



Informatics 231: Course Introduction

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With credit to Julie Kientz, Khai Truong, Jake Wobbrock, Dave Hendry, Andy Ko, Jennifer Turns, & Elaine Huang



Laboratory for Ubiquitous Computing and Interaction

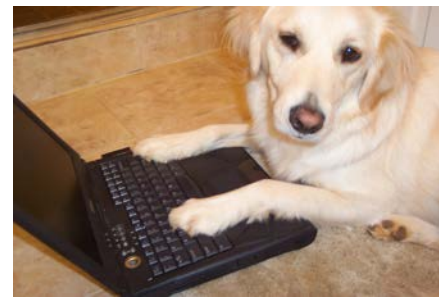
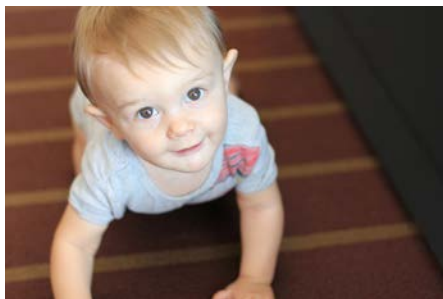
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Me

Assistant Professor in Informatics & Education,
UC Irvine

Research in Human-Computer Interaction and
Ubiquitous Computing for Vulnerable Populations

Contacting me: Email is best.... Then try in
person or phone



You

From a variety of programs: Computer Science, Engineering Management, ICS, Net Systems, Psychology & Behavior, Software Engineering

7 PhD students & 23 MS students



**You all recently registered for class,
got information about this class
online, etc.**

Was that painful?

- How do you know?
- Sometimes, painful isn't so obvious



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Current database:

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(Updated: 2007-10-24)

OCLC index of articles from the contents pages of journals

Search for:

Keyword



and



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Keyword



Limit to:

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Full text



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Rank by:

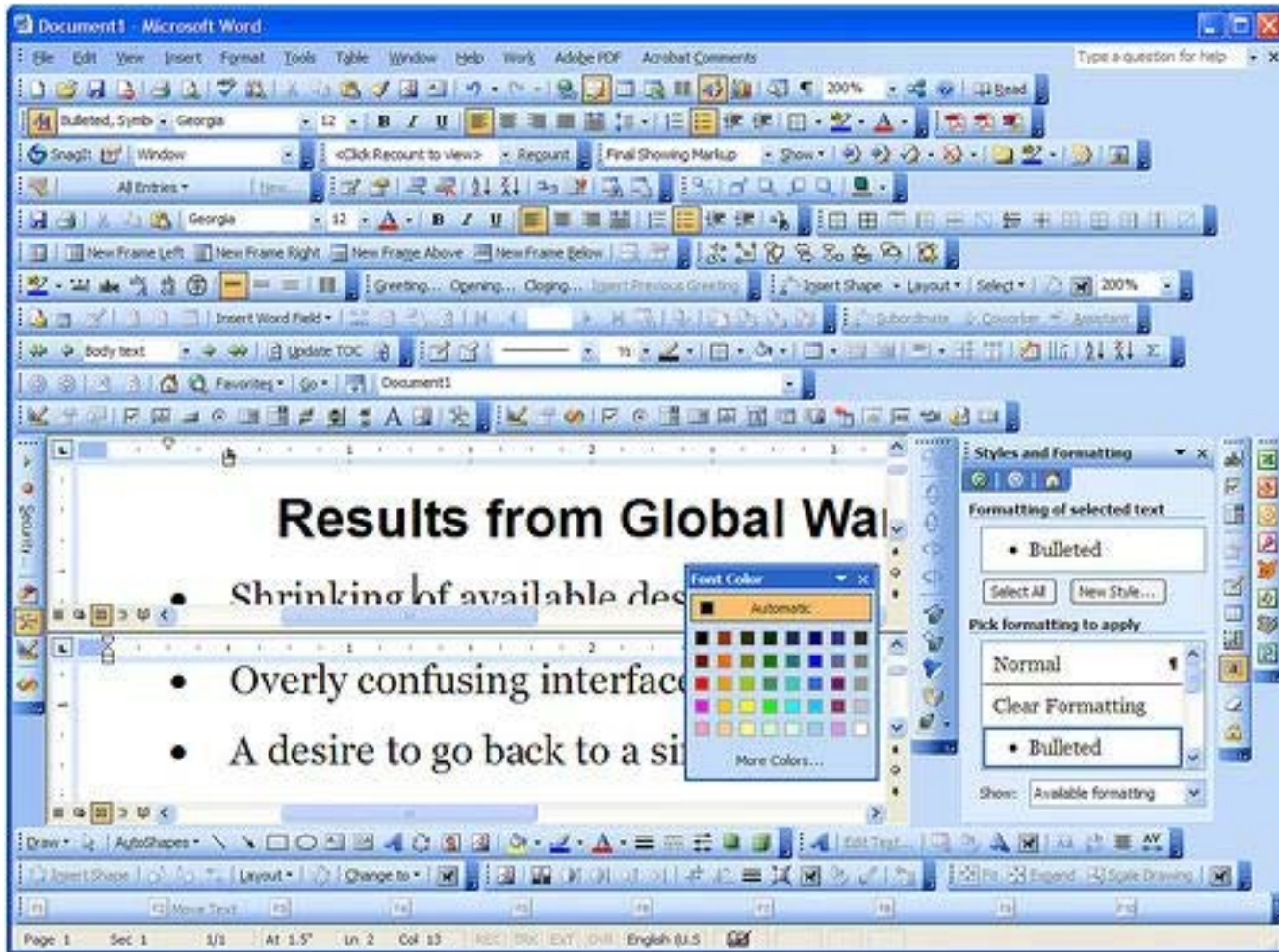
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Adobe Illustrator

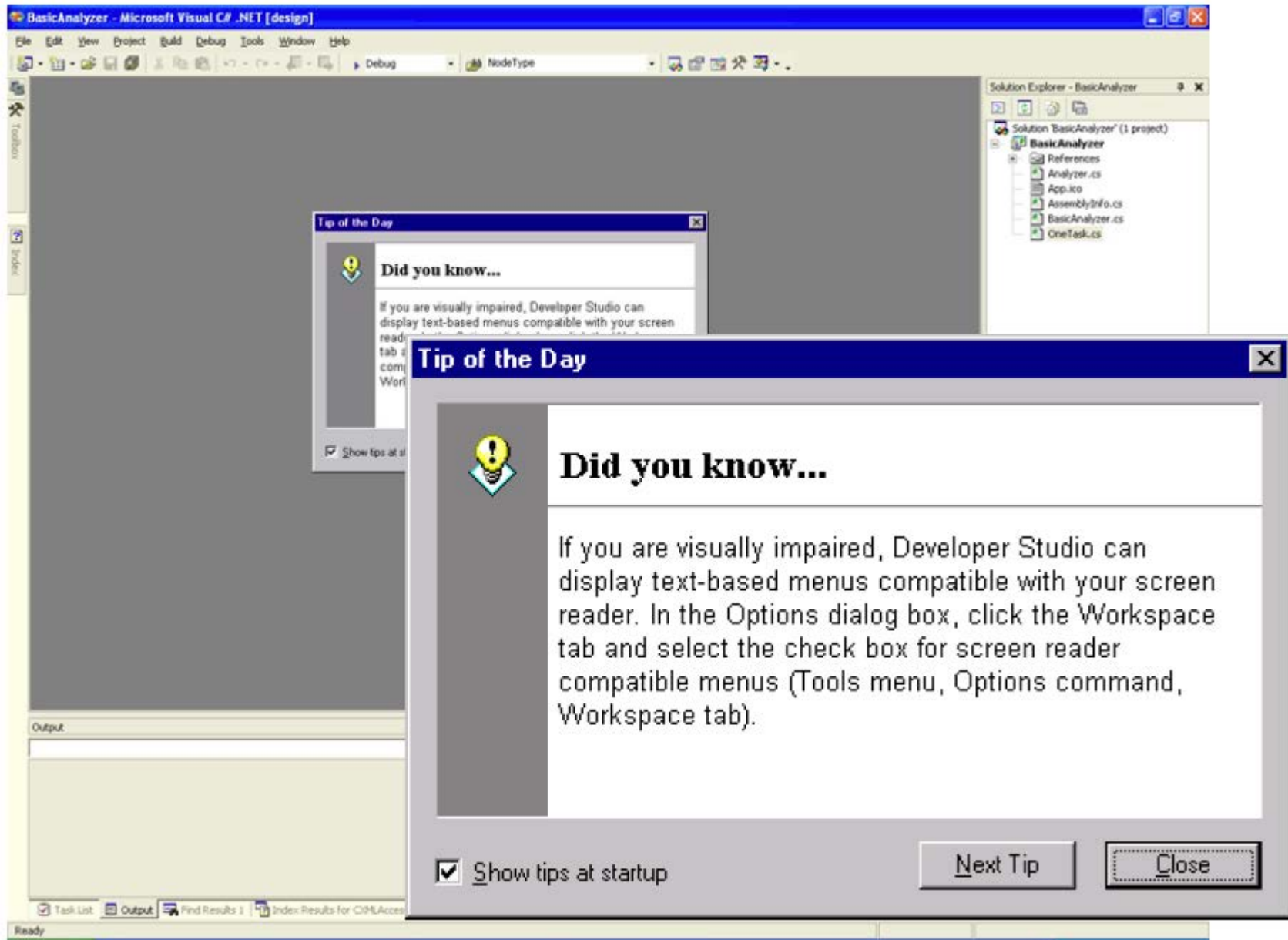


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Yes

No





Bad design is everywhere!



Bad design can have big consequences

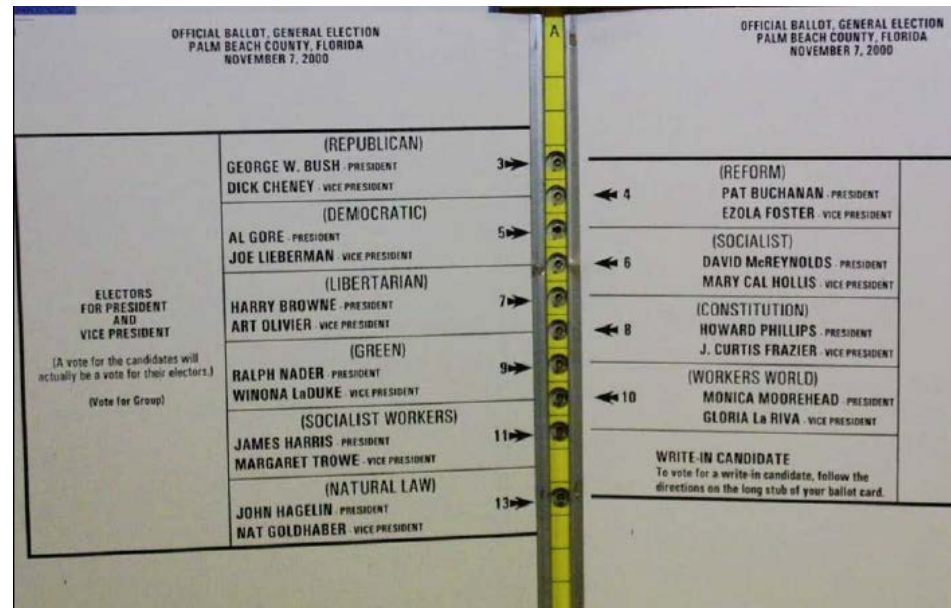
- Money

- \$60,000 disappeared

Additional Principal \$ (e.g., 300.00)

- Social issues

- Voting



Bad design can have big consequences

■ Human Lives

- Therac-25 Radiation Therapy machine
- Air traffic accidents
 - Iran Air 655 Airbus shot down by USS Vincennes' missiles (290 dead); **Human error plus confusing and incomplete Aegis interface** (S 13 4); Commentary on Tom Wicker article on Vincennes and SDI (S 13 4); **Aegis user interface changes recommended**; altitude, IFF problems (S 14 1); **Analysis implicates Aegis displays** and crew (Aerospace America, Apr 1989); Discussion of further intrinsic limitations (Matt Jaffe, S 14 5, R 8 74); USS Sides Cmdr David Carlson questions attack on Iranian jet (S 14 6)



But we can try to help

- NYNEX was going to buy new workstation for their telephone operators
 - Each second saved per call saves \$3M/yr.
 - User modeling discovered it would be 3% slower than original
 - NYNEX did not buy workstation
 - Prevented mistake, saved \$2M/yr.



Make It Colorful
The ubiquity of color printers, email, and PDFs means there's no excuse not to use one of the most effective tools in information design. We adopt a familiar green-yellow-red palette to make it easier to identify what needs immediate attention.

Make It Clear
Doctors presumably know what high or low numbers might mean. But there's no reason not to augment the data with qualitative interpretations for all results above and below "normal." Are your numbers a little low or a lot low? We explain.

Make It Simple
This printout is just what you need. It's original lists do many for even the more esoteric numbers, and a

Your Test Results

PATIENT: Cora Peterson

GENDER: Female
AGE: 41
DOB: August 12, 1969
ORDERED BY: Dr. Pico Duval

COLLECTED: November 13, 2010, 8:40 a.m.
RECEIVED: November 13, 2010, 8:12 p.m.

RESULTS:

Comprehensive Metabolic Panel

Glucose (fasting): 125 mg/dL



Vitamin D

Total vitamin D: 22 ng/mL



Complete Blood Cell Count (CBC) Normal for all 20 values, including white blood cell count (a high count can indicate infection).

Urinalysis Normal for all 20 values, including color, appearance, and protein.

Endocrinology Normal for TSH, which is an indicator of thyroid function, and for microalbumin and creatinine, measures of kidney function.

Chemistry Normal for iron, transferrin saturation, and ferritin. (Abnormal levels could indicate anemia, hepatitis, or other problems.)

WHAT DO YOUR RESULTS MEAN?

- ELEVATED GLUCOSE:** The relatively high amount of sugar in your blood is typical of a patient with prediabetes, which can double your risk for heart disease, depending on other risk factors. See diabetes.org for more information.
- ELEVATED CHOLESTEROL:** Your relatively high cholesterol (a waxy substance produced in the liver) may also increase your risk of heart disease, depending on other risk factors. See heart.org for more information.
- LOWER LEVELS OF VITAMIN D:** Your results suggest insufficient vitamin D, which promotes bone density and immune-system function. Women who fit your profile can become deficient within five months if no action is taken. Vitamin D deficiency may increase your risk for osteoporosis, high blood pressure, and certain cancers.

Your results at a glance:

- YOUR GLUCOSE LEVELS ARE TOO HIGH, WHICH INDICATES PREDIABETES.**
- YOUR VITAMIN D LEVEL IS TOO LOW.**
- YOUR CHOLESTEROL LEVELS ARE BORDERLINE HIGH.**
- YOUR KIDNEY, LIVER, AND THYROID FUNCTION ARE ALL NORMAL.**

Questions?

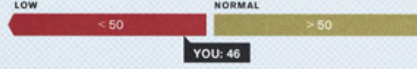
Contact the physician who ordered this test for further interpretation of the results:
DR. PICO DUVAL
(212) 555-5253

Lipid Profile

Total cholesterol: 211 mg/dL



HDL ("good" cholesterol): 46 mg/dL



LDL ("bad" cholesterol): 165 mg/dL



Triglycerides: 160 mg/dL



WHAT CAN YOU DO?

- CONSIDER YOUR LIFESTYLE.** If you are inactive, overweight, and/or a smoker, your risk for diabetes and heart disease rises. Exercising regularly (30 minutes/day) and reducing your weight by 5 to 10 percent lowers your risk of diabetes by 58 percent.
- ADDRESS OTHER RISK FACTORS FOR DIABETES AND HEART DISEASE.** Dietary changes, like reducing alcohol consumption and increasing fruit and vegetable intake, can decrease your cholesterol and triglyceride levels.
- ASK YOUR DOCTOR ABOUT REDUCING YOUR HEART DISEASE RISK.** Medications like statins can lower cholesterol and delay the onset of heart disease. Calculate your risk at hp2010.nhlbi.nih.net/atpiii/calculator.asp.
- CONSIDER LIFESTYLE CHANGES TO CORRECT VITAMIN D INSUFFICIENCY.** These include diet, vitamin D supplements, and more exposure to sunlight.

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Summary

- Design is everywhere
- Design is hard
- Most everything is designed
 - Much of it poorly
- Economic ramifications
- Life and death in certain situations
- There is hope!



Agenda

Motivation – Bad Interface Designs

- More bad designs: <http://www.baddesigns.com/>

Introductions

- Instructor, You

Review of Syllabus

What this course is about

Next class



Introductions – You – Design Activity

■ Invent a control for a smart home of the future
by:

1. Describing the **users**
2. Describing the **users' needs**
3. Describing the **functions**
4. Sketching its **appearance**



Design Activity: Process

1. Design Time (10 minutes)

- a. Work in teams of 4
- b. Define **users, needs, and functions**
- c. Create a sketch

2. Presentation Time (1 minute each)

- a. My Name is ...
- b. My Name is ...
- c. This is our control <show sketch>
- d. This control is for ... <describe **users**>
- e. Use this control to ... <describe **functions**>



Design Activity: Reflection

Interaction Design – designing interactive products to support the way people communicate and interact in their everyday and working lives in a way that creates an overall positive, engaging, and productive experience





Lets talk course requirements...



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Basic Course Info

- Website:
 - <http://www.gillianhayes.com/Inf231F12>
- Mailing List:
 - Inf231-F12@classes.uci.edu



Assessment

Component	Worth
Class Participation	10%
Reading Reflections	10%
Individual Assignments	30%
Sketching Project	10%
Group Design Project	40%

Grades will be posted on EEE's gradebook



Participation

- Treat all with respect – be constructive in all discussions
- Come to class prepared – read carefully prior to class meetings
- Be an active listener – be attentive, be engaged, use in-class technology with discretion
- Ask challenging questions
- Comment, build on, or clarify others' contributions
- Help your classmates use technologies
- Post useful or interesting information to the class discussion list



Readings

- There is **a lot** of reading in this course
 - As graduate students, I assume that you like to read
- All readings except DFAB textbook are available on course web page
 - None of the readings are pointless
- Reading Reflections
 - Rn on the schedule
 - About 400-600 words per response
 - Let's vote: In person or on blog?



Assignments

Assignment	Due
A1: Thinking About Design	10/11/12
A2: Look, Learn, Ask, Try	10/25/12
A3: Paper Prototype	11/27/12



Project – 40%

- Group project enabling you to apply the lessons learned in class to a real problem
 - Work in teams of 3 or 4
 - Teams & project topics determined weeks 2-3
 - Class time will be provided for coordinating team efforts



Project Topics

- CHI 2012 Student Design Competition Theme
 - Empowering the Crowd: Changing Perspectives Through Collaboration
<http://chi2013.acm.org/authors/call-for-participation/student-competitions/student-design-competition>
- Anything else you're interested in
- More guidance will be given later on



Project

Project Component	Worth	Due Date
P0: Design Question & Team Form	1%	10/11/12
P1: User Research & Personas	10%	10/30/12
P2: Ideation & Sketching	5%	11/13/12 & 11/15/12
P3: Prototypes	10%	12/4/12
P4: Final Report including Evaluation Plan	14%	Finals Week



Team Composition

- 4 members from a diverse team
 - You get to choose the teams....
 - ...but I get some input

- By one week from today, I want to see team formation
 - At least two different “majors”
 - Other kinds of diversity – gender, nationality, etc.



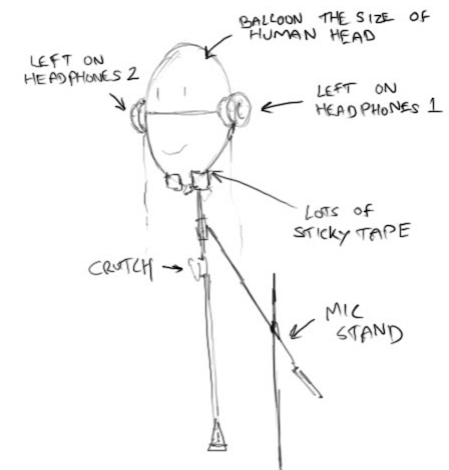
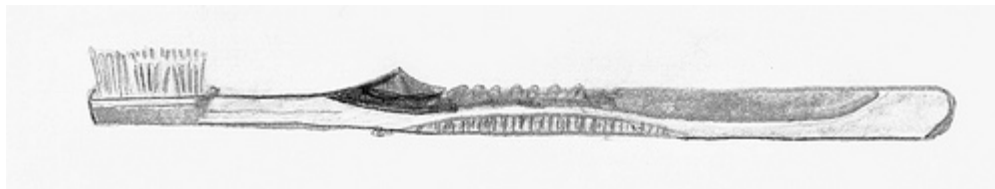
Sketching Project – 10%

- Think about the products and things you use in everyday life
 - They were all designed by someone!
 - Designs are rarely perfect the first time
- Sketching is an important skill in design
 - Quantity + Practice increases ability
 - Sketching is an *activity and thought process* and way of *communicating ideas* to others



Sketching Project

- In weeks 2-7, sketch at least 3 new ideas for how you might improve everyday interactive objects relating to that week's theme



- Must have at least 18 sketches by the end of the quarter

Sketching Project

- Each Thursday in weeks 2-7 bring your sketchbook to class with 3 sketches
- You will meet in small groups to critique each others' ideas and take notes
- At the end of the quarter, you'll submit your sketchbook and a short report that reflects on your experience



Policies

- Academic integrity
- Grading
- Extensions
- Late assignments
- Accommodation
- Quality of written assignments
- Attendance
- Food



My Expectations of You

- Be here on time
- Do the readings before class
- Turn in everything on time
- Speak up in class
- Turn off cell phones, no texting
- No email, IM, web
- Respect each other
- There are no stupid questions/ideas



What You Can Expect of Me

- I will be here on time
- Your assignments will be graded in a timely manner
 - Typically within 1-2 weeks
- I will respond to email in a timely manner
 - Typically within 24 hours; if not, PLEASE RESEND
- If I don't know the answer to your question, I will find out
- I will treat you as professional colleagues
- You will have an opportunity to evaluate both me and the course



Course Topics

- Design Process, Fundamentals of Interaction
- User Research Methods
- Conveying User Research
- Sketching
- Prototyping
- Evaluation
- Current Trends & Issues



What this course isn't

- This course isn't about technology
- It isn't (just) about user interfaces
- It isn't about “user friendly”
- It isn't about programming



What this course is

- This course is about engaging users to design the human-computer *system*
- It is about *interaction*, not interface
- It is about user *success*
 - “User friendly” isn’t enough
- Mantra: “The user is not like me!”



What you will learn

■ Design

- design process
- design methods
- creating useful and usable things!

■ Science

- conduct usability evaluations
- empirical methods, how to handle data

■ Art

- an eye for the good, the bad, and the *ugly*
- what to do about them





Questions???

