

# CPSC 481

## Foundations and Principles of Human Computer Interaction

*James Tam*

James Tam

### CPSC 481 Administrative

#### **James Tam**

- Human computer interaction
- Computer supported cooperative work
- Change awareness
- Games
- <http://www.cpsc.ucalgary.ca/~tamj>

#### **Contact information**

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#### **Office hours**

- Monday and Wednesday (12:00 – 12:50)
- By email any time
- By appointment: email or phone to arrange one
- Drop in for urgent requests (but no guarantees!)



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## Feedback



Dilbert © United Features Syndicate

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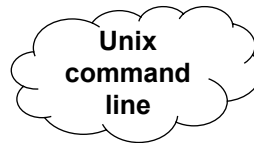
## Why An Interface Design Process?

### **63% of large software projects go over cost**

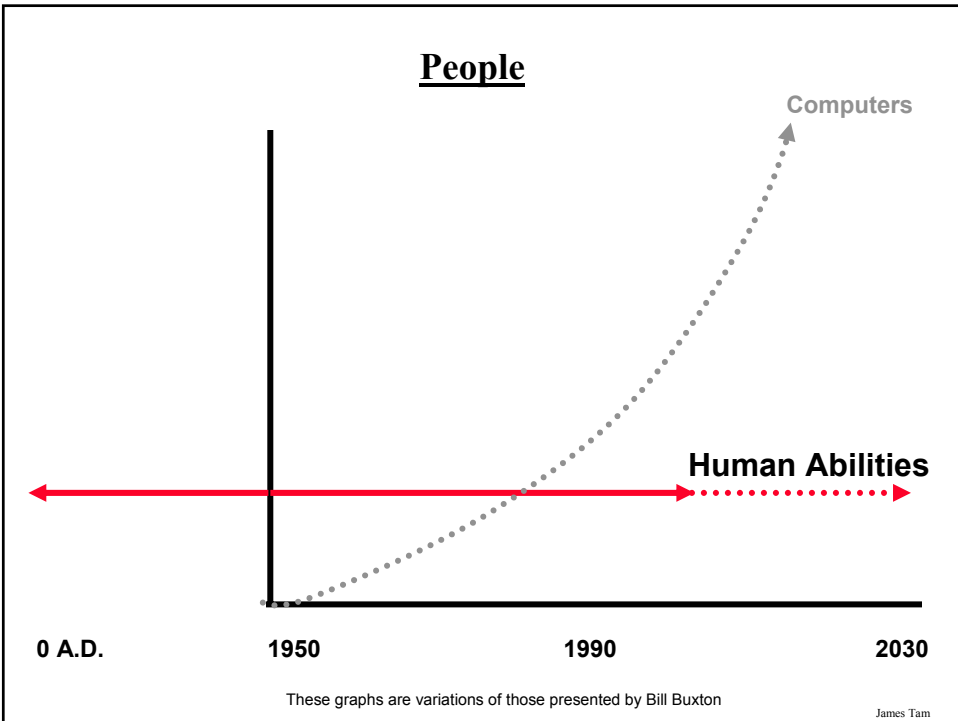
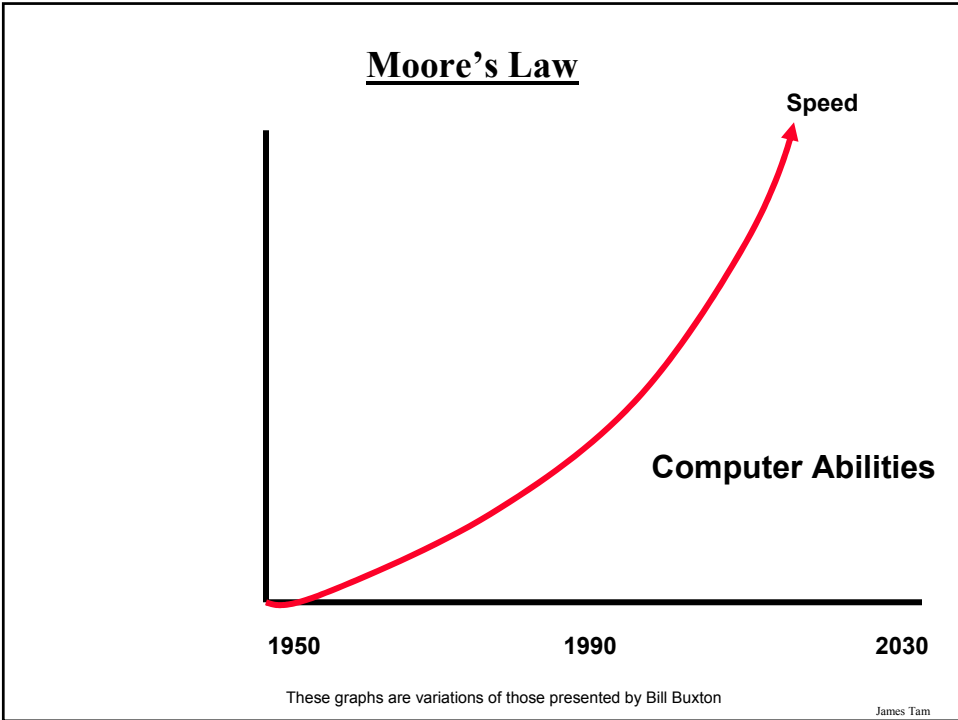
- Managers gave four usability-related reasons
  - Users requested changes
  - Overlooked tasks
  - Users did not understand their own requirements
  - Insufficient user-developer communication and understanding

### **Usability engineering**

- 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 dialogue flow
  - Is not easily used
  - Is never tested until it is too late



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## HCI Deals With The Interaction Of A Person And A Computer



**Technological perspective**



**Human perspective**

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## Technological Perspective

### **Technical constraints**

- A reality check does occur but “reality bats last”<sup>1</sup>
- Beyond the mouse the and keyboard?



<sup>1</sup> From the reading, The Inmates are running the asylum

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## Human Perspective

### How people process information

- Memory, perception, motor skills, attention etc.

### Language, communication and interaction

### Ergonomics



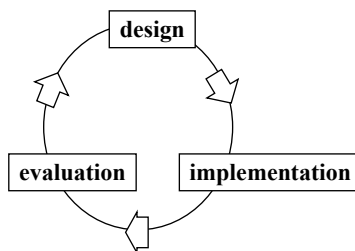
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## Human Computer Interaction

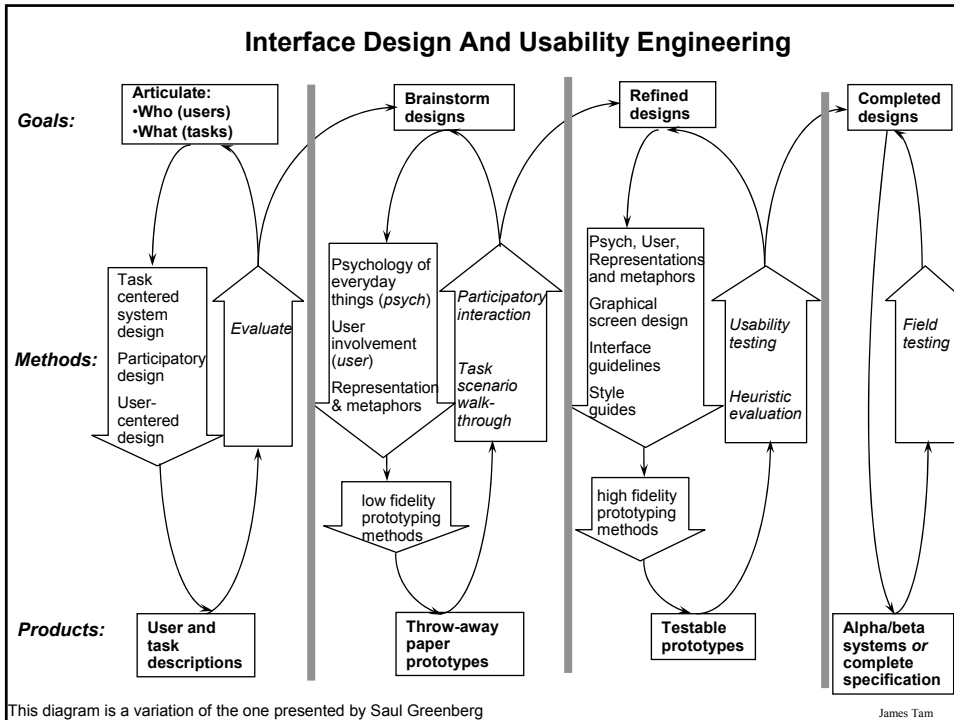
A discipline concerned with the

**design,  
implementation and  
evaluation**

**...of interactive computing systems for human use**



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## HCI.. Not Just Clicky, Clicky

**Chapter 1 |**  
**Introducing change awareness**

**1.1 Definition of change awareness & its value to group work**

Many projects depend upon collaborations between people. Individuals often bring different expertise to the project, and there is simply too much for only one person to do it all. However, when multiple make changes within a project, things can quickly spiral out of control. In particular, changes made by one person can wreck havoc on the work of others or even the entire project.

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## Objectives

**At the end of this course, you will**

- Know what is meant by good design (guidelines and models that can be applied to interface design)
- Know and have applied a variety of methods for involving the user in the design process
- Have experienced building applications through various methods and systems
- Know and have applied methods to evaluate interface quality
- Have sufficient background to
  - Apply your training in industry
  - Continue your education



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## What 481 Is Not About

- **The theory and mechanics of GUI programming**
- **How to programming with a GUI language e.g., Visual Basic programming**

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## How You Will Be Evaluated

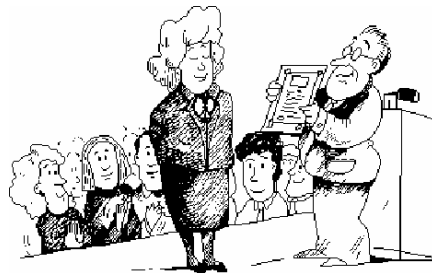
### 1) Assignments (50%)

- Portfolio:
  - Assignment 1 (TA mark): Task centered design and prototyping (13%)
  - Assignment 3 (Prof mark): System redesign, implementation, and evaluation (25%)
- Usability study:
  - Assignment 2 (TA mark): Usability evaluation of a large system in everyday use (12%)

### 2) Exams (50%)

- Mid-term (20%)
- Final (30%)

**Note: you must pass the exam and the assignment components to get a C- or higher in the course**



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## Group Work



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## Tutorials

### **Critical to your success in assignments**

- Elaboration of assignment specifications
- Discuss intermediate results
- Feedback on graded assignments
- Learn specific skills



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## Textbooks And Additional References

### **Lecture notes (required)**

- Sold at cost by the Copy Center
- Also available on the web  
(<http://www.cpsc.ucalgary.ca/~tamj/481/>)



### **Text books (optional)**

- Interaction Design: Beyond Human-Computer Interaction by Sharp, Preece and Rogers.
- Readings in Human Computer Interaction: Towards the Year 2000 (2nd Edition) by Baecker, Grudin, Buxton and Greenberg
- You can also choose whatever programming manual that you like best

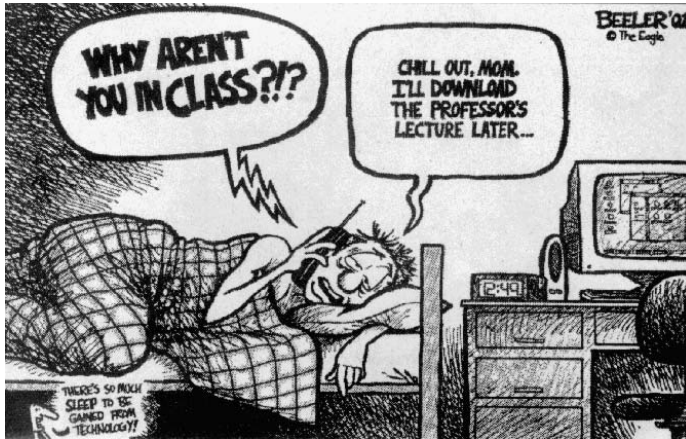
### **Extra readings**

- Some will be required, some are optional

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## How To Use The Course Resources

- They are provided to support and supplement lectures
- Neither the course notes nor the text book are meant as a substitute for regular attendance to lecture and lab



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