

CMSC 838G

New Devices for New Interactions



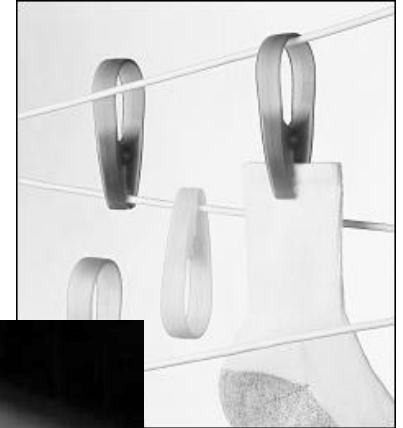
François Guimbretière
CSI 2107 Tue-Thu 3:30-4:45

Why new devices?

- PostBrainstorm
 - UIST'01 video
- Proof-reading tool
 - Kevin's Video

Example of innovative redesigns

- Can we improve the clothespin?
 - Ekco's solution
- Can we improve the stapler?
 - Orca's mini-stapler
- Can we improve the sport watch?
 - Nike's
- Can we improve the mouse?
 - Evoluent's vertical mouse.



A convenient telephone/watch?

Vision of the future



Connected products (IDEO vision in '00)

CMSC 838G Administtrivia

- Instructor
 - François Guimbretière
 - *Human computer interaction*
 - Large interactive surfaces
 - Information Visualization
 - *Office hours (Room 3267 AVW):*
 - Tue/Thu 2:00pm – 3:00pm
 - or by email any time: francois@cs.umd.edu
 - or by appointment

Student info

- Name, e-mail
- Are you taking the class for credit?
 - Comps?
- Why are you taking the class?
 - Goals
 - Topics you would like to be covered in the class
- Background?
 - EE?
 - ME?
- Additional comments

Work load

- Reading
 - Textbooks and papers
 - ~ 1-2 papers per class
- In class presentation and discussion
 - Project presentations
 - Heavy participation is expected
- “Homework”
 - More like practice run before the project
- Project
 - 1 project, 3 checkpoints
 - Project proposal due Feb 12

What you will learn

- New devices
 - Basic design principle
 - How to use CAD and rapid prototyping tools
 - Hands on toward creating hardware prototypes
- Theory
 - Interaction models
 - Human performances
 - Interaction models
- Experimental design
 - User study fundamentals
 - Basic experimental designs
 - Non-traditional experimental designs
 - Interpretation of experimental results

Resources available

- CAD
 - Rhino NURBS base CAD software
 - MicroScribe measurement arm



- 3D printing
 - ZPrinter 310



- Hardware on a per project basis
 - PIC micro-controller
 - Devices to be transformed

How you will be evaluated

- Participation (include HW): 10%
- In class presentation: 20%
- Project: 50%
- Final 20%

Texts

- Required text
 - ***Human Input to Computer Systems: Theories, Techniques and Technology***, Buxton, draft available online
 - ***Doing Psychology Experiments***, Martin, Fifth edition [Wadsworth], 2000.
- Course web sites:
 - <http://www.cs.umd.edu/~cmssc838G-0101>

Reading for Next Week

- Buxton: Chapter 1 & 2
- MediaBlock [Ullmer et al. Siggraph'98]
- DiamondTouch [Dietz et al.]
 - We have one!
- DataTiles [Rekimoto et al, CHI'01]