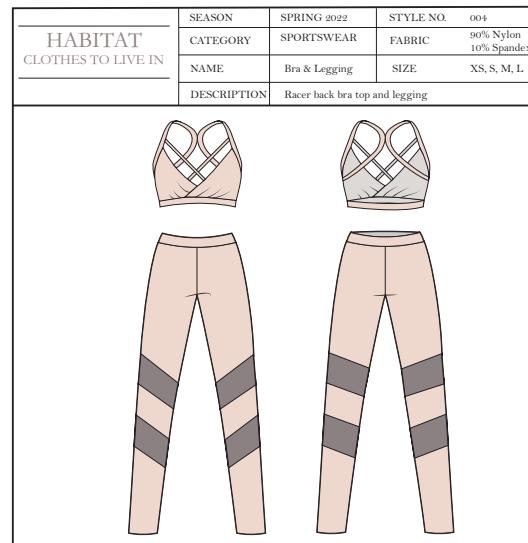
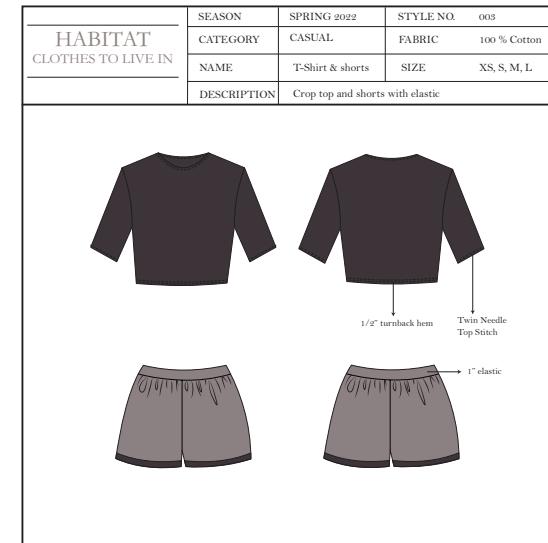
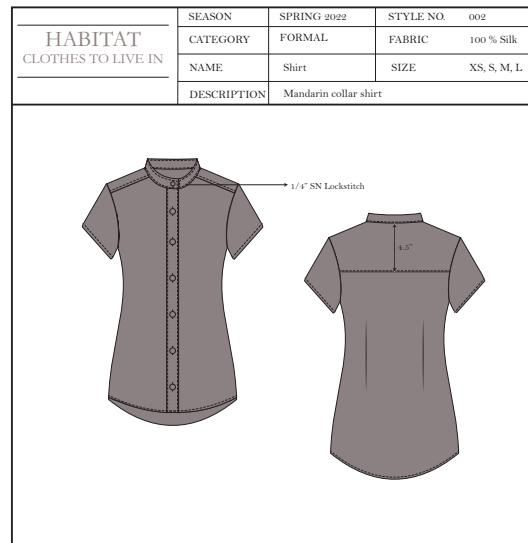
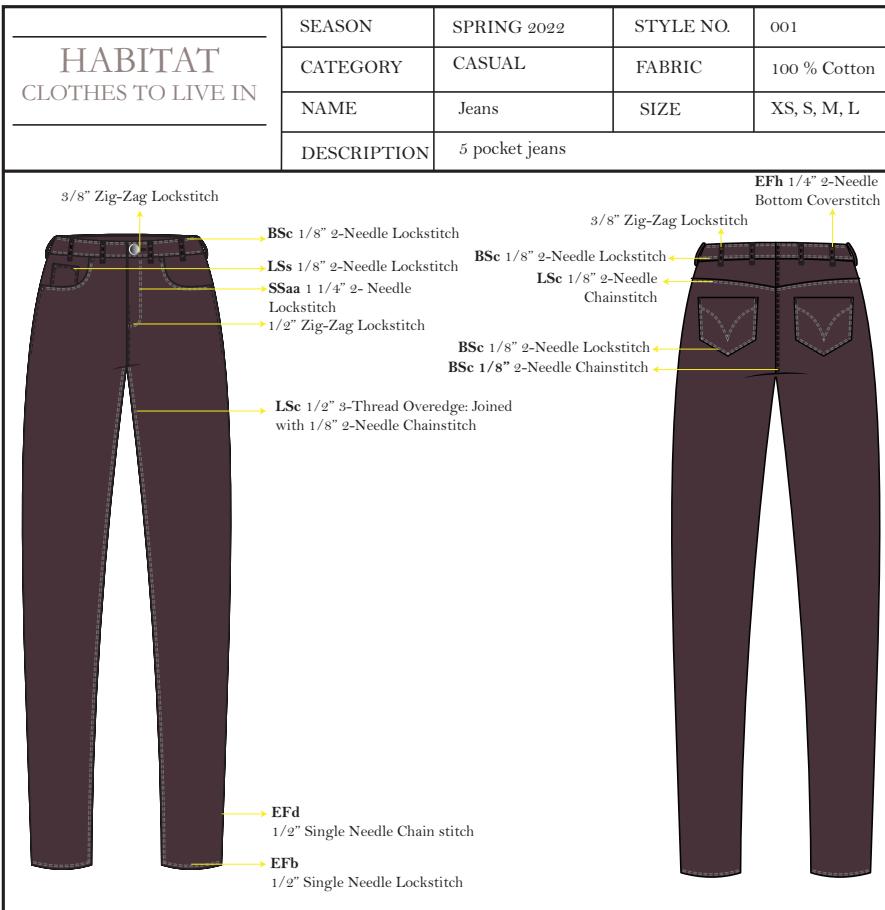


LAVENDAR

LAVENDAR





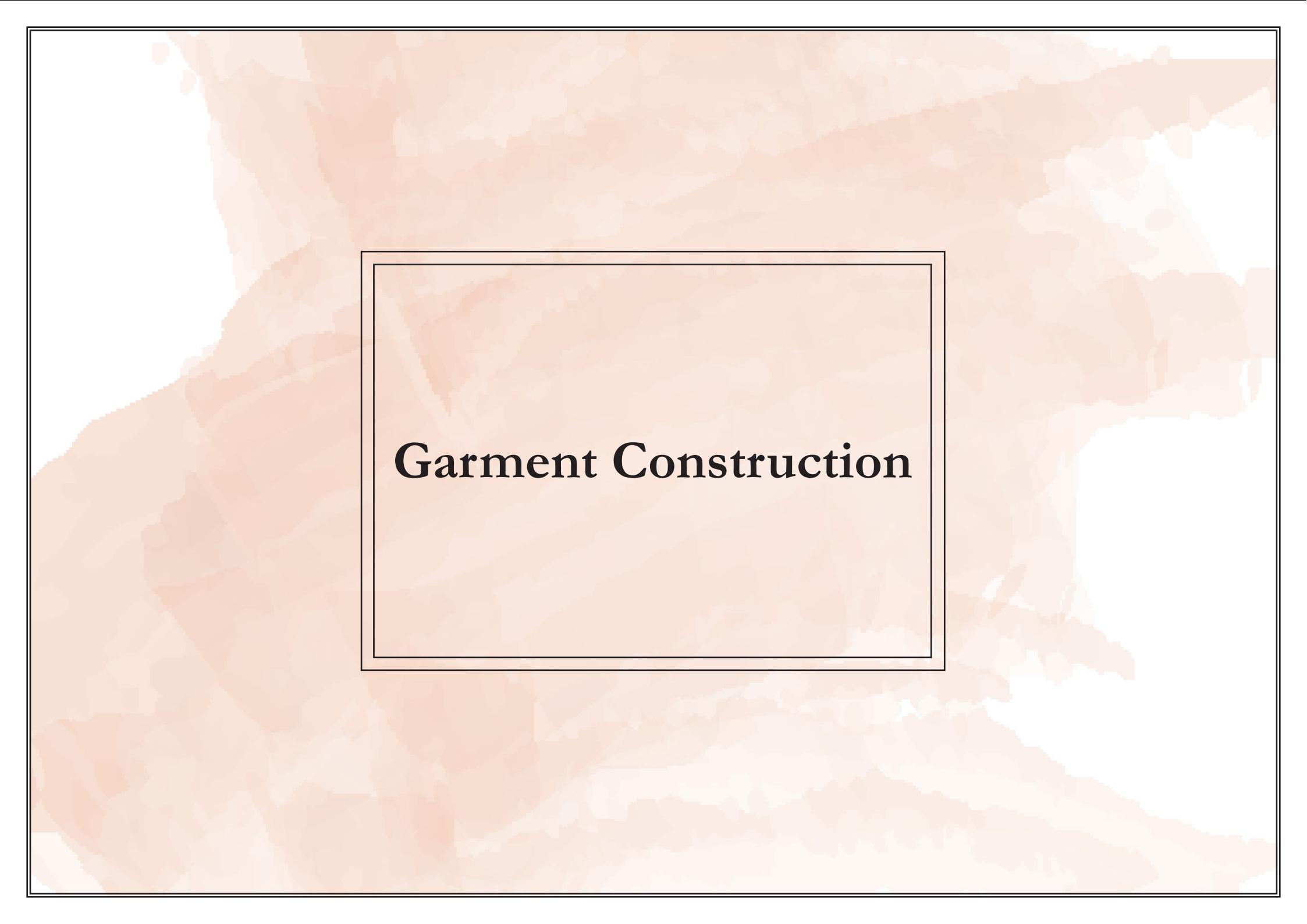






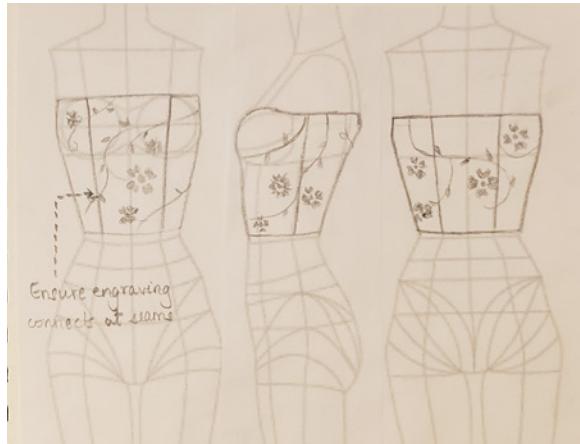
Transformational Reconstruction



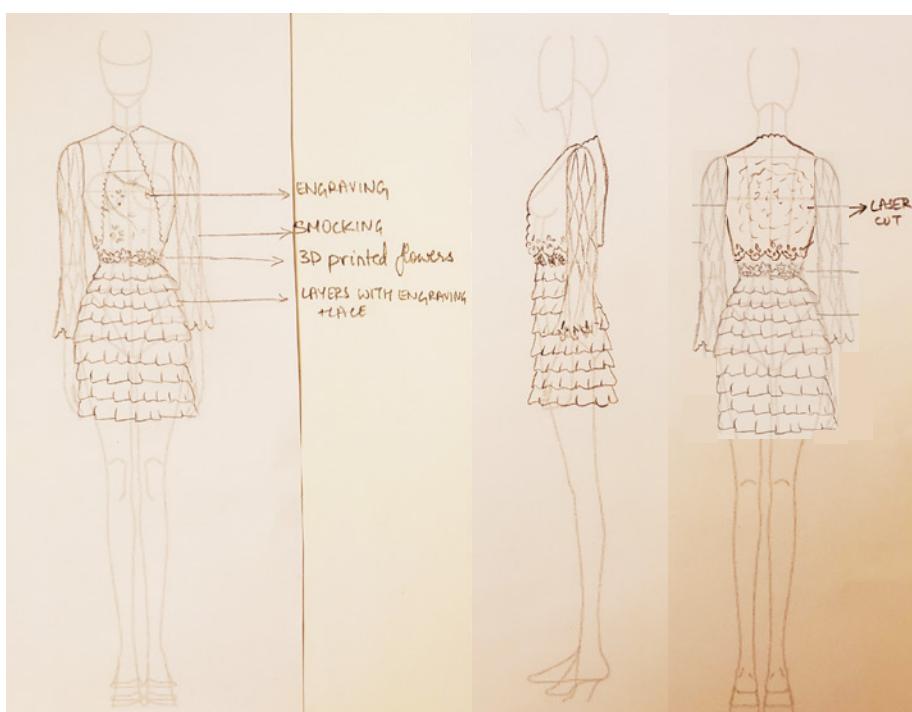


Garment Construction

Sakura



A romantic look was achieved through the hourglass silhouette which has known to be a charm for generations. The shades of pink relate to joyfulness and the dark shade of purple is associated with power. The engravings on the dress are inspired by cherry blossoms which signify beauty and mortality. They carry great importance in the Japanese culture and are called "Sakura" in Japanese. The smocking and motif on the jacket are inspired by the tree of life which signifies strength and growth in Buddhism.

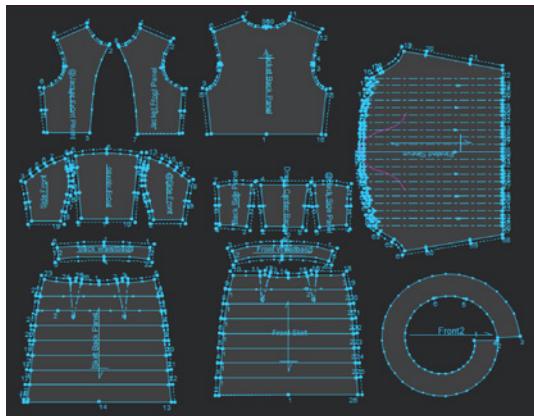


Sakura

A combination of handwork and new technologies are used to create the outfit. To create the garment, first, patterns were developed, designs for textures were made, laser cutting and engraving were done, panels were sewn together and the 3D printed flowers were attached to the waistband.

- Utilized 2D/3D software programs (Adobe Photoshop, Adobe Illustrator, Optitex PDS and Clo3D) to visualize and improve the design
- Experimented with novel production methods (3D printing, laser cutting & engraving and sonabond ultrasonic fusing)

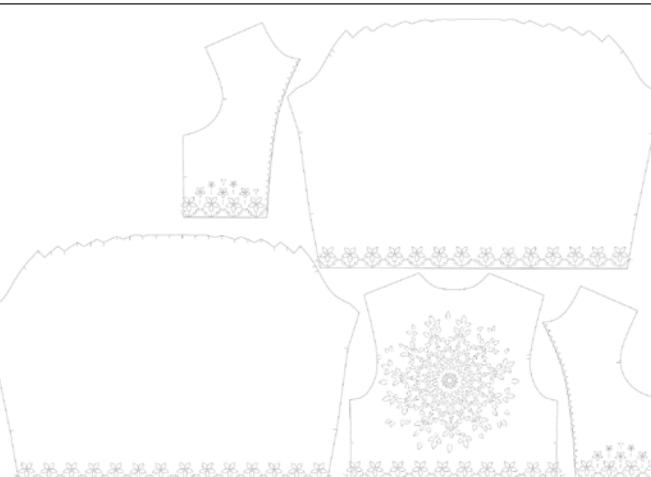
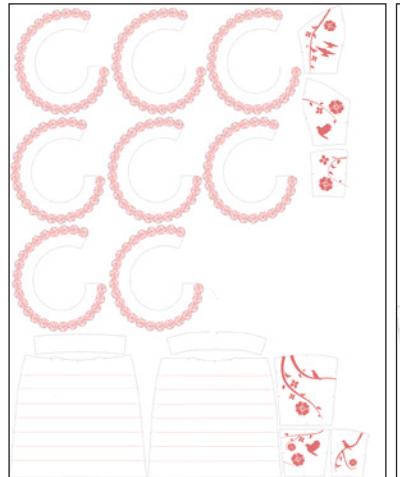
Pattern Making



3D printing File

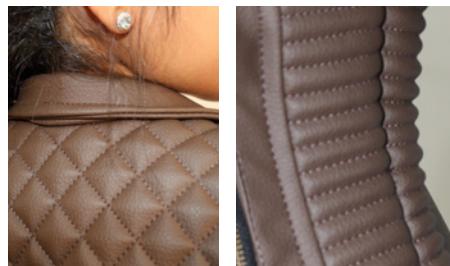


Laser Cutting File



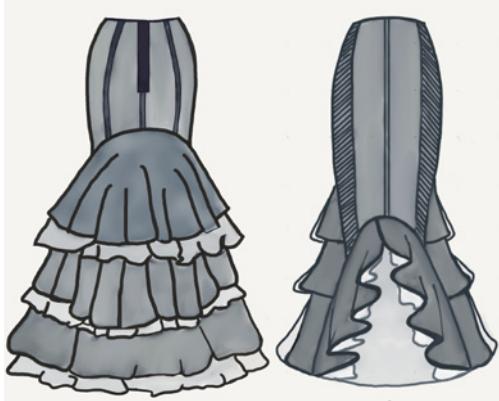
NonViolent Overlay

Clad in this satin lined quilted faux leather jacket, you have powers beyond ordinary. The power to woo every man, power to make others bow in your subservience and power to rule the world!



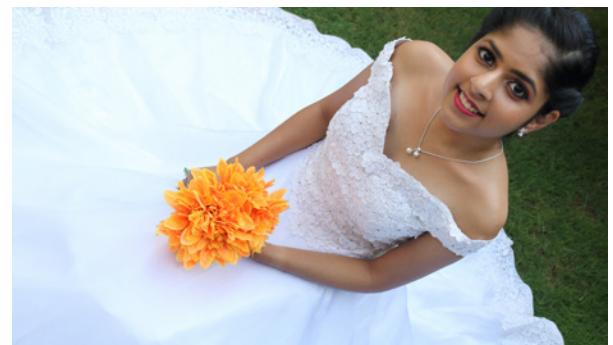
Forever New Or Retro?

The iconic dove tail ruffled skirt gives the wearer a casual chic look. The layered flounces with polka dots & delicate tulle and tantalizing pin tucks on the side panel unveil a playful femininity.



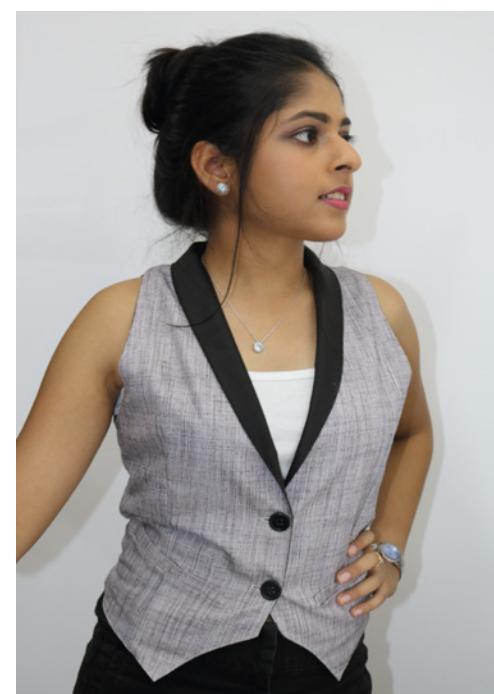
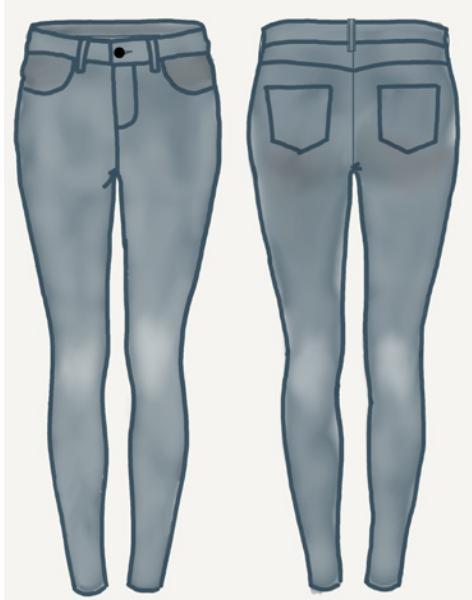
Classic Fairytale

While symbolizing the journey from impediment to liberty the plush and comfy ball gown utilizes floral appliques and elegant fabrics to give a sense of depth and dimension which is sure to take every girl to her own fairyland.



Work Pret

Pret is a range of modern power dressing garments. Crafted with superior cottons and outstanding finishing, these garments are sure to make a statement. The reversible waistcoat brings with it a new freshness. The timeless indigo jeans has an extraordinary calming effect when paired with a polo t-shirt.



Daily Occasions

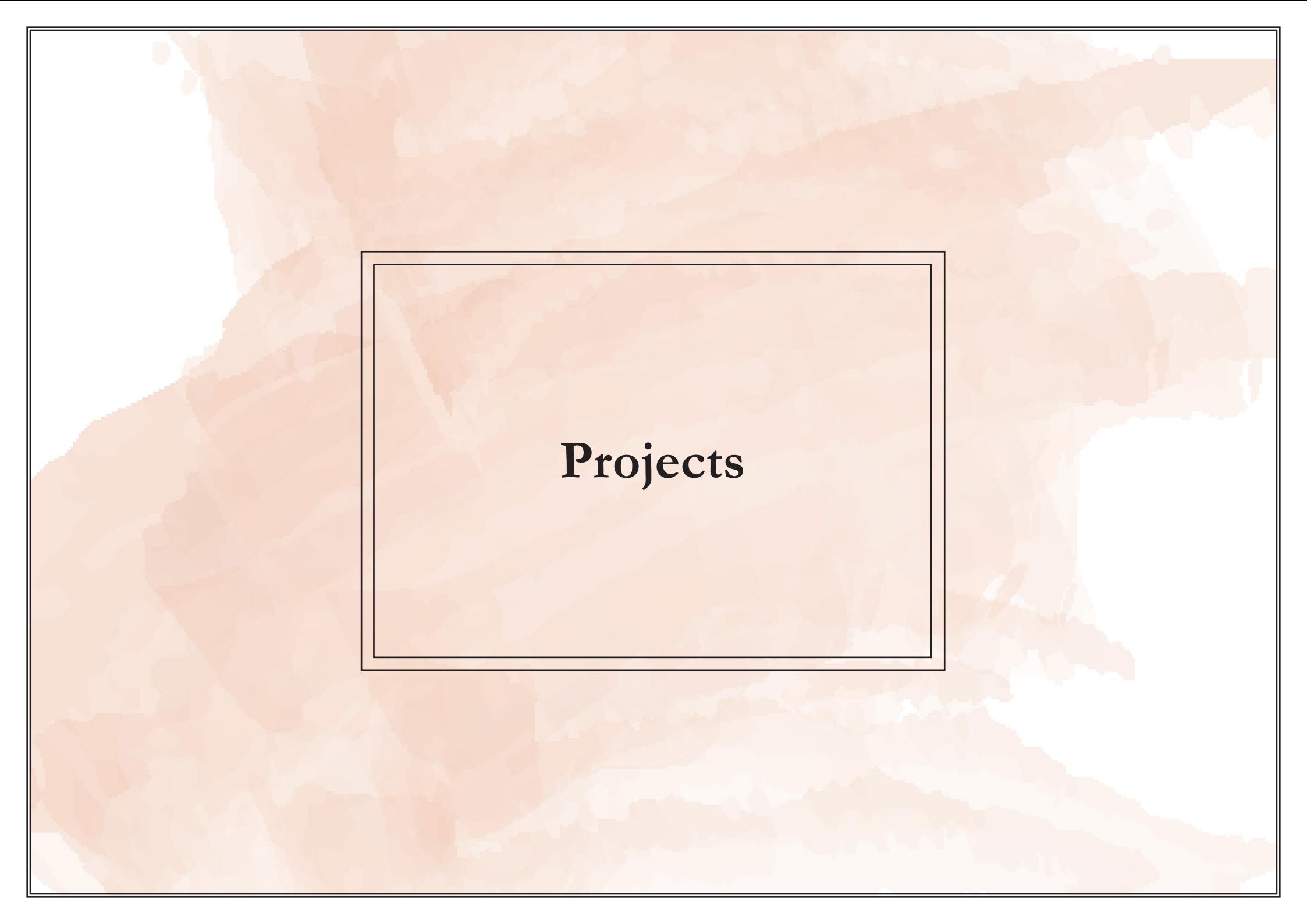
Fashion is best suited when combined with nature. A nature inspired collection, where style meets sustainability, created with attractive designs and blushed with a natural strawberry dye, adds a touch of cotton to daily occasions.



Natural Dye







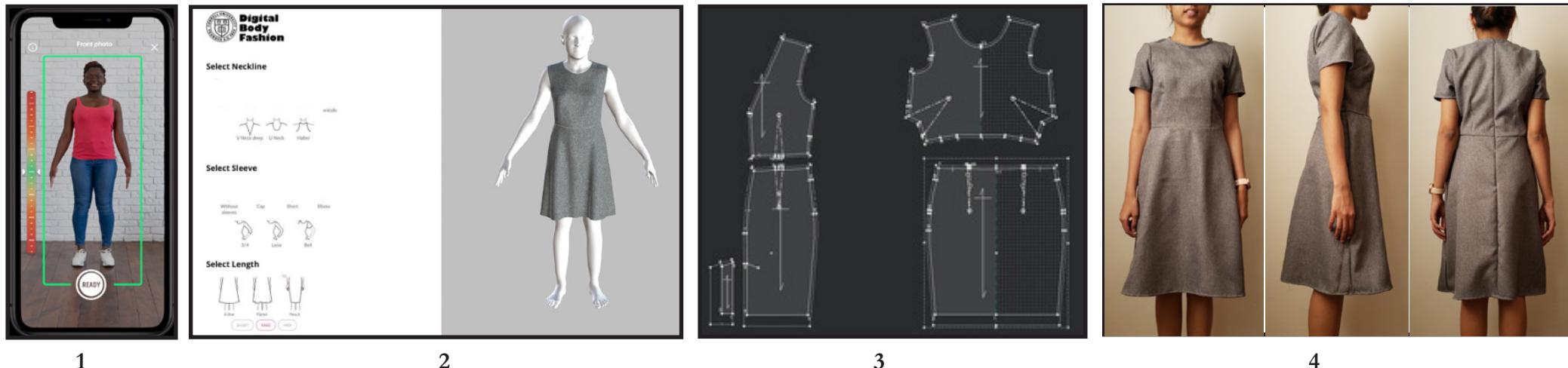
Projects

Mass Customization through Mobile Body Scanning

(Cornell Digital Fashion and Body Scan Research Lab)

Collaborated with a five-member research team to explore:

- (1) how online mass customization experience differs when collecting measurements manually and through a mobile body scanning app
- (2) how the garments created using manual/ body scan measurements fits the customer.



1. Capture Measurements

Treatment Group

Participants were scanned through a mobile body scanning software program to extract 70 body measurements

The 3D body avatar was exported as an .obj file into the pattern making software

Control Group

Provide body measurements by manually measuring with a tape

2. Website for Dress Customization

The users could choose from a set of necklines, sleeves, dress type, length and shape to create a customized dress

3D images of selected style combinations on a default avatar was updated dynamically

3. Garment Development

Developed custom-fit patterns, laser cut on a 100% polyester fabric and created the garments

4. Fit Testing

Surveyed participants to evaluate fit perception of the rendered prototype, expectations from the dress and customization experience

Collected images and feedback on fit of the physical dress from participants

Measuring body dimensions is complicated and is subject to error when recorded manually by novice gaugers. The fit of garments of the control group (manual measurement) varied largely depending how accurately the participants recorded their measurements.

When developing patterns for the treatment group, the fit was checked by running simulations on customized avatars obtained through body scanning. As a result, the garments created for the treatment group fit majority of the participants well without drag lines or fold lines.

Shape Changing Woven Patch

(Hybrid Body Lab, Cornell University)

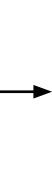
Collaborated with a four-member research team to develop a woven patch that enables diverse movements such as bending, expanding, and shrinking on actuation.

Embedded shape memory alloy (SMA) wires into the weave to achieve a seamless form factor

Utilized different weave techniques and yarns to manipulate the stiffness of the patch locally and enable controlled movement

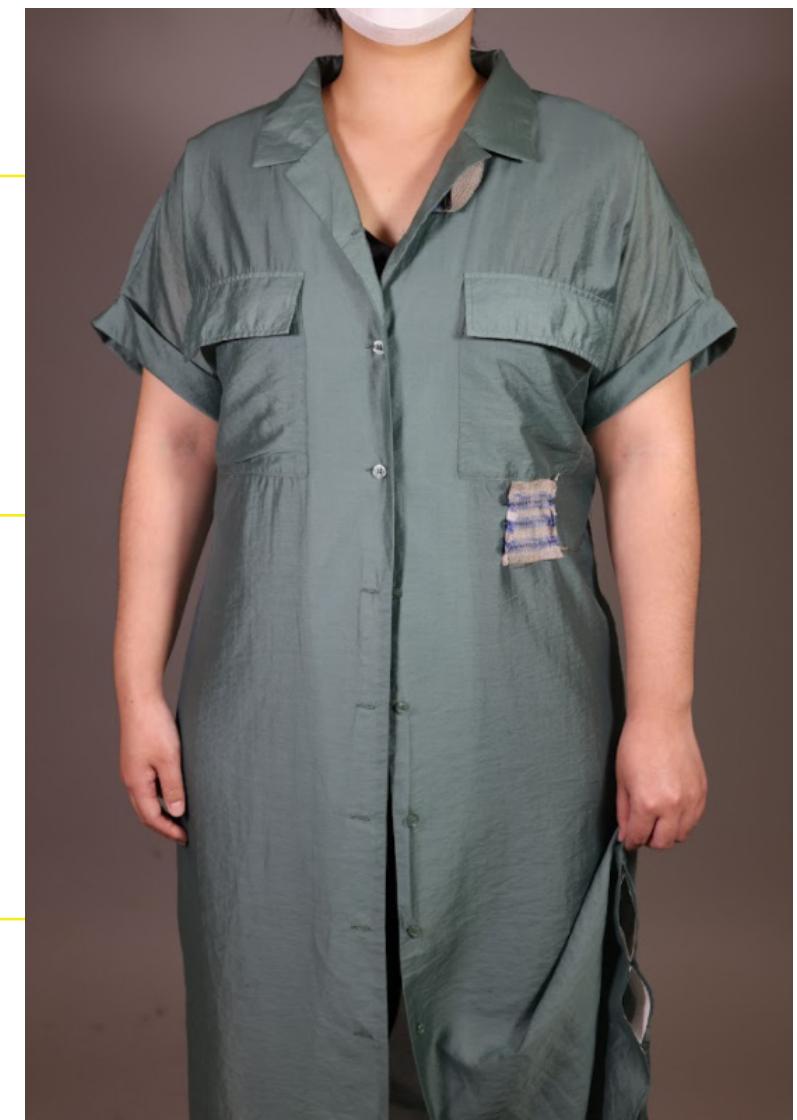
The patches can be attached or detached easily without requiring permanent alterations

A few examples of shape change on actuation are shown below:



Expanding

Shrinking



The patches can be used to improve functionality or enhance aesthetics.



► Linen warp
► Silk warp

► Twill weave
► Plain weave
► SMA wire

Expanding

Weaving the patch on handloom

Developing a Prediction Model for Crotch Length Measurement

(Cornell Digital Fashion and Body Scan Research Lab)

Improper garment fit creates inconvenience and dissatisfaction among customers. The crotch length measurement is crucial to determine the comfort and aesthetic fit of bifurcated garments such as trousers. However, measuring the crotch length is difficult and subject to error when recorded by novice gaugers.

Developed multiple regression models from body measurements of 200 randomly selected women in the size USA database to predict crotch length:

	Ordinary least square regression			Ordinary least square regression			Ordinary least square regression			Lasso regression			Principal Component Regression		
K	4			5			6			5			4		
Measure	Training	Validation	Test	Training	Validation	Test	Training	Validation	Test	Training	Validation	Test	Training	Validation	Test
BIC	480.15	183.26	184.15	478.88	183.73	184.17	483.12	186.12	186.79	500.51	178.55	176.68	609.91	211.21	211.09
AICc	464.23	175.68	176.56	460.51	175.41	175.84	462.27	177.25	177.93	482.13	170.23	168.36	594.05	203.62	203.50
RSquare	0.8601	0.8872	0.8771	0.8625	0.8957	0.8871	0.8632	0.8990	0.8900	0.8547	0.8515	0.9053	0.6177	0.6315	0.7545
RSquare Adj	0.8552	.	.	0.8564	.	.	0.8558	0.6042	.	.

The lasso regression model was chosen as it explained 90.53% of variation in crotch length using just five easy to measure predictor variables.

Crotch Length = -10.67 - 0.17 x (height) + 0.47 x (hips) + 1.02 x (waist height) - 0.46 x (knee height) - 0.10 x (arm length)

All measurements are required to be in imperial units

