

New Human Computer Interfaces

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On the Menu

- Personal Introductions
 - Who are you
 - Who am I
- Course Introduction
 - Why study New Human Computer Interaction?
- Course Overview
- Types of New CHI

Personal Introductions

- Who are You?
 - Name
 - Background
 - General
 - Electronics (no prerequisites)
 - Programming
 - What are your hobbies? What do you do for fun?
 - Expectations

Personal Introductions

- Who am I?
 - Background
 - CS
 - Digital media
 - Cognitive Psychology
 - Industry
 - Digital Art
 - Expectations

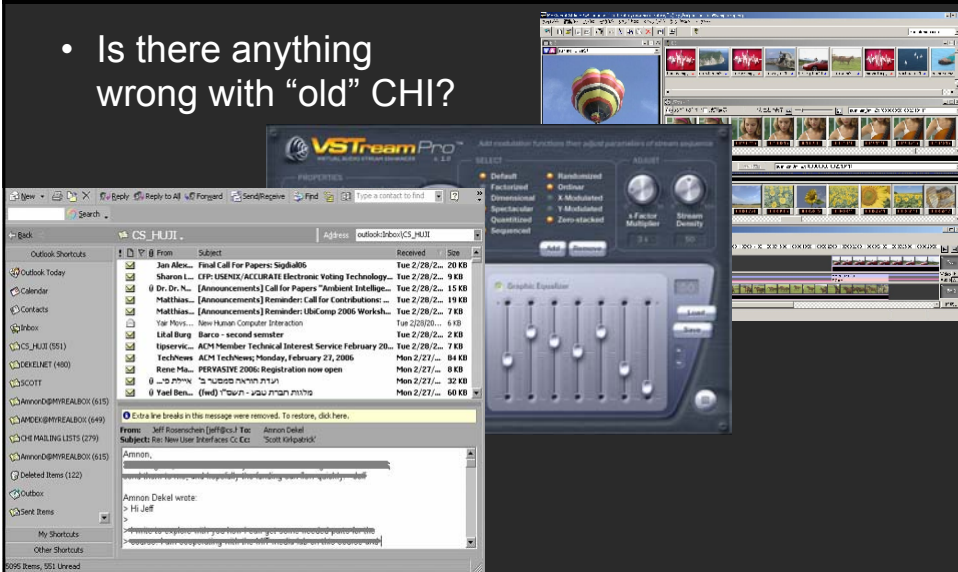
Why study New CHI?

- Does everyone know what CHI is?
 - Human Computer Interaction



Why study New CHI?

- Is there anything wrong with “old” CHI?



Why study New CHI?

- Is there anything wrong with “old” CHI?
 - The 30 year old Graphic User Interface (GUI) model has not been improved substantially
 - As a field a number of methodologies have been designed that enable the design and creation of **usable** applications
 - **BUT...**



Why study New CHI?

- “New” technologies have enabled the **embedding** of **computational power**, **communications** and **I/O** into every day physical objects
- This opens whole new worlds of interfaces that need to be designed and built
- These new worlds are becoming more important every day



Why study New CHI?

- The world of New Human Computer Interfaces

- Tangible Interfaces



- Ambient Interfaces



- Multi-Modal Interfaces



Course Overview

Subject	Expected Work
Part 1: A survey of New CHI	Web Search + Class Presentation
Part 2: The Technology of New CHI	Lab Exercises
– Microcontrollers	
– Sensors	
– Actuators	
– Serial Communication	
Part 3: New CHI Project	Project Presentation*

* Group work is allowed in Part 3 (Caveat: 2 people > 200%)

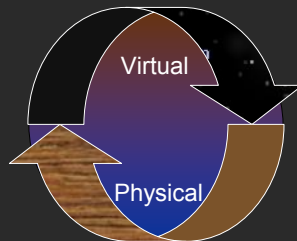
Part 1: A Survey of New CHI

Part 1: A Survey of New CHI

- **Tangible Interfaces:**

- Tangible: מוחשי

- An interface that makes abstract information tangible (Output)
- An interface that takes physical information and trans-codes it into the digital domain (input)



Part 1: A Survey of New CHI

- **Tangible Interfaces:**

- Are Tangible User Interfaces a new idea?

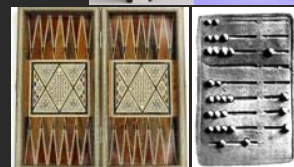


New?

Part 1: A Survey of New CHI

- **Tangible Interfaces:** Some History

- ~8,000 to 3,000 BC: clay accounting tokens
- ~2,700 BC .. present: the abacus and counting boards
- ~3,000 to present: board games



Part 1: A Survey of New CHI

- **Tangible Interfaces:**

- Examples

- [Media Blocks](#)
- [Sony Augmented Surface](#)
- [BeatBugs](#)

Part 1: A Survey of New CHI

- **Ambient Interfaces:**

- Ambient: סביבתי

- Ambient Interface: An Interface that communicates information using the physical environment, e.g.

- Light
- Color
- Sound [🔊 🔊 🔊]
- Motion



Part 1: A Survey of New CHI

- **Ambient Interfaces:**

- Examples:

- [Ambient Room](#)
- [Ambient Devices ORB](#)

Part 1: A Survey of New CHI

- **Multi-Modal Interfaces:**

- Multi-Modal: Using more than one Modality

- Modality: מימד חישה

- Modalities:

- Vision
- Temperature
- Taste
- Sound
- Pressure
- Natural Language
- Speech
- Gesture

Part 1: A Survey of New CHI

- **Multi-Modal Interfaces:**
 - Examples:
 - [Multimodal access to city help](#)

Home Work

- **Internet research:**
 - Search for a good example of each one of the above New CHI forms.
 - See the Course site [Topics](#) page to start
 - Create a Personal Wiki page in which you write one paragraph for each example:
 - Description + Link
 - What I think it interesting and good about it
 - Add a link to your page to the NewCHI Wiki Home Page
- **Course WIKI:**
 - <http://www.jail.cs.huji.ac.il/%7Eamnoide/cgi-bin/my-kwiki/index.cgi?NewCHI>