



CAREER: System-on-Cloth: A Cloud Manufacturing Framework for Embroidered Wearable Electronics

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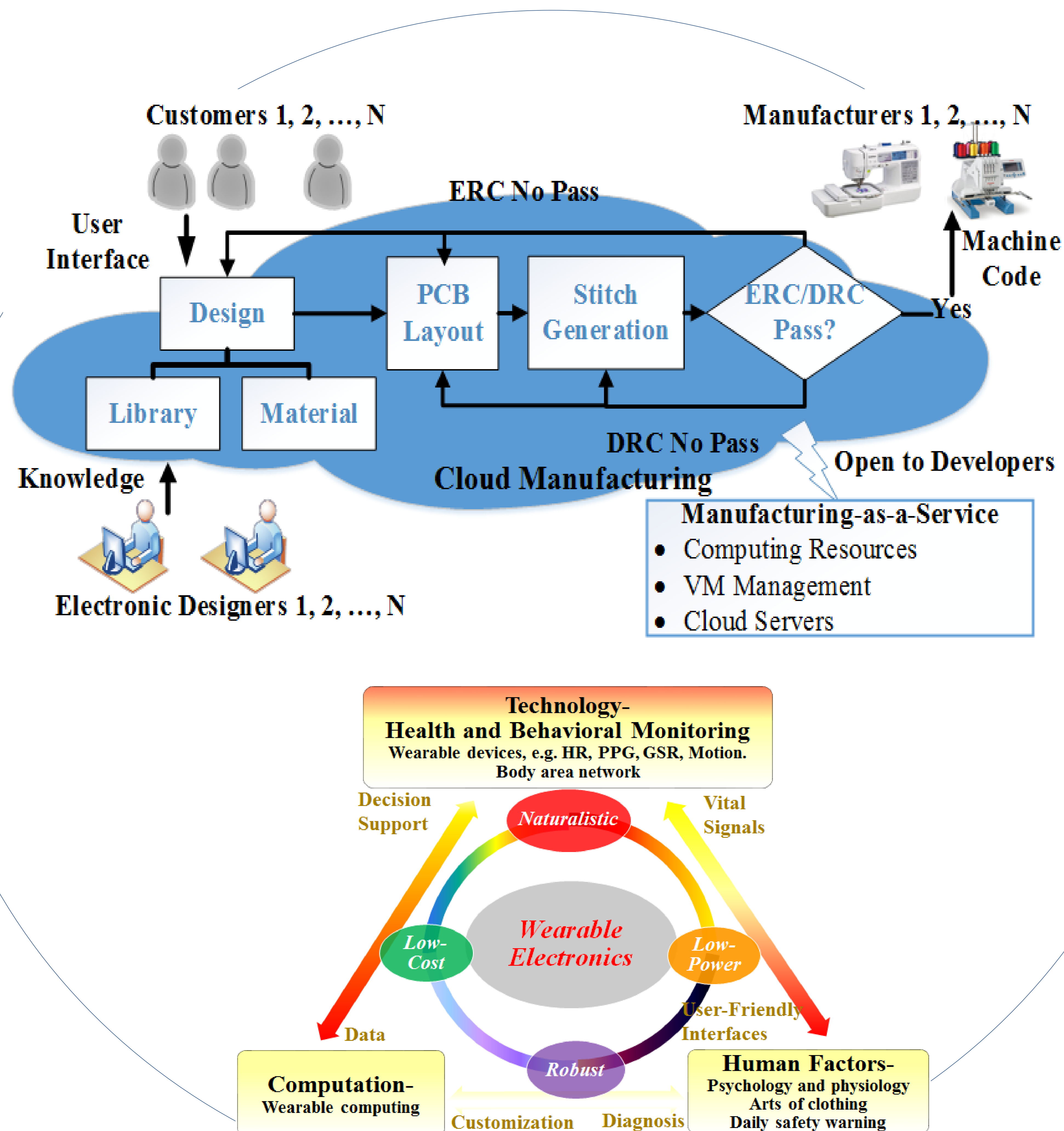
Goal and Challenge:

- This project aims to establish a cloud manufacturing framework for embroidered wearable electronics as an accessible platform technology towards System-on-Cloth.
- The technical challenges are three fold: wearable electronics design in textile substrate, design-to-manufacturing translation, and the cloud manufacturing framework.

Solution:

- Multiple embroidered wearable devices have been successfully developed.
- A cloud manufacturing network has been established with users, manufacturers, design experts well connected.
- A design-to-manufacturing translation tool has been developed and embedded in our network.

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Scientific Impact:

- This project connects the advancements in cybermanufacturing systems and the needs of wearable electronics, and establishes a cloud manufacturing framework enabling the new direction of wearable electronics design and manufacturing with flexible systems on cloth.

Broader Impact:

- The ultimate goal is that everyone can design their own desired wearable devices on cloth through our cloud manufacturing network. The research products will not only enhance the healthcare community, but also benefit the manufacturing and consumer electronics industries.
- We are also disseminating the research products to all levels of students, the research community, and the public through various activities.