

Textile UIs on Everyday Objects



Project Plan



WP1 Eliciting Everyday Touch Characteristics

WP2 Discoverability, Disambiguation, and Mappings

WP3 Multimodal Feedback

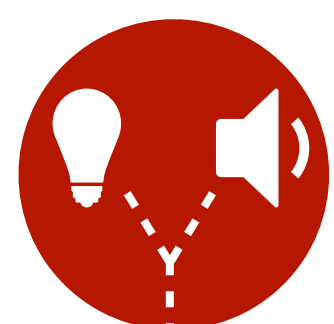
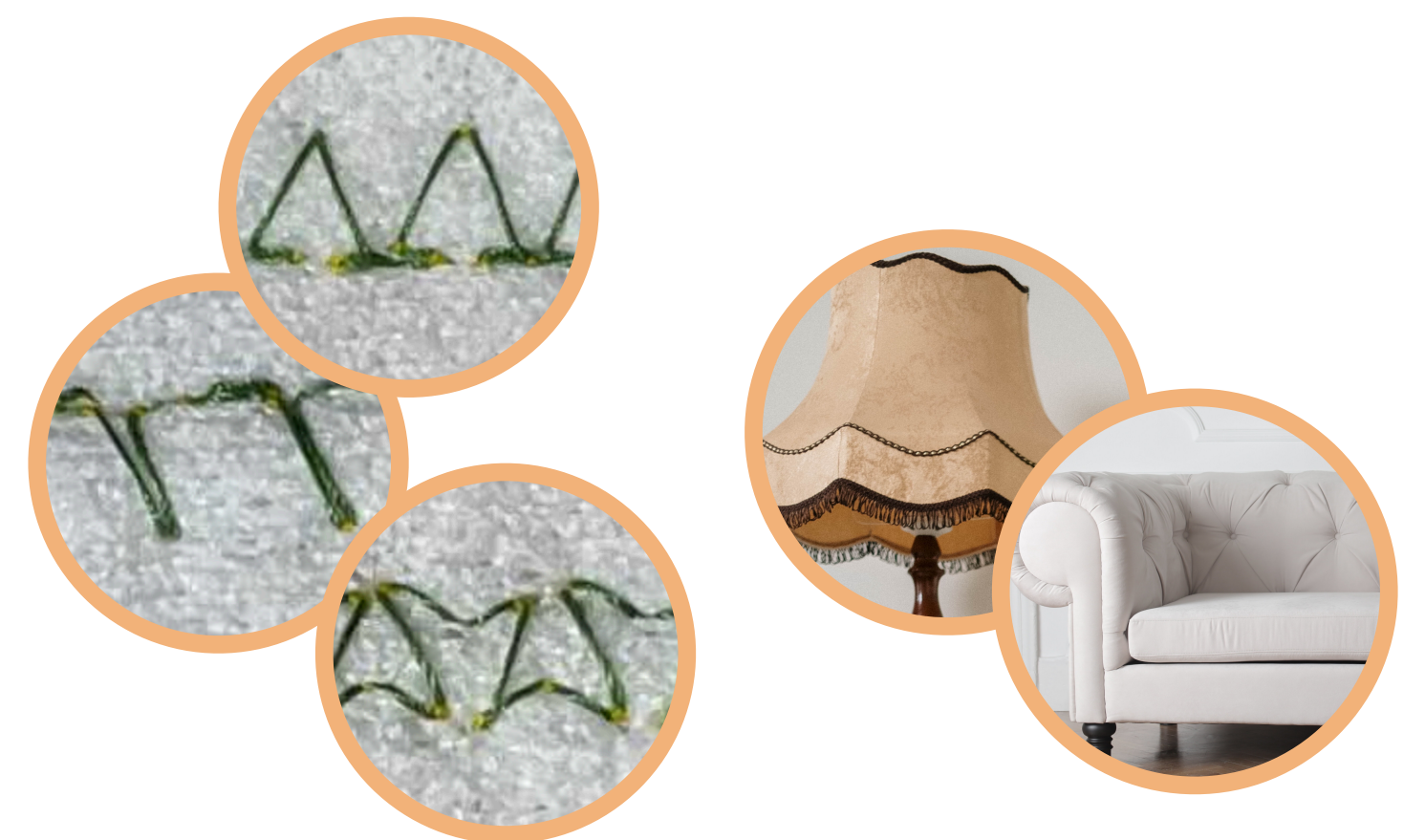
WP4 Fabrication and Recognition

WP5 Integration and Validation



Understanding Touch Characteristics on Textiles

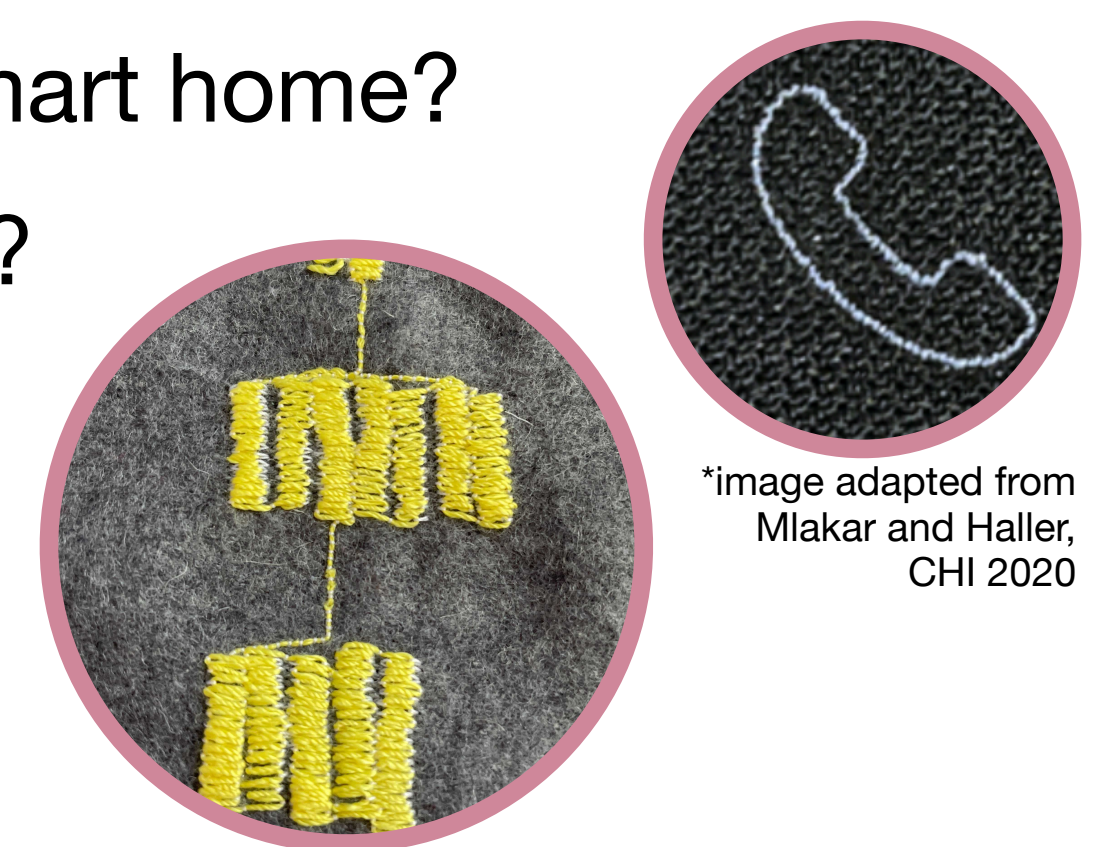
- How is touch interaction on textiles different from touch on glass?
- How well can humans differentiate between different material areas and seam styles?
- How does human touch interaction differ depending on the everyday object touched?



How to Create Complex Textile User Interfaces?

You can do dozens of actions in a smart home. Many of the controls for those were moved to the smartphone even though the surroundings offer many alternatives.

- How to design complex textile UIs for the applications in the smart home?
- What should signifiers look like if they are stitched onto textiles?
- How to guide users to a certain UI element?



*image adapted from Miakar and Haller, CHI 2020



Creation of Tactile Output

Inspired by our Springlets research on silent on-skin tactile output, we could create tactile output on textile interfaces using shape memory alloys (SMAs). The SMA could be embedded into the fabric or move objects underneath a textile layer.



*image adapted from Hamdan et al., CHI 2019



Prof. Dr. Jan Borchers



Dr. Simon Völker



Oliver Nowak



Anke Brocker



René Schäfer