Virginia Tech Student Projects in Collaboration with NASA's Johnson Space Center

Tom Martin
9/25/2014

- Student projects focused on smart textiles
- Invited schools: VT, Georgia Tech, U. of Minnesota, Pratt, Texas A&M
- Goal: NASA program on wearable technology

People & organizations

- NASA JSC: Cory Simon, Avionics Systems Division
- Virginia Tech: Paola Zellner, Architecture
  Tom Martin, Electrical and Computer Engineering
- Undergrads in Architecture, Computer Science, Electrical and Computer Engineering, Industrial Design
- Funding provided by VSGC and Virginia Tech's Institute for Creativity, Arts, and Technology (ICAT)

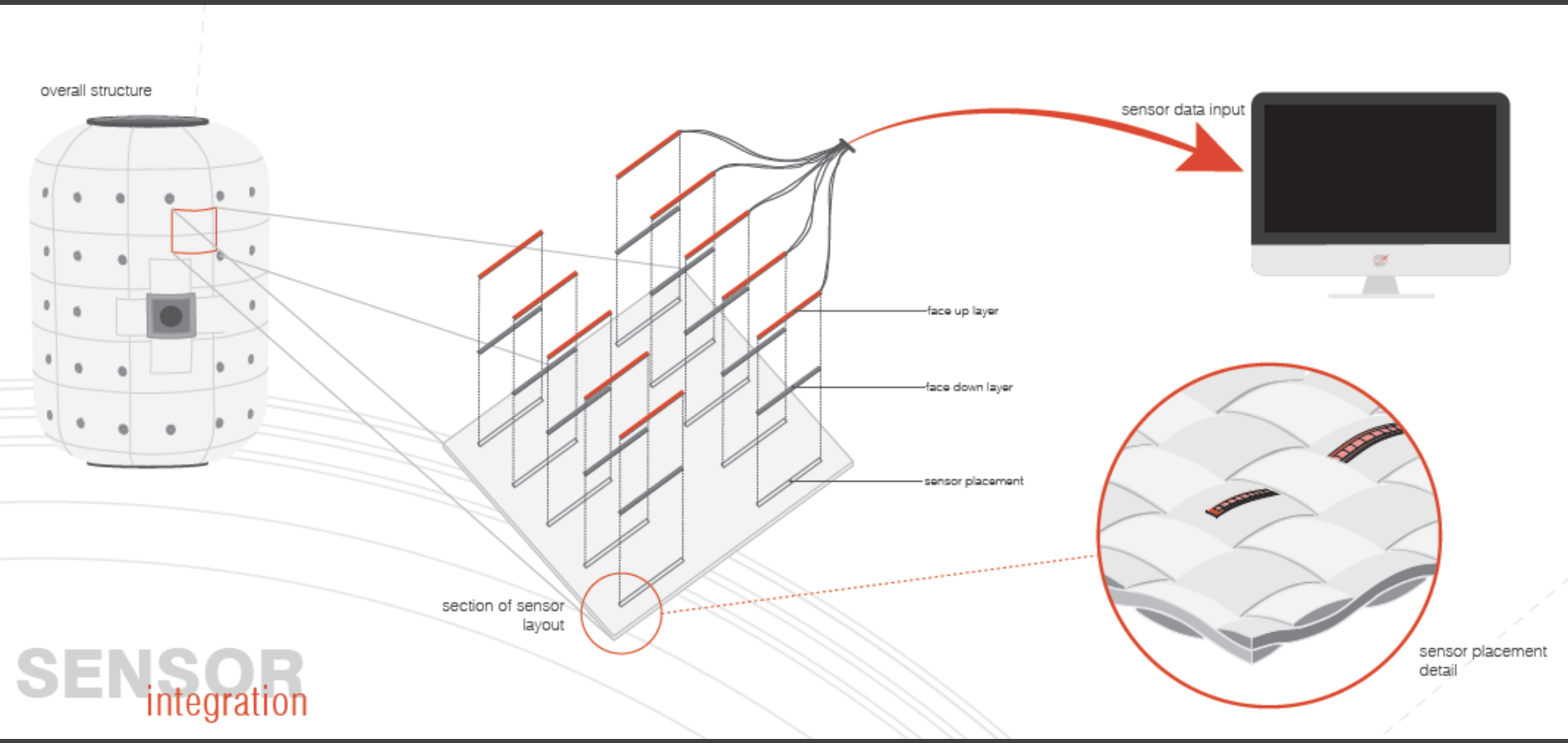
Timeline of student projects

- January: NASA JSC mentors provide list of projects, participate in video call with students
- Early February: Students form teams around projects, begin communicating with mentors
- Late April: Symposium at JSC

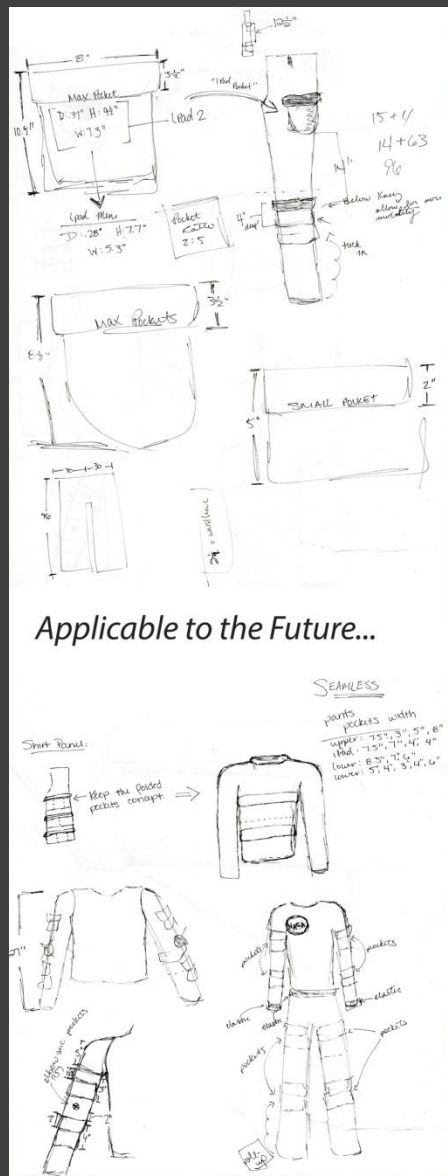

ADAPTABLE CREW
CLOTHING
Rebecca Meyer
Sarah Duffau
NASA

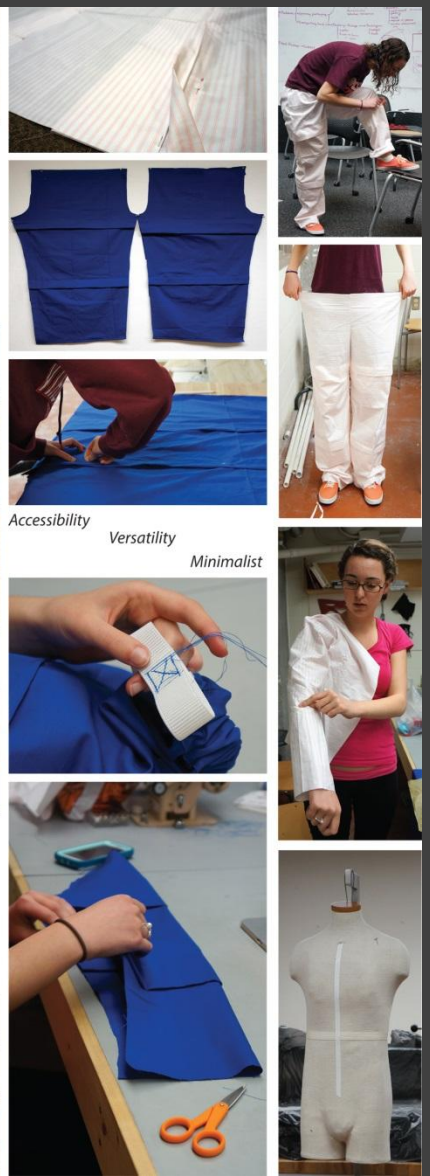

BOOT

Inflatable structures

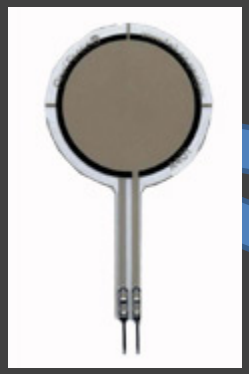


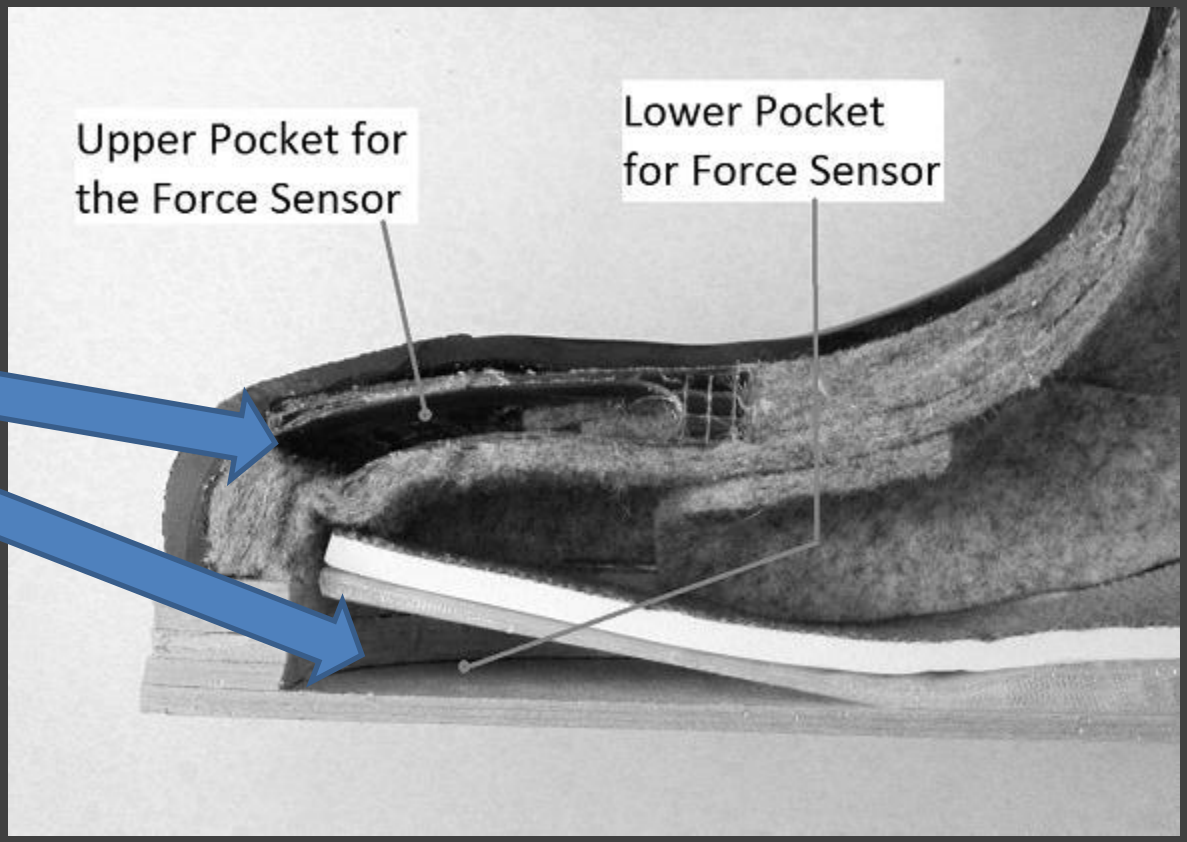
Adaptable crew clothing



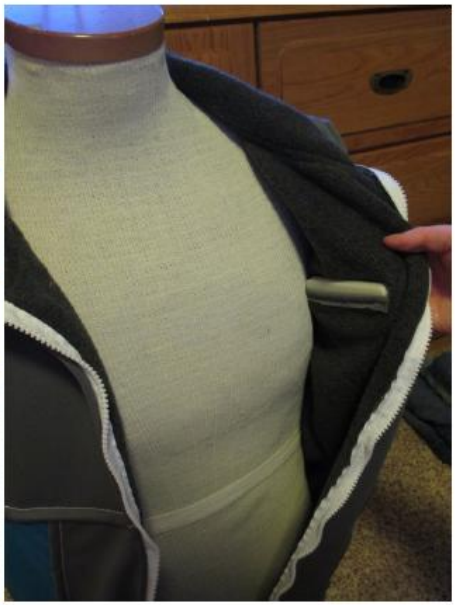


In-boot jetpack controller



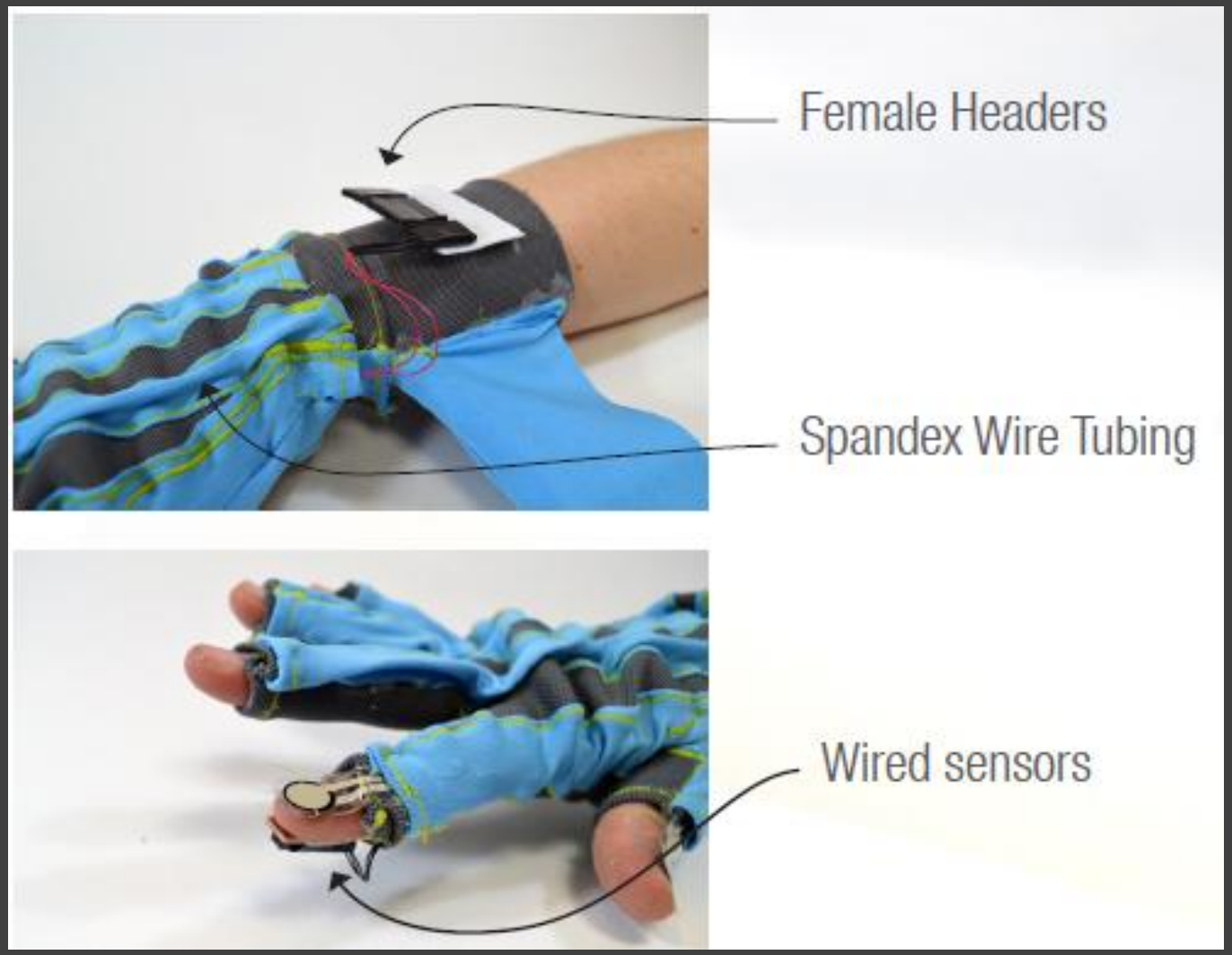


Noise-cancelling vest for space station crew



Flexible cuff checklist

Wearable sensor garments for EVA gloves



Modified cargo transfer bag radiation shielding garment

Feedback from NASA mentors

"The student work allowed us to work on one of the future problems, while keeping our engineers focused on current work."

"The poster session was invaluable because it allowed me to directly interact with the students. Having the prototypes there made it easier to talk about the projects."