CMSC 434
Introduction to
Human Computer Interaction

Ben Bederson

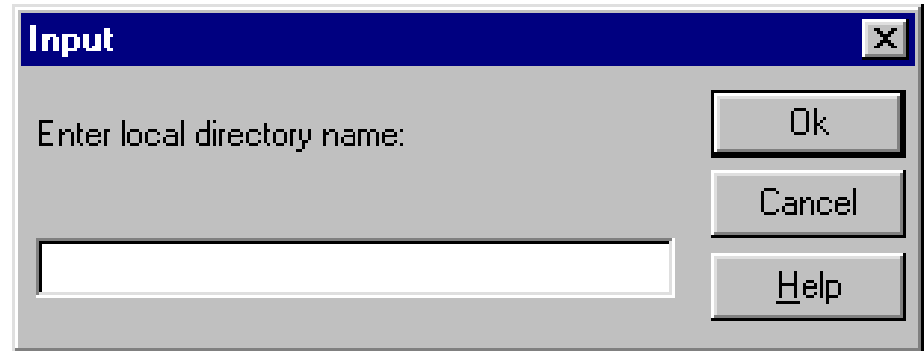# Name Cards

UI Hall of Fame and Shame

Input	☒

Enter local directory name:

[   ]

[Ok]

[Cancel]
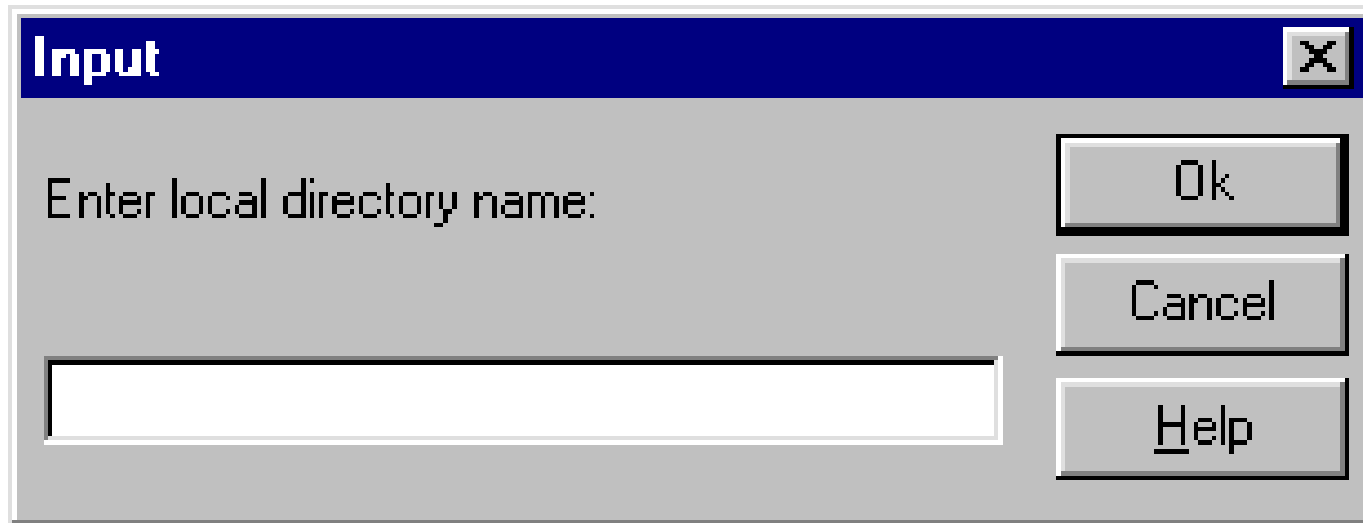
[Help]

UI Hall of Fame/Shame

Good:

- Goal is clear

- Help is offered

- Default is "Ok", supports keyboard-only use

```
Input                                    [x]

Enter local directory name:            [  Ok   ]

                                       [ Cancel ]
[                                    ]
                                       [  Help  ]
```

Bad:

- Application directory dialog (not system) => *inconsistent*

- Requires typing a path name

  – no browse option

  – What if you have many directories? (e.g., hundreds)

- Requires recall over recognition

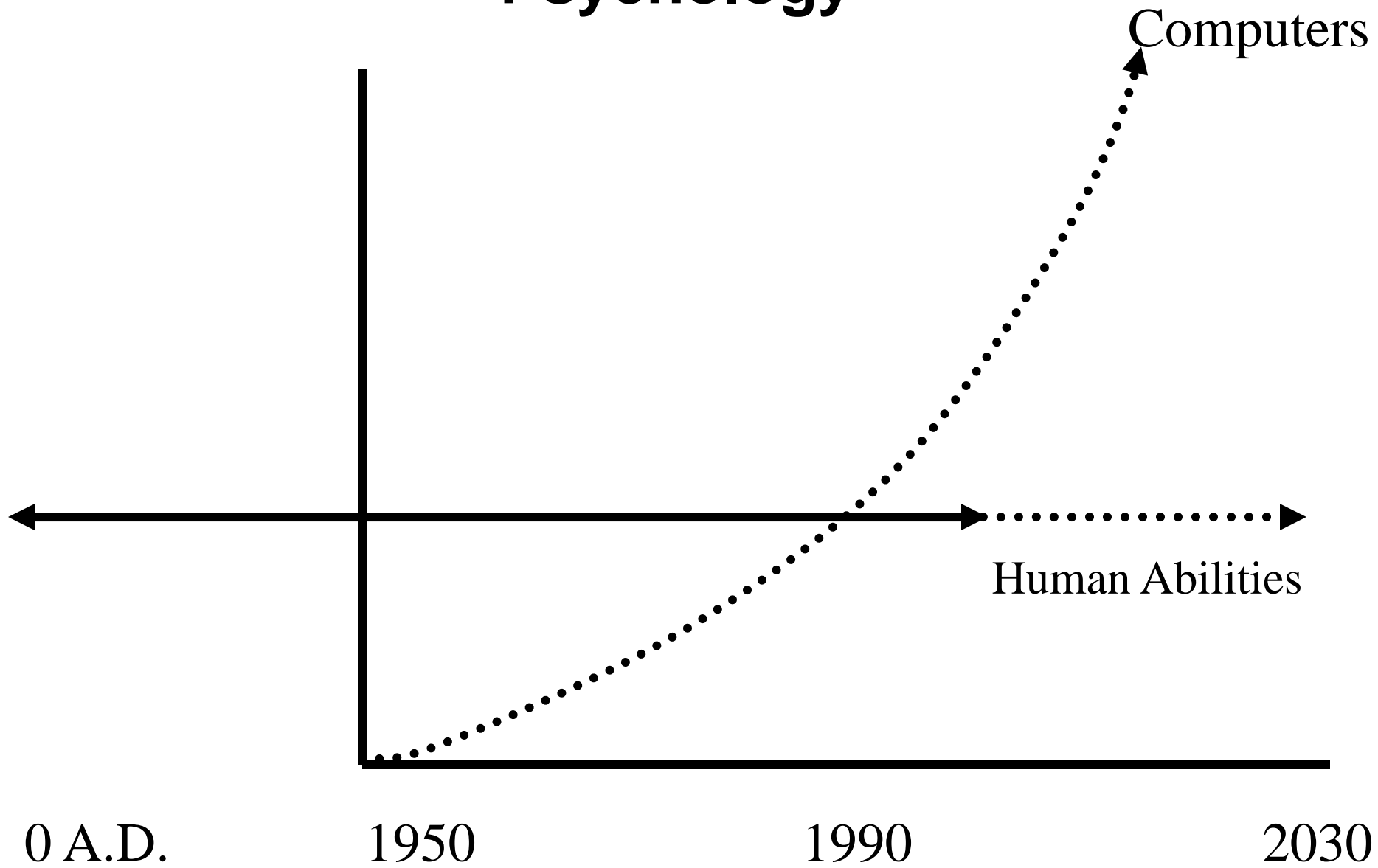- Want *recognition over recall by default, and option to user*

Tips

- Don't make the user feel stupid
- The goal of all software users is to be more effective

Moore's Law

Transistors
Speed
Size
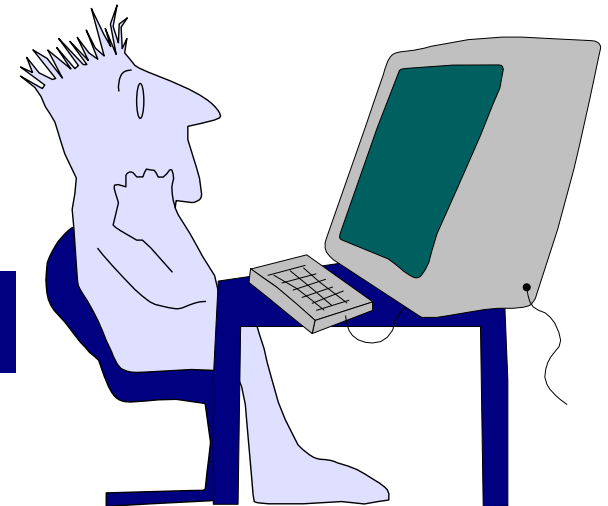Cost

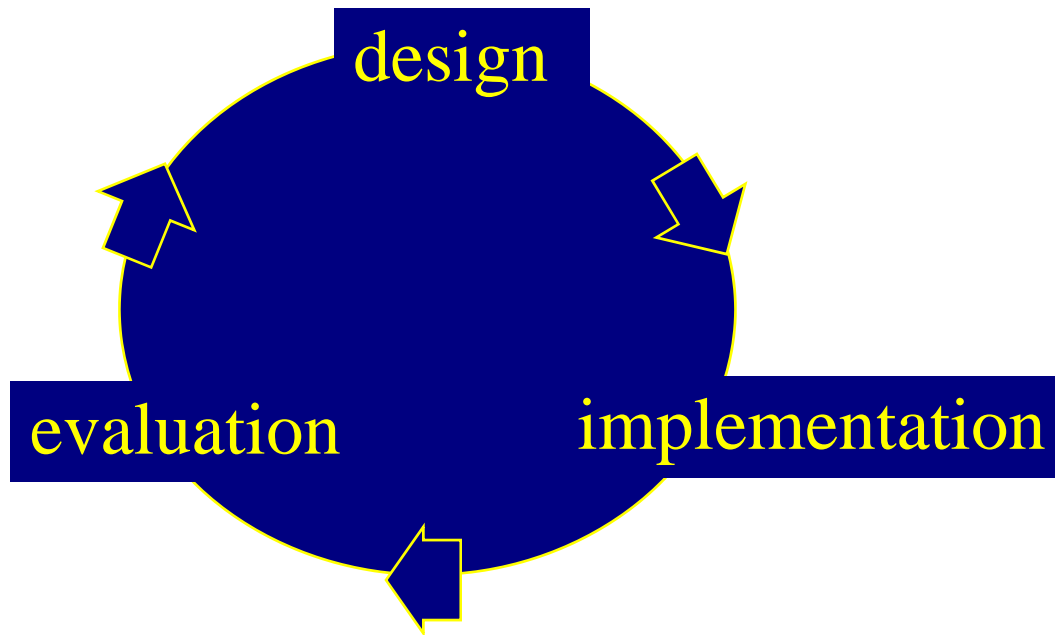Computer Abilities

1950 1990 2030
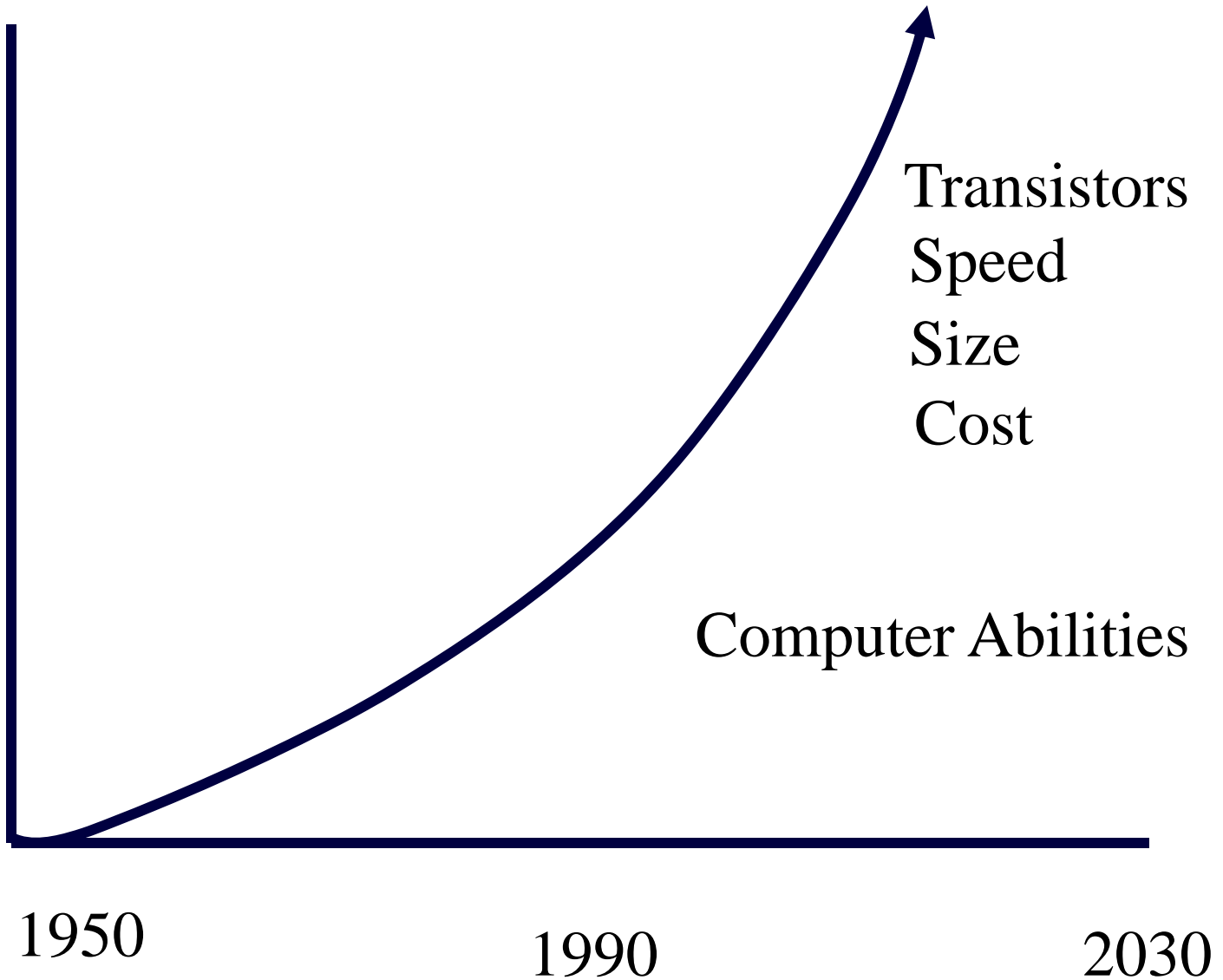
Psychology

Human Computer Interaction

- A discipline concerned with the
  analysis,
  design,
  implementation, and
  evaluation
  of interactive computing systems for human use

Why an interface design process?

- 63% of large software projects go over cost
  - managers gave four usability-related reasons
    - *users requested changes*
    - *overlooked tasks*
    - *users did not understand their own requirements*
    - *insufficient user-developer communication and understanding*

- Usability engineering *is* software engineering
  - pay a little now, or pay a lot later!
  - far too easy to jump into detailed design that is:
    - *founded on incorrect requirements*
    - *has inappropriate flow*
    - *is not easily used*
    - *is never tested until it is too late*

Human-Computer Interaction Lab (HCIL)

www.cs.umd.edu/hcil

Goals:

- Universally usable
- Useful
- Efficient
- Appealing

My Research Interests

- Historically Information Visualization
  - Zoomable User Interfaces (Piccolo)
  - PhotoMesa
  - DateLens

- Voting Technology
  - Understanding Usability
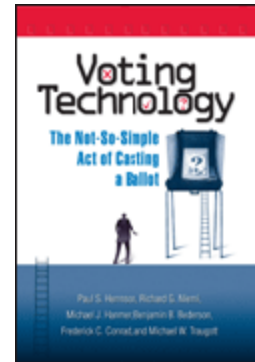
- Cell Phones
  - Design for one-handed use

- International Children's Digital Library (& kids)
  - www.childrenslibrary.org
  - KidPad

- Distributed Human Computation (new)

- Zumobi
  - www.zumobi.com
    Commercially media apps for cell phones

CMSC 434 Contact Info

- Instructor
  - Ben Bederson (HCIL)
    - *Office hours (Room 3171 AVW):*
      - Tue, Thu 2 – 3pm
      - or by email any time: <my last name>@cs.umd.edu
      - or by appointment
      - drop in/telephone discouraged
- TA
  - Tak Yeon Lee
    - *Office hours (Room 1112)*
      - Tues, Thur 11-12pm
      - Reflect<number 9>@gmail.com

What you will learn

- Principle of design
  - How to identify needs
  - How to create/imagine possible solutions
  - How to select and implement a solution
  - How to evaluate the result

- Basic human factors
  - Characteristic of the human information processor

- Basic interface technology
  - Hardware
  - Software

Balance between Form and Function

Simple is good – right???

- One button laptop

Text and additional references

- Book
    - Universal Principles of Design, Lidwell, Holden and Butler [Rockport], 1998.

- Optional Books
    - Designing the User Interface: Strategies for Effective Human-Computer Interaction, 4th Edition, Shneiderman and Plaisant [Addison-Wesley], 1998.

- Course web site:
    - http://www.cs.umd.edu/~bederson/classes/cmsc434

Workload

- Reading
  - About two chapters per class
  - Either from Lidwell on online.
  - Get password from me

- Homework
  - 8 homeworks (~1 week each)
  - Independent

- Projects
  - 1 projects, 4 phases (3 weeks each)
  - In groups of 2-3 people that I PICK
  - Deadline to pick your project: Feb 24th

- Late assignments policy
  - -20% up to 24 hours late
  - -50% up to 48 hours late
  - -100% after that

How you will be evaluated

- Homeworks + Hall of Fame/Shame (20%)
- Projects (40%)
  - Step 1-4, 10% each
- Exams (30%)
  - mid-term (10%)
  - final (20%)
- Class Participation (10%)

You must pass both exam components
and
project components to pass the course

Project Theme

- International Children's Digital Library
  www.childrenslibrary.org

- Sample project areas:
  - Book readers
  - Social interaction
  - Educational activities
  - Translation support
  - Multicultural support

- Project technology: Web
  - HTML, JavaScript, JQuery, MySql

- Declare Projects Tuesday, Feb 24

Academic honesty

- Projects are group assignments
  - I will pick groups
  - Each member must carry his/her load
  - Discussing with other group in general term is OK
  - Copying (verbatim or not) is not

- Homeworks are individual assignments
  - Discussing with other students in general term is OK
  - Copying (verbatim or not) is not

- Exams are individual works
  - No communication at all between students

- Violation of course (or University academic honesty) rules
  - Hearing with the judicial program

HW #1

- Due Thursday, February 5
- Available now

Next Week

For Tuesday:

- Read
- SURVEY: To be emailed after class and and responded by noon Wednesday.

For Thursday:

- Read
- You must bring in a remote control

    - Please check the questions posted online for each reading
    - I will ask similar questions in class