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A Fabric that Remembers

The Unstable Design Lab
ATLAS Institute / CU Boulder



1 Front-side detail

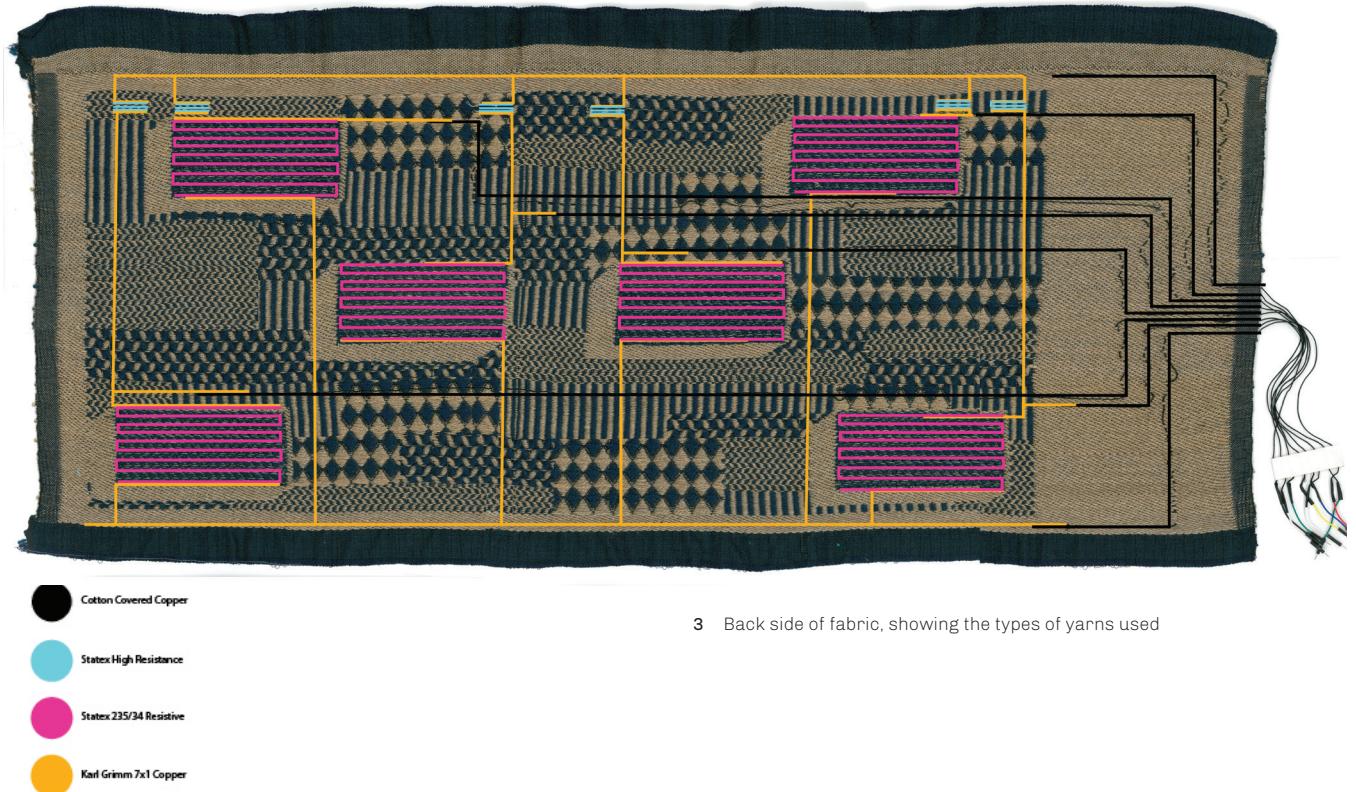
A Fabric that Remembers is an exploration in woven circuitry. By integrating textile structures with conductive materials, we created a fabric that can sense and transmit data about the forces exerted upon the textile's surface. A live visualization allows a viewer to see their presses represented in real-time, or, to play through the history of presses and forces collected upon the fabric. The concept emerged from a desire to understand how our bodies are shaped (and in turn shape) the objects, humans, and forces within our environment—framing the body as a structure that is sedimented and eroded like rock and the fabric as a skin that can collect and reply those forces as a site for reflection on interdependence. This open-source project has been fully documented (Wu, 2019).

PRODUCTION NOTES

Concept: Laura Devendorf
Structure: Sasha De Koninck
System: Shanel Wu
Developer: Emma Goodwill



2 Visualization of presses



Fabric as Circuit

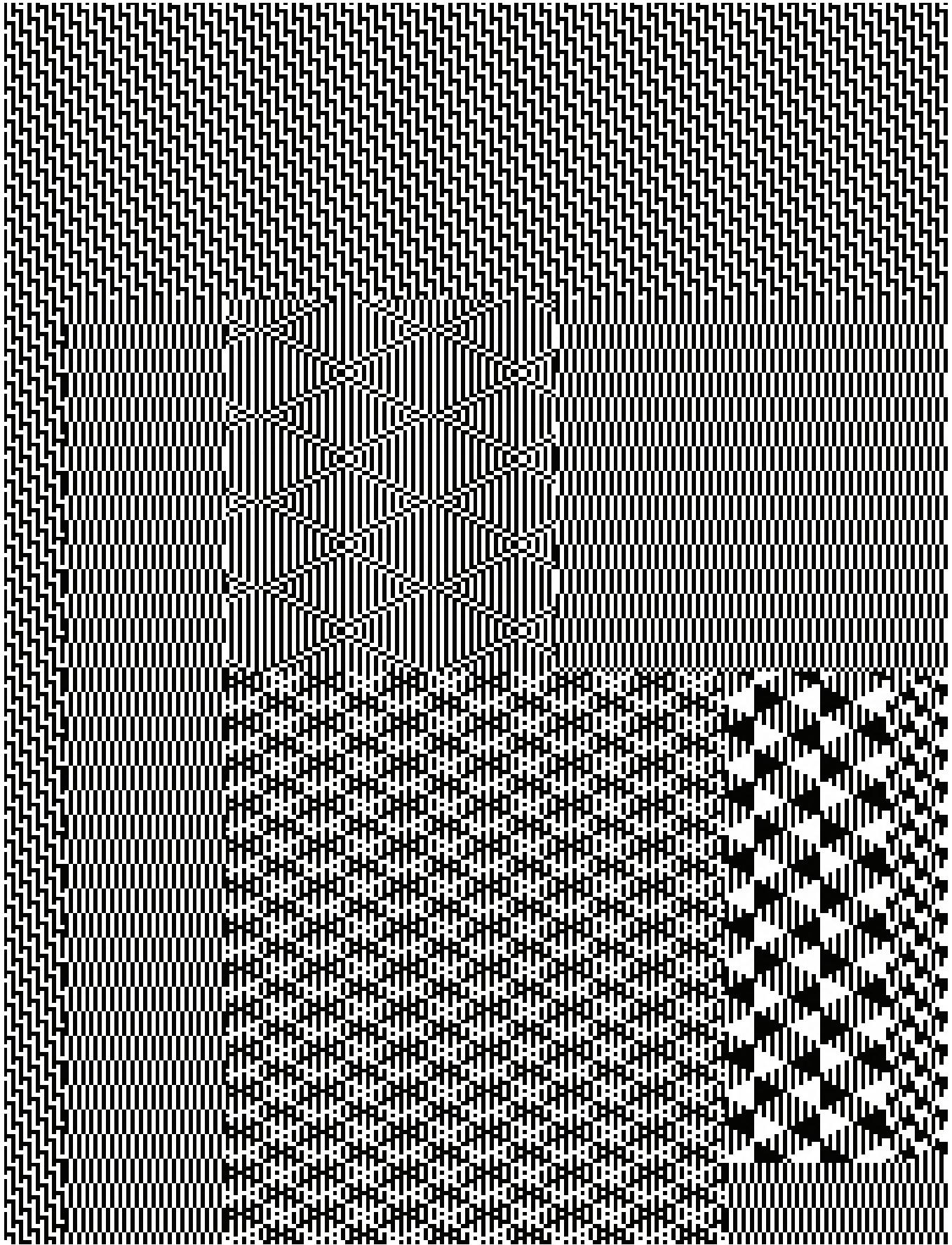
The diagrams on this page depict the fabric using the vocabularies of circuit diagrams (lower right) and yarn paths (top). Using threads with different electrical characteristics, we were able to recreate components such as force sensors, resistors, and routing paths. As such, The Fabric that Remembers involves the decomposition of circuitry into its component structures, and then a reassembly that follows the vernacular of yarns and weaving.



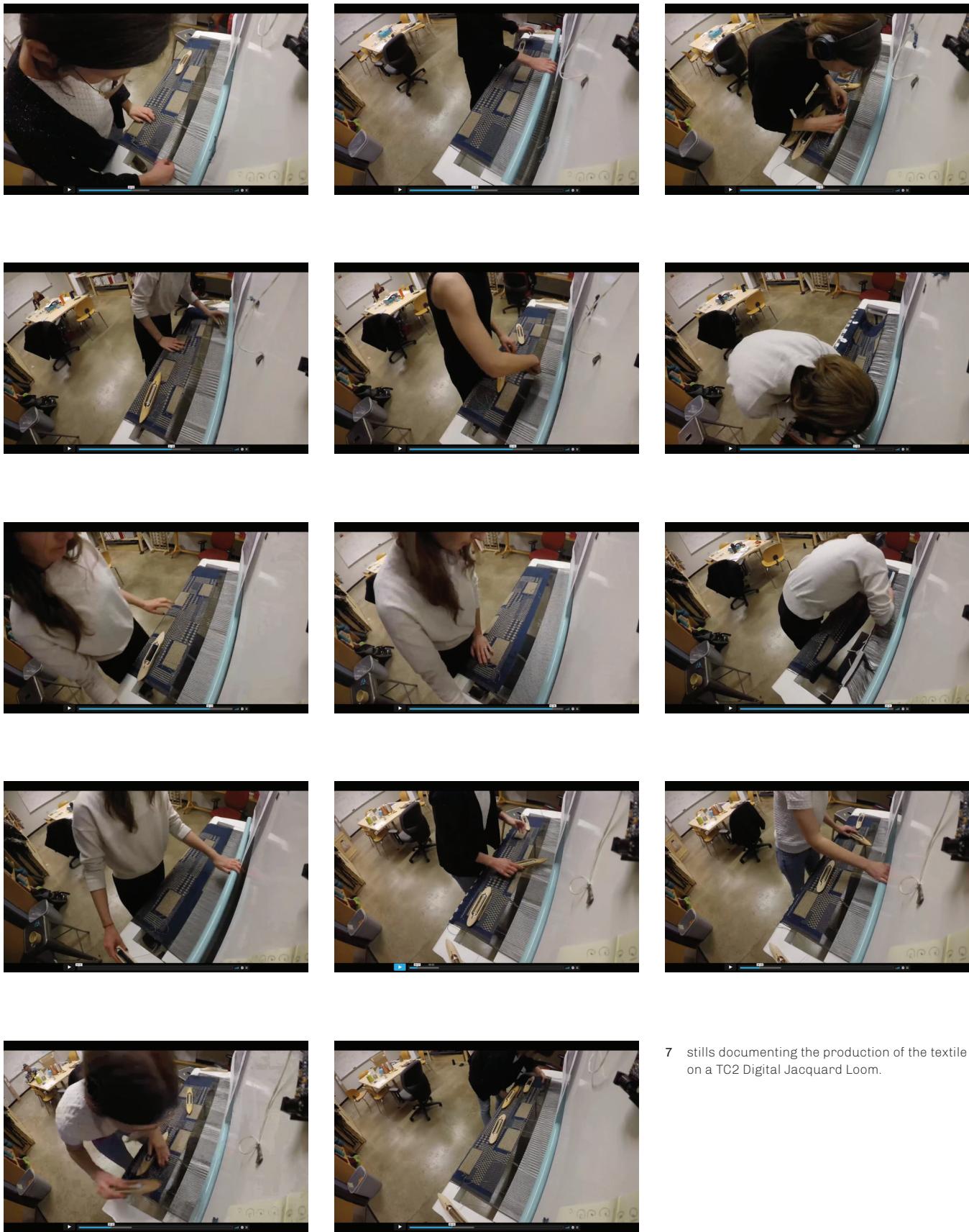
4 Fabric rendered as circuit diagram



5 A detail of the back-side of the fabric showing the structural features of woven fabrics that enable sensing to take place



6 the corresponding design file for the section of the weave shown on the left the woven structures (or drafts) can be expressed as bitmap image



7 stills documenting the production of the textile on a TC2 Digital Jacquard Loom.

ACKNOWLEDGMENTS

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REFERENCES

Wu, Shanel. 2019 h. "A Fabric that Remembers Open Source Documentation"

<https://github.com/sminliwu/accentureVisualizer>.

All drawings and images by the authors.

The Unstable Design Lab is a shifting collective of students and faculty at the University of Colorado Boulder directed by Assistant Professor Laura Devendorf. The work in this article has been contributed by Laura Devendorf, Shanel Wu, Sasha de Koninck, and Emma Goodwill.