Week 13-3
Additional Design Topics

SFWRENG 4HC3/6HC3 Human Computer Interfaces

** Slides adapted from previous and current instructors of COMPSCI/SFWRENG 4HC3/6HC3*

McMaster University

Final Exam Information

- 120 minutes written exam
- Mostly short answers
  - May limit the length of the answer
- Three double-sided cheat sheets

- Saturday, December 13, 2025
  - 4-6pm
- IWC 3

Week 13 Overview

- **Monday**
  - ~~Evaluation with Users: Experiment~~
- **Wednesday**
  - ~~Experiment~~
  - ~~Other Methods~~
- **Friday**
  - **Additional Design Topics**

Figma’s AI Report

- Product’s perspective:
  - **34% of Figma users have shipped AI products**
  - 56% are integrating AI into existing products
  - 43% are creating new AI products
- Workflow’s perspective:
  - Productivity tasks: 51% (designers), 43% (developers)
  - **Development: 59% (developers)**
  - Collaboration: 51% (developers), 44% (designers)
  - Design: 33% (developers), 31% (designers)
  - Testing: 40% (developers), 24% (designers)

Figma’s AI Report

- **Efficiency vs. Quality Gap:**
  - 78% believe AI boosts work efficiency (up from 71%)
  - BUT only 58% feel it improves work quality
  - Only 47% agree AI makes them better at their role
- **Designer vs. Developer Divide:**
  - 68% of developers say AI improves work quality
  - Only 40% of designers say the same
  - 66% of developers feel AI makes them better developers
  - Designers are much more skeptical about quality

Figma Make Practice

Take ~10 minutes, using Figma Make to complete one of the following tasks (feel free to try both if time allows):

Option 1: Create an app icon for a coffee shop (like Tims or Starbucks, but with better taste of coffee)

Option 2: Create three screens (wireframe fidelity) for a food delivery app (like Uber Eats or Doordash)

Thoughts?

- What worked?
- What didn’t work?
- Challenges?

- Can there be problems?

Interaction with Agent

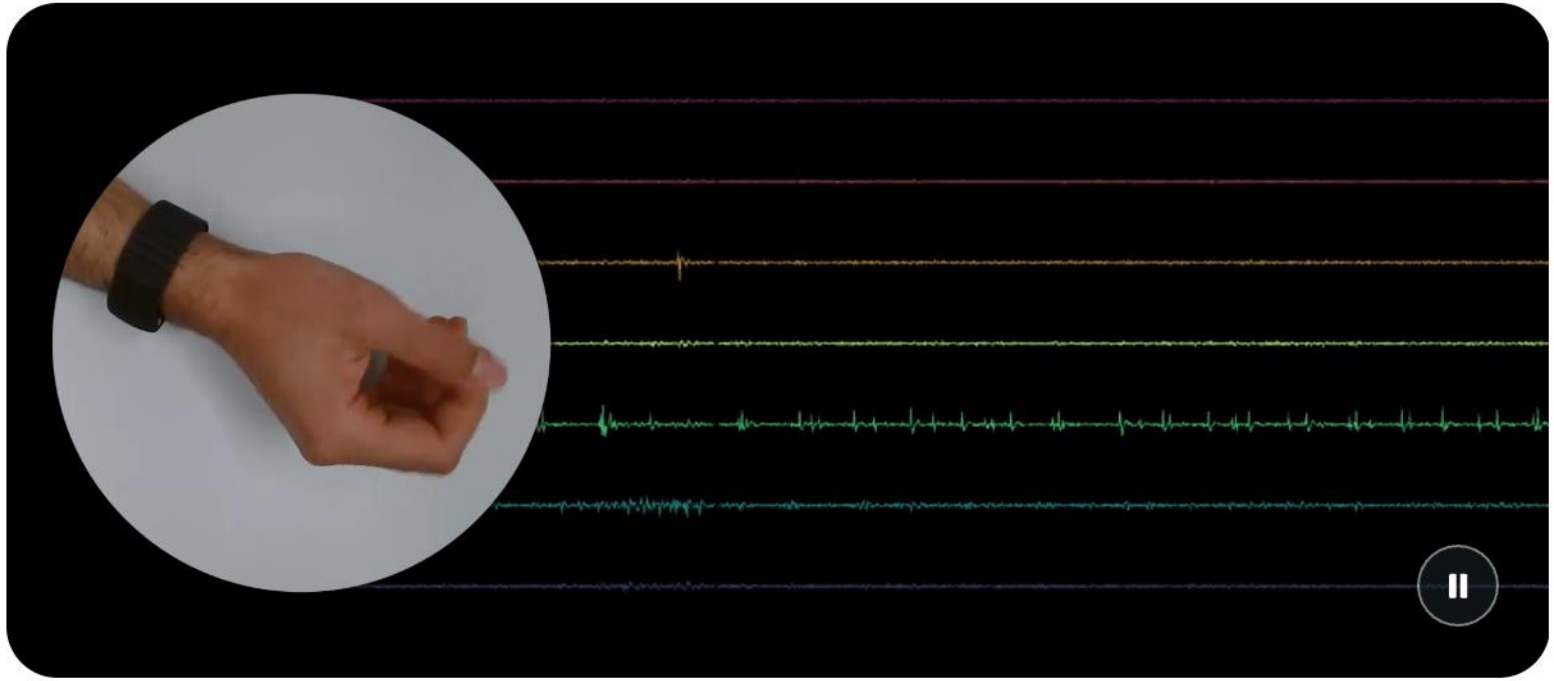
- **Conversational approach**
  - Sequential back-and-forth exchange through natural language dialogue
  - Natural and accessible with minimal learning curve, mimicking human conversation
  - Difficult to maintain spatial context or compare alternatives as content scrolls away
- **Canvas approach**
  - Persistent workspace where users and AI co-create editable artifacts with spatial organization
  - Enables direct manipulation and iterative refinement of specific parts without re-generating everything
  - Steeper learning curve with potential to overwhelm users with too many options and less natural flow

https://openai.com/index/introducing-canvas/

https://snap-research.github.io/canvas-to-image/

Wearable Sensing Interfaces

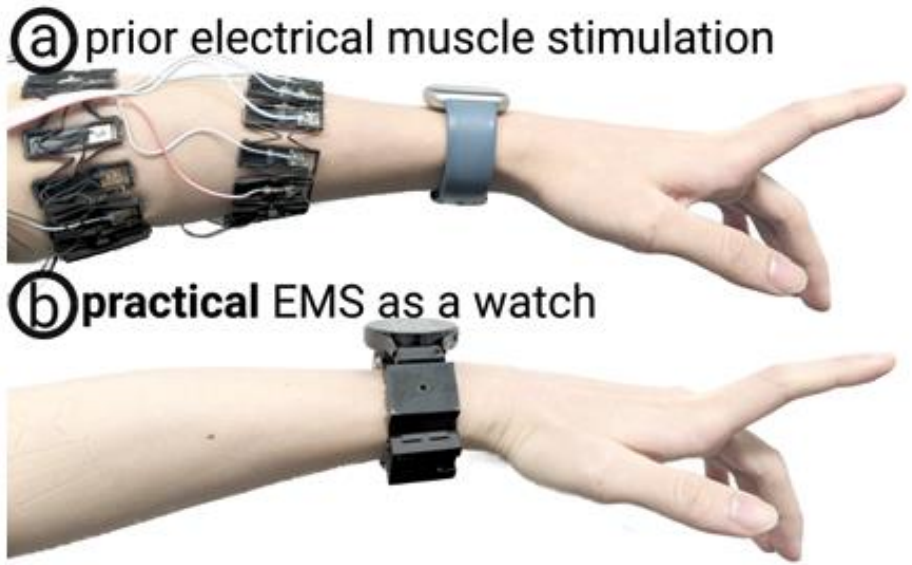
Meta EMG Wristband: detects electrical signals from muscle movements in the wrist to enable hands-free control of digital devices

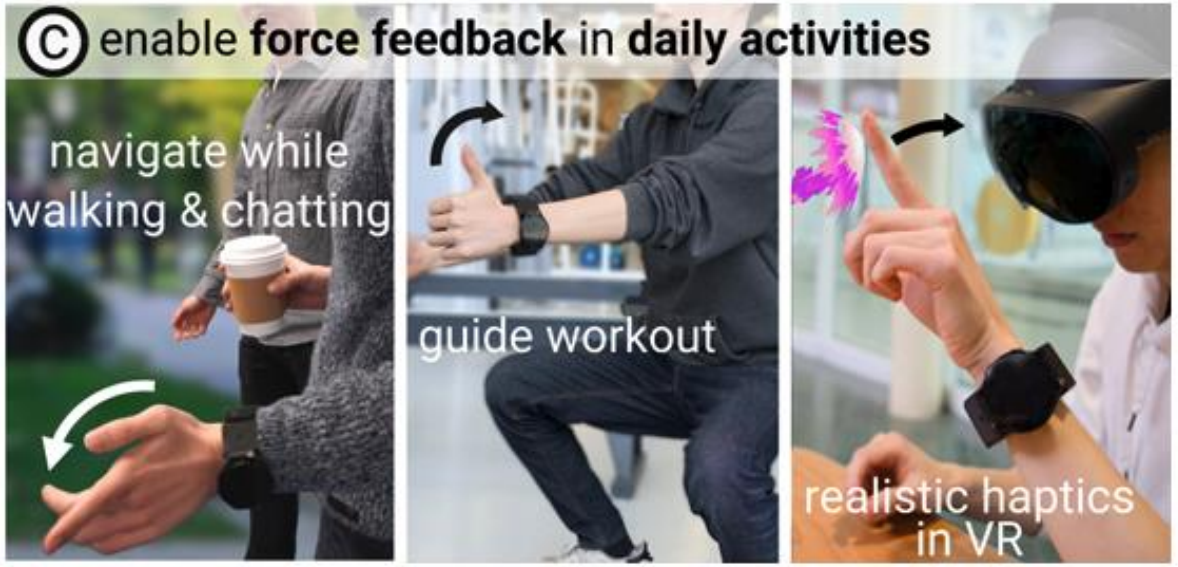


More Research Examples

How to do practical EMS on smartwatch?

*Akifumi Takahashi, Yudai Tanaka, Archit Tamhane, Alan Shen, Shan-Yuan Teng, and **Pedro Lopes**. 2024. Can a Smartwatch Move Your Fingers? Compact and Practical Electrical Muscle Stimulation in a Smartwatch. In Proceedings of the 37th Annual ACM Symposium on User Interface Software and Technology (UIST '24). Association for Computing Machinery, New York, NY, USA, Article 2, 1–15. https://dl.acm.org/doi/10.1145/3654777.3676373*





More Research Examples

How can we appropriate the body as an input surface?

Chris Harrison, *Desney Tan, and Dan Morris. 2010. Skinput: appropriating the body as an input surface. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '10). Association for Computing Machinery, New York, NY, USA, 453–462. https://doi.org/10.1145/1753326.1753394*

Figure 11: Our sensing armband augmented with a pico-projector; this allows interactive elements to be rendered on the skin.

More Research Examples

How can we detect touch events on everyday surfaces?

Vimal Mollyn, Nathan DeVrio, and Chris Harrison. 2025. EclipseTouch: Touch Segmentation on Ad Hoc Surfaces using Worn Infrared Shadow Casting. In Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology (UIST '25). Association for Computing Machinery, New York, NY, USA, Article 195, 1–13. https://doi.org/10.1145/3746059.3747743

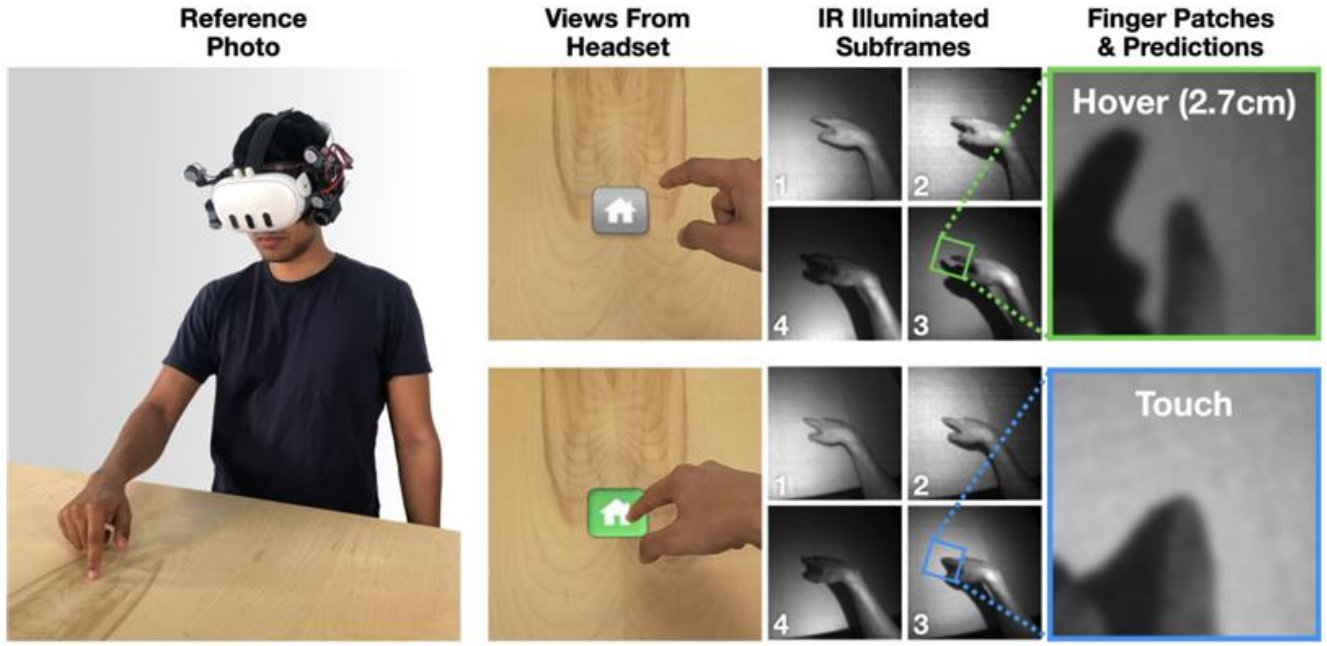


Figure 1: EclipseTouch is a headset-integrated sensing approach for touch input on ad hoc surfaces. The headset illuminators create structured shadows in infrared (1/2/3/4), which our system uses to estimate touch contact and hover distance.