

# User Interface Design

No screens




Prof. Lydia Chilton  
COMS 4170  
22 January 2020

Say your name



# I've been teaching Web Dev & UI for 12 years



6.470 IAP

home  
lectures  
challenge

## Web Programming

### 2010 Winners

First Place - \$6000  
[IronNerd](#)  
Daniel Whitlow, Jong-moon Kim

Second Place - \$5000  
[NBA Rewind](#)  
Raymond Ma

Third Place - \$4000  
[Lambda Fitness](#)  
Ryan Ko, Cai Gogwilt, Jacob Bredthauer

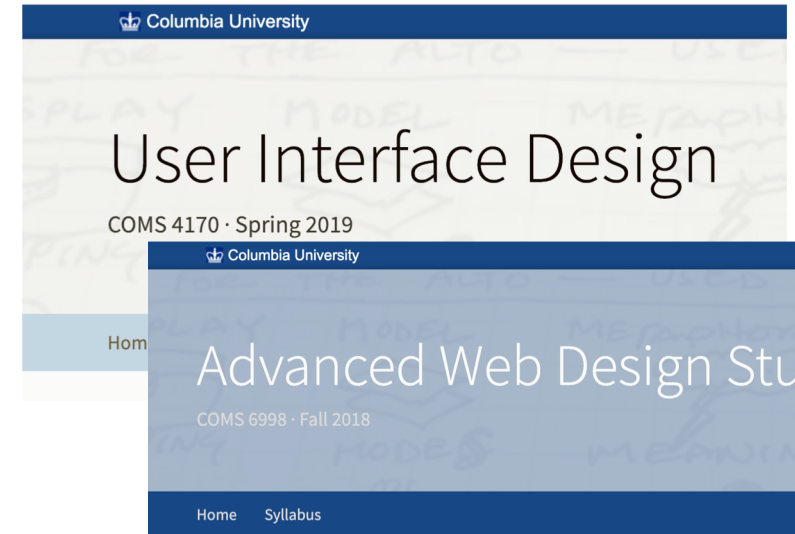
TA'd AI  
courses



Home Syllabus Logistics Projects -

## HCI design studio

CS 247 · Spring 2017



Columbia University

## User Interface Design

COMS 4170 · Spring 2019

Columbia University

## Advanced Web Design Studio

COMS 6998 · Fall 2018

Home Syllabus

**MIT**  
2008 - 2010

**Univ Washington**  
2012 - 2013

**Stanford**  
2014 - 2016

**Columbia**  
2017 - now



# My goal is to use your time well.

- I want you to understand how design is a useful skill in your life.
- I want to interact with you on an individual basis
- I do **not want** anyone to be bored, lost, zoned-out, or stalking their ex on Facebook.

No screens.



If you are lost, interact.



# 4170 Staff

- Prof. Chilton
  - Office hours: Mondays 5:30-6:30 in CEPSR 612
  - Please come to my office hours! Ask me programming questions
- 12 TAs for 2 sections (230 total students)
  - Come to any TA's office hours (regardless of section)
- I hope to learn all of your names. It helps me if you say your name when I call on you.

Why are user interfaces  
important?

1613 – 1940s

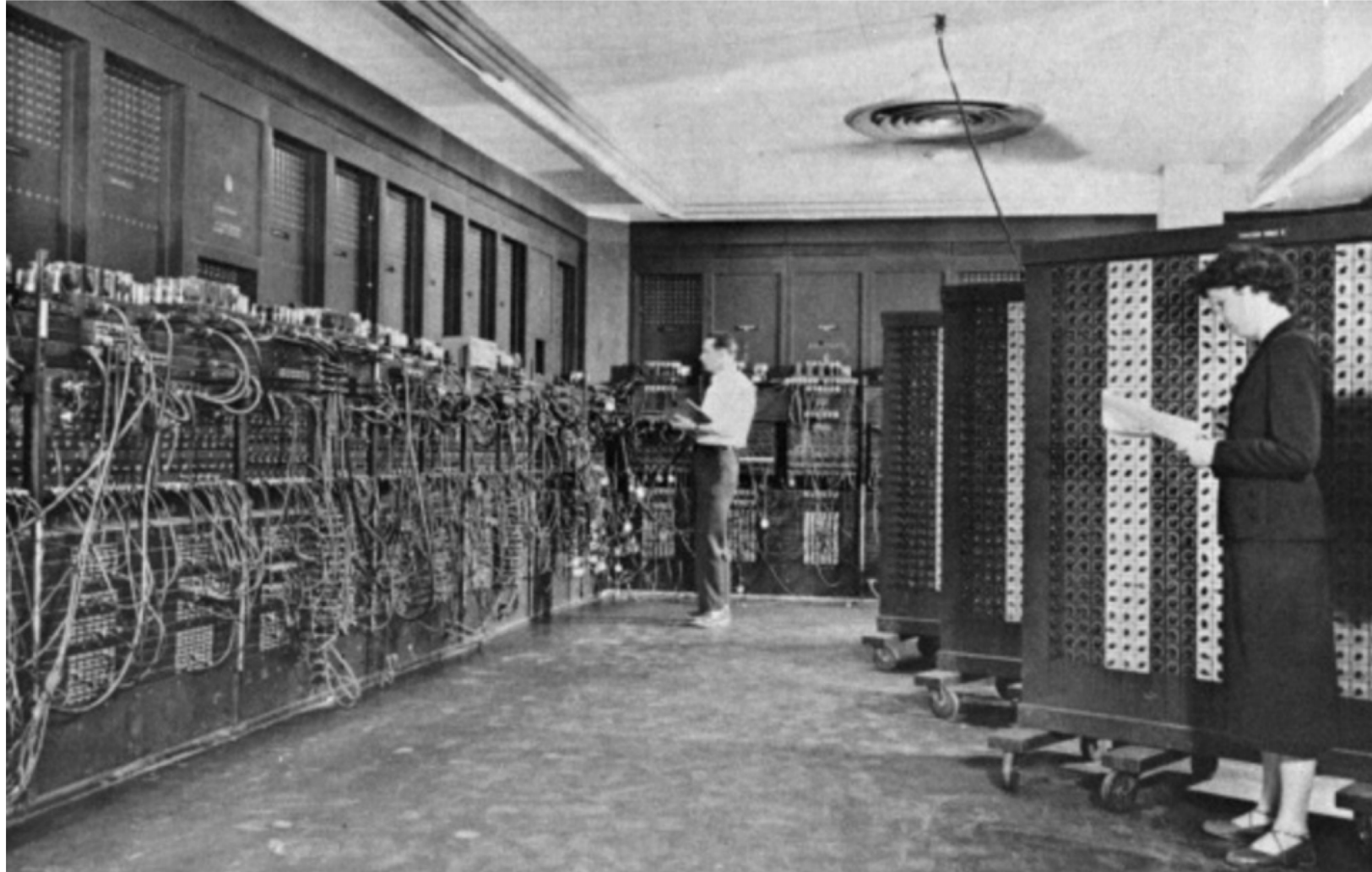
# Computers: people who performed calculations





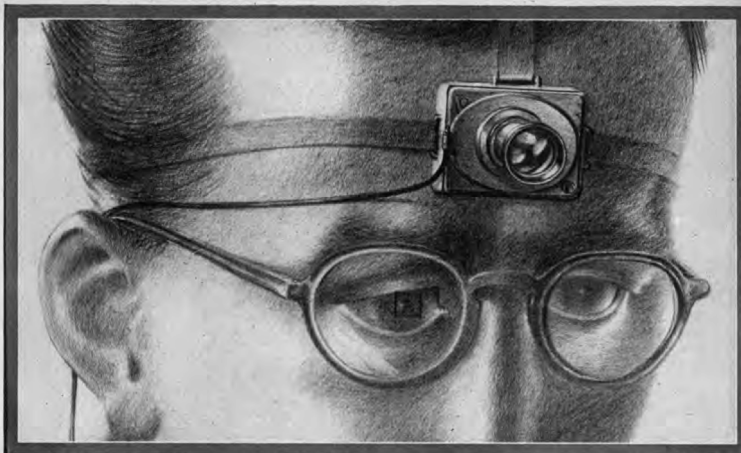
1940s – 1960s

# Computers: Tools for Calculation and Symbolic Manipulation



# Computers: tools to augment human cognition

## Vannevar Bush's vision of computers



A SCIENTIST OF THE FUTURE RECORDS EXPERIMENTS WITH A TINY CAMERA FITTED WITH UNIVERSAL-FOCUS LENS. THE SMALL SQUARE IN THE EYEGASS AT THE LEFT SIGHTS THE OBJECT

## AS WE MAY THINK

A TOP U. S. SCIENTIST FORESEES A POSSIBLE FUTURE WORLD IN WHICH MAN-MADE MACHINES WILL START TO THINK

by VANNEVAR BUSH

DIRECTOR OF THE OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT  
Condensed from the *Atlantic Monthly*, July 1945

This has not been a scientists' war; it has been a war in which all have had a part. The scientists, burying their old professional competition in the demand of a common cause, have shared greatly and learned much. It has been exhilarating to work in effective partnership. What are the scientists to do next?

For the biologists, and particularly for the medical scientists, there can be little indecision, for their war work has hardly required them to leave the old paths. Many indeed have been able to carry on their war research in their familiar peacetime laboratories. Their objectives remain much the same.

It is the physicists who have been thrown most violently off stride, who have left academic pursuits for the making of strange destructive gadgets, who have had to devise new methods for their unanticipated assignments. They have done their part on the devices that made it possible to turn back the enemy. They have worked in combined effort with the physicists of our allies. They have felt within themselves the stir of achievement. They have been part of a great team. Now one asks where they will find objectives worthy of their best.

There is a growing mountain of research. But there is increased evidence that we are being bogged down today as specialization extends. The investigator is staggered by the findings and conclusions of thousands of other workers—conclusions which he cannot find time to grasp, much less to remember, as they appear. Yet specialization becomes increasingly necessary for prog-

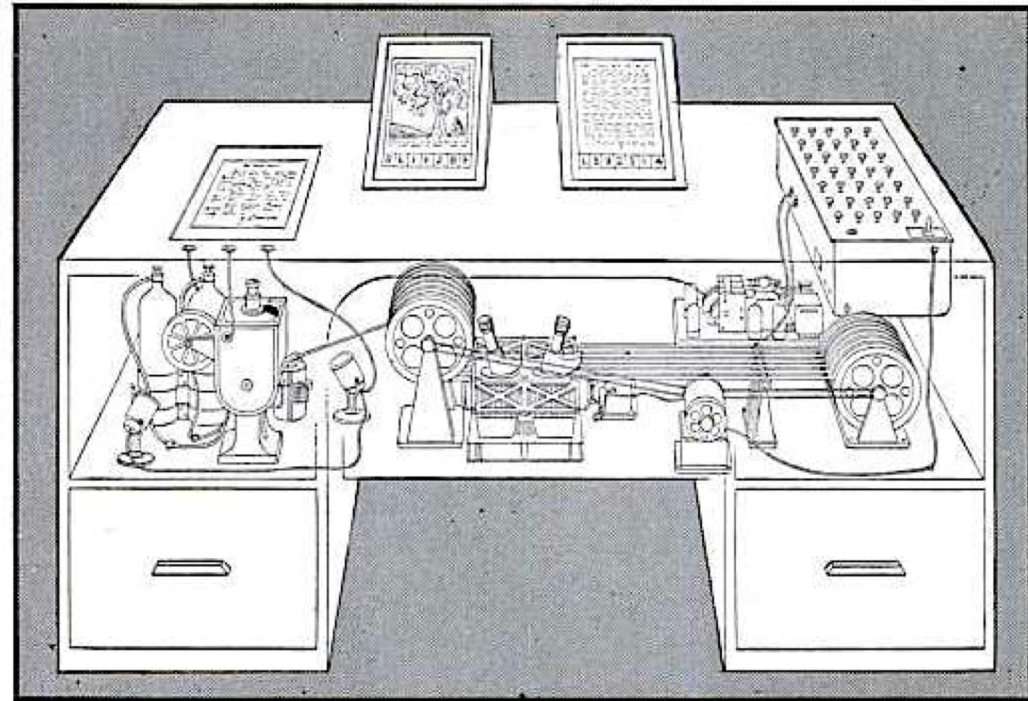
ress, and the effort to bridge between disciplines is correspondingly superficial.

Professionally our methods of transmitting and reviewing the results of research are generations old and by now are totally inadequate for their purpose. If the aggregate time spent in writing scholarly works and in reading them could be evaluated, the ratio between these amounts of time might well be startling. Those who conscientiously attempt to keep abreast of current thought, even in restricted fields, by close and continuous reading might well shy away from an examination calculated to show how much of the previous month's efforts could be produced on call.

Mendel's concept of the laws of genetics was lost to the world for a generation because his publication did not reach the few who were capable of grasping and extending it. This sort of catastrophe is undoubtedly being repeated all about us as truly significant attainments become lost in the mass of the inconsequential.

Publication has been extended far beyond our present ability to make real use of the record. The summation of human experience is being expanded at a prodigious rate, and the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships.

But there are signs of a change as new and powerful instrumentalities come into use. Photocells capable of seeing things in a physical sense, advanced photography which can record what is seen or even what is now, thermionic tubes capable of controlling potent forces under the guidance of

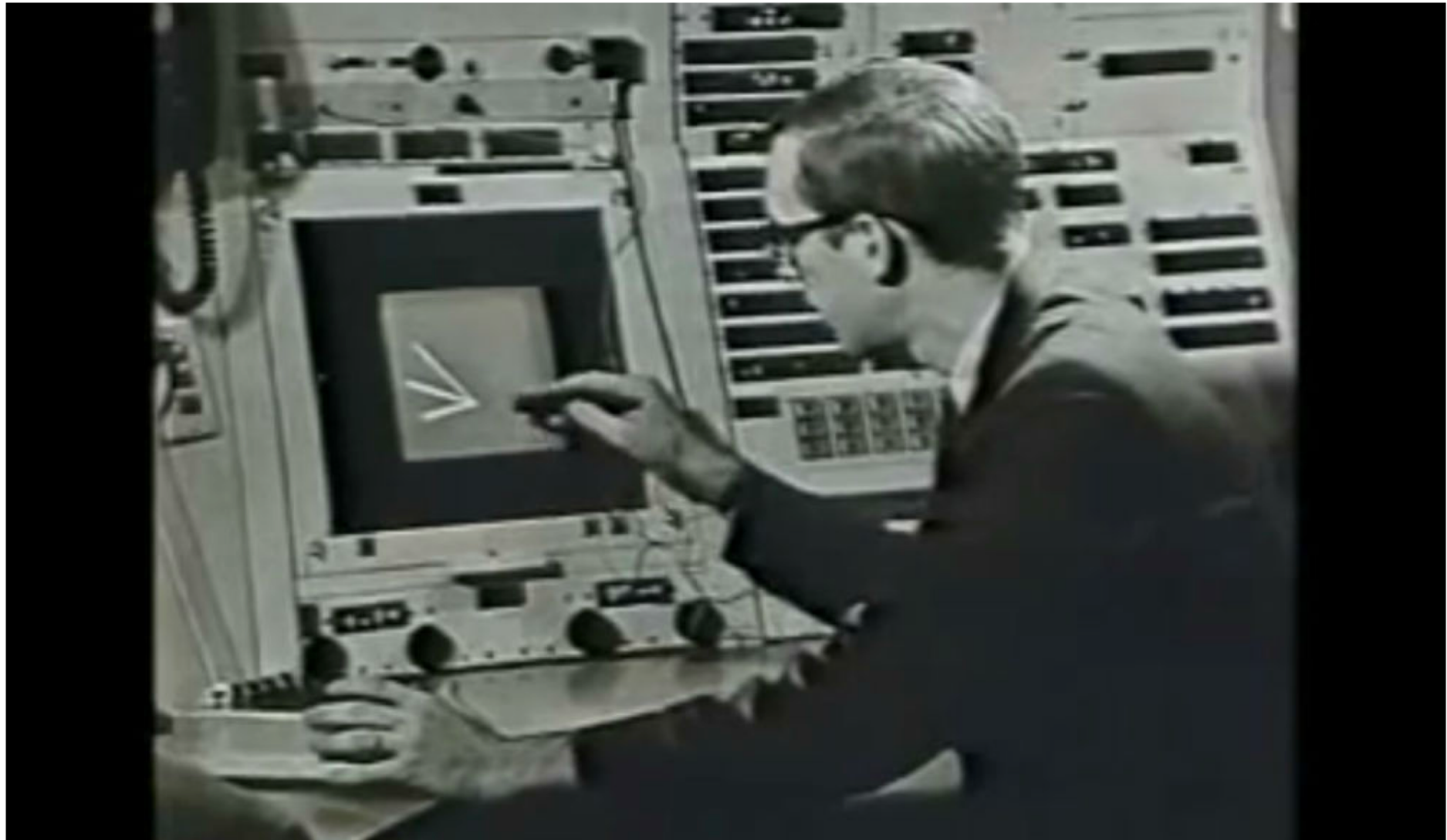


**MEMEX** in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files them in the desk for future reference.

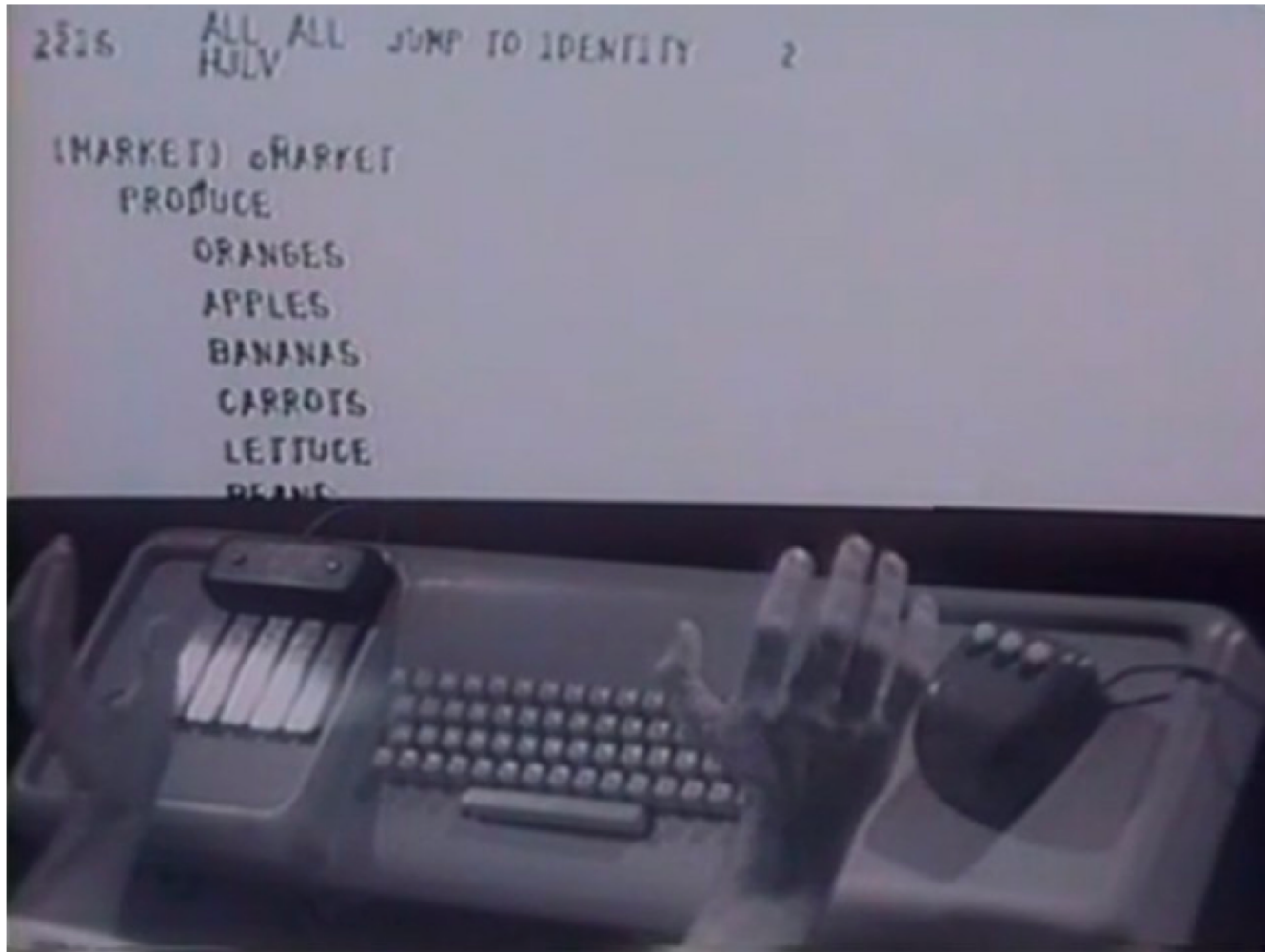
**AS WE MAY THINK** CONTINUED



# 1963: First Graphical User Interface Ivan Sutherland's CAD software, Sketchpad

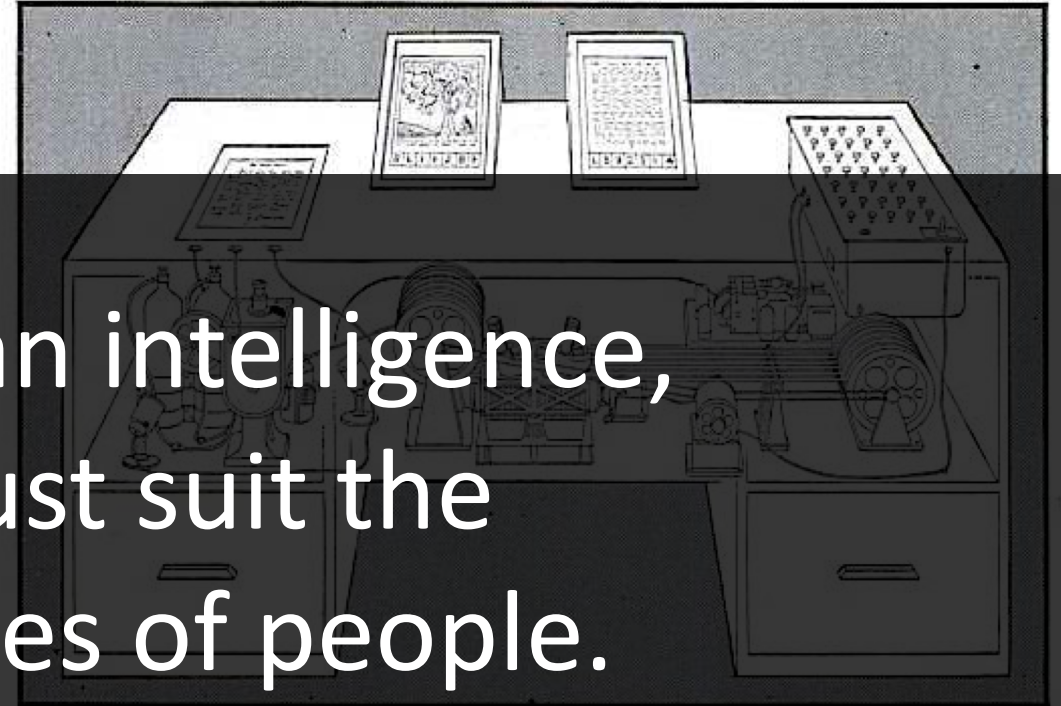
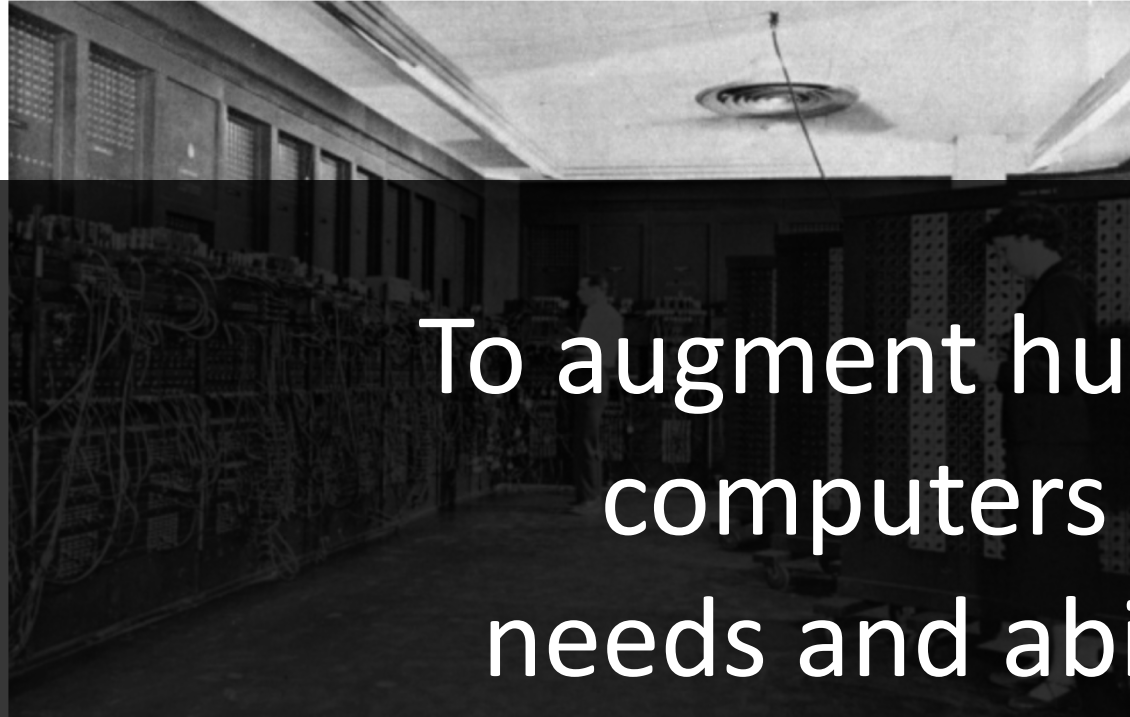


# 1968: Interaction devices for computer use. Douglas Engelbart's mouse



Computers: Tools for calculation.

Computers: Tools to augment human intelligence.



To augment human intelligence,  
computers must suit the  
needs and abilities of people.

**Computer-centric**  
interface

**Human-centric**  
interface



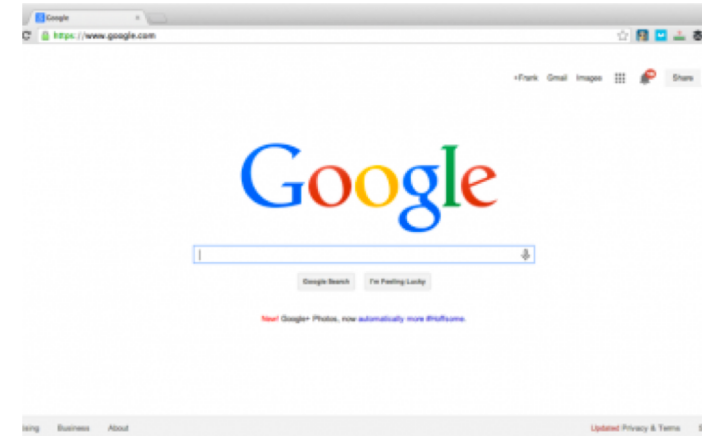
# The Internet: The Rise of Usability



For physical products, users did not get to experience the usability of the product until **after they bought it.**



For desktop software, users call expensive support centers, but the costs aren't "charged" to the software engineers, so they have **no motivation to ship great UIs.**

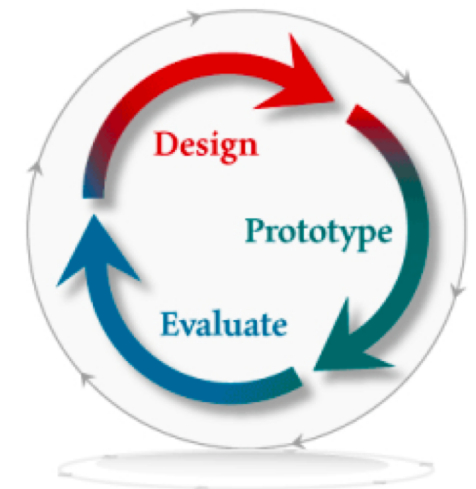
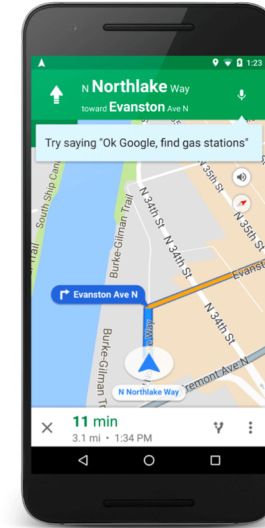


On the Web, users experience the usability of a site before they have committed to using it and before they buy it.

**UI is now the primary "selling point" of software**

# Goals of COMS 4170

1. Build websites that suit the **needs and abilities** of users.
2. When the needs and abilities of users are unclear, design systems by **learning from iteration** and experimentation.



Grading: this class is not curved

**A**  $\geq$  90%

90%  $>$  **B**  $\geq$  80%

80%  $>$  **C**  $\geq$  70%

70%  $>$  **D**  $\geq$  60%

60%  $>$  **F**



# Grade breakdown

- **Weekly Homework: 65%**
  - 13 homework assignments
  - Each homework worth 5% of grade
- **Individual Final Project: 20%**
  - Due May 11<sup>th</sup> 11:59pm. No late assignment accepted. At all. Not even one minute late.
- **Participation: 15%**
  - Come to every class and speak up
  - Every class is worth ~0.5% of your grade
  - We will drop your two lowest participation grades.
- No final exam

# Late Policy for Homework

- Assignments are due Wednesdays at 4pm
  - There is a small grace period, which we will not announce.
  - Assume it is 10 minutes.
- 24 hours late get 10% deducted (Thurs 4pm)
- 48 hours late get 20% deducted (Friday 4pm)
- 72 hours late get 30% deducted (Saturday 4pm)
- 96 hours late get 40% deducted (Sunday 4pm)
- 120 hours late get 40% deducted (Monday 4pm)
- After 4pm Monday, work cannot be accepted because we will discuss solutions in class.
- If you are ill or have other difficulties,
  - **Email Prof Chilton before the due date** to let us know.
  - Provide note from a doctor or advising dean
  - Email me a plan for when you will submit the work
  - It can't be later than 5 days (Monday 4pm)

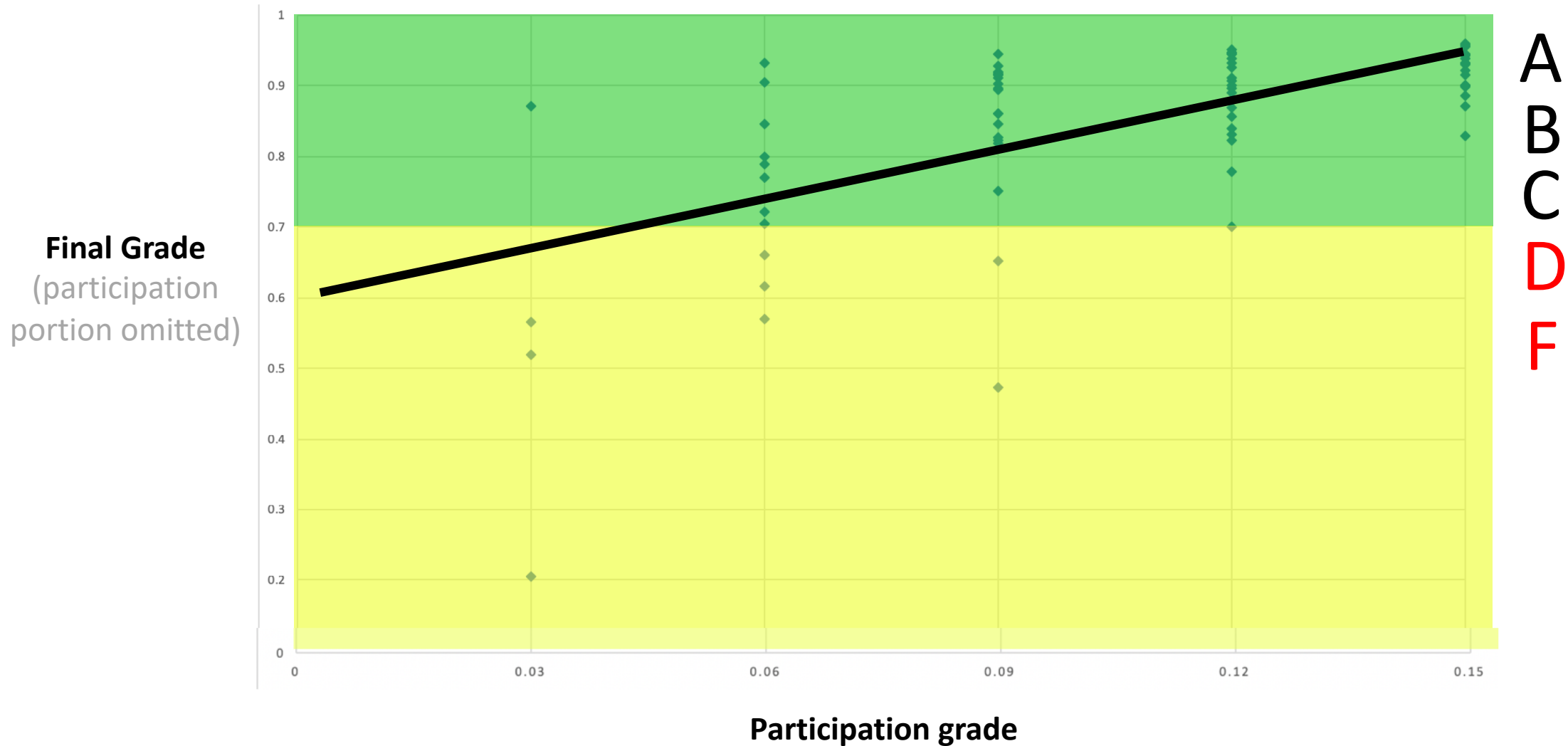
# Participation make up policy for excused absences

- Email Prof Chilton before the class
- Provide note from a doctor or advising dean
- Watch the video of the class.
- Write a 1-page summary of the key points of the lecture
- Bring it to a staff member during office hours to go over it.

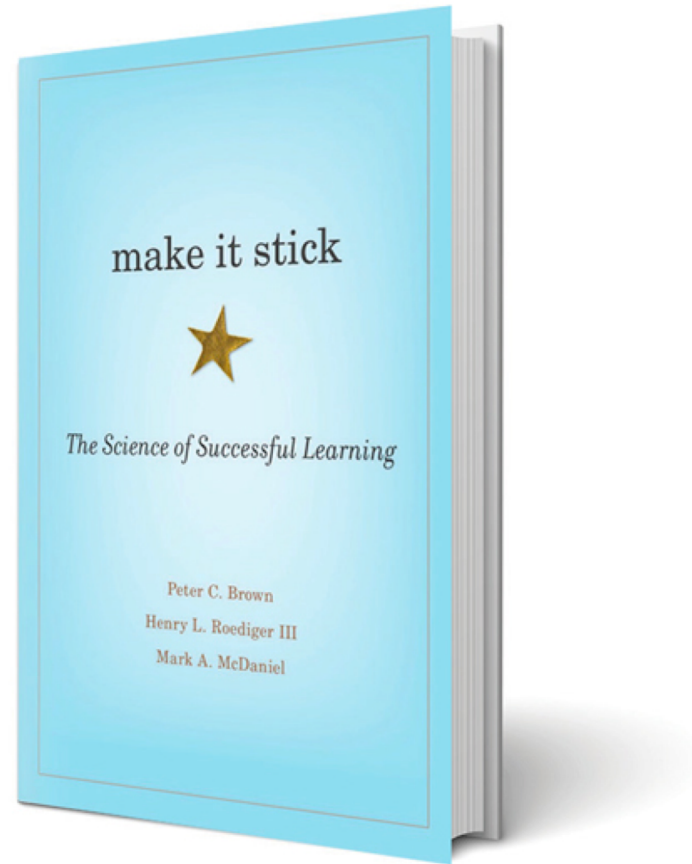
# How we measure participation

- Speak up once during class
- After class, we will send out a Google form to log participation.
  - Your uni
  - What you said (just to remind us)
- Due by 6pm after class

# Why is participation 15% of my grade?

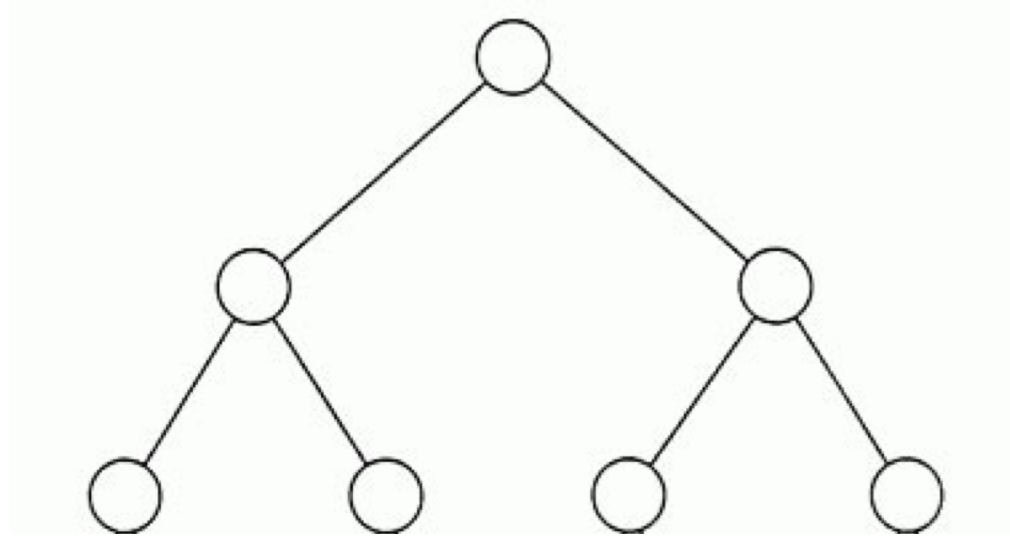


# Two reasons why participation affects learning

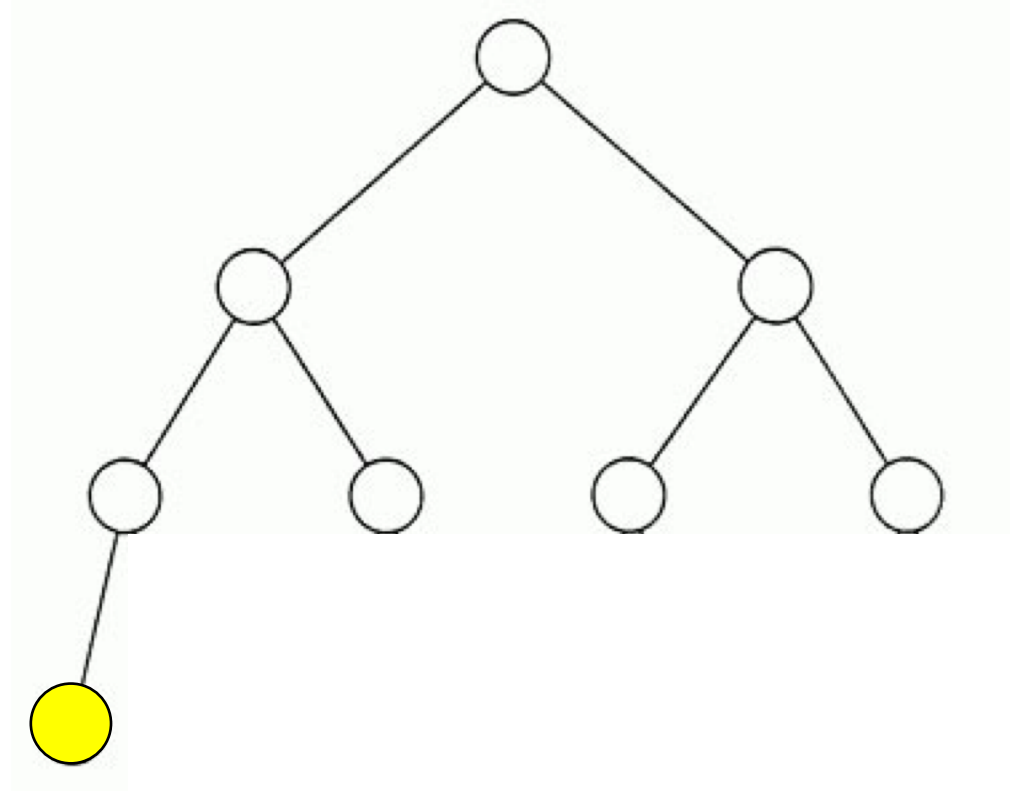




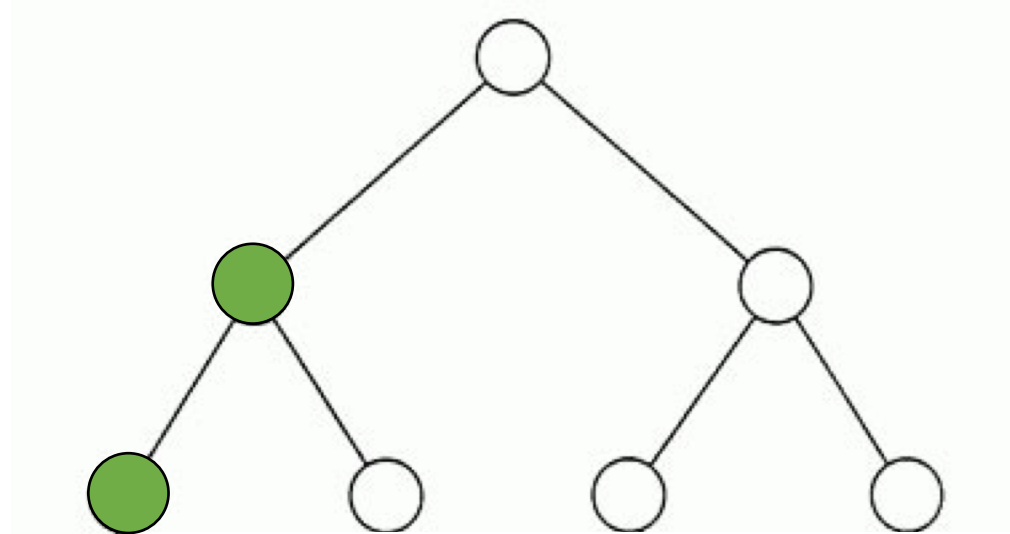
# Human memory is tree-structured



New knowledge gets appended to the tree.

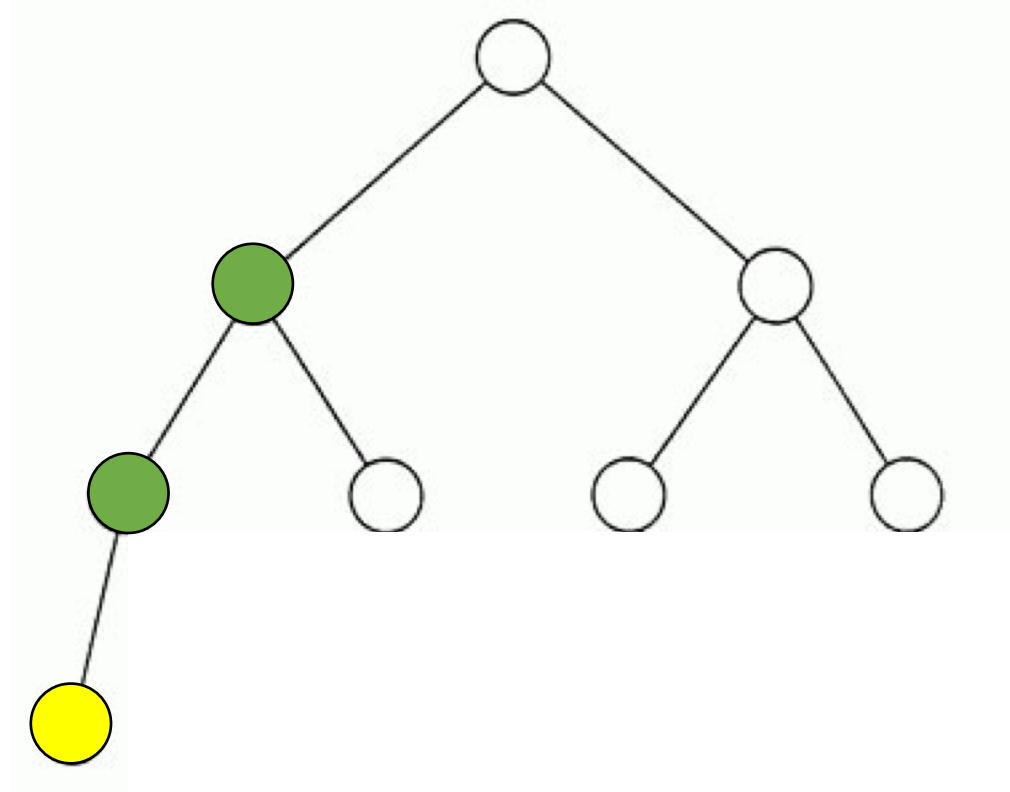


# Where does new knowledge get appended?



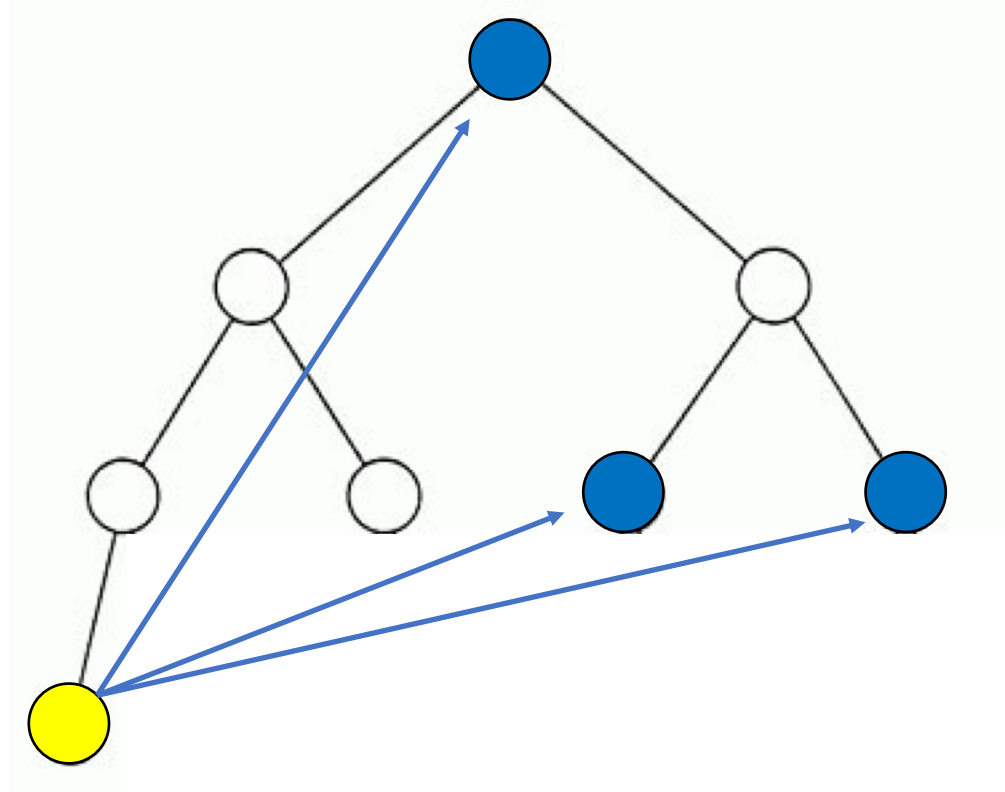
To where nodes of tree are currently active.

1. By guessing about new knowledge before it is presented, you warm up the right place to store it in memory.

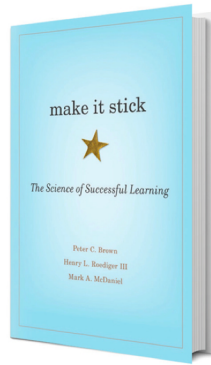


**Generation:** Guessing before you hear the answer

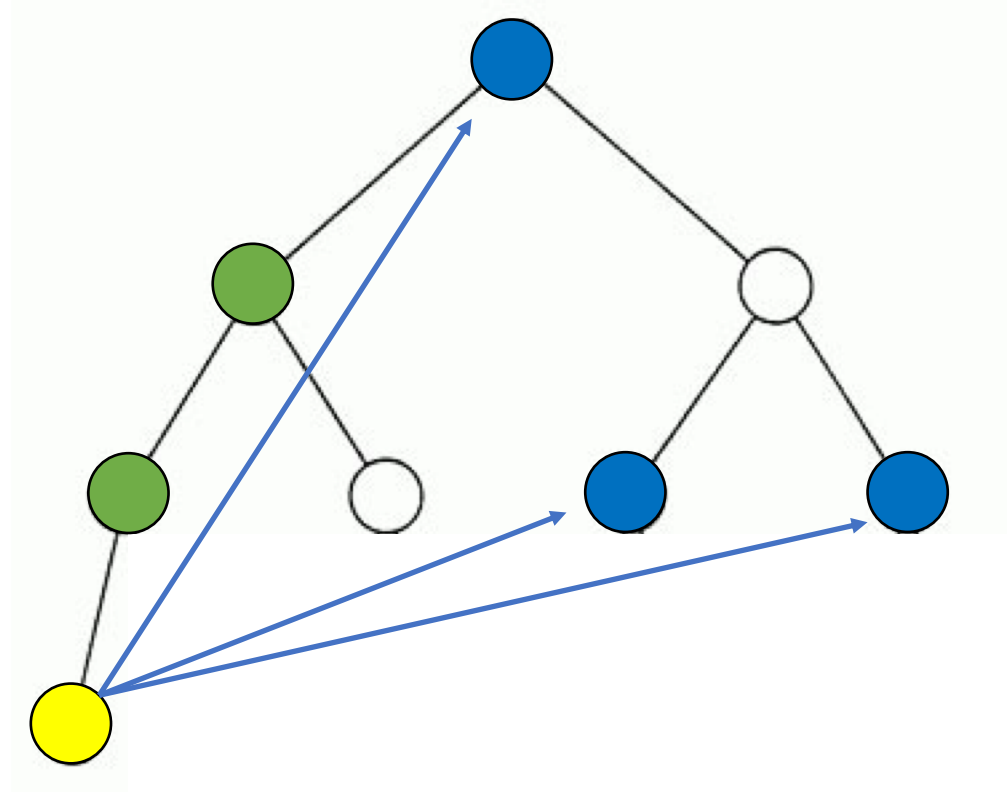
2. Once you hear the new knowledge, you want to connect it to other knowledge so it will trigger at relevant times.



**Elaboration:** Relating new knowledge to old topics.



# Generation & Elaboration



Guess about the new knowledge.  
Must take risks, you will probably be (partially)  
wrong.

Relate new knowledge to old topics.  
This aspect of participation is about providing  
insights.



# Learning from mistakes is good

Tell us about a time that you were wrong about something and learned something from it.

Long answer text

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# Learning from mistakes is good

Tell us about a time that you were wrong about something and learned something from it.

Long answer text

You are here because you expressed an insight about a time you learned from a mistake.

You were admitted to the this class because you were able to express an insight from a time you made a mistake.

# A lesson from a hobby

Early in high school as captain of basketball team I thought I would help the team most by dominating possession of the ball. However, I learned over time that getting teammates more involved created better results, both in terms of winning games and in terms of the team's overall happiness.

Even if one can come up with a solution, it is often the case that someone else has important input, **so working together can help result in a more efficient answer.**

# A lesson from work

As Video Intern for Impressive Company, I was tasked with creating original viral content. One of my ideas involved solo dancing in the middle of Times Square. However, upon executing and uploading the video, I realized it fell flat. I realized this wasn't the kind of content our viewers wanted to share on their timelines—it didn't speak to a shared experience.

The video was taken down after five minutes, and I learned to focus **more immediately relatable topics**. This led to the creation of the video captioned "when you LOVE spice," which has me pouring hot sauce on absurd foods such as cereal and kitkats. This video, in comparison, immediately went viral and saw 8 million views.

# A lesson from programming

So, I strongly (and I mean strongly) prefer statically-typed languages over dynamically-typed. It just scares me to no ends not knowing how data flows throughout a program until run-time. Therefore, languages like Python sometime annoy me to death. But, recently, I came to realize that was wrong about such a mindset. **I really should not be treating programming as an ideological construct, but more of a practical tool instead.**

All these lessons are from **concrete** examples

In this class, we focus on building concrete examples, and generalizing abstract principles from that. Abstract ideas and principles aren't relatable by themselves.

Let's see some concrete examples of good and bad UI.

# Lecture 1: 10 Usability Heuristics

**No screens**



Prof. Chilton  
COMS 4170  
22 January 2020

**Say your name**



# 1. Visibility of system status

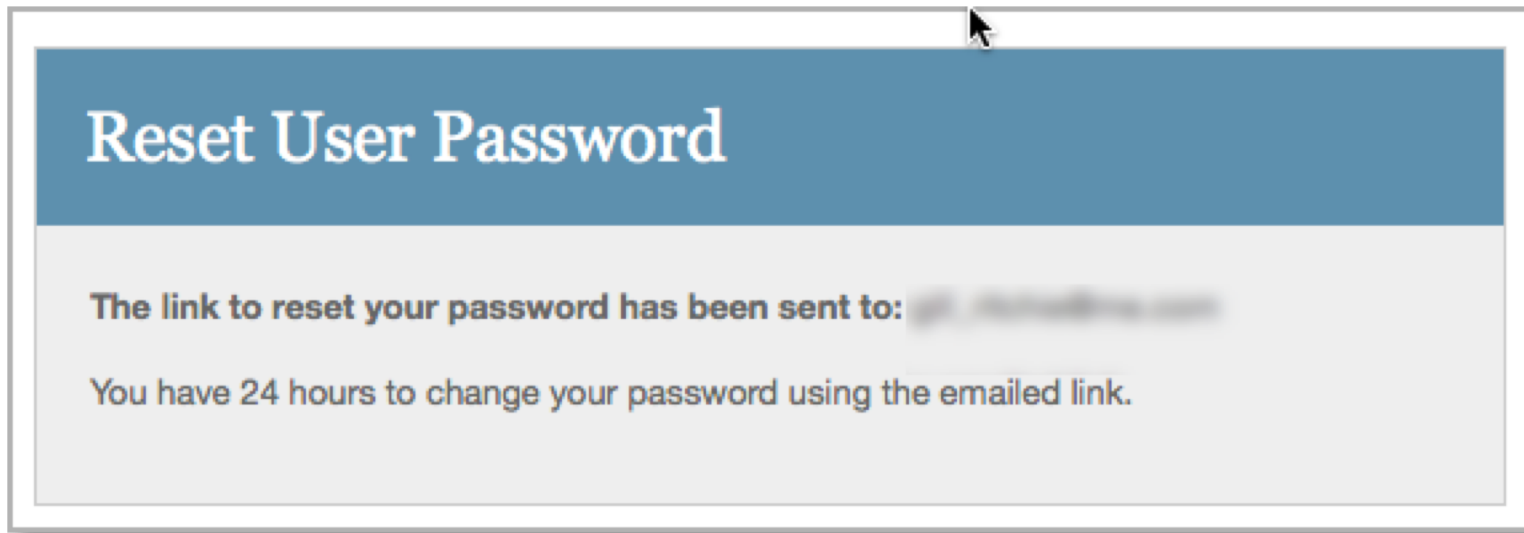
The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.





# 1. Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.



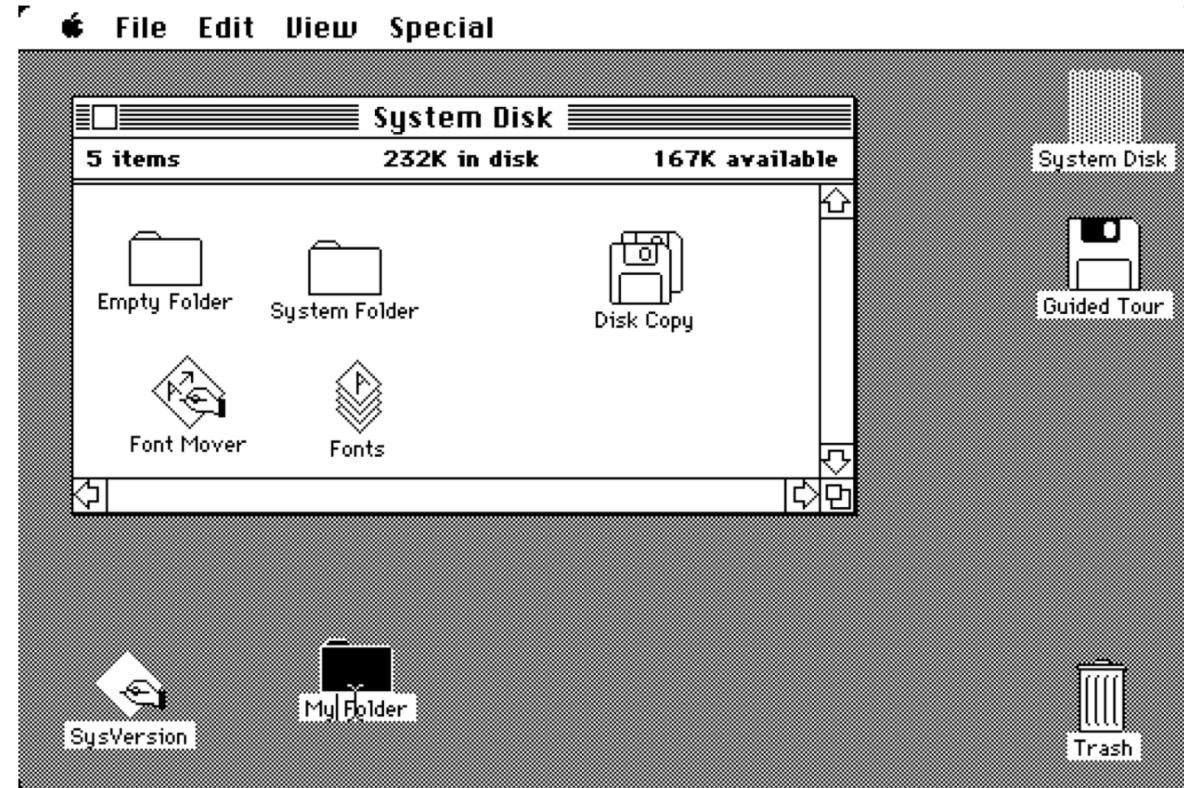
# 1. Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.



## 2. Match between system and the real world

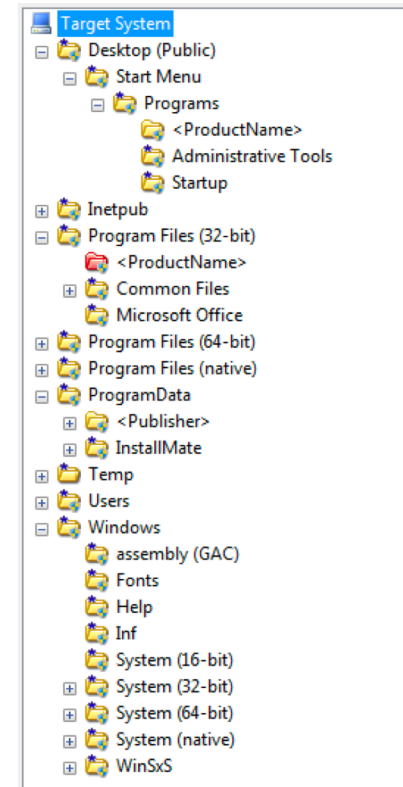
The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms.





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The system should speak the users' language, using concepts familiar to the user, rather than

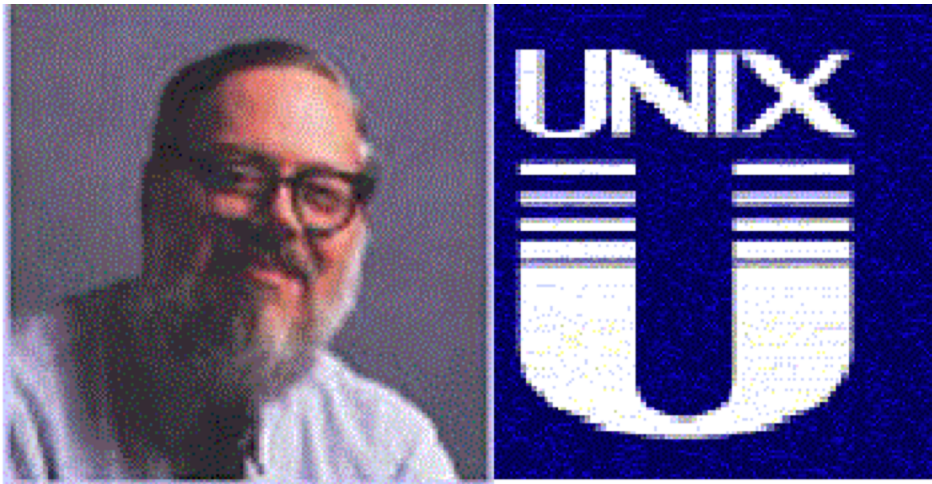


SCREEN

		A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3														
		B17	B16	B15	B14	B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1								
		C19	C18	C17	C16	C15	C14	C13	C12	C11	C10	C9	C8	C7	C6	C5	C4	C3	C2	C1						
		D20	D19	D18	D17	D16	D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1					
		E21	E20	E19	E18	E17	E16	E15	E14	E13	E12	E11	E10	E9	E8	E7	E6	E5	E4	E3	E2	E1				
		F21	F20	F19	F18	F17	F16	F15	F14	F13	F12	F11	F10	F9	F8	F7	F6	F5	F4	F3	F2	F1				
		G21	G20	G19	G18	G17	G16	G15	G14	G13	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1				
		H21	H20	H19	H18	H17	H16	H15	H14	H13	H12	H11	H10	H9	H8	H7	H6	H5	H4	H3	H2	H1				
		J19	J18			K21	K20	K19	K18	K17	K16	K15	K14	K13	K12	K11	K10	K9	K8	K7	K6	K5	K4	K3	K2	K1
		L19	L18	L17	L16	L15	L14	L13	L12	L11	L10	L9	L8	L7	L6	L5	L4	L3	L2	L1	M4	M3	M2	M1		
		M19	M18	M17	N21	N20	N19	N18	N17	N16	N15	N14	N13	N12	N11	N10	N9	N8	N7	N6	N5	N4	N3	N2	N1	
		P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	Q4	Q3	Q2	Q1
		Q19	Q18	Q17	Q16	R21	R20	R19	R18	R17	R16	R15	R14	R13	R12	R11	R10	R9	R8	R7	R6	R5	R4	R3	R2	R1
						S16	S15	S14	S13	S12	S11	S10	S9	S8	S7	S6	S5	S4	S3	S2	S1	T5	T4	T3	T2	T1
						T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1	U4	U3	U2	U1	
						U15	U14	U13	U12	U11	U10	U9	U8	U7	U6	U5	V4	V3	V2	V1			W1			
								V10	V9	V8	V7															

## 2. **Violation:** Match between system and the real world

The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms.



### **CREAT - create a new file**

(Compatible with UNIX System V C)

#### **Usage:**

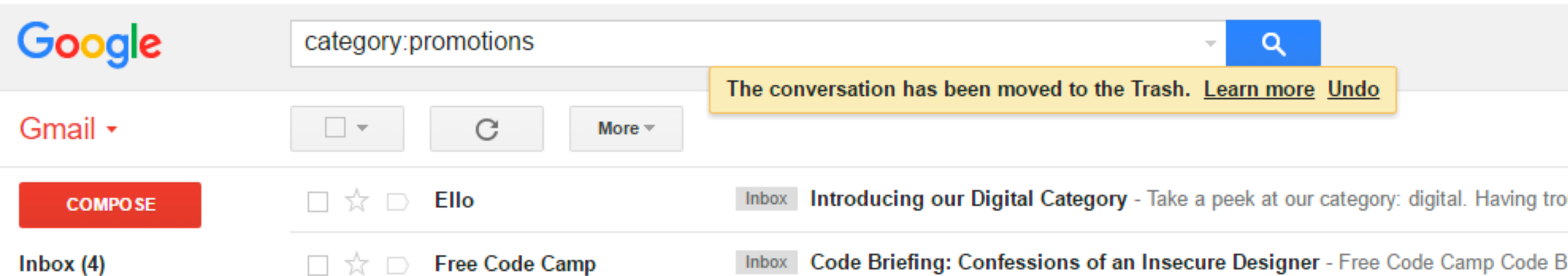
```
#include <files.h>  
fd = creat( name, mode );
```

"I'd spell **creat** with an **e**."



# 3. User control and freedom (Navigation)

Users often choose system functions by mistake and will need easy ways to fix the mistakes. Support undo and redo.





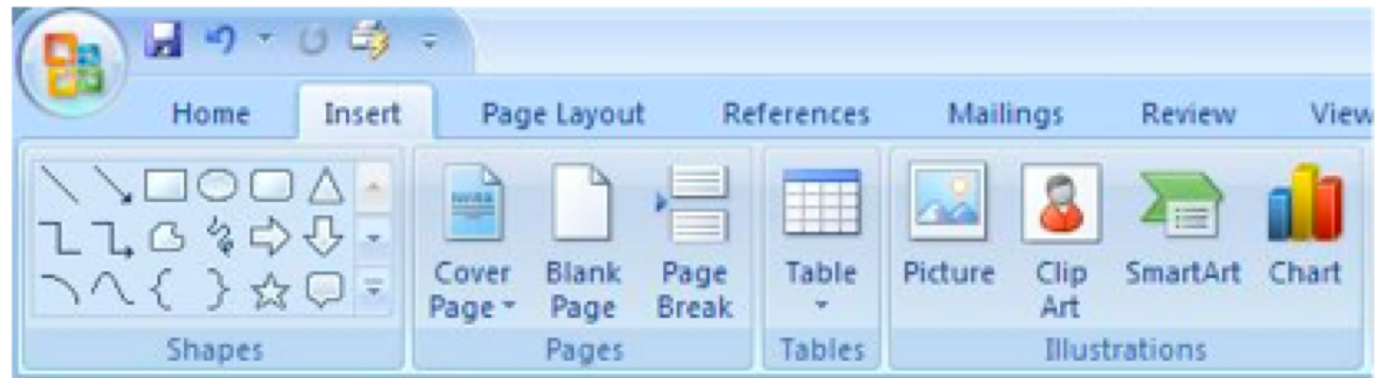
# 3. User control and freedom (Navigation)

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The screenshot shows the Amazon.com interface for the 'Dressers & Chests of Drawers' category. The top navigation bar includes the Amazon Prime logo, a search bar with the current category, and links for Departments, Browsing History, Lydia's Amazon.com, Today's Deals, Gift Cards, Registry, Sell, and Help. Below this is a secondary navigation bar with links for Amazon Home, Shop by Room, Home Décor, Furniture, and Kitchen. The main content area is titled 'Dressers' and features a 'Best sellers' section. On the left, a sidebar is highlighted with a red border, containing a 'Show results for' section with a breadcrumb trail (Home & Kitchen > Furniture > Bedroom Furniture > Dressers), a 'Refine by' section with filters for Material (Wood, Metal, Manufactured Wood, Wicker, Glass, Leather, Vinyl, See more) and Furniture Finish (White, Black, Cherry, Espresso, Oak, Walnut, Mahogany), and a 'prime | FREE One-Day' shipping indicator. The main product listings include: 1. 'Tvilum 70296cj Scottsdale 6 Drawer Double...' priced at \$163.30 with 1 star rating. 2. 'Delta Children Universal 6 Drawer Dresser...' priced at \$222.03 with 1,258 star ratings. 3. 'Black Sonoma 6 Drawer Dresser' priced at \$537 with 537 star ratings. A 'Related to items you've viewed' section is visible at the bottom.

# 4. Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.



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# 5. Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.



nt 

**ntilikina** [Remove](#)

**nts radio**

**ntilikina stats**

**ntilikina jersey**

**ntilikina knicks**

**ntilikina highlights**

nt

**ntilikina pronounce**

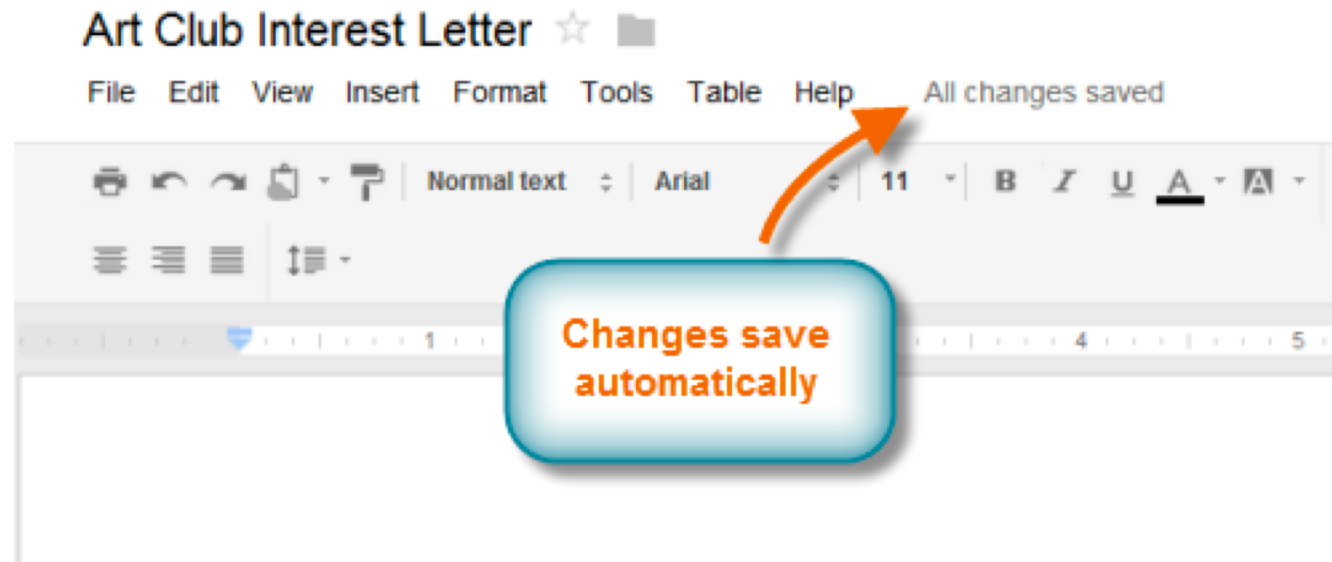
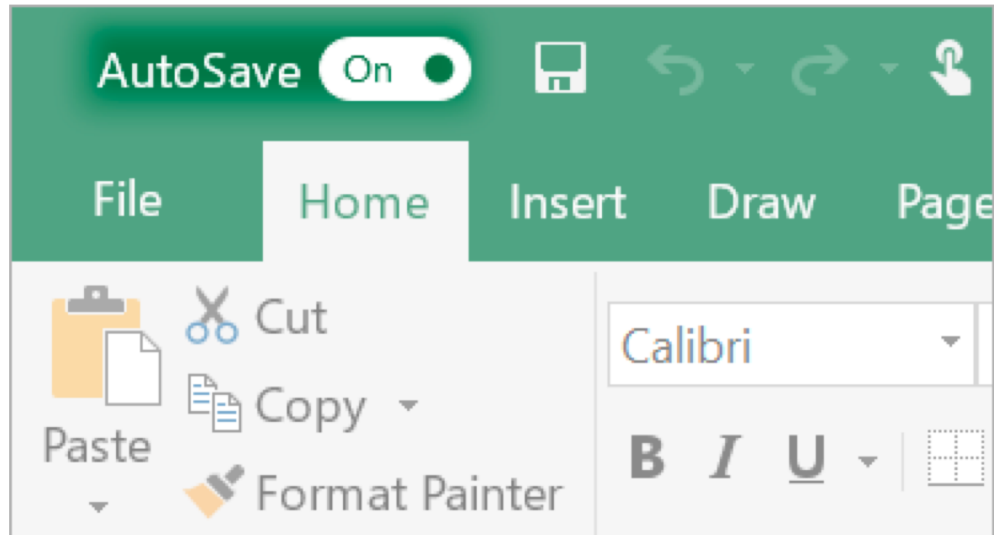
**ntb**

**ntsb**

[Report inappropriate predictions](#)

# 5. Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.



## 5. Violation: Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place.

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Faculty mailing list

[Faculty@lists.cs.columbia.edu](mailto:Faculty@lists.cs.columbia.edu)

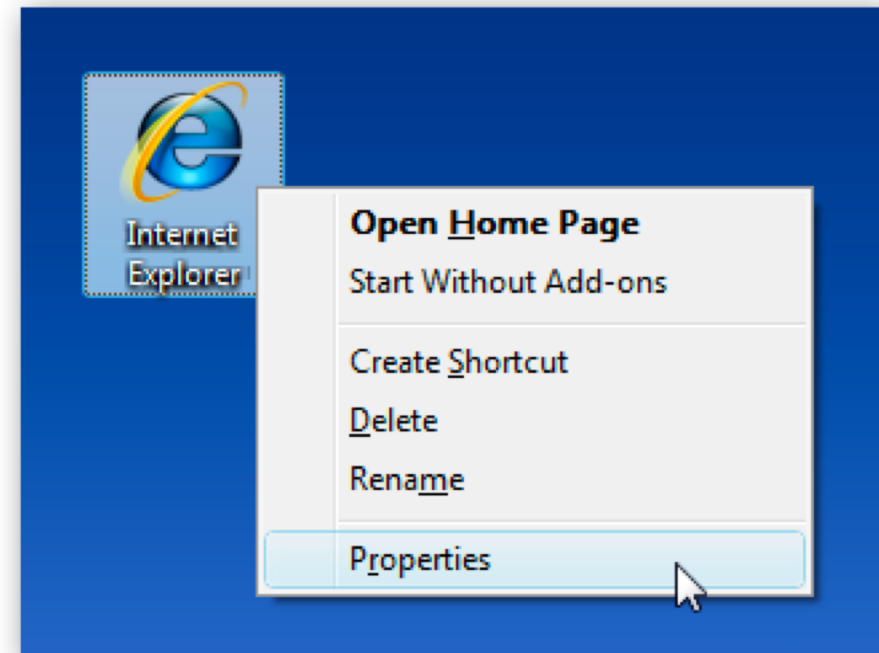
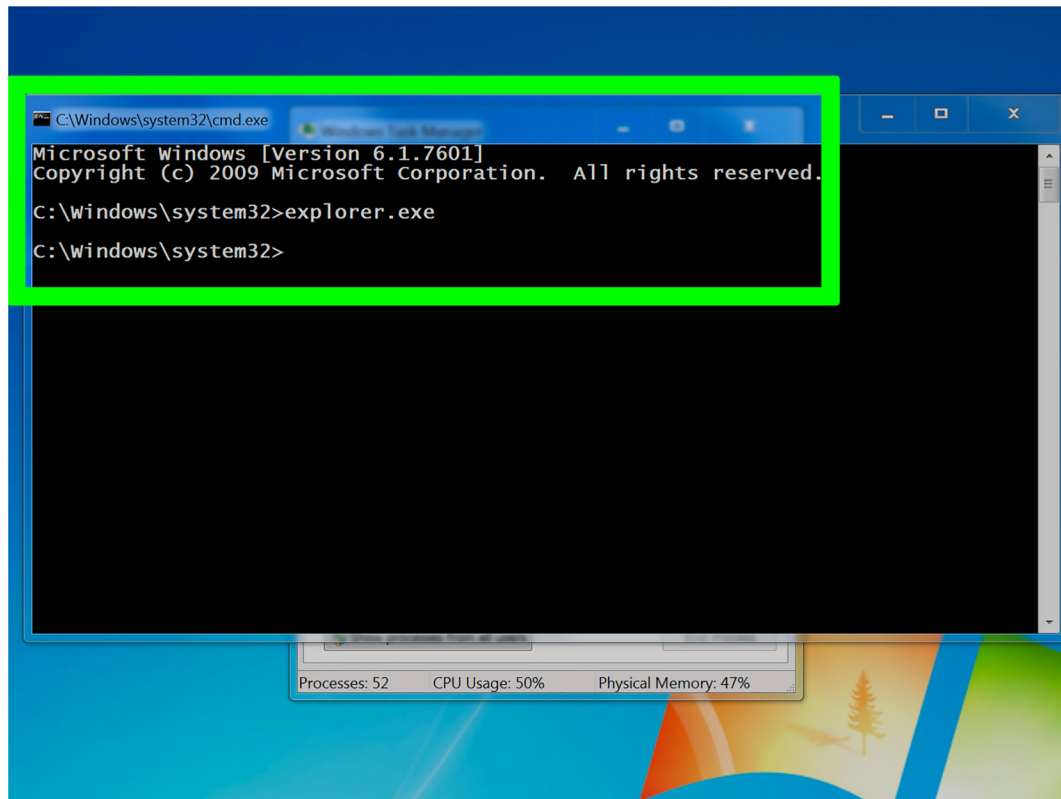
<https://lists.cs.columbia.edu/mailman/listinfo/faculty>



Click here to [Reply](#), [Reply to all](#), or [Forward](#)

# 6. Recognition rather than recall

Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another.





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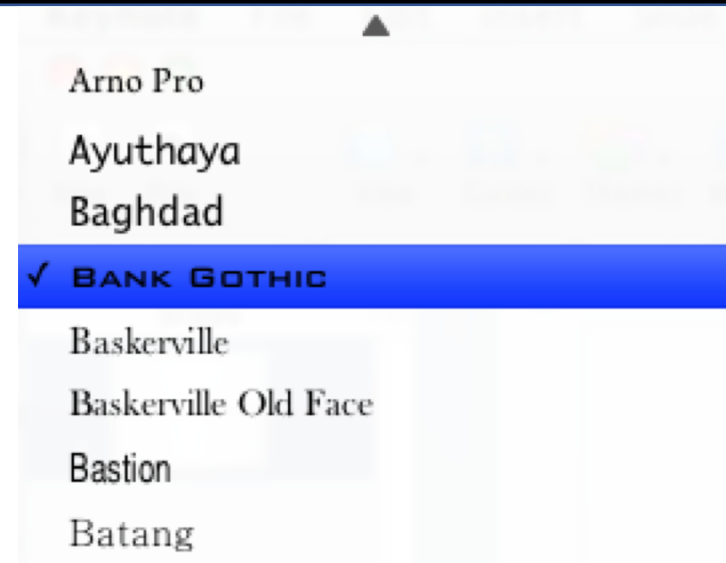
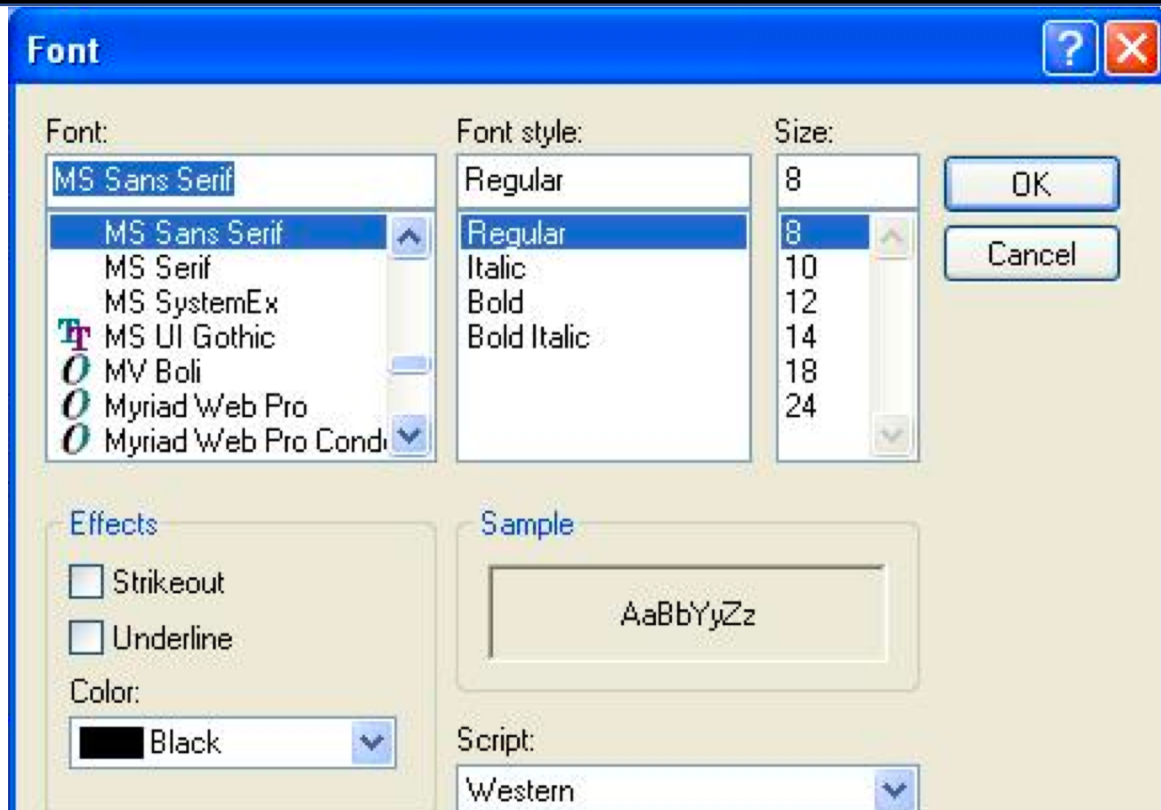
```
12 | $maxcol = 5;  
13 | st  
stat  
str_pad  
str_repeat  
str_replace  
str_rot13  
strcasecmp  
strchr  
strcmp  
strcoll  
strcspn  
strftime  
strip_tags
```



```
); $i++) {  
case ". $pendin  
3C//DTD HTML 4  
title>  
c-Type" content  
content="Quanta :  
ype="text/css" :  
der="0" cellpadding  
ght">
```

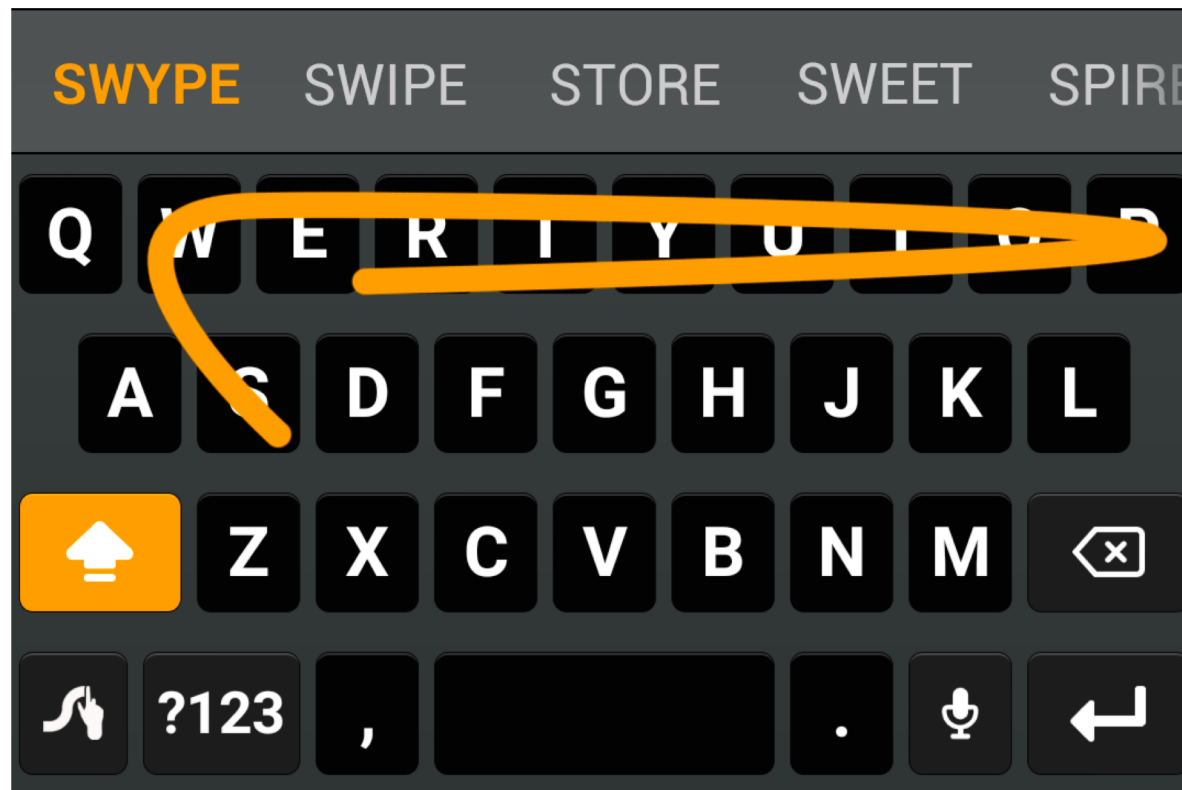
# 6. Violation: Recognition rather than recall

Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another.



# 7. Flexibility and efficiency of use

Accelerators — unseen by the novice user — may often speed up the interaction for the expert. Allow users to tailor frequent actions.



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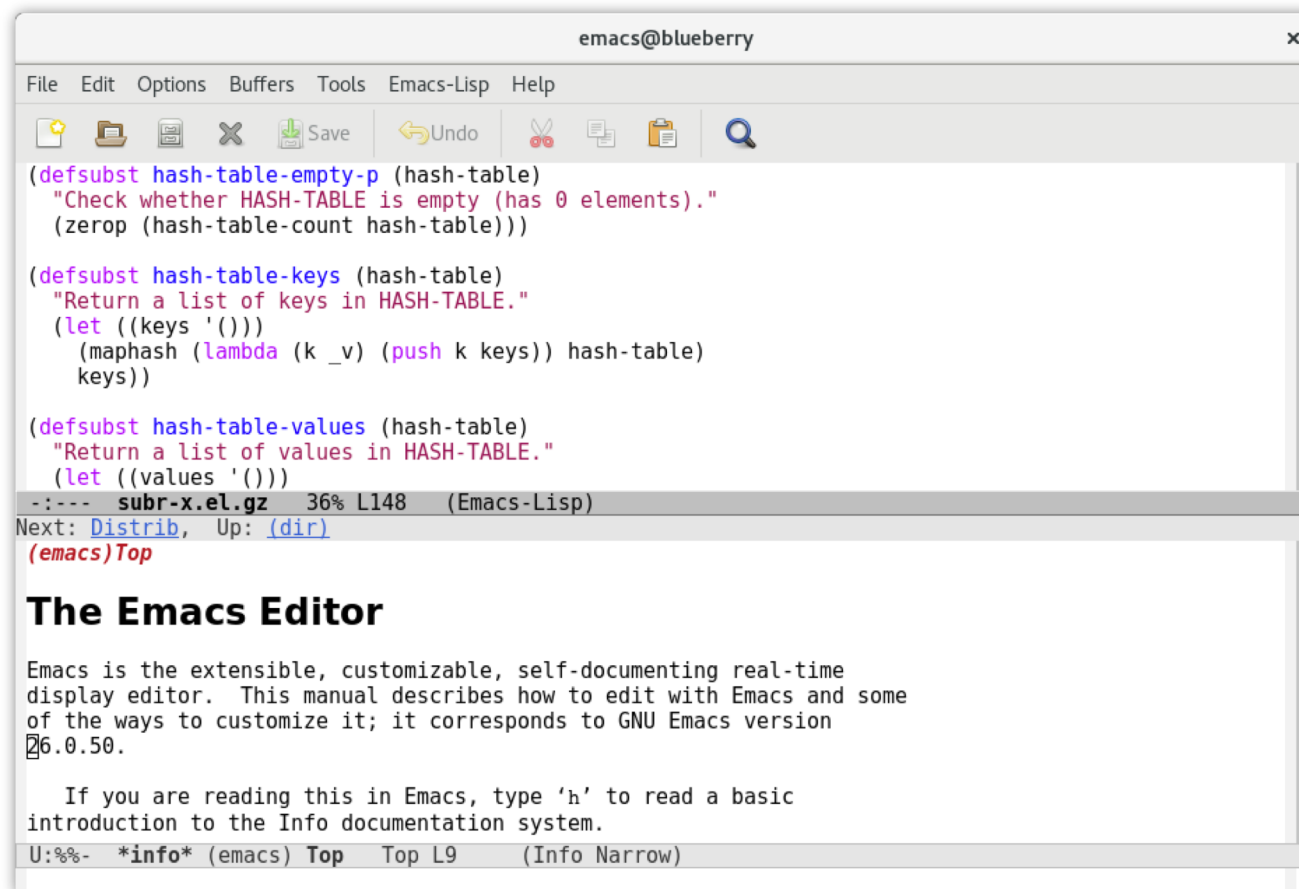
## Common Shortcuts

	Return
Add Action	
New Window	⌘N
Synchronize with Server	⌘S
Clean Up	⌘K
Planning Mode	⌘I
Context Mode	⌘2
Inbox	⌘1
Quick Entry	⌘Space

*Quick Entry's shortcut can be customized in Preferences*

# 7. Flexibility and efficiency of use

Accelerators — unseen by the novice user — may often speed up the interaction for the expert. Allow users to tailor frequent actions.



The screenshot shows the Emacs editor window titled "emacs@blueberry". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Emacs-Lisp", and "Help". The toolbar contains icons for "Save", "Undo", "Cut", "Copy", "Paste", and "Search". The main text area contains the following Lisp code:

```
(defsubst hash-table-empty-p (hash-table)
  "Check whether HASH-TABLE is empty (has 0 elements)."
  (zerop (hash-table-count hash-table)))

(defsubst hash-table-keys (hash-table)
  "Return a list of keys in HASH-TABLE."
  (let ((keys '()))
    (maphash (lambda (k _v) (push k keys)) hash-table)
    keys))

(defsubst hash-table-values (hash-table)
  "Return a list of values in HASH-TABLE."
  (let ((values '()))
    (maphash (lambda (k _v) (push _v values)) hash-table)
    values))
```

Below the code, the status bar shows "subr-x.el.gz 36% L148 (Emacs-Lisp)". The next line of text is "Next: [Distrib](#), Up: [dir](#)". Below that is the heading "(emacs)Top".

## The Emacs Editor

Emacs is the extensible, customizable, self-documenting real-time display editor. This manual describes how to edit with Emacs and some of the ways to customize it; it corresponds to GNU Emacs version 6.0.50.

If you are reading this in Emacs, type 'h' to read a basic introduction to the Info documentation system.

U:%%- \*info\* (emacs) Top Top L9 (Info Narrow)

## 8. Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.



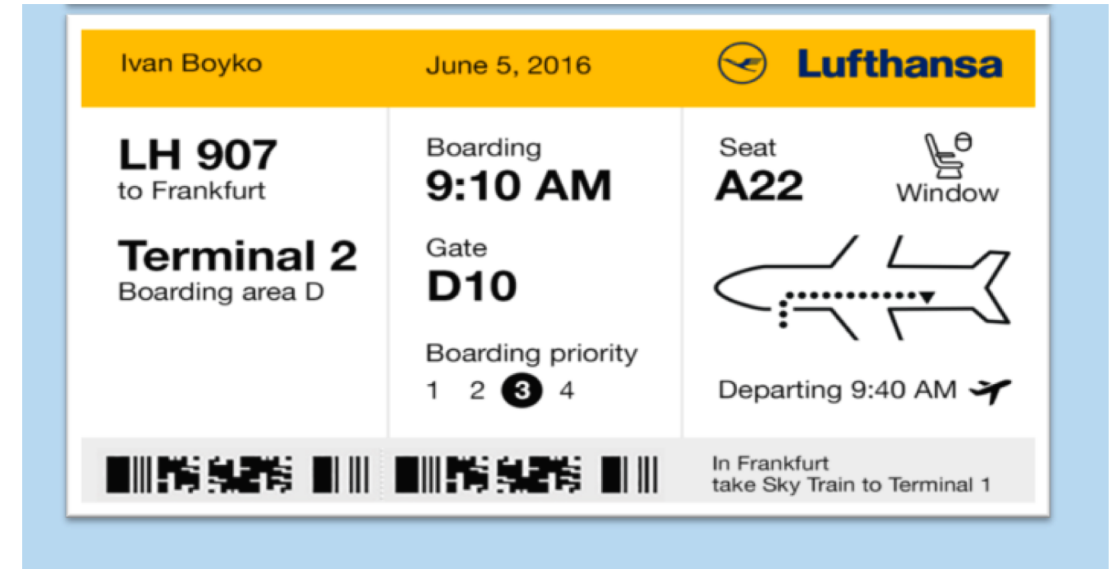
## 8. Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.



# 8. Violation: Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.






# 9. Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

Or start a new account


Choose a username (no spaces)

bert

 bert is already taken. Please choose a different username.

Choose a password

\*\*\*

 Passwords must be at least 6 characters and can only contain letters and numbers.

Retype password

Email address (must be real!)

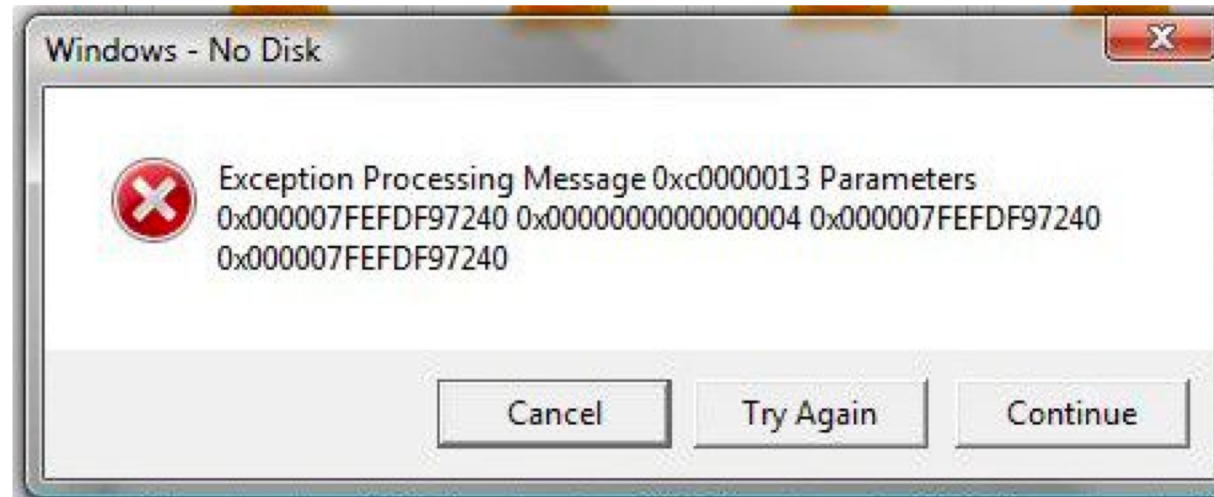
not an email

 The email provided does not appear to be valid

Send me occasional Digg updates.

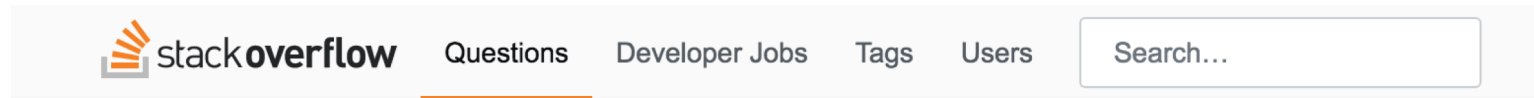
## 9. **Violation** Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.



# 10. Help and documentation

Documentation should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.



## Why is it faster to process a sorted array than an unsorted array?

▲ Here is a piece of C++ code that seems very peculiar. For some strange reason, sorting the data miraculously makes the code almost six times faster.

20283



9442

```
#include <algorithm>
#include <ctime>
#include <iostream>

int main()
{
    // Generate data
    const unsigned arraySize = 32768;
    int data[arraySize];

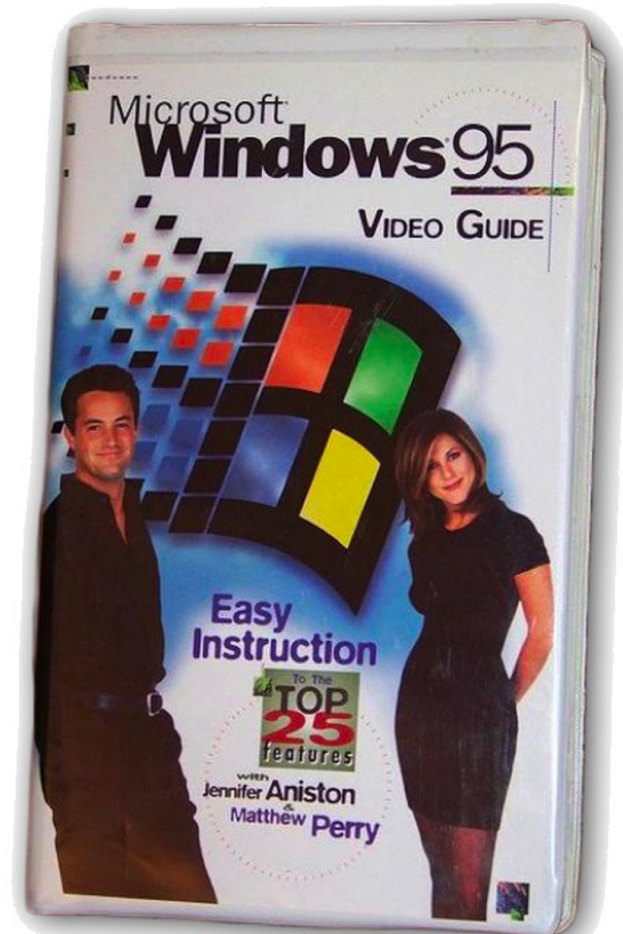
    for (unsigned c = 0; c < arraySize; ++c)
        data[c] = std::rand() % 256;

    // !!! With this, the next loop runs faster
    std::sort(data, data + arraySize);

    // Test
```

# 10. **Violation**: Help and documentation:

Documentation should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.



## 10. **Violation:** Help and documentation



# Nielsen's 10 Usability Heuristics

1. Visibility of system status
2. Match the real world
3. User control and freedom
4. Consistency and Standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetic and minimalist design
9. Recover from Errors
10. Help and documentation



# QUIZ 1 of 3

1. Visibility of system status
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# QUIZ 1 of 3


1. Visibility of system status
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# QUIZ 2 of 3

1. Visibility of system status
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6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetic and minimalist design
9. Recover from Errors
10. Help and documentation

Processing Payment... Do not refresh this page. 

# QUIZ 2 of 3

## 1. **Visibility of system status**

2. Match the real world

3. User control and freedom

4. Consistency and Standards

## 5. **Error prevention**

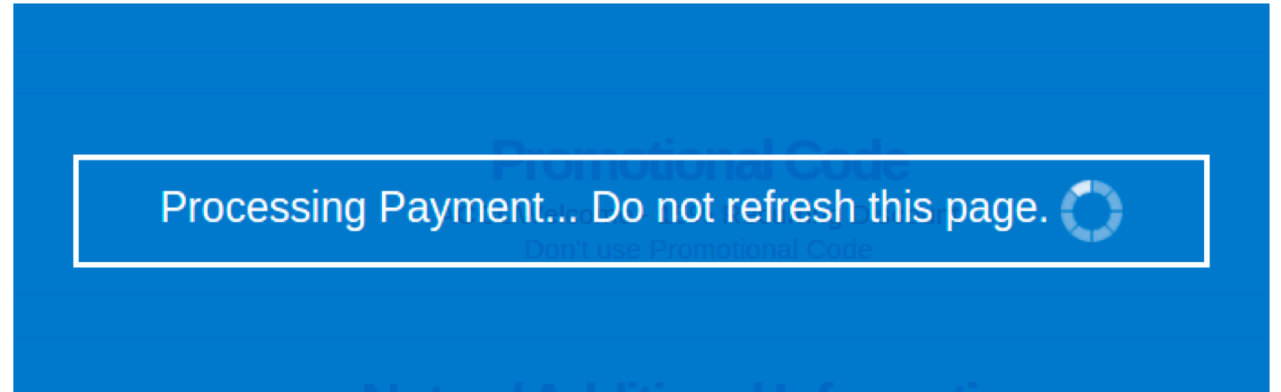
6. Recognition rather than recall

7. Flexibility and efficiency of use

8. Aesthetic and minimalist design

9. Recover from Errors

10. Help and documentation



# QUIZ 3 of 3

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# QUIZ 3 of 3

## 1. Visibility of system status

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9. Recover from Errors

10. Help and documentation

The image shows a screenshot of a Twitter search results page for the query 'wwc'. The page layout includes a search bar at the top with the text 'wwc' and a search icon. Below the search bar, the results are titled 'Results for wwc'. A red rectangular box highlights the top tweet area, which includes the text '1 tweets · Top' and a button indicating '20 new tweets'. The first tweet is from 'ESPNResearch' (ESPN Research) with a red 'E' logo, stating '13.46 million viewers/minute for ESPN's USA-Japan WWC Final is 2nd most-viewed daytime telecast in cable TV history (Mo-Su/6a-6p)' and dated '19 Jul'. Below this are other tweets from 'womensprosoccer' and 'crupicrupicrupi'. On the right side of the page, there is a promotional banner for following 'wwc' on Twitter, a section for 'People results for wwc' listing users like 'fifawwc', 'laurencheney8', 'LoriLindsey6', and 'AlexBKrieger', and a section for 'Popular images & videos' with a 'Display media' button.

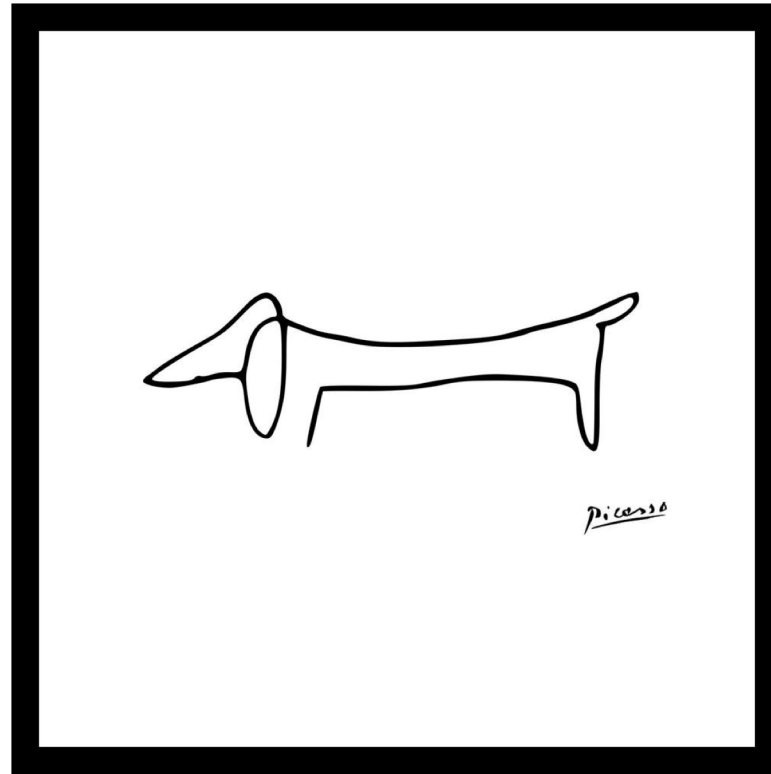
# Homework 1 Part 1

- Due Wednesday Jan 29<sup>th</sup> @ 4:00 PM.
  - Find **two** examples of web or mobile applications that **positively** exhibit one of the usability heuristics (other than 8. Aesthetic and minimalist design)
  - Find **two** examples of web or mobile applications that **negatively** exhibit one of the usability heuristics (other than 8. Aesthetic and minimalist design)
  - Questions about class policy
  - There is a code part as well – we'll cover that material later.
- **In this class, Googling for programming syntax is good.**
  - We expect it.
  - If you get an error, the first question we will ask is “Did you Google it?”

# Fill out Google Participation form now!

- Linked to from the course webpage

Please don't underestimate this class



Simple, functional design is deceptively difficult



# User Interface Design

COMS 4170 · Spring 2020

[Home](#)

[Grading](#)

[Syllabus](#)

[Piazza](#)

## Goals

1. Build websites that suit the needs and abilities of users.
2. When the needs and abilities of users are uncertain, design systems by learning from iteration.

## Syllabus

WEEK

MONDAY

WEDNESDAY

1

JANUARY 20

JANUARY 22

*No class*

[Participation Form](#)

[Usability Heuristics](#)

[Homework 1 out](#)