

User Interface Design

COMS 4170 · Spring 2018

[Home](#) [Syllabus](#) [Assignments](#) ▾

Part 1 Build websites that suit the needs and abilities of users.

Part 2 When the needs and abilities of users are uncertain, design systems by learning from iteration and experimentation.

INSTRUCTOR

[Prof. Lydia Chilton](#)

OH: Tuesday 3-4 pm, CEPSR 612

Please contact staff through Piazza only

TAS

Tessa Hurr

Eleanor Murguia

Lucille Sui

WEEKLY SCHEDULE

Lecture

Mon, Wed 4:10–5:25pm, 413 Kent Hall

4170 Staff

- Prof. Lydia Chilton
 - Office hours: Tuesdays 3-4 in CEPSR 612
- IAs:
 - Tessa Hurr
 - Eleanor Murguia
 - Lucille Sui
- <http://coms4170.cs.columbia.edu/2018-spring/>

Why are user interfaces
important?

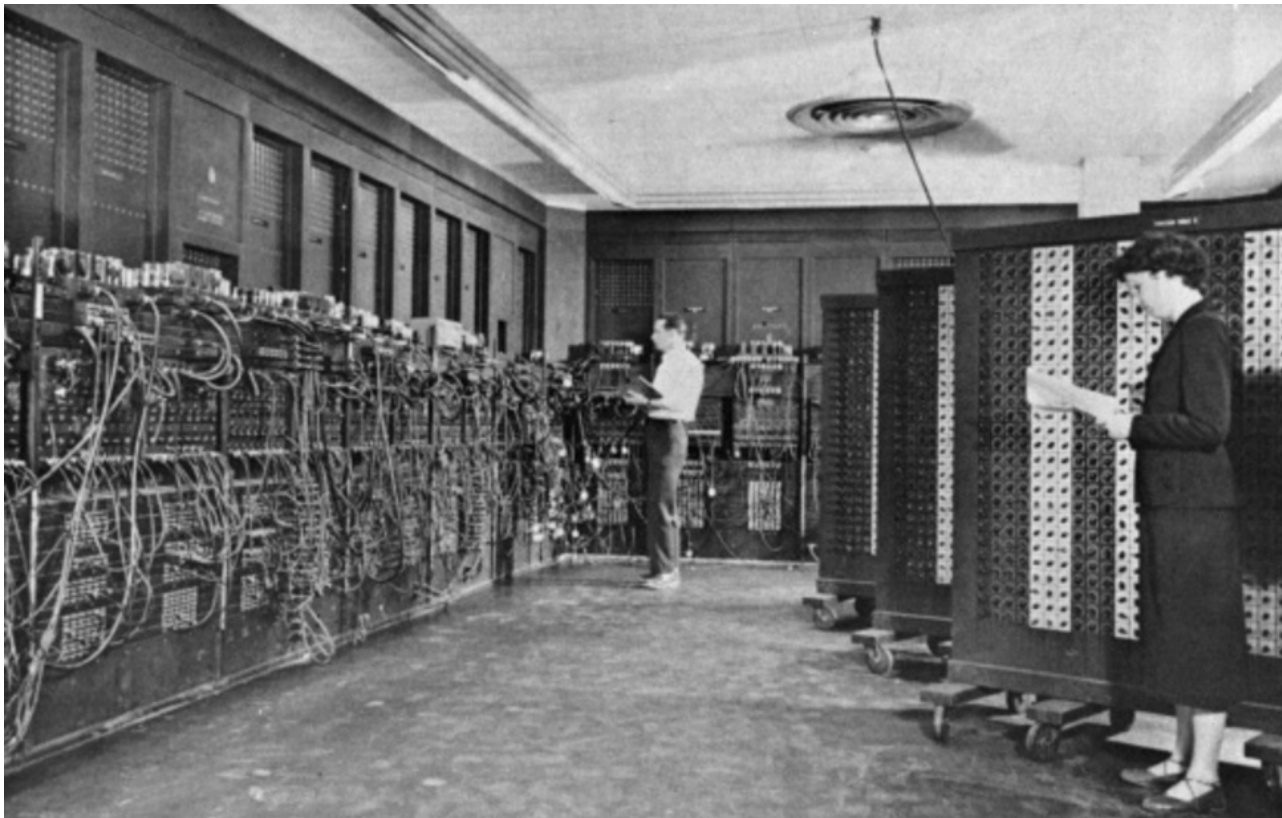
1613 – 1940s

Computers: people who performed calculations



1940s – 1960s

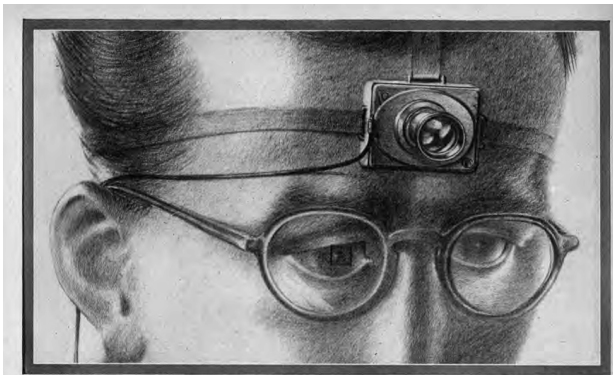
Computers: Tools for Calculation and Symbolic Manipulation



1945

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 SHOWS 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 indolence, 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-

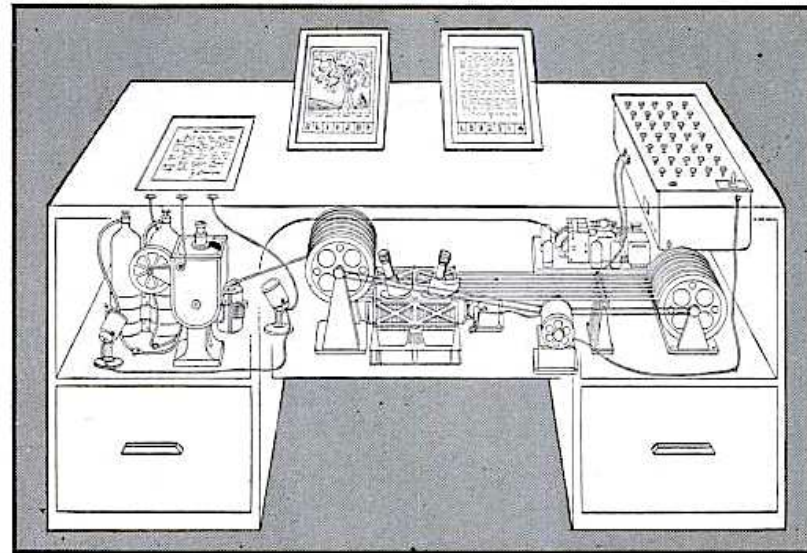
ress, and the effort to bridge between disciplines is correspondingly superficial.

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 inessential.

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-egged ships.

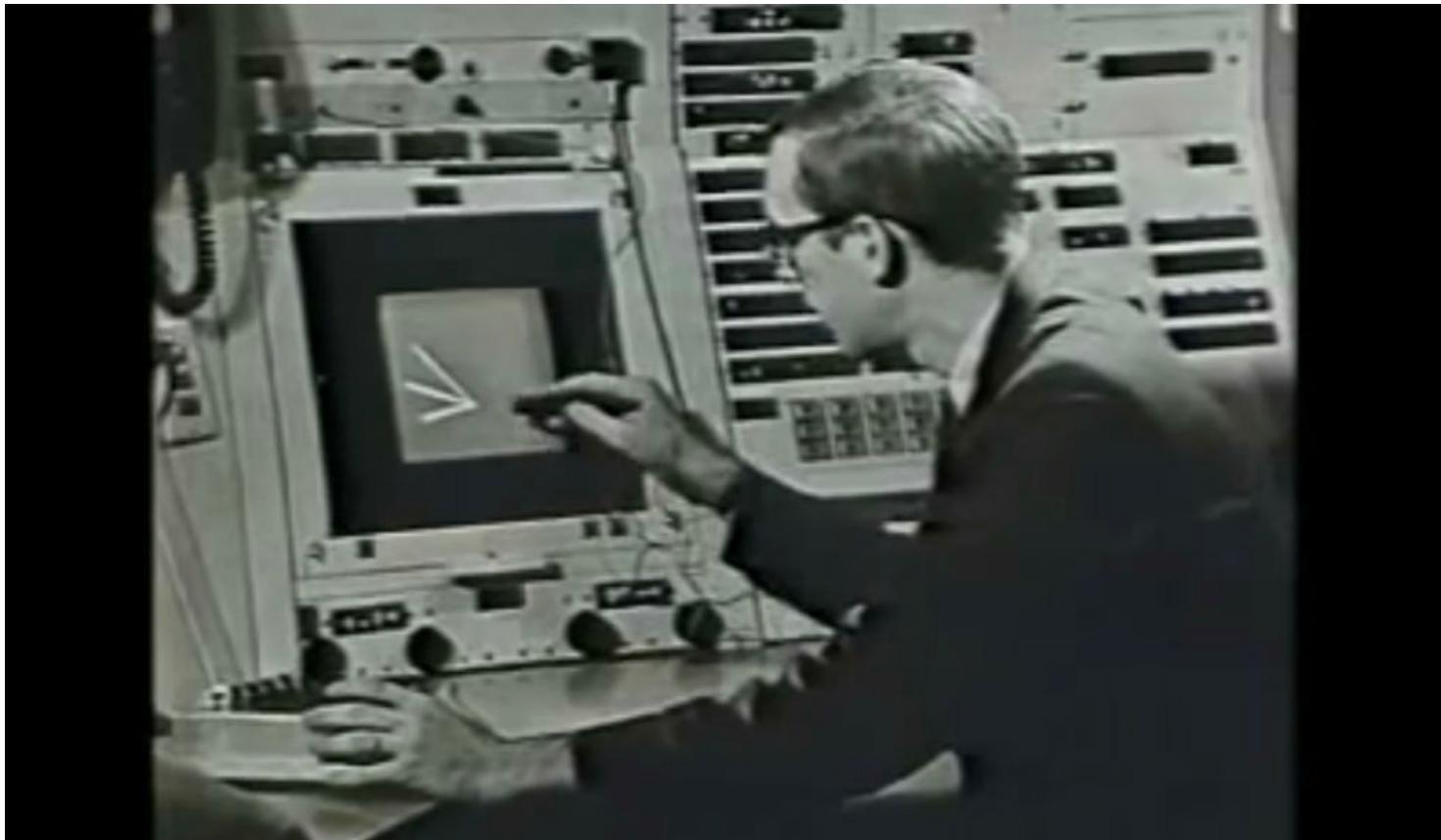
But there are signs of a change as new and powerful instrumentalities come into use. Photocells capable of seeing things in a physical sense, advanced photography which can record what is seen or even what is not, thermionic tubes capable of controlling potent forces under the guidance of



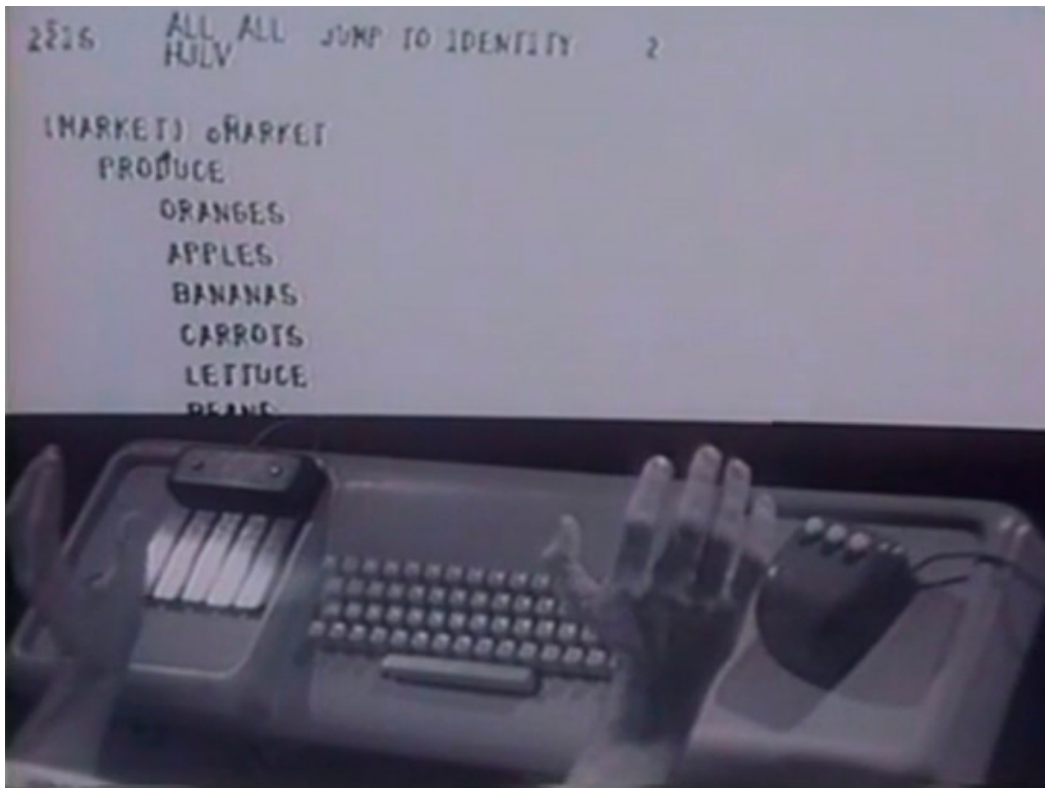
MEMEX in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files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

AS WE MAY THINK CONTINUED

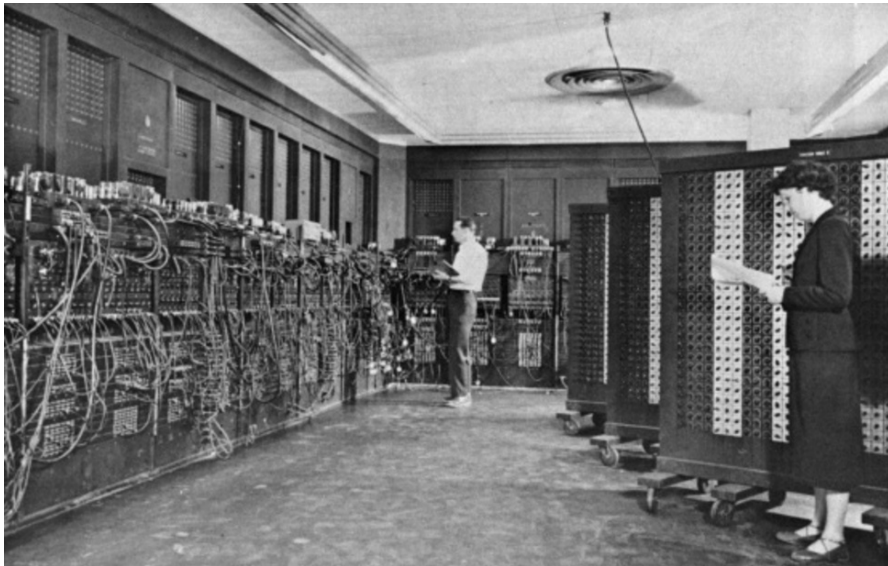
1963: First Graphical User Interface
Ivan Sutherland's CAD software, Sketchpad



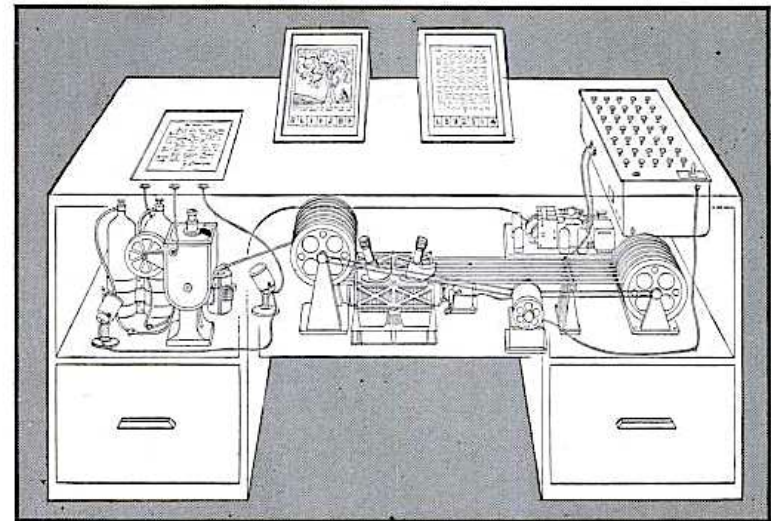
1968: Interaction devices for computer use. Douglas Engelbart's mouse



Computers: Tools for calculation.



Computers: Tools to augment human intelligence.

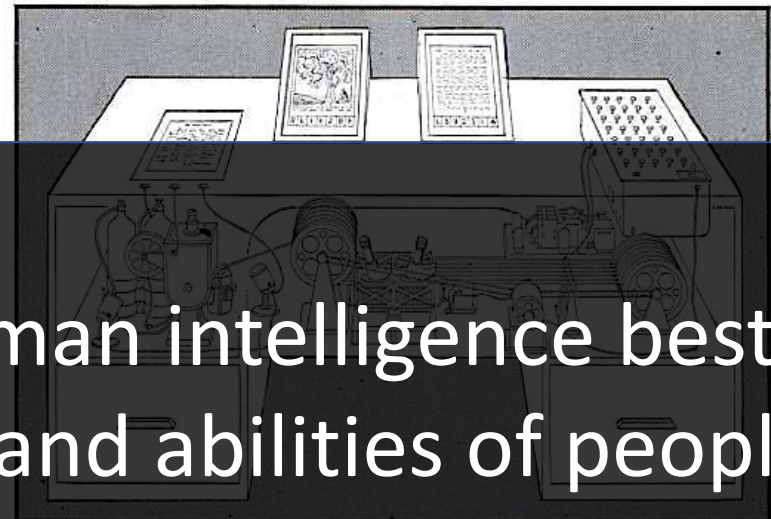
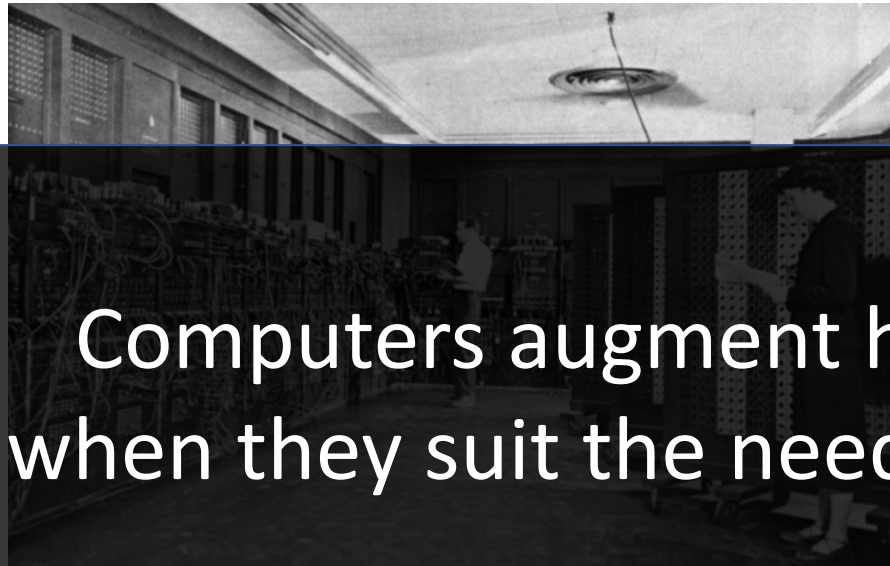


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AS WE MAY THINK CONTINUED

Computers:
Tools for calculation.

Computers:
Tools to augment human
intelligence.



Computers augment human intelligence best
when they suit the needs and abilities of people.

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

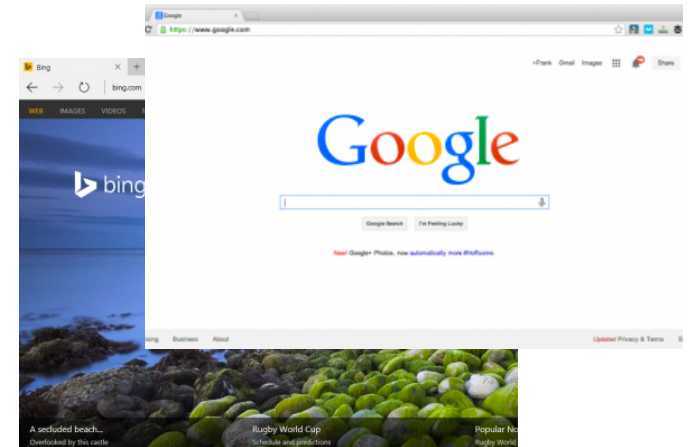
The Internet: The Rise of Usability



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.

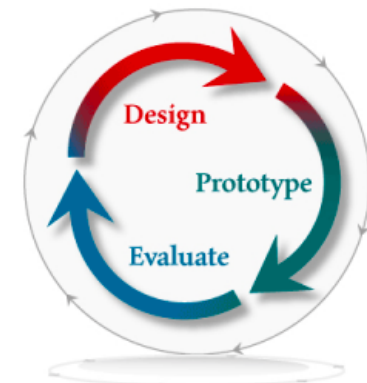
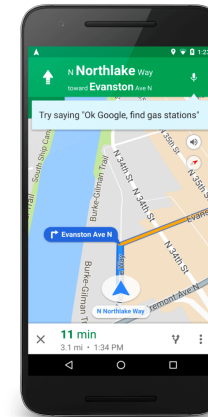


On the Web, users experience the usability of a site before they have committed to using it and **before they buy it.**

Nielsen, Jakob. *Designing Web Usability: The Practice of Simplicity.* (1999)

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.



Grade breakdown

- HW 1: Theory 5%
- HW 2: Practice 10%
- HW 3: Theory 5%
- HW 4: Practice 10%
- Final Project 35%
 - Brainstorming
 - 3 designs
 - Paper Prototype
 - Implementation
 - Final presentation
- Final Exam 20%
- Participation 15%

Your commitments

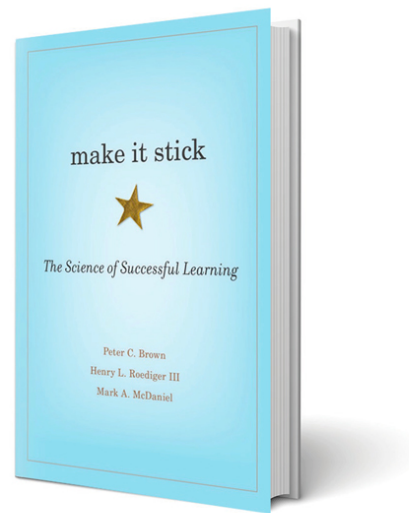
	Portion of grade
Four individual assignments	30%
Team Project with 4 intermediate deliverables	35%
Final Exam	20%
Participation	15%

Attendance is crucial. No Screens.

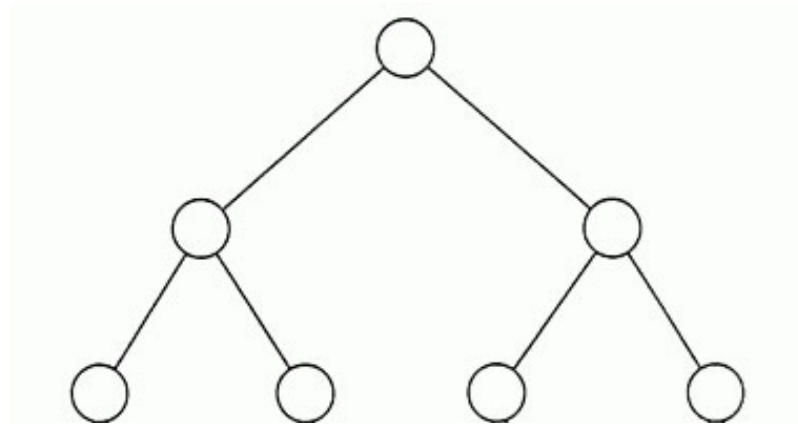


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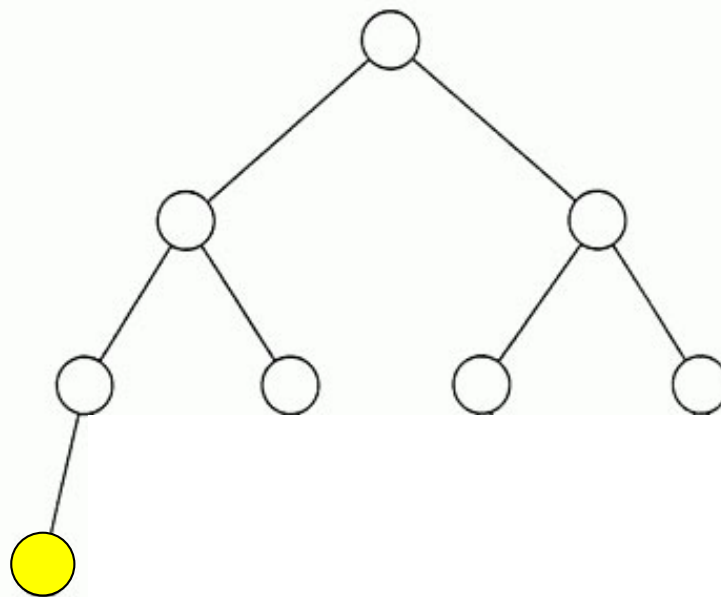
Why is participation 15% of my grade?



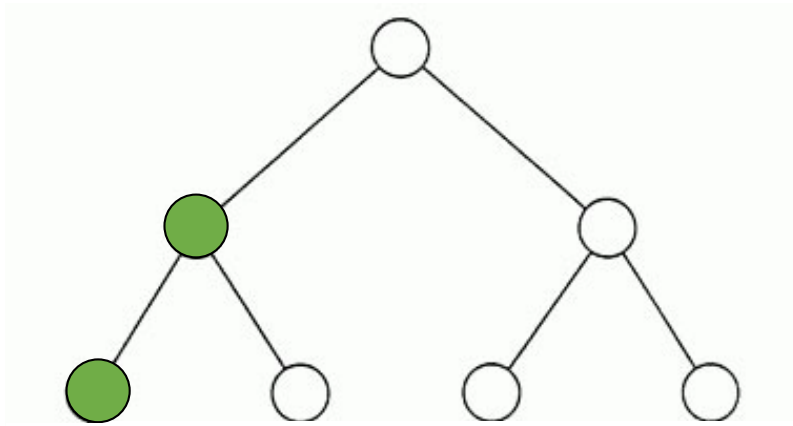
Human memory is tree-structured



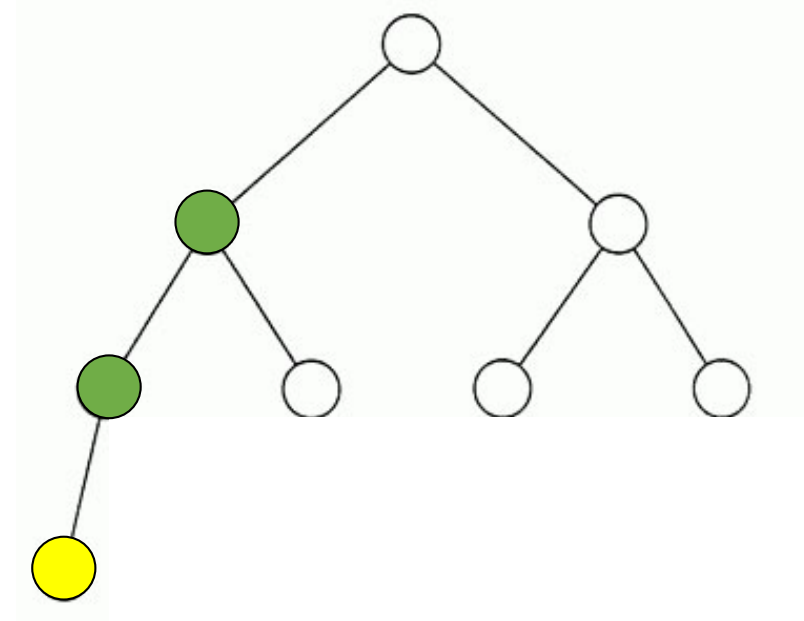
New knowledge gets appended to the tree.



Where does new knowledge get appended?
To where nodes of tree are currently active.

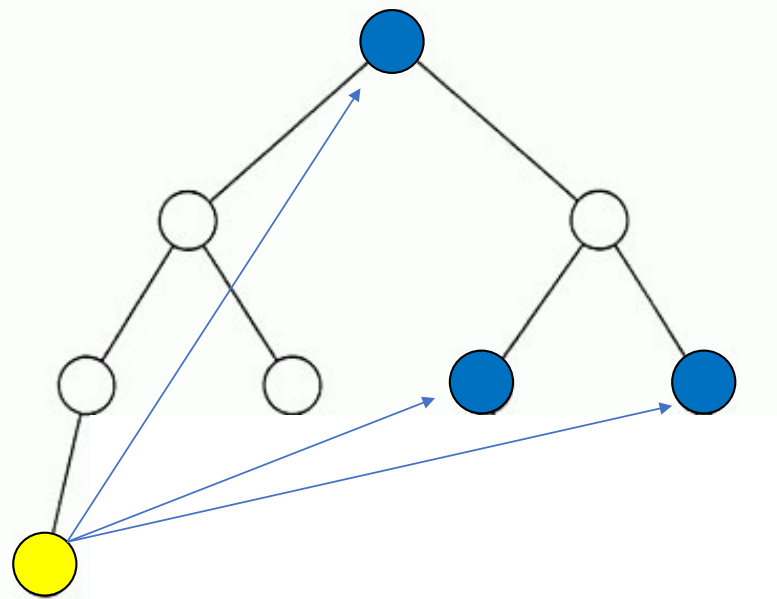


By guessing about new knowledge before it is presented, you warm up the right place for it in memory.

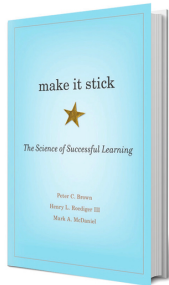


Generation: Guessing before you hear the answer

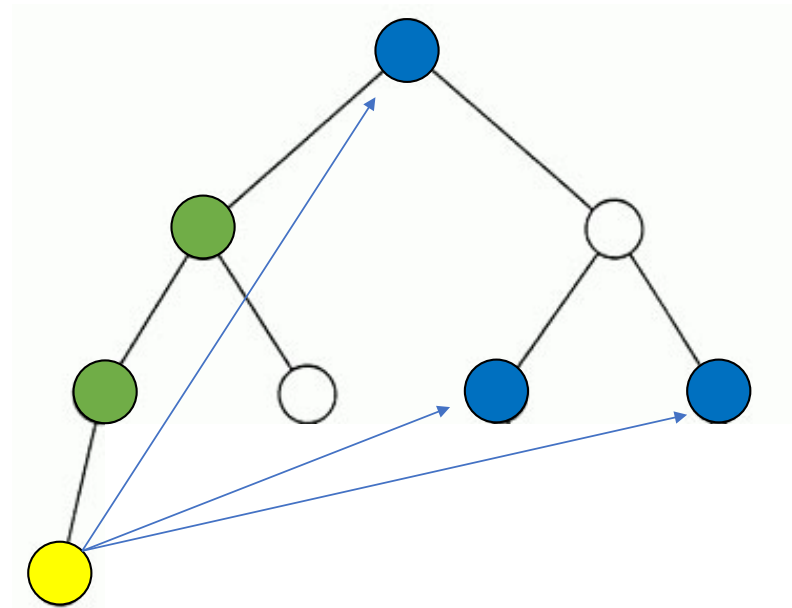
Once you hear the new knowledge, you want to connect it to connect other to other knowledge so it will trigger when relevant.



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

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.

Lecture 1: 10 Usability Heuristics

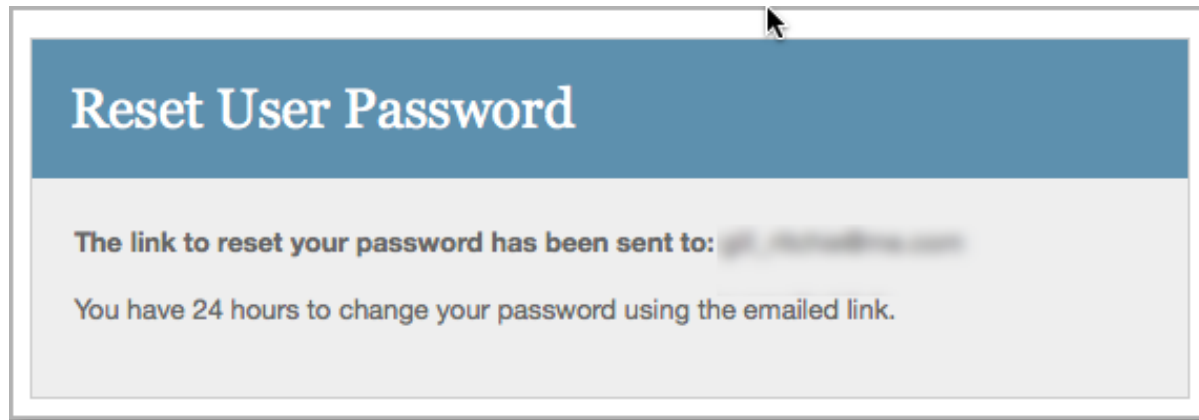
1. Visibility of system status

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



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The screenshot displays the Kayak website's flight search results page. At the top, the Kayak logo is followed by navigation links for Flights, Hotels, Cars, Deals, Vacations, and Cruises. The search parameters are set to New York, NY to Los Angeles, CA, with dates from 12/25/2012 to 12/29/2012. A 'Find Flights' button is visible. The results show 483 of 1340 flights, sorted by Price - Low to High. A featured result for Virgin America is highlighted, with a 'Check Prices' button and a 'Select' button. The price is \$746. Below this, a flight itinerary for US Airways is shown, including departure times and stopovers. A 'Price Trend' graph on the left indicates that prices may rise within 7 days, with a 'Book now' button.

KAYAK Flights Hotels Cars Deals Vacations Cruises

New York, NY Los Angeles, CA 12/25/2012 12/29/2012 Find Flights

Hide toolbox ▾
Price alert Fare charts
Airline fees Add baggage
Airline Matrix +/- 3 days

Price Trend
Prices may rise within 7 days **Book now**

483 of 1340 flights [show all](#) Sort by Price - Low to High

Check Prices **Virgin America**
Fly with WiFi, on-demand food, live TV, movies, music, and more
Virgin America

Select

\$746 US Airways


LGA 6:00a ▶ LAX 10:45a 7h 45m 1 stop (PHL)
LAX 12:40a ▶ LGA 10:52a 7h 12m 1 stop (PHL)

Economy ! ⌚ 👁

1. Visibility of the system status

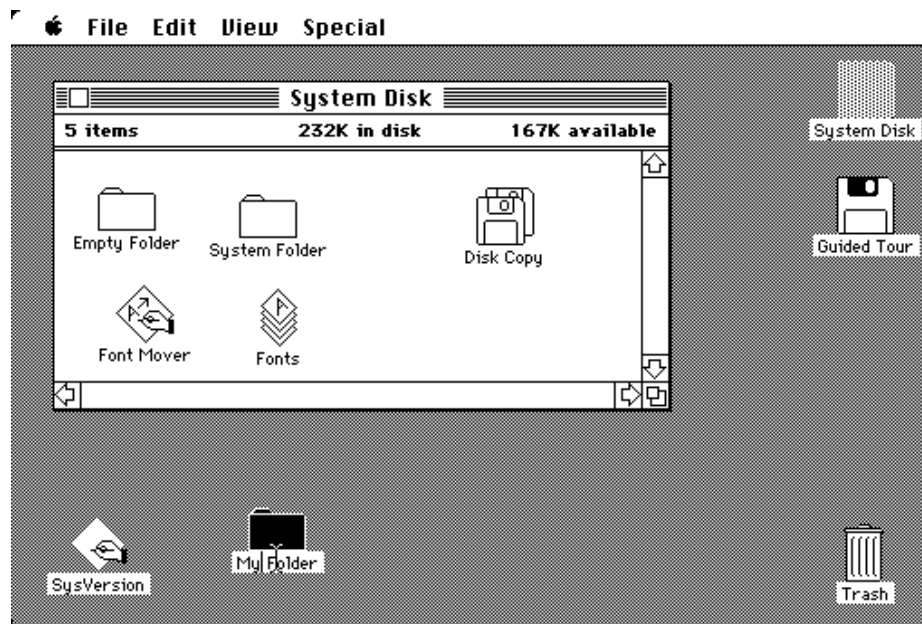
What user need does this UI serve?

Type new password:
Six-characters minimum; case sensitive

Password strength: Strong 

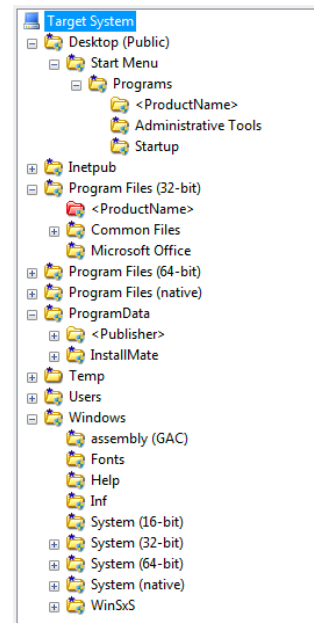
2. Match between system and the real world

The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.



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2. Match between system and the real world



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					J17	J16	J15	J14	J13	J12	J11	J10	J9	J8	J7	J6	J5				J1
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					
M19	M18	M17	M16	M15	M14	M13	M12	M11	M10	M9	M8	M7	M6	M5	M4	M3	M2	M1					
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			
Q19	Q18	Q17	Q16	Q15	Q14	Q13	Q12	Q11	Q10	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1					
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				
U16	U14	U13	U12	U11	U10	U9	U8	U7	U6	U5	U4	U3	U2	U1	V4	V3	V2	V1					
		V10	V9	V8	V7			W1															

Available Unavailable Selected Wheelchair Companion

2. Match between system and the real world

ENGLISH 中文 (CHINESE) ESPAÑOL

The New York Times

Wednesday, January 17, 2018 | Today's Paper | Video | 33°F | S. & P. 500 +0.98% ↑

World U.S. Politics N.Y. Business Opinion Tech Science Health Sports Arts Style Food Travel Magazine T Magazine Real Estate ALL

North and South Korea to March as One at Olympics

By CHOE SANG-HUN 1:42 PM ET

- The agreement is a milestone in inter-Korean sports relations, and Seoul has said in the past it hoped such a move could contribute to a political thaw.
- The two countries' delegations will march at the opening ceremony behind a "unified Korea" flag that shows an undivided Korean



Aaron Vincent Elkaim for The New York Times

Shivering? That's for City Folk. For Islanders, Ice Time Is Play Time.

A small and hardy group of Torontonians lives on island

Opinion

Facebook Doesn't Like What It Sees in the Mirror

By NOAM COHEN

But will Mark Zuckerberg be any good at social engineering?



Black Colleges in the Age of Trump

By STANLEY NELSON

The president's dealings with these important institutions have ranged from out-of-touch to outright bizarre.



- Editorial: Trump vs. Guantánamo's Prisoners
- Bruni: Donald Trump Will Soil

OP-ED | LINDY WEST

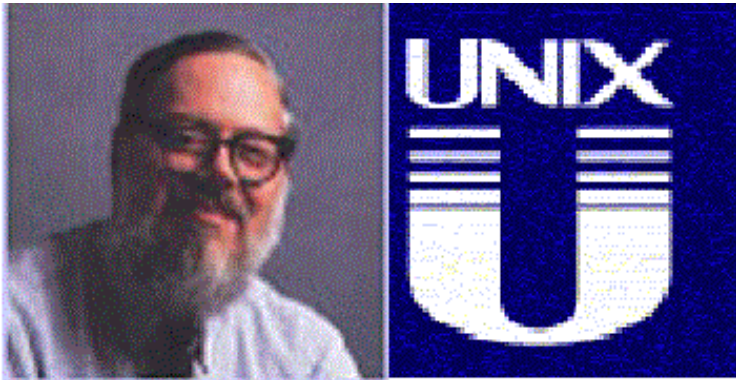
Aziz, We Tried to Warn You

It may seem like rules around sex have changed overnight, but feminists have been talking about this for a long time.



- Douthat: How Sex Trumped Race
- Friedman: Focusing on Tech
- A Way Forward for Commuters
- Leonhardt: Misperceptions on Flu Shots and College Costs
- Would the Air Force Let Airman Trump Near a Nuclear Weapon?

2. Match between system and the real world



CREAT - create a new file or rewrite an old one.

(Compatible with UNIX System V C)

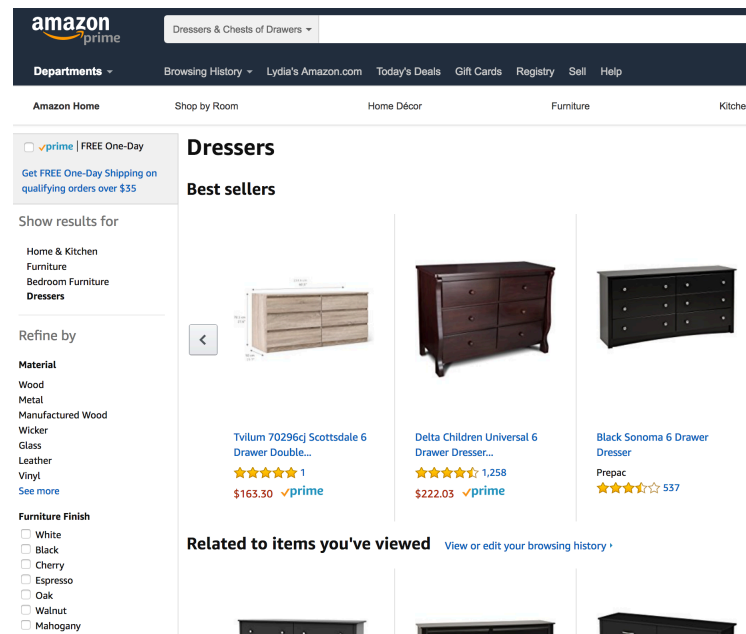
Usage:

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

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

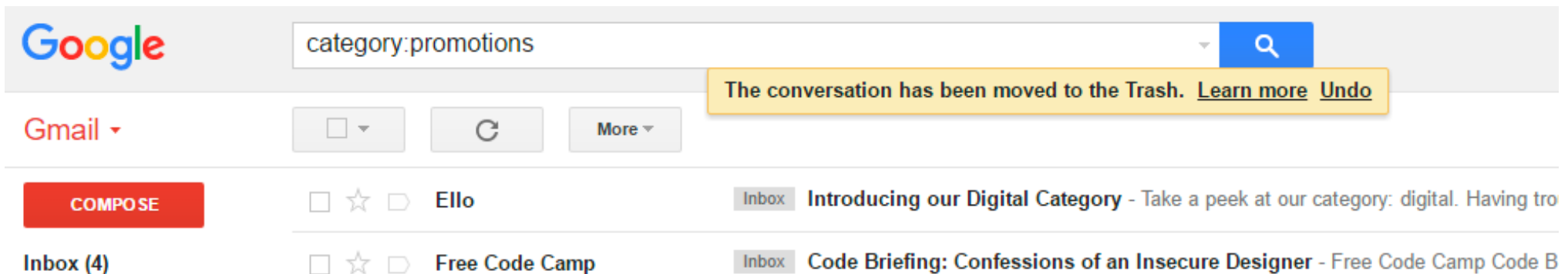
3. User control and freedom (Navigation)

Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.



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Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

Bundle your savings and have the ability to change or refund on flyfrontier.com up to 24 hours before your first departure.

PRICED INDIVIDUALLY the **WORKS**

Refundability	Not Available!	✓
No Change Fees*	\$50	✓
Checked Bag	\$30	✓
Carry On Item	\$35	✓
Best Seat Available Including Stretch/Exit rows	\$45	✓
PRICE PER PERSON/ PER DIRECTION	\$160	YOUR PRICE: \$79

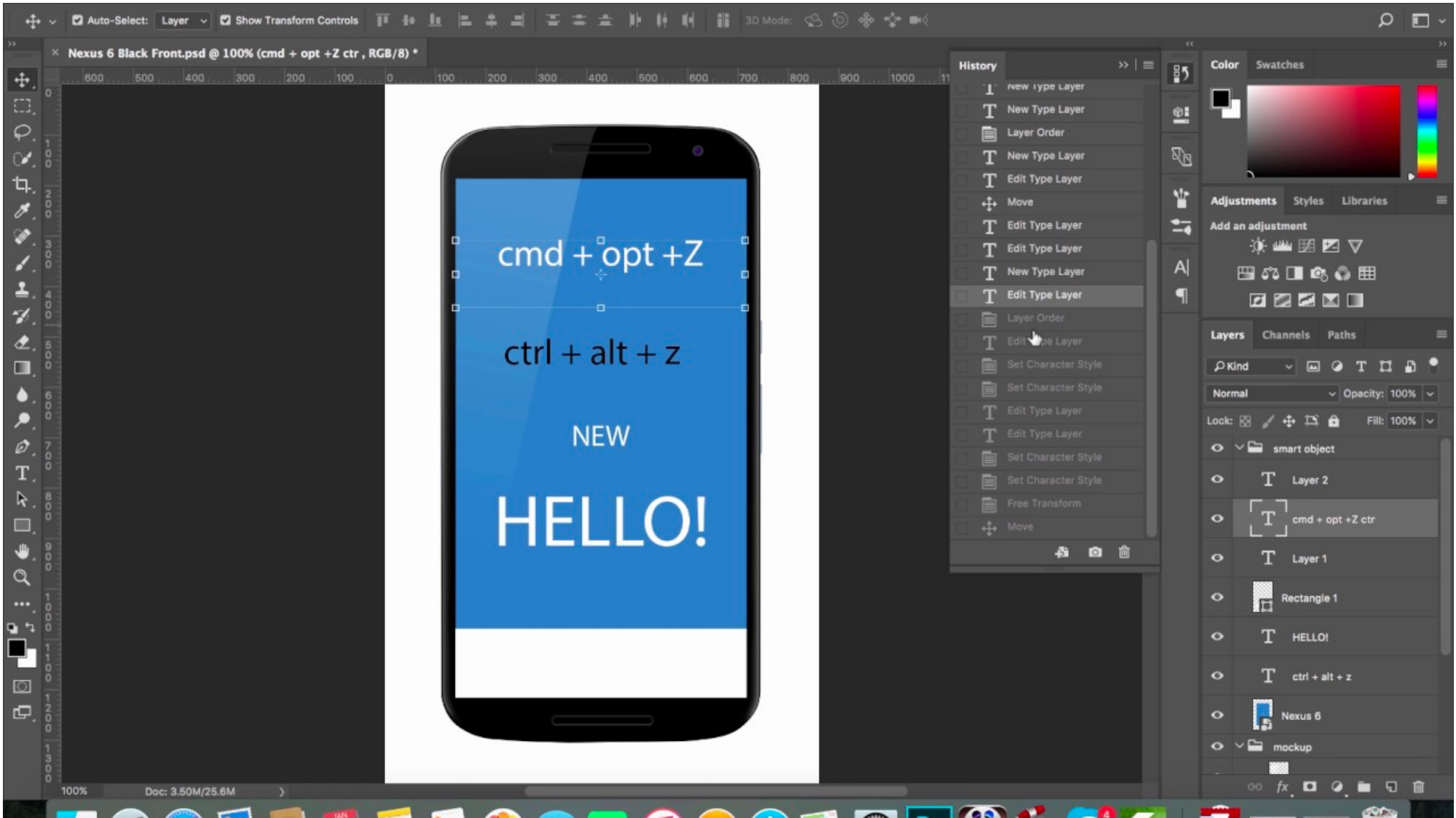
YOU SAVE \$162 with The WORKS! *Wow!*

[Not interested in saving.](#) **SAVE NOW!**

*Subject to any difference in ticket and option prices.

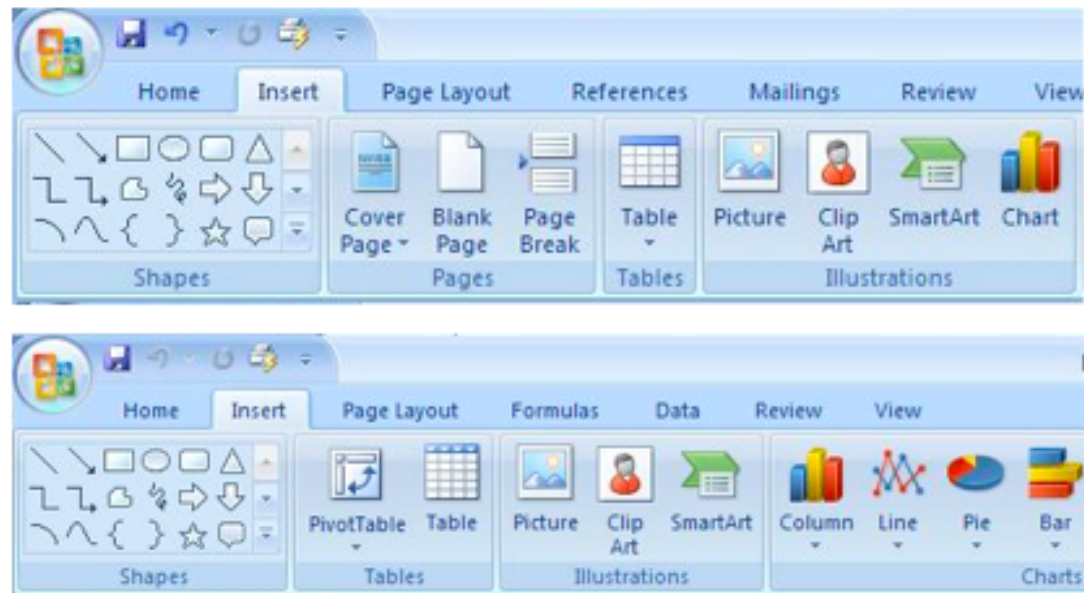
3. User control and freedom (Navigation)

The screenshot displays the Gmail web interface. At the top left is the 'NN/g' logo. A search bar is located at the top right. Below the search bar is a navigation bar with icons for back, forward, archive, trash, folders, tags, and a 'More' dropdown. The main content area shows an email thread titled 'Online Seminar -- Millennials Online' in the 'Inbox'. The thread includes an email from 'Therese Fessenden' dated 'Feb 21 (2 days ago)' and a reply from 'Jeanette Pidanick'. A 'New Message' composition window is open over the email, showing fields for 'Recipients' and 'Subject', and a rich text editor with a 'Send' button. On the left side, there is a sidebar with navigation options: 'Compose', 'Inbox', 'Starred', 'Sent Mail', 'Drafts (11)', 'Links & References', 'Receipts', 'Workshop', and 'More'. At the bottom left, a 'Google Calendar' widget shows a calendar for February 2017. At the bottom right, there is a storage usage indicator showing '5.23 GB (17%) of 30 GB used' and a 'Program Policies' link.



4. Consistency and standards

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



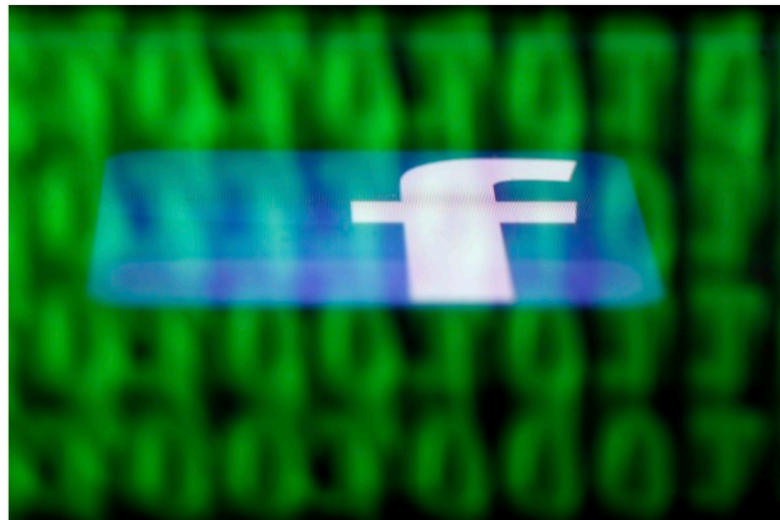
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Everything We Know About Facebook's Secret Mood Manipulation Experiment

It was probably legal. But was it ethical?

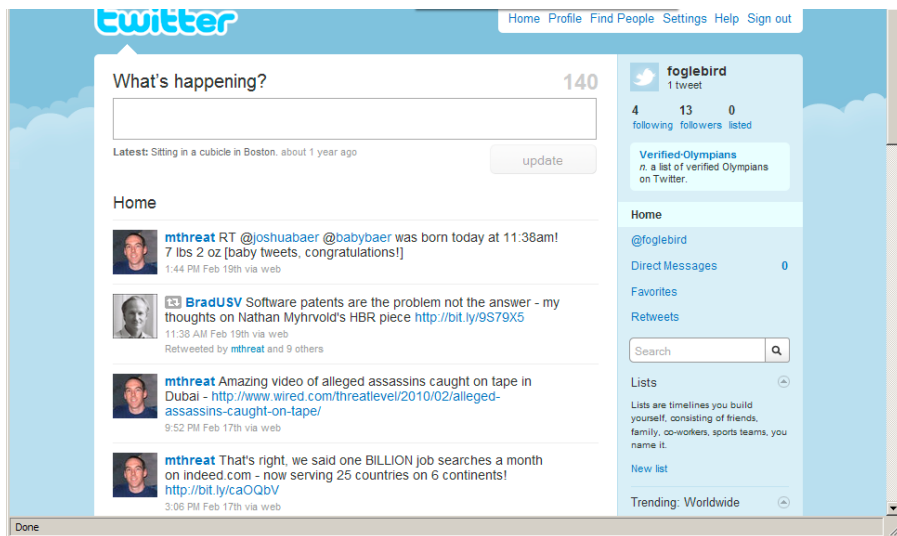


Reuters

ROBINSON MEYER | JUN 28, 2014 | TECHNOLOGY

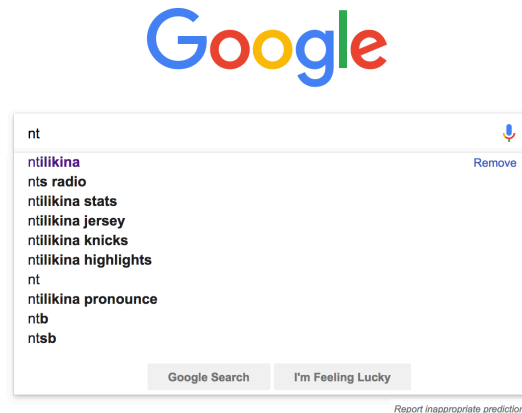
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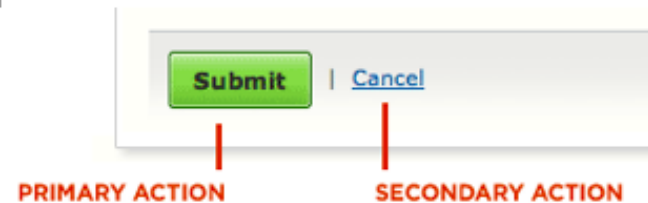
5. Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.



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Share something with Usabilitypost:

[Attach file](#)

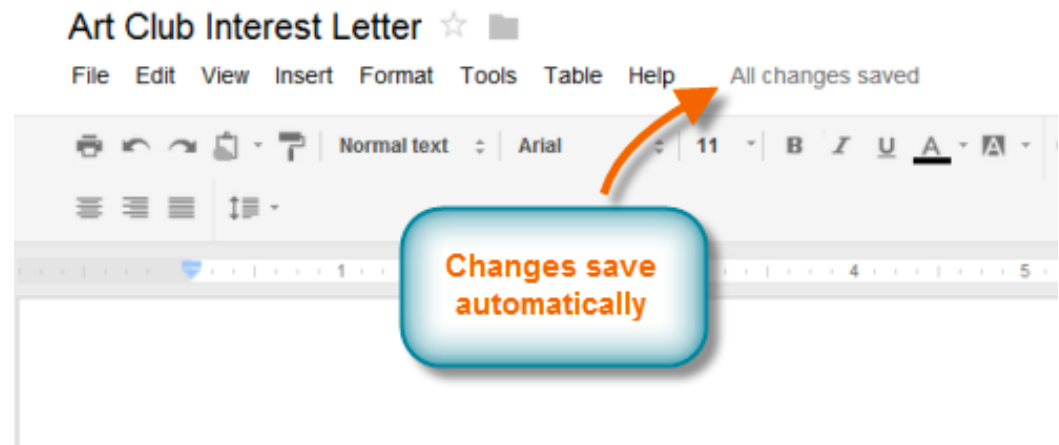
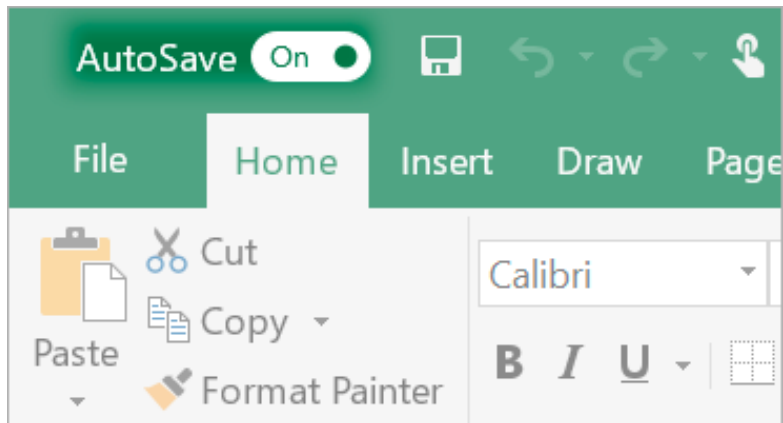
The image shows a light blue rectangular form. At the top left, it says "Share something with Usabilitypost:". Below this is a white text input field. To the right of the input field is a grey button with the word "Update" in white text. Below the input field, there is a small blue icon of a paperclip followed by the text "Attach file". A mouse cursor is pointing at the "Update" button.

Processing Payment... Do not refresh this page.



5. Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.



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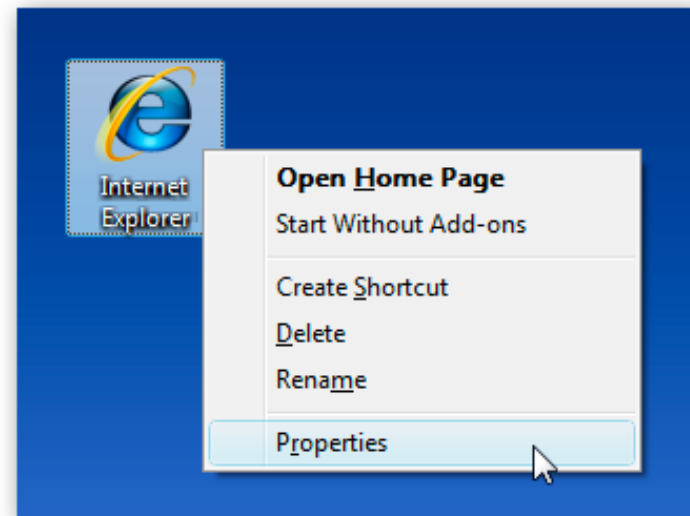
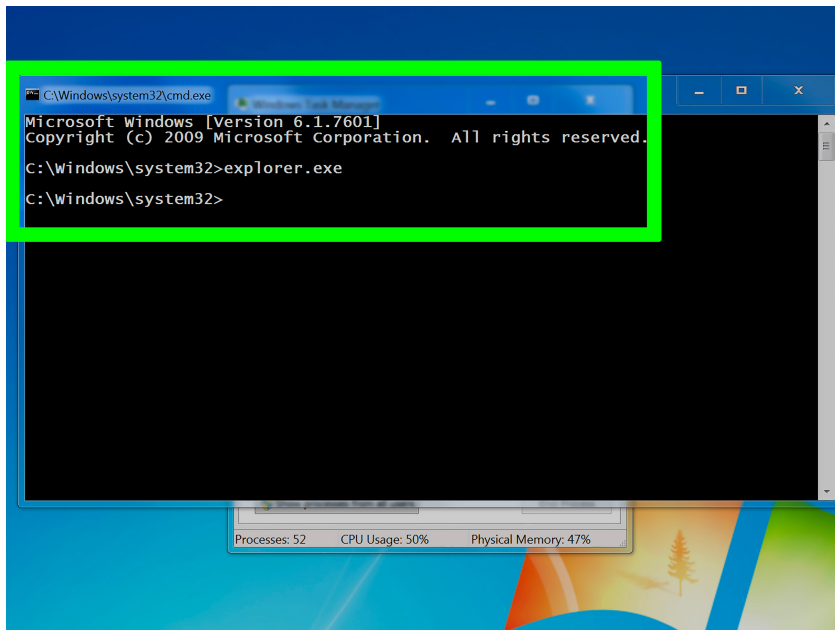
Faculty mailing list
Faculty@lists.cs.columbia.edu
<https://lists.cs.columbia.edu/mailman/listinfo/faculty>



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

6. Recognition rather than recall

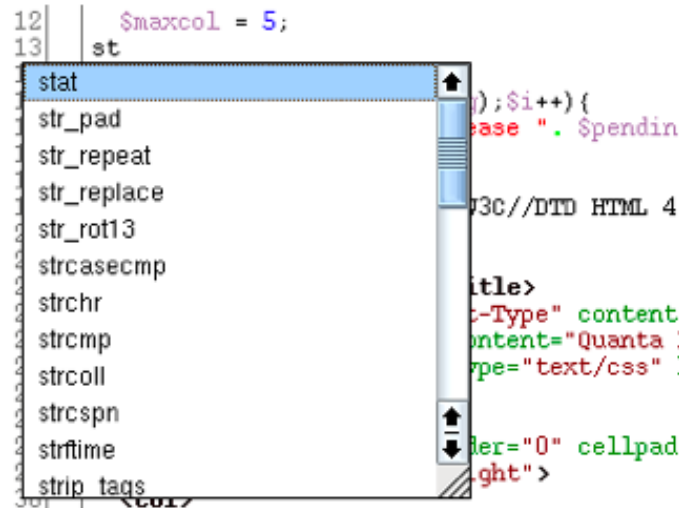
Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.



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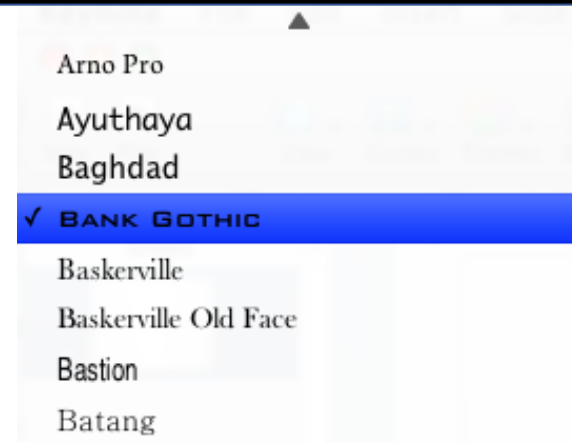
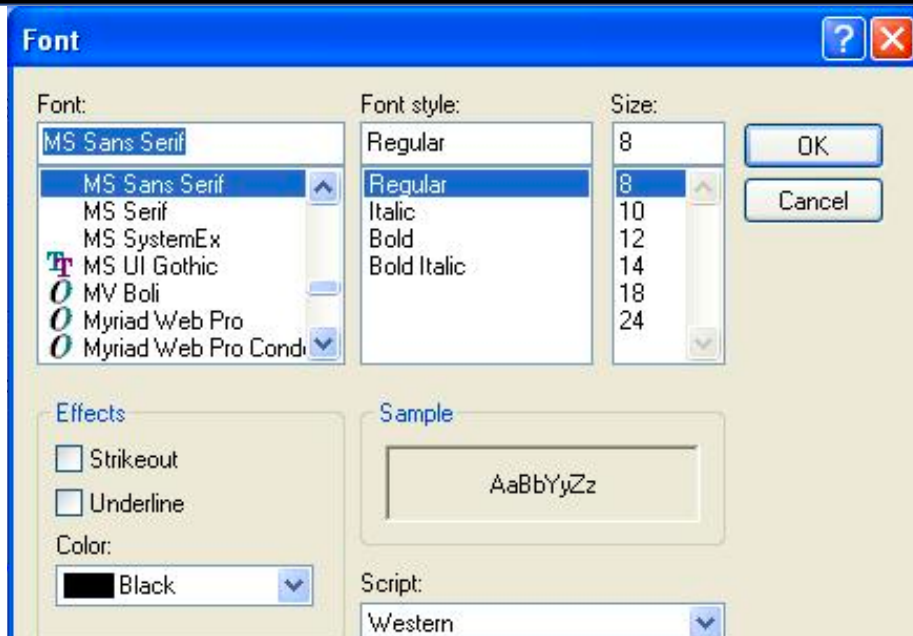
```
12 | $maxcol = 5;  
13 | st  
stat  
str_pad  
str_repeat  
str_replace  
str_rot13  
strcasecmp  
strchr  
strcmp  
strcoll  
strcspn  
strtime  
strip_tags
```



The image shows a code editor window with a list of string functions on the left and their corresponding code snippets on the right. The list includes: stat, str_pad, str_repeat, str_replace, str_rot13, strcasecmp, strchr, strcmp, strcoll, strcspn, strtime, and strip_tags. The code snippets on the right include: `); $i++){`, `case ". $pendin`, `<?3C//DTD HTML 4`, `<title>`, `<Content-Type" content`, `Content="Quanta :`, `type="text/css" :`, `Header="0" cellpadding`, and `</th>">`.

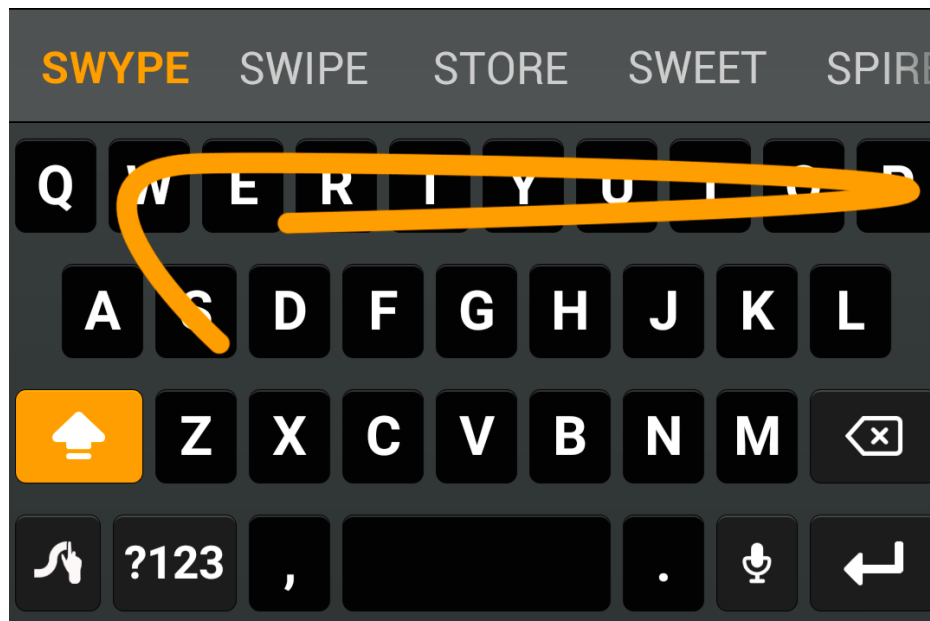
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Accelerators — unseen by the novice user — may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.



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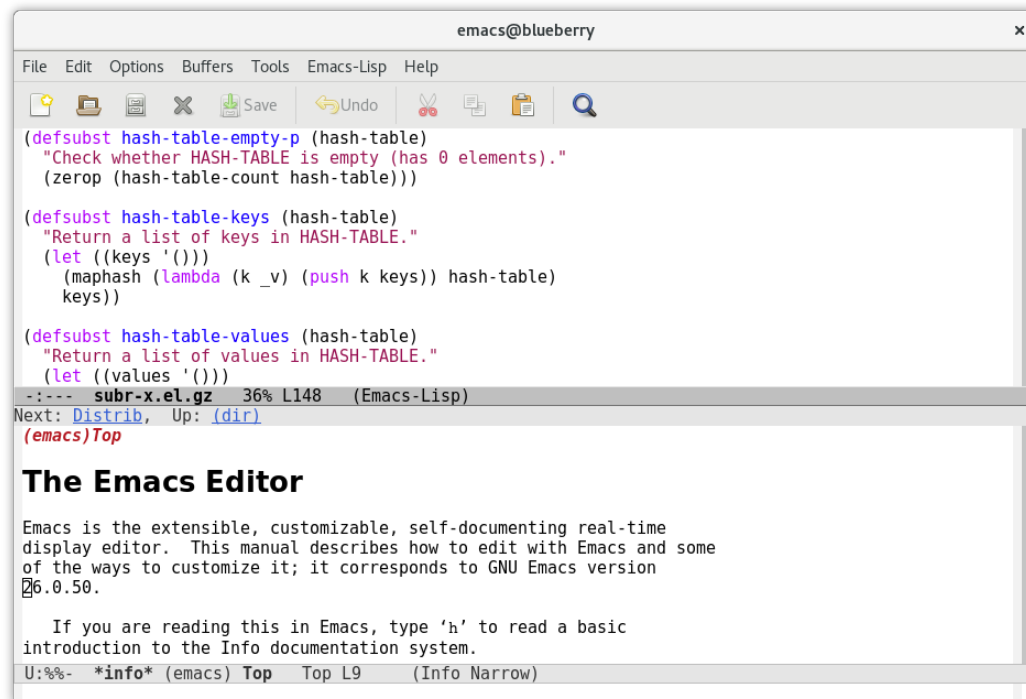
Common Shortcuts

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

Quick Entry's shortcut can be customized in Preferences

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
Accelerators — unseen by the novice user — may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

MachForm

Enter Payment Information

Please review the details below before entering payment information.

Javascript for Beginner - Ebook	\$20.00	\$40.00 <small>TOTAL</small>
Web Design for Beginner - Ebook	\$20.00	

Credit Card *

First Name Last Name

Credit Card Number CVV

Expiration: 01 - January 2013

Billing Address *

Street Address

City State / Province / Region

Postal / Zip Code Country

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.



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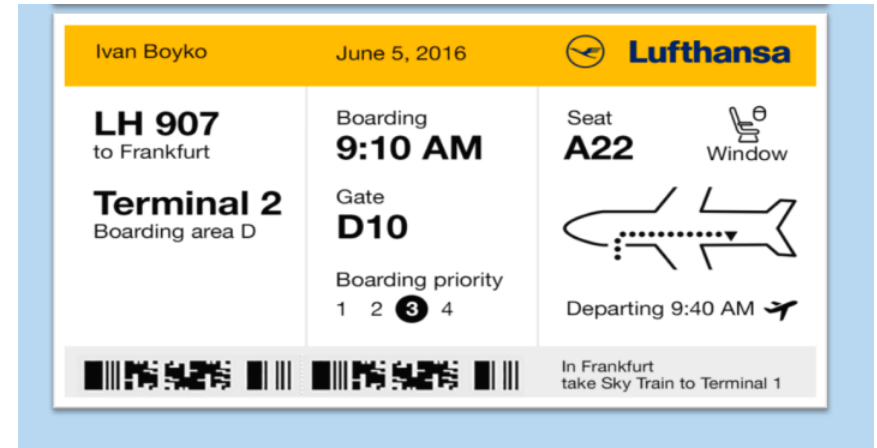
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The New York Times

Saturday, January 13, 2018 | Today's Paper | Video | 33°F | S. & P. 500 +0.67% ↑

World U.S. Politics N.Y. Business Opinion Tech Science Health Sports Arts Style Food Travel Magazine T Magazine Real Estate ALL

Tightest Job Market in Years Aids Applicants Once Shunned

By BEN CASSELMAN 11:56 AM ET

- A shortage of candidates is providing opportunities to people long shunned by employers, such as those with criminal records, disabilities or prolonged bouts of joblessness.
- The American economy hasn't experienced this kind of fierce competition for workers since the late 1990s and early 2000s.

13 Comments

Alert About Missile Bound for Hawaii Was Sent in Error

By ADAM NAGOURNEY, DAVID E. SANGER and JOHANNA BARR 58 minutes ago

The alert appeared on cellphones warning people to "seek immediate shelter," and said, "This is not a drill." The authorities said it was a false alarm. More than 30 minutes



From left, Ryan Locke, Robyn Sinclair and Terron Wood. Each said he had experienced sexual harassment during his time modeling.
Ryan Young for The New York Times; Lam Yik Fai for The New York Times; Amanda Lucier for The New York Times

Male Models Claim Sexual Exploitation

By JACOB BERNSTEIN, MATTHEW SCHNEIER and VANESSA FRIEDMAN 12:13 PM ET

Models and assistants said Mario Testino and Bruce Weber, two prominent fashion photographers, used their authority to engage in unwanted sexual behavior. Representatives for both said they were dismayed and surprised by the allegations.

14 Comments

- Condé Nast Crafts Rules to Protect Models From Harassment

SMARTER LIVING



Ways to Save on Travel in 2018



How to Make Soup

Opinion

EDITORIAL False Alarm Adds to Real Alarm About Trump's Nuclear Risk

He has proposed increasing the nuclear arsenal and the ways in which it can be used, and is threatening the Iran deal.



- Editorial: Trump Flushes Away America's Reputation
- Collins: So It's One, Two, Three Strikes You're Out ...
- Stephens: Proud to Live in a Nation of Holers
- Kristof: Mr. Trump, Meet a Hero Whom You Maligned
- What Makes a Country Great? Meet Haiti's People.

The Heartbeat of Racism Is Denial

By IBRAM X. KENDI

What President Trump has in common with his supporters — and his opponents.



How to Speak Grief

By REBECCA SOFFER and GABRIELLE BIRKNER

What to say to the newly bereaved instead of "I just don't know what to say."



- Mr. President, Your Toga Is Showing
- Is a Hip Replacement Safe?
- When American Soldiers Met Vietnamese Cuisine

TIMES INSIDER »
Oh, the 52 Places She'll Go

THE CROSSWORD »
Play Today's Puzzle



6h Firebombs exploded outside three churches in Santiago, Chile, an act of violence aimed at Pope Francis over the plight of an indigenous group and the issue of sex abuse.



7h Megan Ganz, a television writer, explained why she forgave her former boss, Dan Harmon, for harassing her while they were working on the sitcom "Community."




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 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

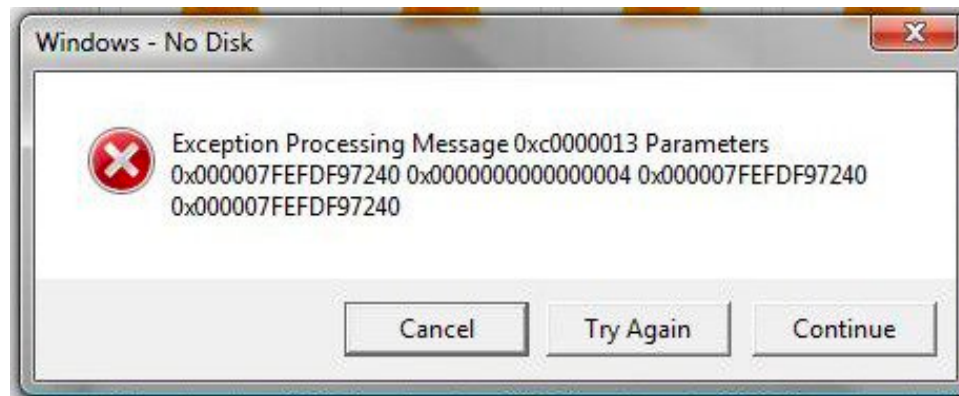
Email address (must be real!)

 The email provided does not appear to be valid

Send me occasional Digg updates.

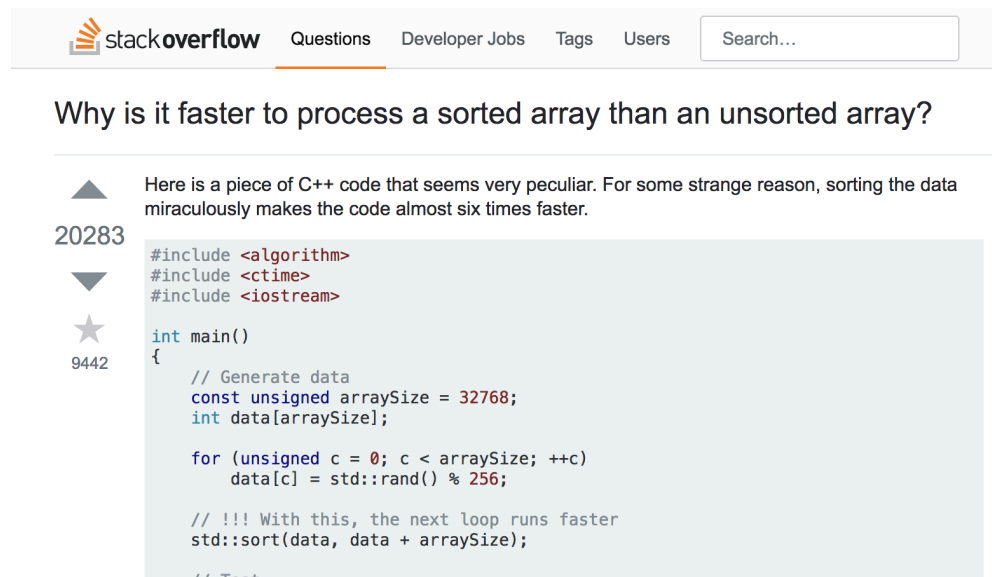
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10. Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.



The screenshot shows the Stack Overflow website interface. At the top, there is a navigation bar with the Stack Overflow logo, links for 'Questions', 'Developer Jobs', 'Tags', and 'Users', and a search box labeled 'Search...'. Below the navigation bar, the question title is 'Why is it faster to process a sorted array than an unsorted array?'. The question body contains a text description and a code block. The code block is a C++ program that generates an array of random numbers and then sorts it. The code is as follows:

```
#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
```

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COLUMBIA UNIVERSITY LIBRARIES

SEARCH (Catalog, Articles, Academic)

ASK A LIBRARIAN

LOCATIONS FIND RESEARCH SUPPORT SERVICES COMPUTERS & TECHNOLOGY ABOUT

- Visit us to receive in-person reference and research assistance. Please note that hours vary by library.
Select a library
- Make an [appointment](#) to meet with a [librarian subject specialist](#) for a consultation about your library research.
- Call us at (212) 854-7309 for general library information, or [contact an individual library](#).
- E-mail your reference question and to request research assistance.

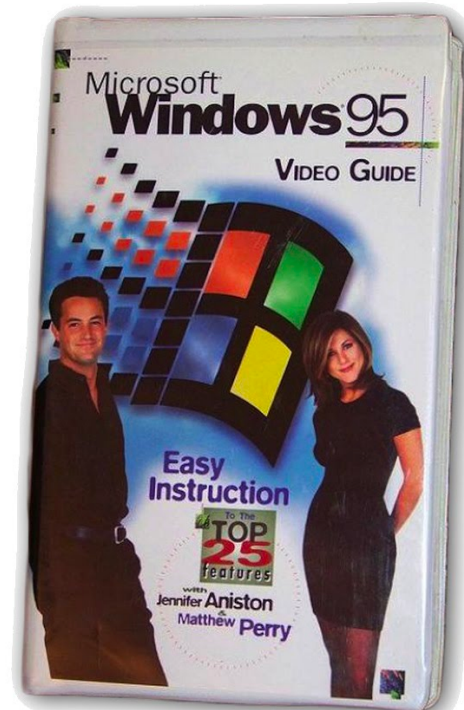
C U - Ask A Librarian

Type here to chat. Press ENTER to send.

[About Us](#) | [Chat Hours](#) | [Privacy Info](#) | [Non-Affiliates](#)

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Assignment 1

- Due Wednesday Jan 24th @ 11:59 PM.
- For each of the 10 usability heuristics:
 - Find one positive example
 - Find one negative example
- They must be qualitatively different than mine.
- Take a screen shot
- Answer 3 questions:
 - What is the interface?
 - How does it meet (or fail) the heuristic?
 - What needs or abilities does it serve (or fail to serve)?

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

User Interface Design

COMS 4170 · Spring 2018

[Home](#) [Syllabus](#) [Assignments](#) ▾

Part 1 Build websites that suit the needs and abilities of users.

Part 2 When the needs and abilities of users are uncertain, design systems by learning from iteration and experimentation.

INSTRUCTOR

[Prof. Lydia Chilton](#)

OH: Tuesday 3-4 pm, CEPSR 612

Please contact staff through Piazza only

TAS

Tessa Hurr

Eleanor Murguia

Lucille Sui

WEEKLY SCHEDULE

Lecture

Mon, Wed 4:10–5:25pm, 413 Kent Hall