Human Computer Interaction (1)

http://en.wikipedia.org/wiki/Human%E2%80%93computer_interaction

- a.k.a. HCI
- Study of interaction between people and computers
- Design, evaluation, implementation of interactive computing systems for human use, study of phenomena surrounding them
- Interdisciplinary: CS, behavioral sciences, design
- Methodologies: user-centered design, usability evaluation, behavioral analysis (cognitive, linguistic, ethnographic, sociological)

Human Computer Interaction (2)

- Goals: usability, ease of learning, efficiency, social principles (e.g. facilitating human-to-human communication)
- Examples
  - User Interfaces: Digital pens, mobile and wearable computing, camera projector systems, flexible displays, tabletop displays
  - Interaction techniques: Haptics, tangible UI, group, augmented reality, gesture, gaze, multi-touch
  - Models and theories of interaction: Distributed cognition, embodied interaction, multi-modal

Human Computer Interaction (3)

- At UCSD:
  - Bill Griswold
    - Ubiquitous Computing and Social Dynamics group (UCSD2)
  - Jim Hollan (Cognitive Science & CS)

  Ed Hutchins (Cognitive Science)
    - Distributed Cognition lab (DCOG)
- Conferences:
  - CHI: Conference on Human Factors in Computing Systems
  - UIST: Symposium on User Interface Software and Technology
  - CSCW: Computer Supported Cooperative Work

Ubiquitous Computing (1)

http://en.wikipedia.org/wiki/Ubiquitous_computing

- a.k.a. Ubicomp, Pervasive computing
- Post-desktop HCI, computation integrated into everyday objects and activities
- Small, inexpensive, robust networked processing devices, distributed at all scales throughout everyday life
- Interdisciplinary: CS, anthropology (ethnography), psychology, sociology, communications
- Methodologies: build systems, run user studies

Ubiquitous Computing (2)

- Examples
  - Collaborative sensing
  - Smart homes
  - Internet-of-things (network of smart objects)
  - Activity recognition
  - Context-awareness
  - Calm technology (ambient peripheral displays)
  - Tagging (e.g. RFID, visual codes), positioning
  - Mobile devices and applications
  - Technology for development (e.g. OLPC)

Ubiquitous Computing (3)

- Marc Weiser
  - Wrote early seminal papers
  - “The Computer for the 21st Century” (1991)
- At UCSD:
  - Bill Griswold
    - Ubiquitous Computing and Social Dynamics group (UCSD2)
    - CitiSense
    - ActiveCampus / Campus of the Future
- Conferences:
  - Ubicomp: Conference on Ubiquitous Computing
  - Pervasive: Conference on Pervasive Computing