Tools and Techniques for Prototyping Haptic Interfaces

Panel workshop

Abstract

This workshop will present detailed information on the many tools and techniques currently available to prototype haptic interfaces. The workshop will consist of five presentations from researchers who have designed a wide variety of haptic interfaces. The presenters will provide a detailed review of sensors, actuators, control technologies, and fabrication methods. The materials will include example devices, schematics, instructions, hints and lessons learned. Each presenter will cover established methods as well as newer approaches. The materials will be made available in electronic format as a resource for participants after the workshop.

Motivation

Haptics is a relatively new field with many novel devices appearing each year. In addition, the rapid miniaturization of sensors and computational hardware and the increased energy density of actuators and batteries are creating new opportunities for devices. This workshop aims to share existing approaches as well as highlight possible new directions.

Primary Objectives

To provide a survey of the available tools and techniques for haptic device prototyping. Participants will leave understanding the pros and cons of different methods.

Target Audience

The workshop will be of general interest to students, faculty, and researchers who wish to create haptic interfaces quickly, using the latest available tools and techniques. It will be of particular interest to those haptics researchers who wish to increase their fabrication capabilities.

Speakers

John Morrell (organizer)
Yale University
john.morrell@yale.edu

Camille Moussette
Umea Institute of Design
camille.moussette@dh.umu.se

William Provancher
University of Utah
wil@mech.utah.edu

Katherine Kuchenbecker
University of Pennsylvania
kuchenbe@seas.upenn.edu

Schedule	Speakers
13:00-13:30	Learn to make, make to learn
13:30-14:15	Sensors and sensors interfacing
14:15-14:30	Break
14:30-15:15	Actuators, motors and transmissions
15:15-16:00	Fabrication Tools and Techniques
16:00-16:45	Control, processing, communications and algorithms