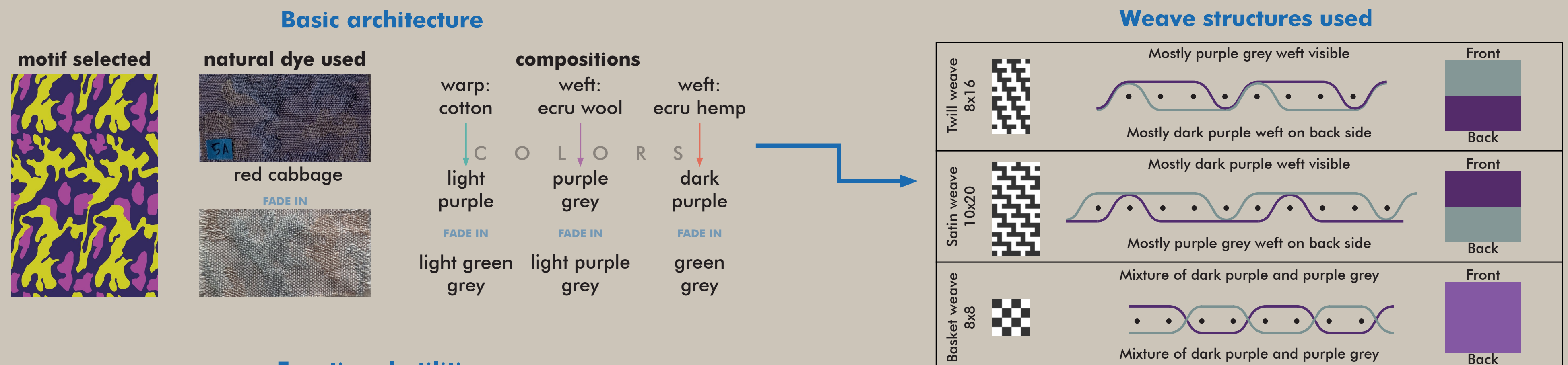


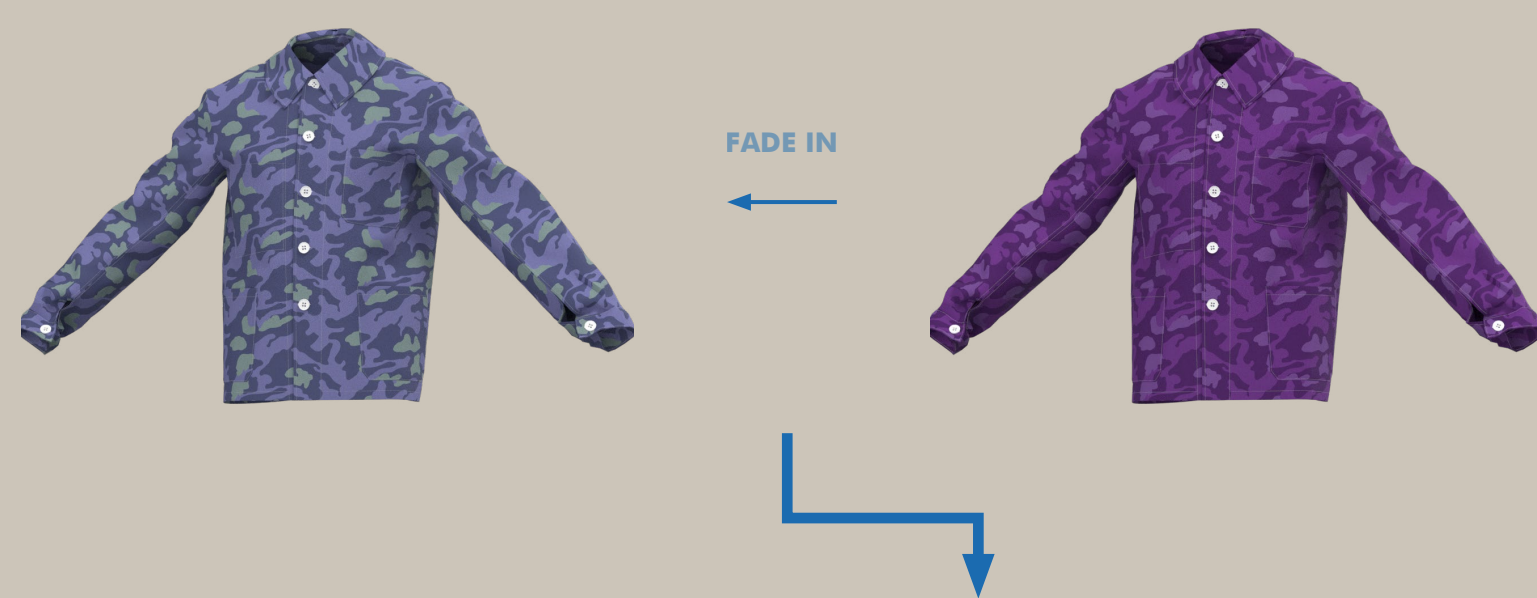
ReDyEvolve

Enhancing emotional durability through color changing material traces in jacquard woven fabrics

DESIGN SPACE OF A DYNAMIC TEXTILE MOTIF



Functional utilities



Color-changing inputs



The textile and fashion industry, with its complex supply chain from fiber production to retail, employs harmful chemicals, posing risks to the environment and workers. Fast fashion has intensified clothing production, leading to extensive textile waste. Consequently, it has fostered a more ephemeral and less emotionally durable connection with garments, emphasizing the need for sustainability through textile changes. Designers who work with textiles have a tendency to view woven fabrics as unchanging, or static, materials. However, to truly utilize the benefits of textiles, a deeper understanding of how these fabrics can be designed to exhibit responsive behaviors in their use is required. This involves exploring and utilizing their inherent properties to create interactive systems that are dynamic and adaptive.

This study explores the integration of interactive and responsive features into textiles. It begins by analyzing traditional textile motifs and their color-changing properties by aging. The research uses techniques like Material-Driven Design, material tinkering, and longitudinal studies to uncover insights. The focus then shifts to creating dynamic textile motifs that respond to stimuli over time through techniques like weaving, dyeing, and aging tests. It highlights the potential of utilizing natural dyes, organic materials, and circular fashion principles to ensure the responsible production and longevity of interactive garments. This thesis also explores the user experience aspect, analyzing how wearers perceive and engage with dynamic textile motifs.

The proposed solution focuses on extending the lifecycles of garments through a product-service system that involves the use of dynamic textile motifs that fade over time and that can be redyed to give a new life. This interaction generates a sense of affection to garments, which will then change uniquely based on the user's daily activities.

PRODUCT-SERVICE SYSTEM



Giovanni Cimino
Dynamic textile motifs for color change
in jacquard woven fabrics over time
13-10-2023 Integrated Product Design (IPD)

Committee Holly McQuillan
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