

HEURISTIC EVALUATION

CS 77 + CS 147

Scott Klemmer and Michael Bernstein

Heuristic evaluation is a
hill-climbing technique

Heuristic evaluation
gives you terms
for intuitive ideas

it is a suite of unit tests for user interfaces

Multiple ways to evaluate

Empirical Assess with real users

Formal Models and formulas to
calculate measures

Automated Software measures

Critique Expertise and heuristic
feedback

When to get design critique?

- **Before user testing.** Don't waste users on the small stuff. Critique can identify minor issues that can be resolved before testing, allowing users to focus on the big issues.
- **Before redesigning.** Don't throw out the baby with the bathwater. Critique can help you learn what works and what should change.
- **When you know there are problems, but you need evidence.** Perhaps you've received complaints from customers or found yourself stumbling around your own site. Critique can help you articulate problems and provide you with ammunition for redesign.
- **Before release.** Smooth off the rough edges.

Begin Review with a Clear Goal

Heuristic Evaluation

- Developed by Jakob Nielsen
- Helps find usability problems in a design
- Small set (3-5) of evaluators examine UI
 - independently check for compliance with usability principles (“heuristics”)
 - different evaluators will find different problems
 - evaluators only communicate afterwards
 - findings are then aggregated
- Can perform on working UI or sketches

Ten Design Heuristics

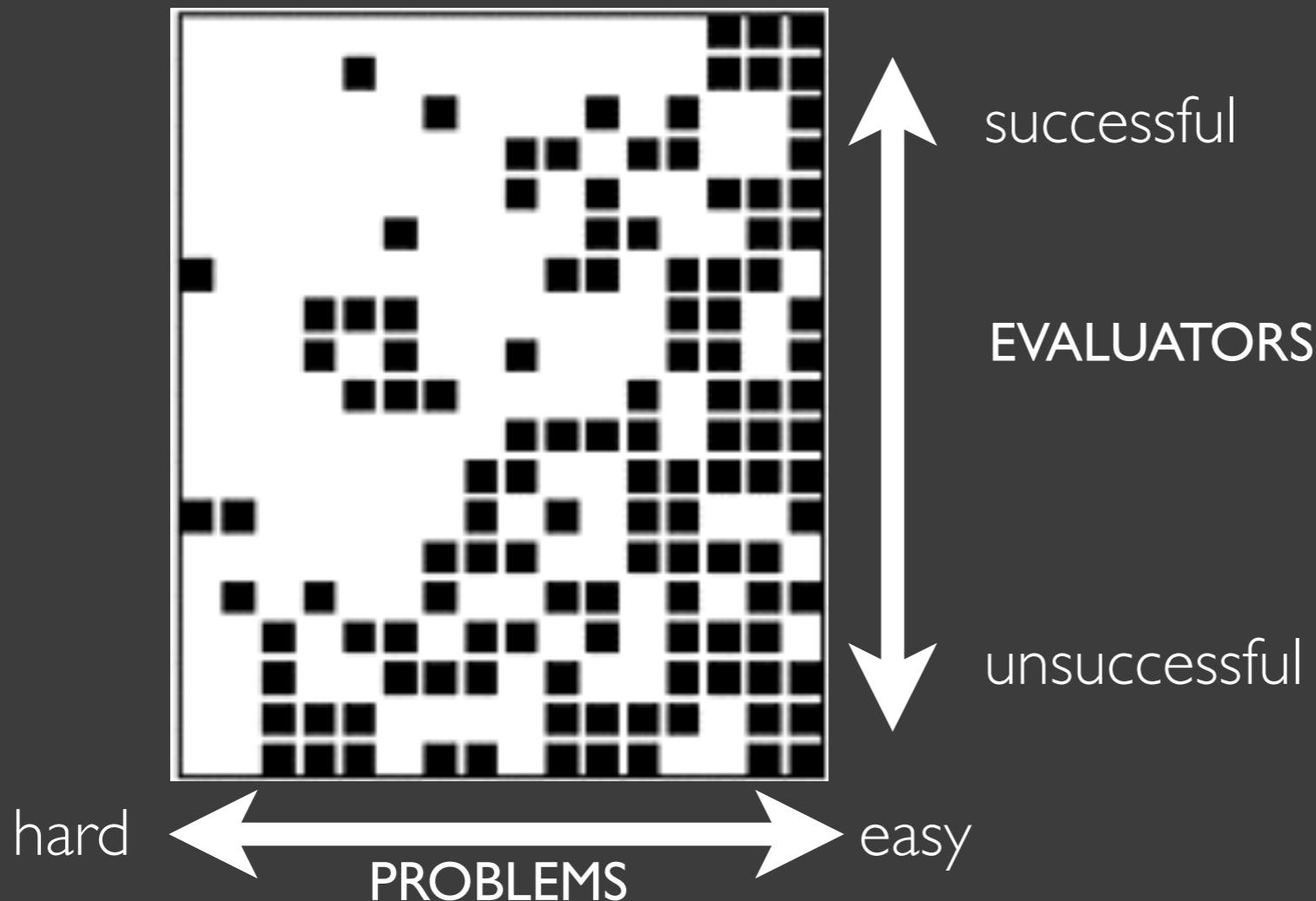
- Show system status
- Familiar metaphors & language
- Control & freedom
- Consistency
- Error prevention
- Recognition over recall
- Flexibility & efficiency
- Aesthetic & minimalist design
- Recognize, diagnose, & recover from errors
- Help

Evaluators' Process

- Step through design several times
 - Examine details, flow, and architecture
 - Consult list of usability principles
 - ..and anything else that comes to mind
- Which principles?
 - Nielsen's “heuristics”
 - Category-specific heuristics from e.g., design goals, competitive analysis, existing designs
- Use violations to redesign/fix problems

Why Multiple Evaluators?

- No evaluator finds everything
- Some find more than others



Decreasing Returns

- Caveat: graphs for a specific example

problems found

benefits / cost

Heuristic Eval: Cost-effective

- In one case: benefit-cost ratio of 48
 - estimated benefit \$500,000; cost \$10,500
 - value of each problem ~\$15K
 - how might we calculate this value?
 - in-house -> productivity; open market -> sales
- Severe problems found more often
- Single evaluator achieves poor results
 - only finds 35% of usability problems
 - 5 evaluators find ~ 75% of problems

Heuristics vs. User Testing

- Heuristic Evaluation often faster
 - 1-2 hours each evaluator
- HE results come pre-interpreted
- User testing is more accurate (by def.)
 - takes into account actual users and tasks
 - HE may miss problems & find “false positives”
- Valuable to alternate methods
 - find different problems
 - don’t waste participants

Phases of Heuristic Evaluation

1. **Pre-evaluation training:** give evaluators needed domain knowledge and information on the scenario
2. **Evaluation:** individuals evaluate and then aggregate results
3. **Severity rating:** determine how severe each problem is (priority). Can do first individually and then as a group
4. **Debriefing:** review with design team

How-to: Heuristic Evaluation

- At least two passes for each evaluator
 - first to get feel for flow and scope of system
 - second to focus on specific elements
- If system is walk-up-and-use or evaluators are domain experts, no assistance needed
 - otherwise might supply evaluators with scenarios
- Each evaluator produces list of problems
 - explain why with reference to heuristic or other information
 - be specific and list each problem separately

How-to: Heuristic Evaluation

- Why separate listings for each violation?
 - risk of repeating problematic aspect
 - may not be possible to fix all problems
- Where problems may be found
 - single location in UI
 - two or more locations that need to be compared
 - problem with overall structure of UI
 - something is missing
 - ambiguous with early prototypes; clarify in advance
 - sometimes features are implied by design docs and just haven't been “implemented” – relax on those

Severity Rating

- Independently estimate after review
- Allocate resources to fix problems
- Estimate need for more usability efforts
- Severity combines
 - frequency
 - impact
 - persistence

Severity Ratings

- 0 - don't agree that this is a usability problem
- 1 - cosmetic problem
- 2 - minor usability problem
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

Severity Ratings Example

- *Issue:* Unable to edit one's weight
- *Severity:* 2
- *Heuristics violated:* User control and freedom
- *Description:* when you open the app for the first time, you have to enter your weight, but you cannot update it. It could be useful if you mistyped your weight, or if one year or two after the first use of the app, your weight has changed.

Debriefing

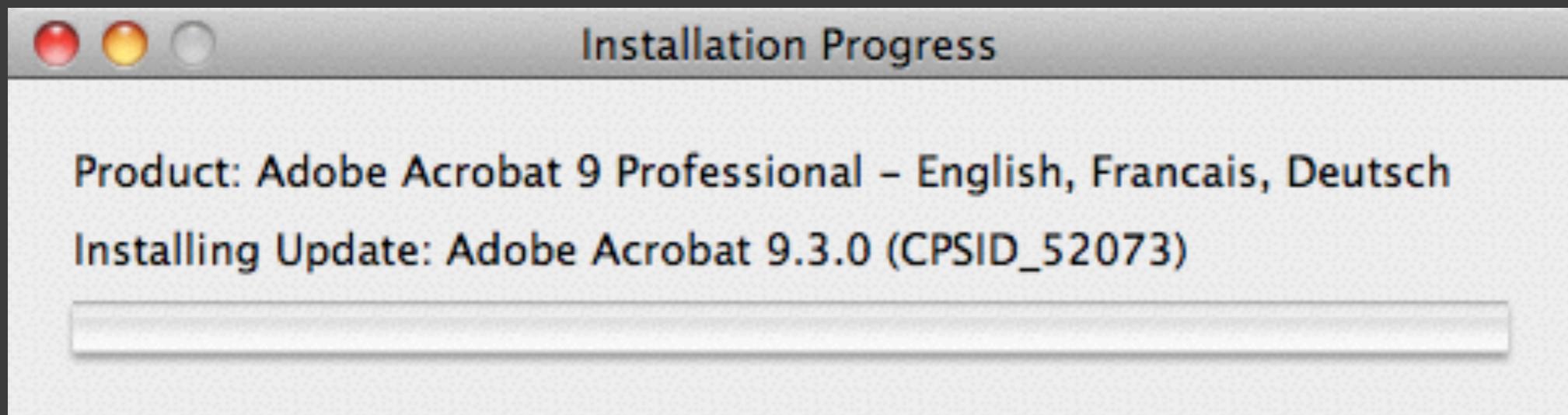
- Conduct with evaluators, observers, and development team members
- Discuss general characteristics of UI
- Suggest potential improvements to address major usability problems
- Dev. team rates effort to fix
- Brainstorm solutions

The Heuristics

Show System Status

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Show:Time



- Feedback depends on response time
 - <|s: just show outcome
 - ~|s: feedback that activity is underway
 - >>|s: Show fractional progress; time

Show: Space

You are currently using 7488 MB (99%) of your 7498 MB.

Last account activity: 0 minutes ago at this IP (75.210.243.152). [Details](#)

Stanford University HCI Group Mail view: standard | [turn on chat](#) | [older version](#) | [basic HTML](#) [Learn more](#)

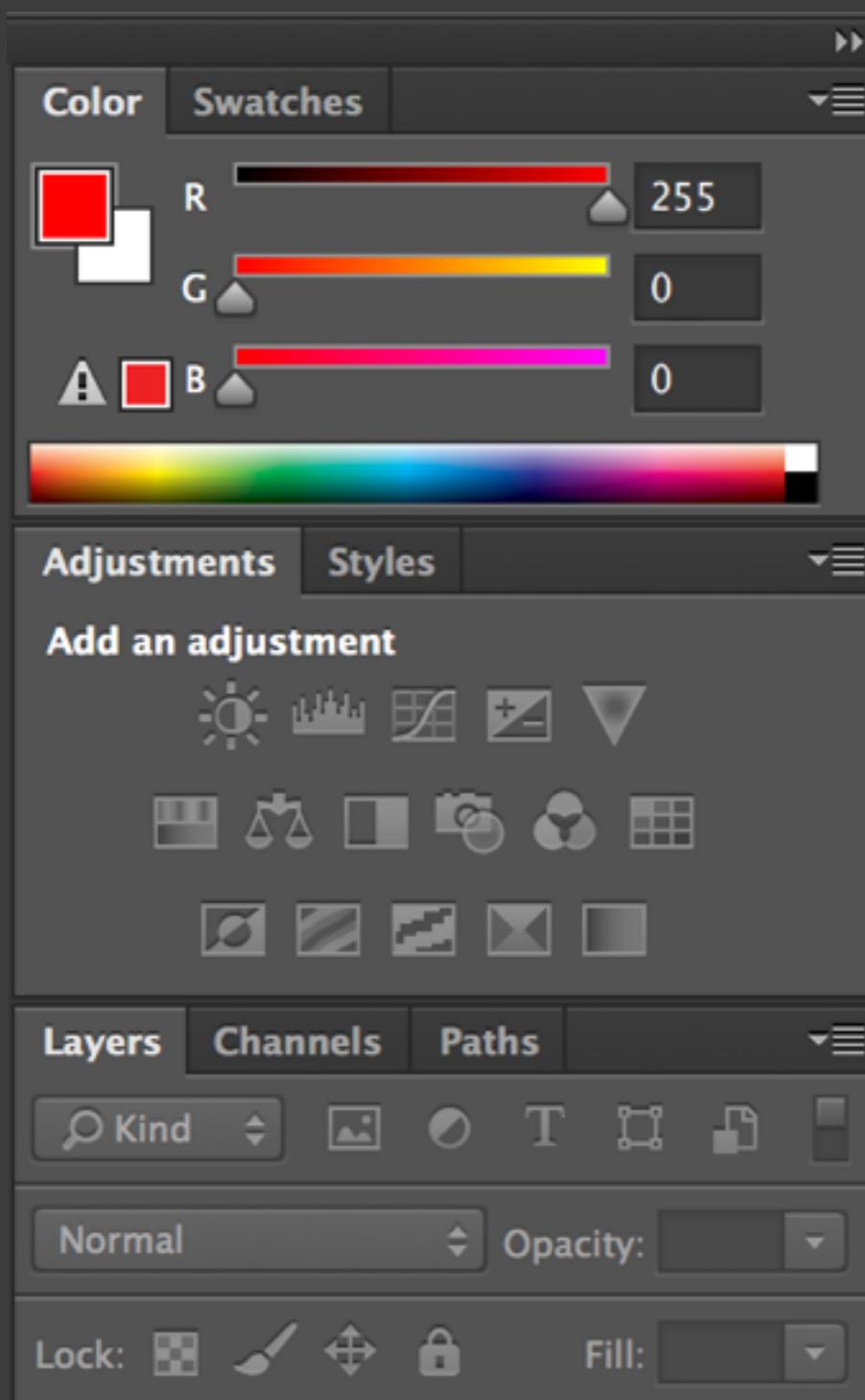
©2010 Google - [Terms of Service](#) - [Privacy Policy](#) - [Program Policies](#) - [Google Home](#)

Powered by 

Show: Change



Show: Action



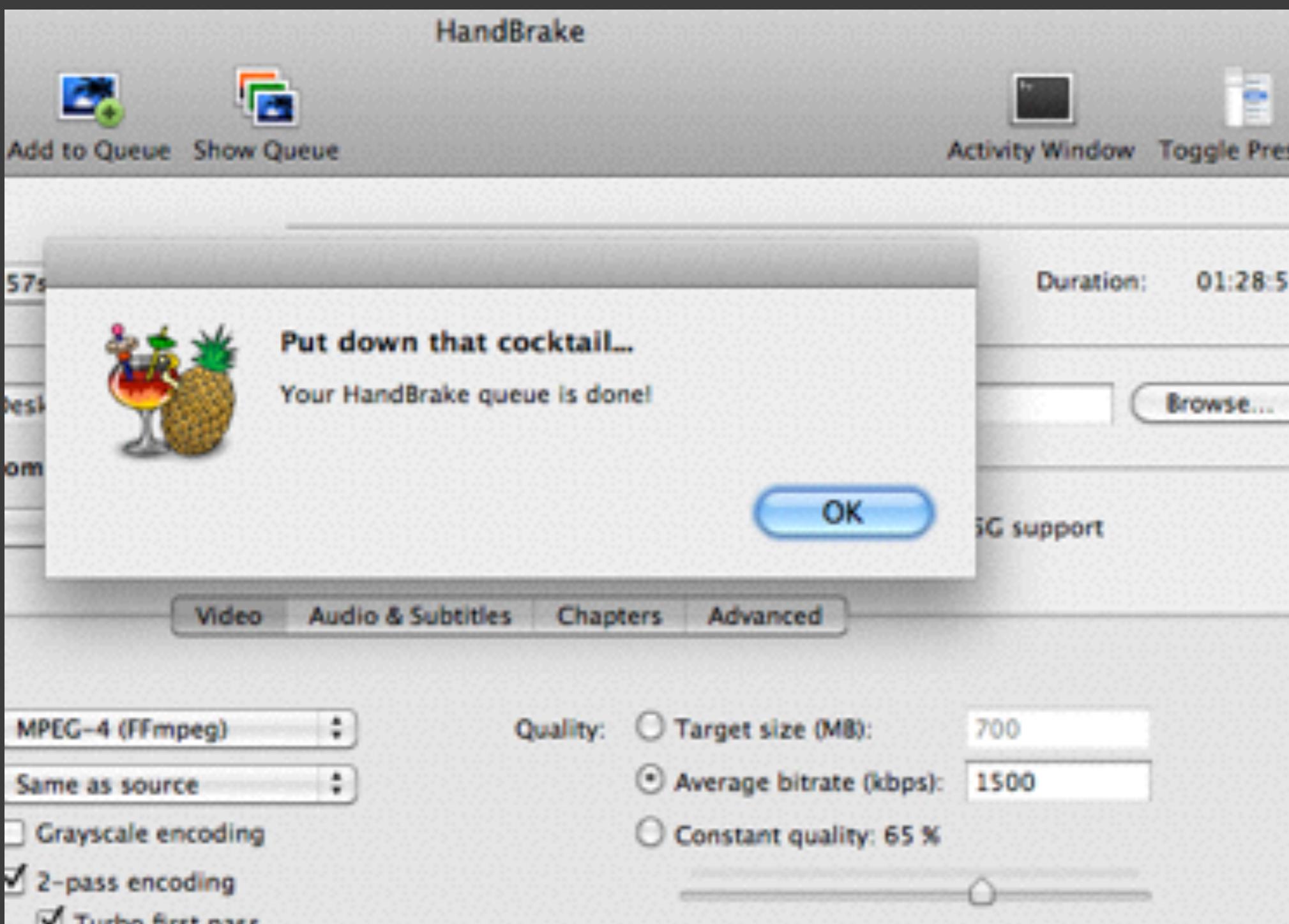
Show: Next steps

Important Message

Thank you! Your message was sent to the seller and a copy was sent to the e-mail address on your account. The seller will respond to you directly via e-mail.

[Back to Member Profile](#)

Show: Completion



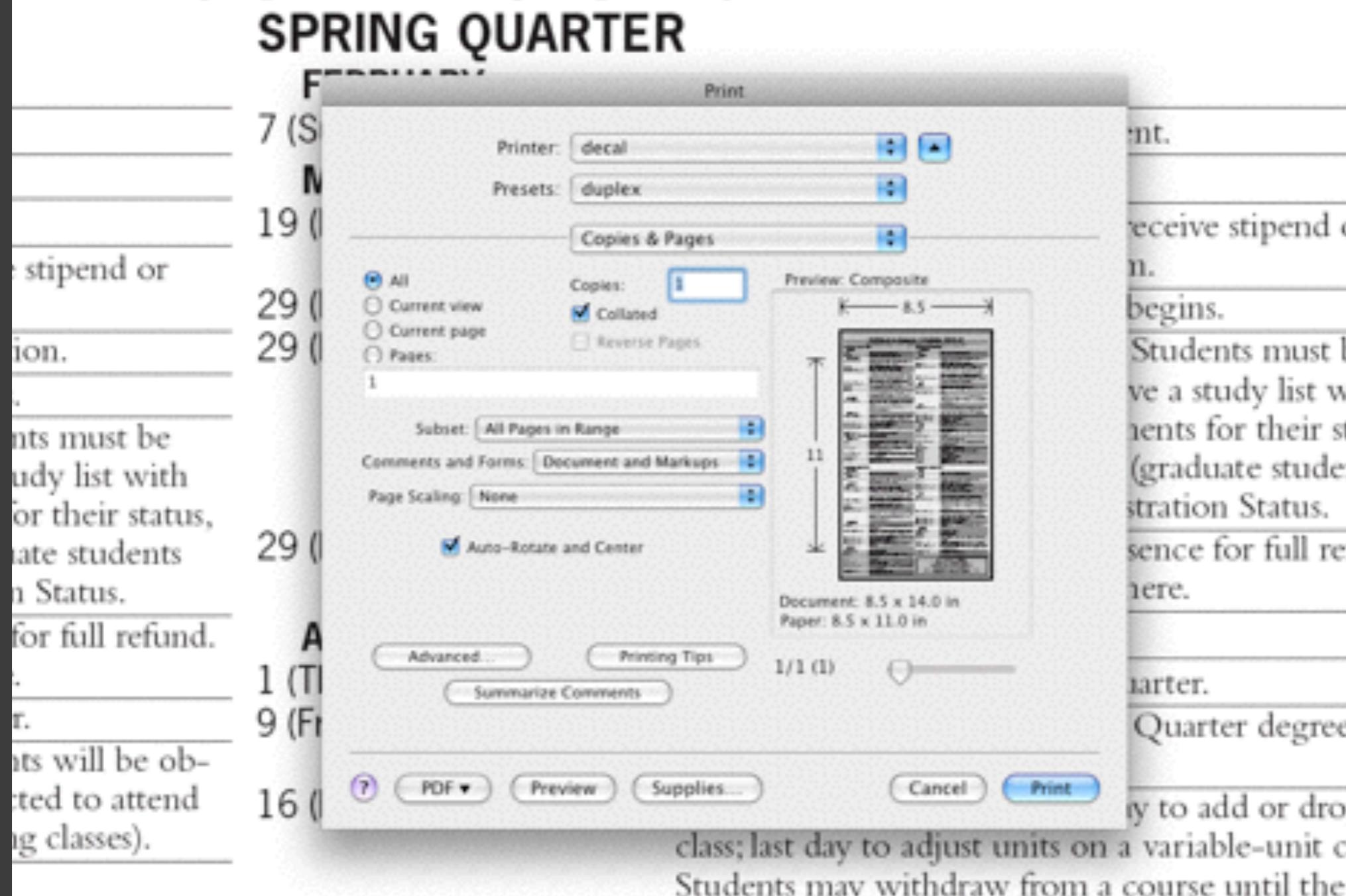
Familiar Metaphors & Language

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Familiar Metaphors

at the University Registrar's web site: http://registrar.stanford.edu/academic_calendar/

SPRING QUARTER



Familiar Language

Direct Loan Servicing

ACCOUNT | QUESTION CENTER | FORMS

Electronic Bill Presentment and Electronic Correspondence for the William D. Ford Federal Direct Loan (Direct Loan) Program

Services you are already enrolled in:

Electronic Correspondence

You already are enrolled in this service that enables you to receive your Direct Loan correspondence electronically. If you wish to cancel enrollment for this service, [click here](#).

Services you are not eligible for:

Electronic Bill Presentment

Your account is not eligible for participation in Electronic Bill Presentment because either you already are enrolled in our Electronic Debit Account, your account is in an inactive status such as paid in full, or your account is greater than 210 days delinquent.

Familiar Categories

Visas

Passport

Need a Visa

Citizenship: [Not a U.S. Citizen?](#)

State of Residence: California, Northern

Destination:

Purpose of Travel: [Multiple Destinations](#)

Account #:

CIBT®

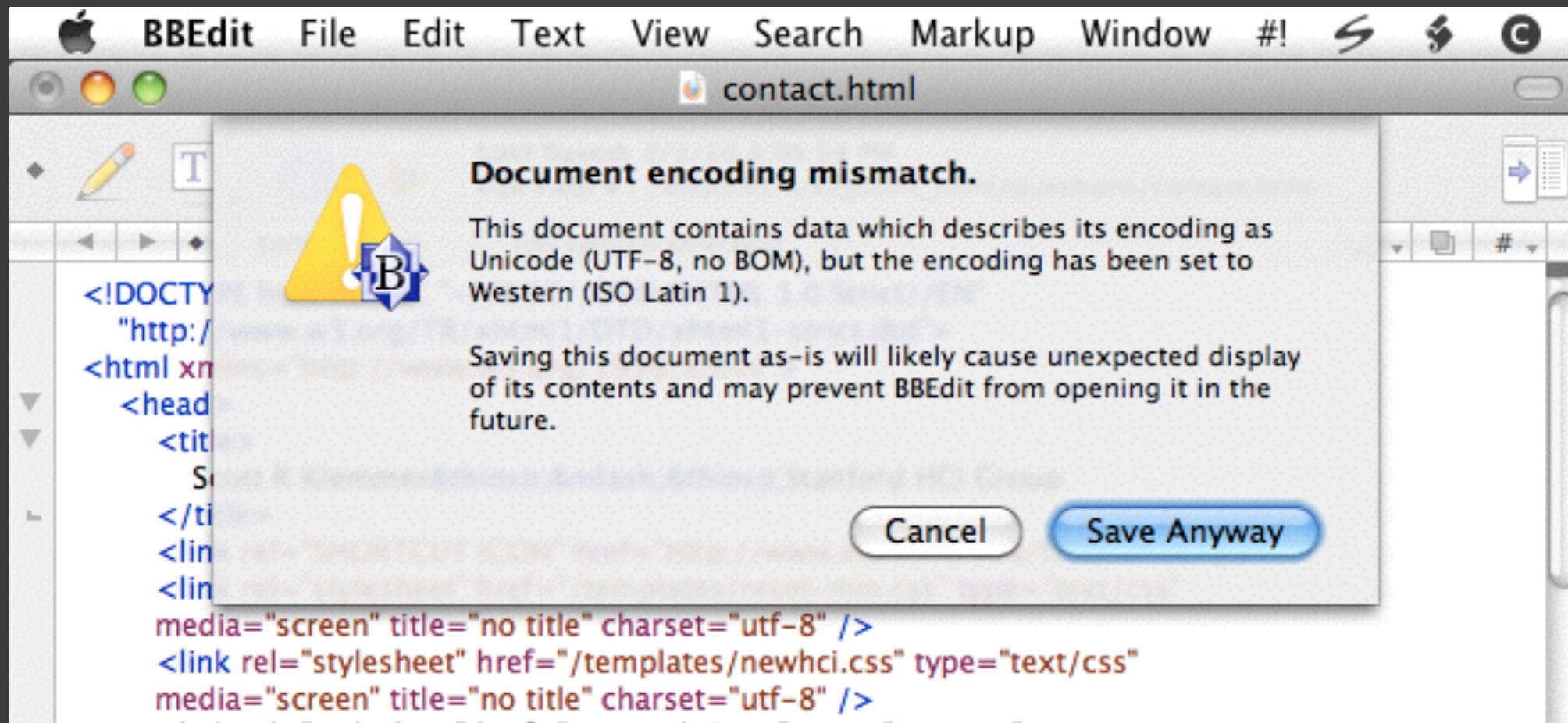
right 2010 CIBT

[Privacy Policy](#) | [Terms of Use](#)

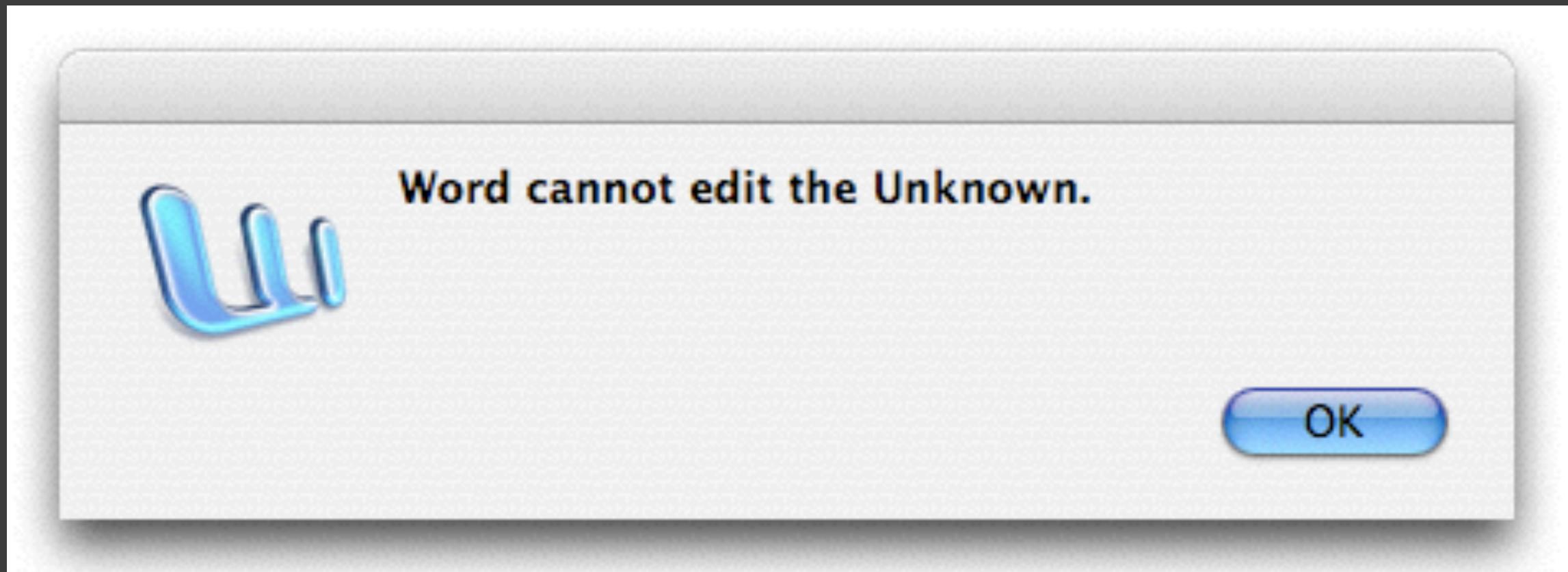
Select One

- Alabama
- Alaska
- Arizona
- Arkansas
- California, Northern
- California, Southern
- Colorado
- Connecticut
- Delaware
- District of Columbia
- Florida
- Georgia
- Guam
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey

Familiar Choices



Consider corner cases



User Control & Freedom

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Freedom to Undo

(All prices are in US Dollars)

UIST '09: The 22nd Annual ACM Symposium on User Interface Software and Technology ([Event Details](#))

Secure connection Personal Information Agenda **Merchandise** Checkout Confirmation

	Amount	Quantity	Subtotal
Extra Demo Reception ticket	\$40.00	<input type="text"/>	
Extra Banquet Ticket	\$90.00	<input type="text"/>	
Extra copies of the proceedings	\$45.00	<input type="text"/>	
			Total So Far: \$0.00
			Recalculate Total

[Continue ▶](#)

[Terms of Use](#) [Contact Info](#)

(All prices are in US Dollars)

Freedom to Explore

← Prev 7	Tue 1/28 N/A	Wed 1/29 N/A	Thu 1/30 \$493	Friday, Jan 31 from \$493	Sat 2/01 N/A	Sun 2/02 \$490	Mon 2/03 \$426	→ Next 7
				Flight information	Lowest	Refundable		
				11:05 PM → 7:21 AM SJC <small>(Next day)</small> JFK	Flight 670 View seats Duration: 5h 16m	\$493	\$981	
				10:38 AM → 11:43 AM JFK <small>(Next day)</small> BOS	Flight 518 View seats Duration: 1h 5m			
				<small>Total trip time: 9h 38m</small>				

Consistency & Standards

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Consistent Layout



Consistent Layout

The screenshot shows a website layout with a dark header bar at the top containing navigation links: 'Project name' (highlighted in red), 'Home', 'About', 'Contact', and 'Dropdown ▾'. Below the header is a large, bold headline 'Example headline.' In the center of the page is a note: 'Note: If you're viewing this page via a `file:///` URL, the "next" and "previous" Glyphicon buttons on the left and right might not load/display properly due to web browser security rules.' To the left of the note is a left arrow icon, and to the right is a right arrow icon. Below the note is a blue button with white text that says 'Sign up today'. At the bottom of the page, there are three small circular dots.

Project name Home About Contact Dropdown ▾

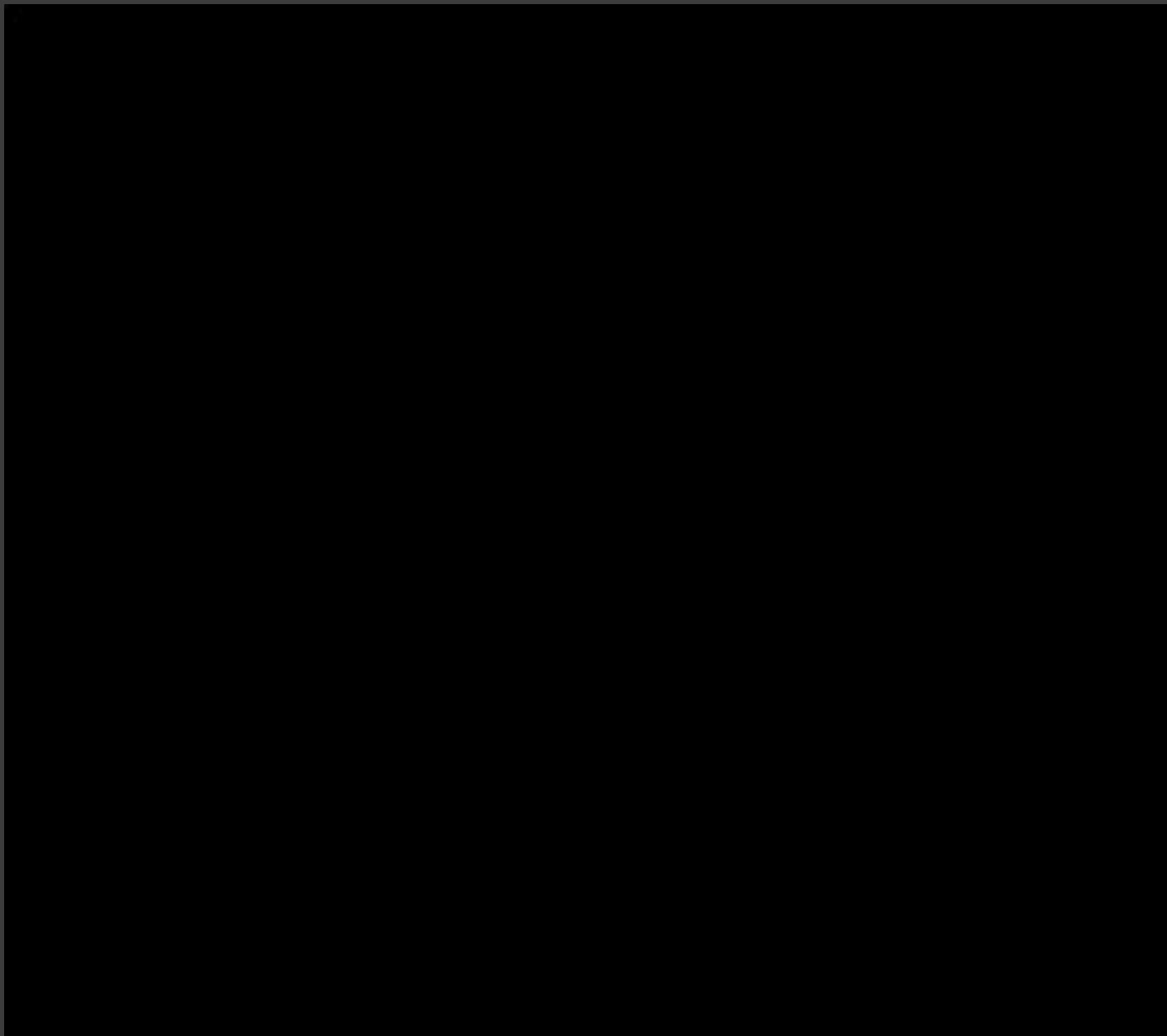
Example headline.

Note: If you're viewing this page via a `file:///` URL, the "next" and "previous" Glyphicon buttons on the left and right might not load/display properly due to web browser security rules.

Sign up today

● ○ ○

Consistent Layout



Consistent Names

Send an email

Please provide the requested information below to contact us by email. Your inquiry will be forwarded to our Customer Service Team for resolution. Our goal is to respond and resolve your inquiry within 24 hours.

Privacy and Security

Verizon Wireless considers your personal information completely private and will not disclose to any outside organization for its use in marketing or solicitation. [View our Privacy Principles](#)

* Indicates required fields.

Topic*

Internet and Data Products

Subtopic*

- Please Select -----
 - Mobile Office
 - Mobile Web
 - National Access
 - Bluetooth Technology
 - Broadband Access
 - Blackberry/PDA Smartphone
 - Wireless Sync

Question or Comment (1000 characters maximum)

2000

Consistent Choices

```
=====
Trusted Storage Recovery Script v1.0.9
=====

Please choose a language:

e: English
j: Japanese (日本語)

>: e

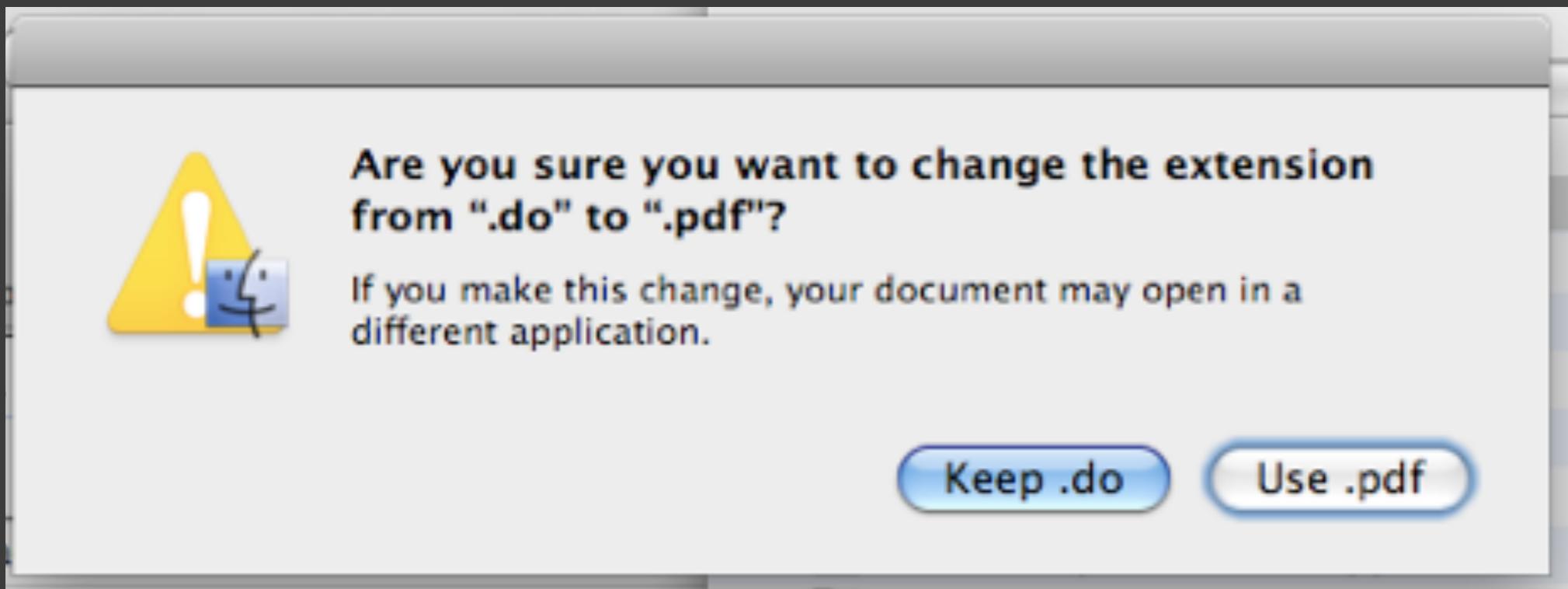
DISCLAIMER:

WARNING: Run at your own risk and make sure that ALL Adobe
products are closed and not running before you proceed further.

This tool has been developed to upgrade the licensing service
and repair a license file for Adobe Acrobat 8 and 9, and
Creative Suite 3 and 4 products.

Do you wish to close all
open applications? [y/n]: █
```

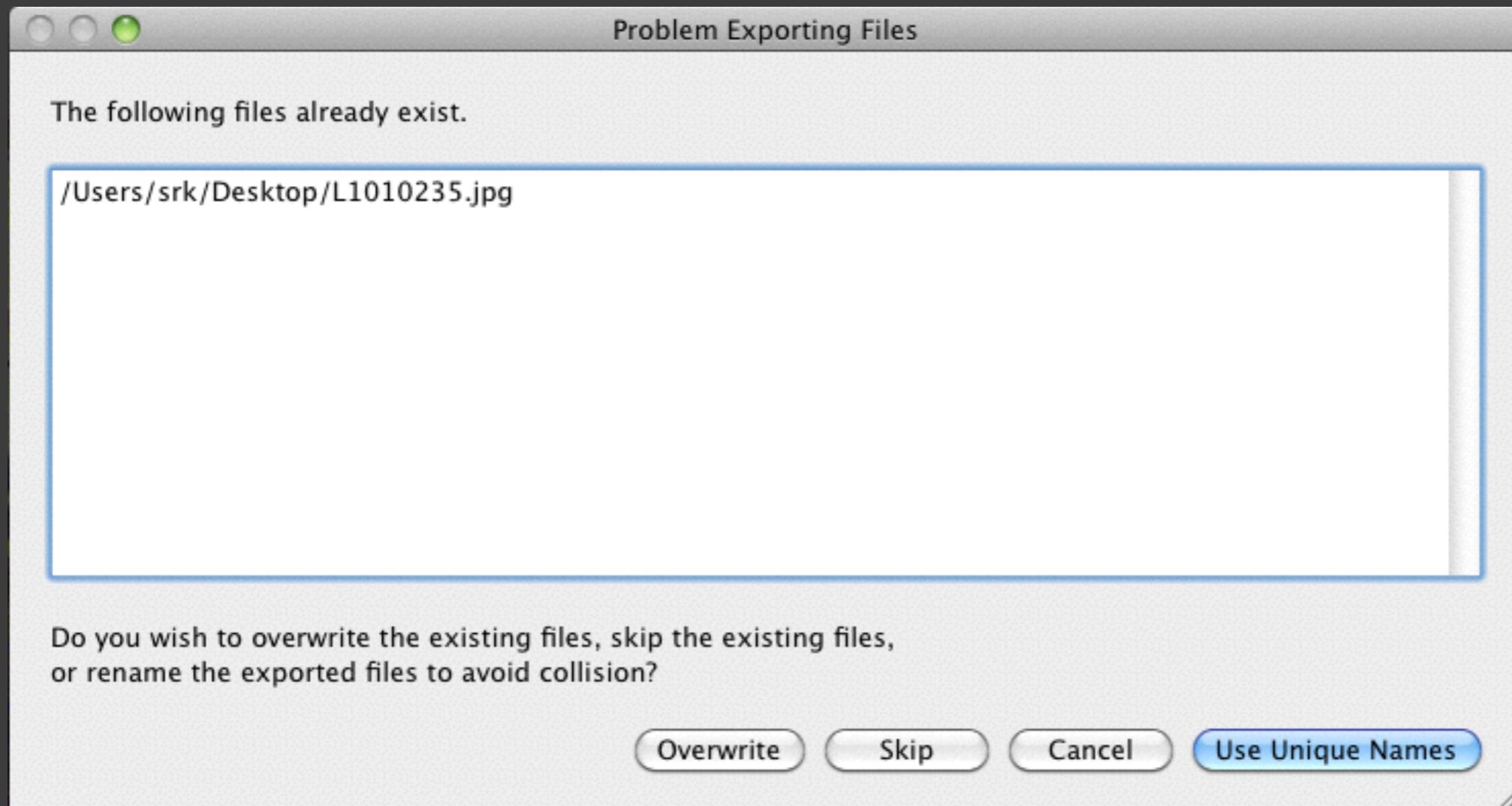
Clearer Choices...



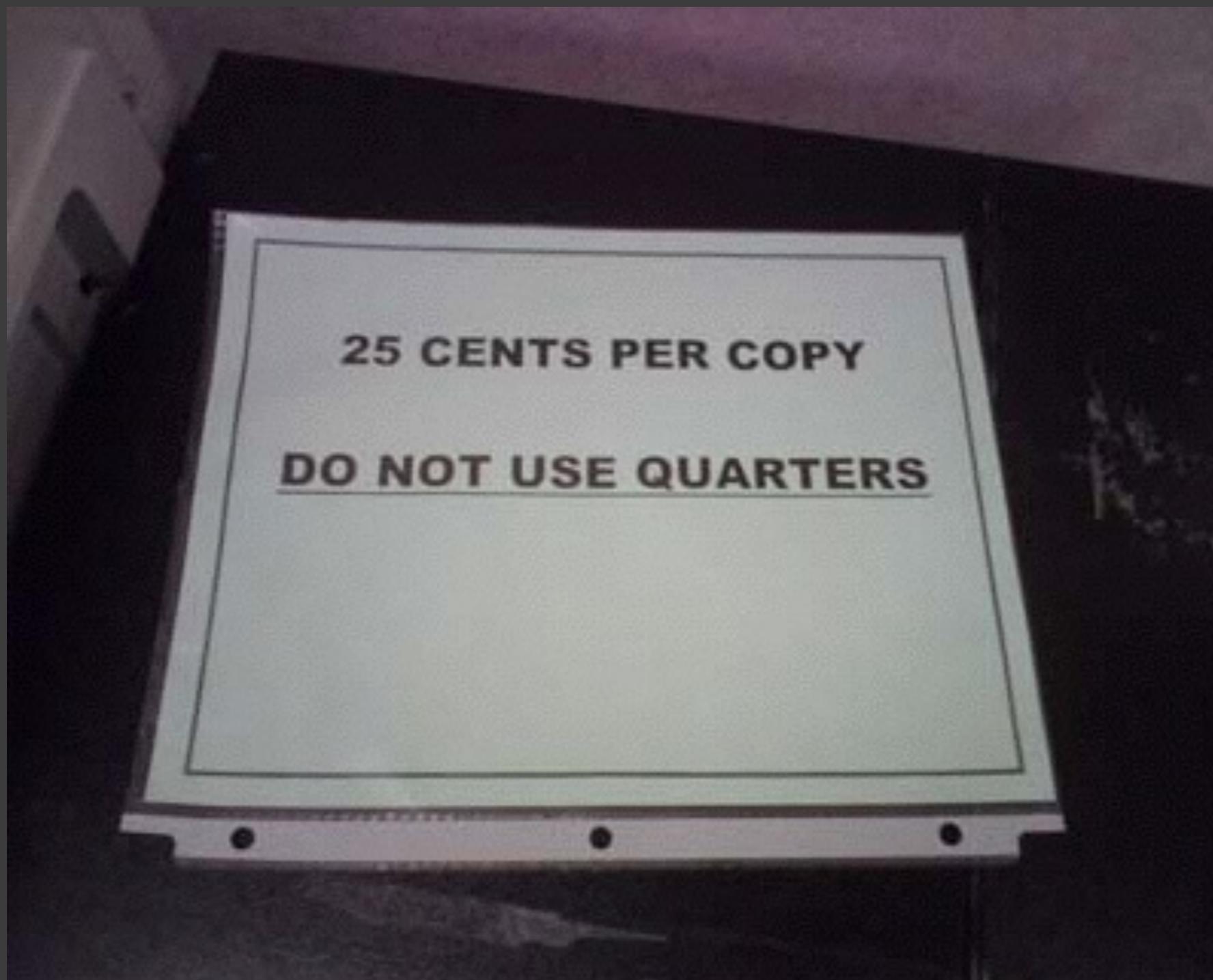
Error Prevention

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Prevent Data Loss



Prevent Painful Paths



Photocopier

Prevent Misinterpretation

ut Grade column. The names of students who have applied to graduate in **.

ton at the bottom of the page to save in-progress work or submit grades. If reopen for grading after submitted grades are posted (approximately 30 last terms).

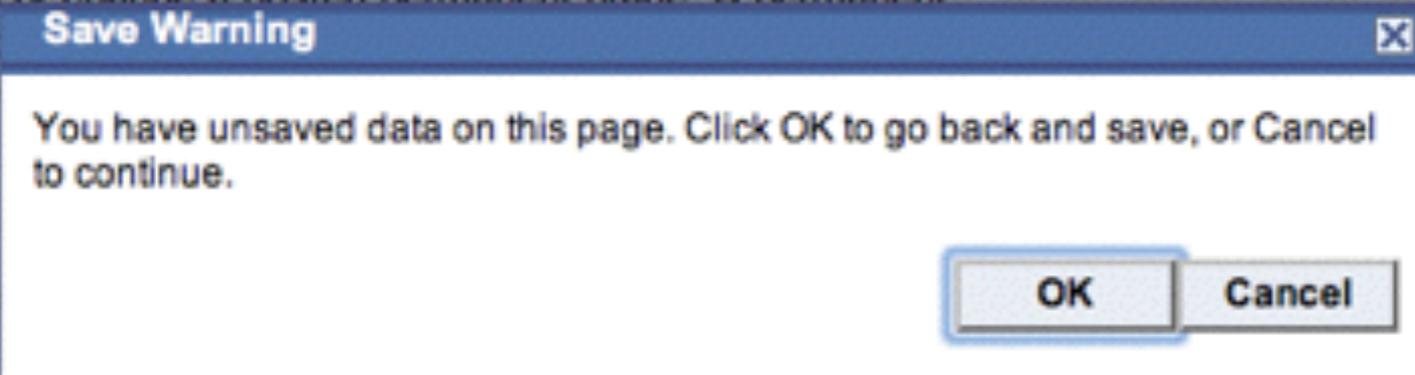
d incomplete grade or change a posted permanent grade. A permanent
putation or transcript.

term in which the

use your browser's

Grading Basis

University | Undergrad



(Lecture)

Instructor Dates

Scott Klemmer 09/20/2010 - 12/03/2010

Prevent Bad input

Gates Information Network

Groups Classrooms Offices Events

Event

Title

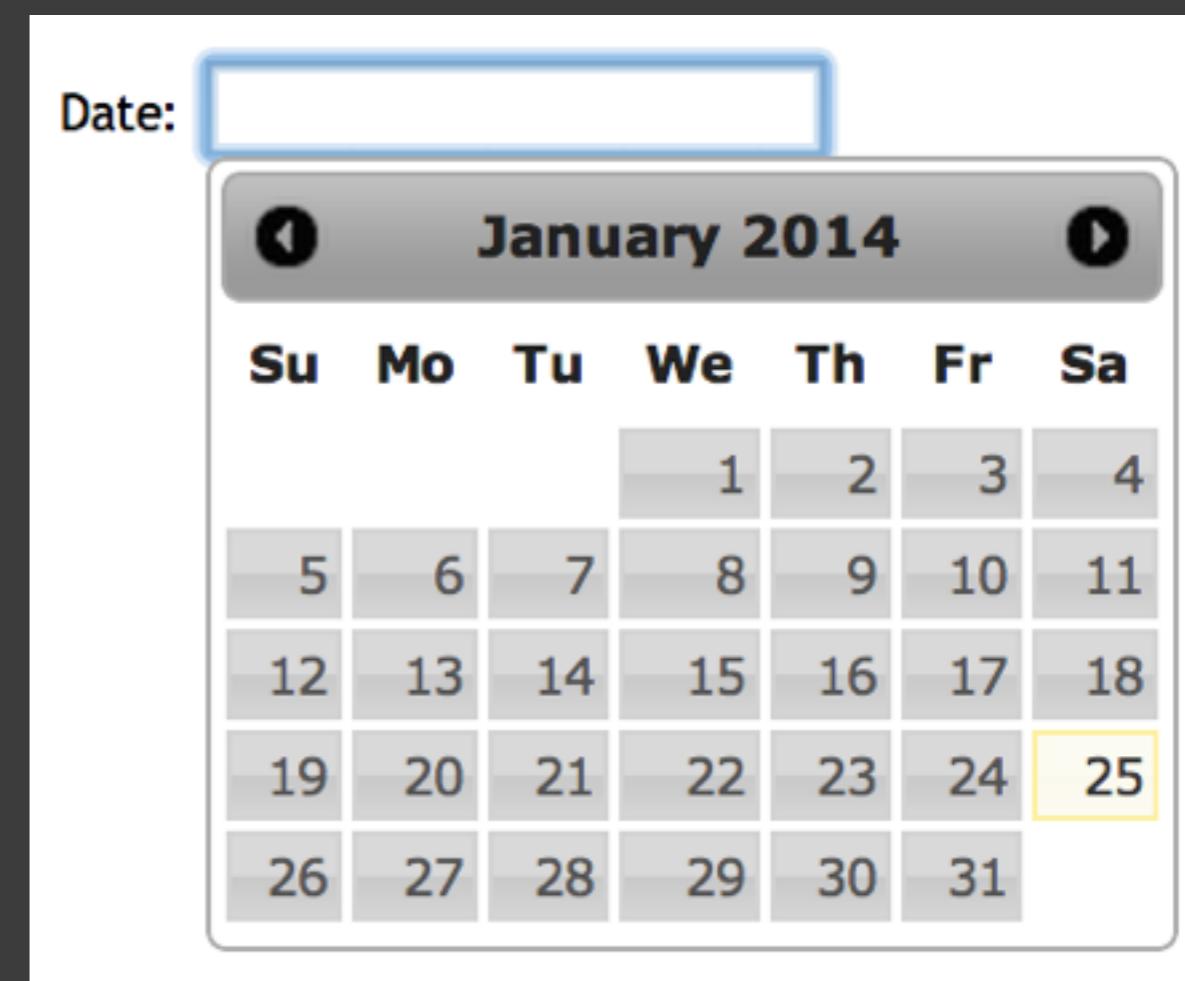
Classroom

Date

Start Time

End Time

Webpage



Prevent Unnecessary Constraints

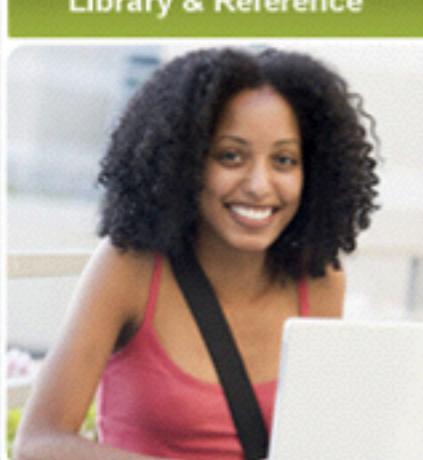
Olsen on Select Catalog... Search

You must select a catalog to begin your search.

Room | Careers United States | Change Your Country

Cengage Learning (sen'gāj): a leading provider of innovative teaching, learning and research solutions for the academic, professional and library markets worldwide. [Learn more >](#)

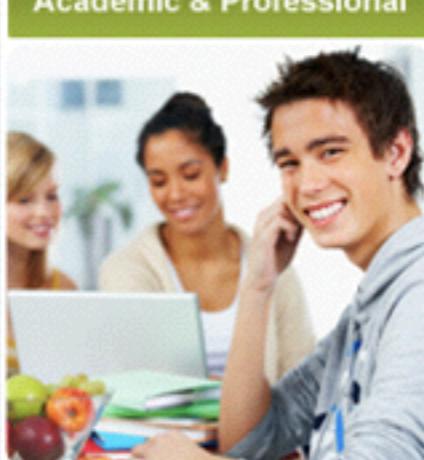
Library & Reference



Creates and maintains more than 600 databases of accurate and authoritative reference content from magazine, newspaper articles, and other print resources. Gale is the world leader in e-research and educational publishing for libraries, schools, and business.

[Gale Library & Reference >>](#)

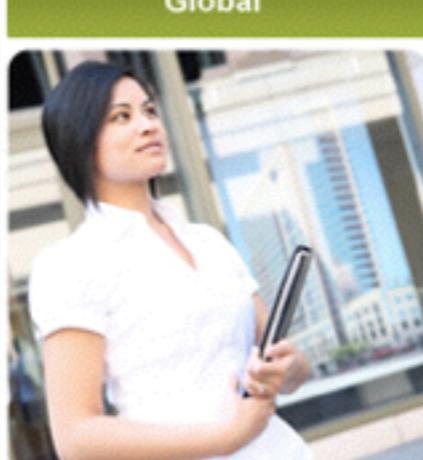
Academic & Professional



Publishes under the venerable brands of Brooks/Cole, Course Technology, Delmar, Heinle, South-Western, and Wadsworth to deliver highly customizable learning materials, textbooks, and digital products in the secondary, post-secondary, higher education, career school, technical trades, and professional markets.

[Gale Library & Reference >>](#)

Global



Focuses on global publishing opportunities, including localized content, English language teaching, and original and custom publishing for international markets. The product mix is a powerful blend of established U.S. imprints and rapidly expanding indigenous programs.

Investor Relations

Notice of Webcast and Conference Call for Cengage Learning

Cengage Learning will host a webcast and conference call to discuss the results for the fiscal year ended June 30, 2010 on:

Monday, September 13, 2010
9:00 A.M. (Eastern Time)

CENGAGEbrain.com
buy the way you want and save

Textbooks



BUY RENT ACCESS

eChapters



eBooks



RENT

Textbook Rentals

Recognition Over Recall

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Recognition: Avoid codes

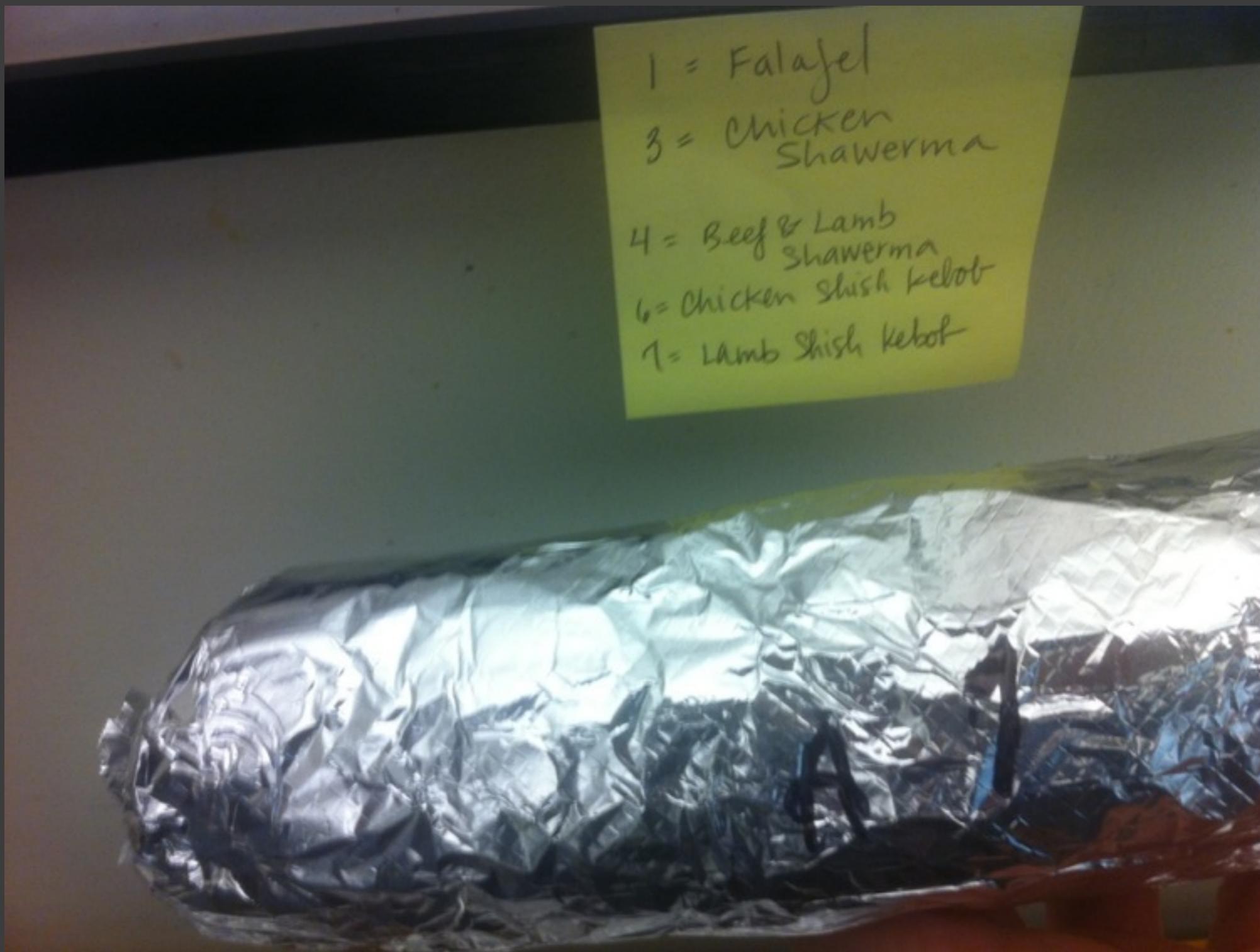
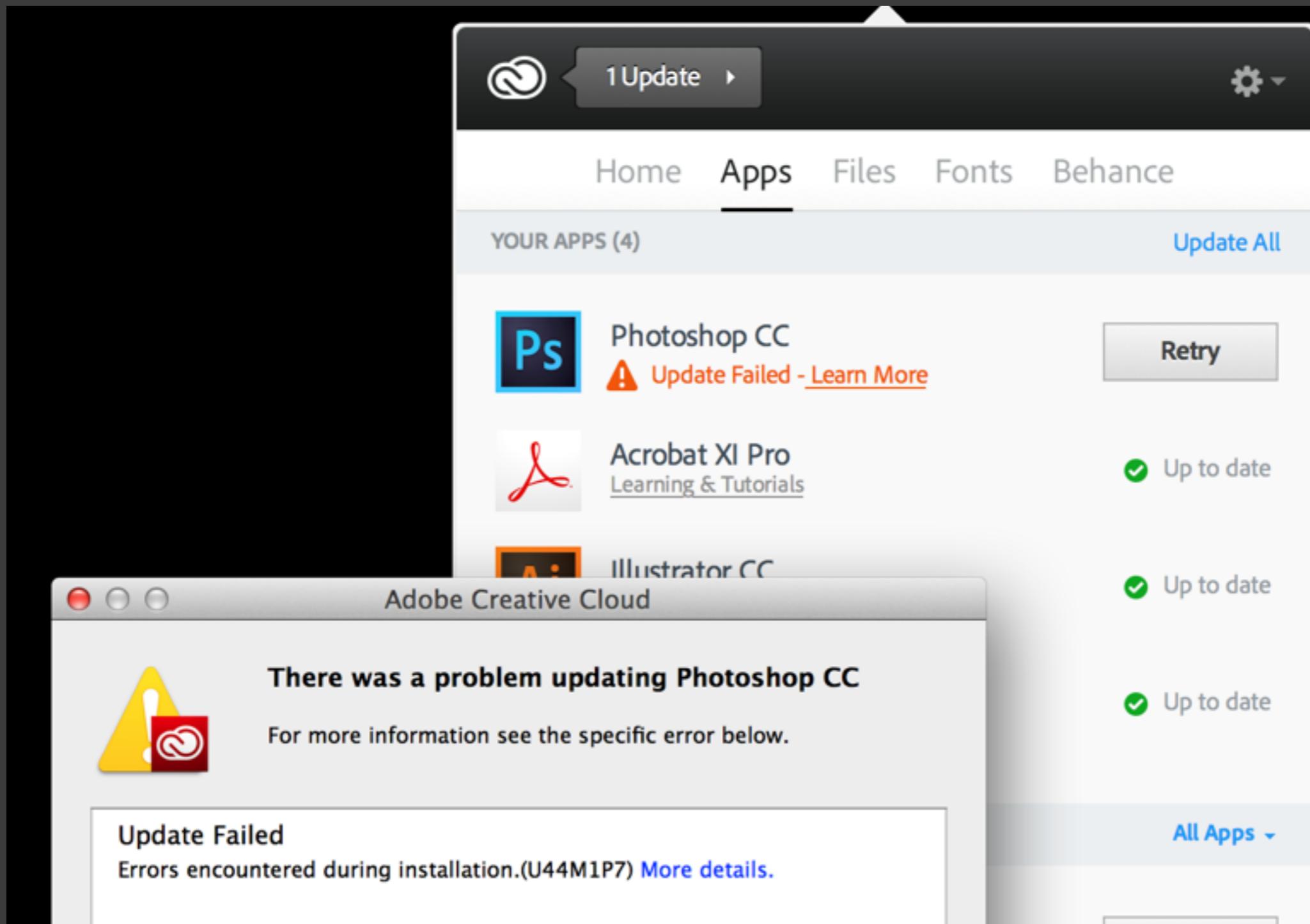
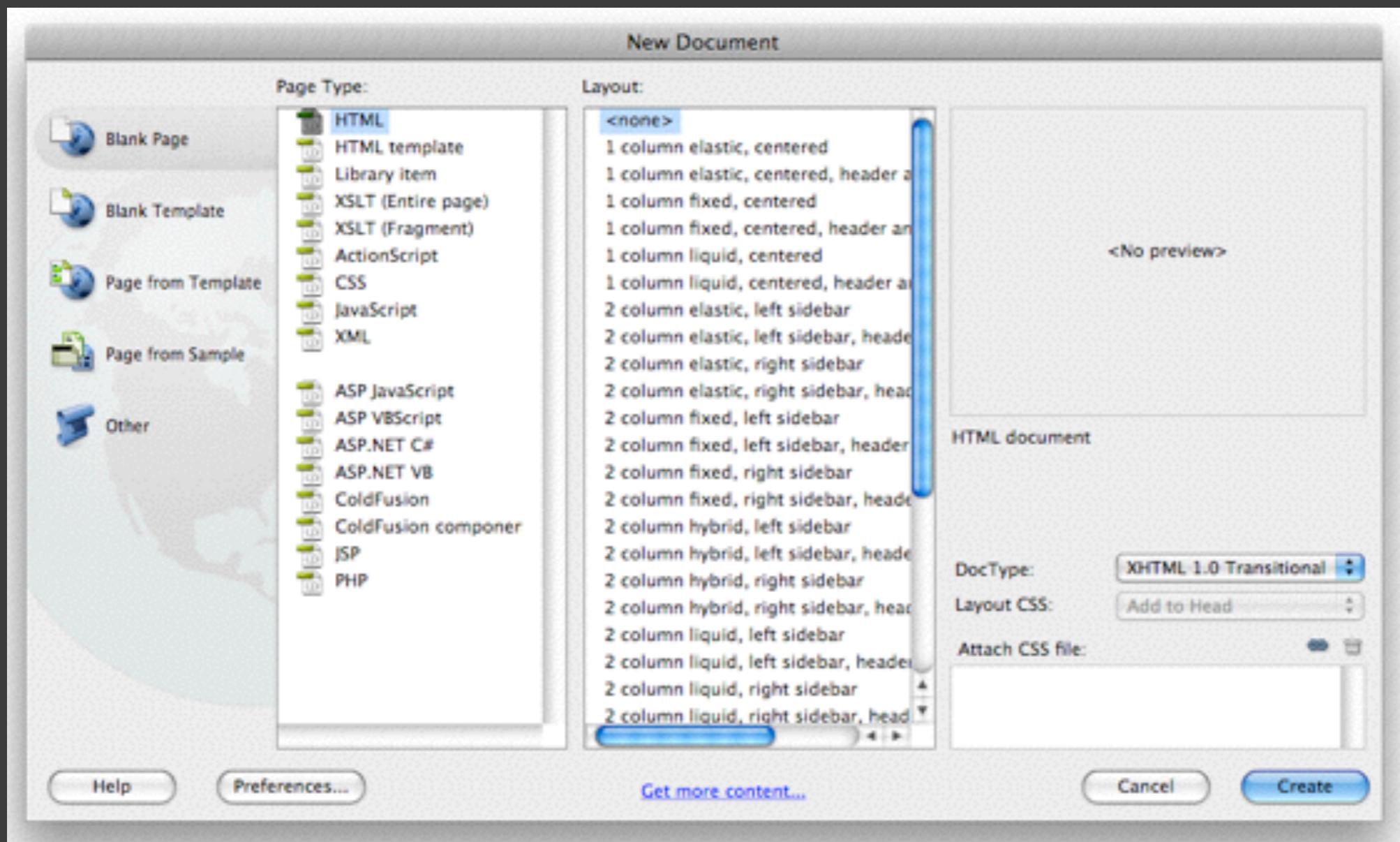


Photo by Scott Klemmer; taken at Stanford HCI lunch

Recognition: Avoid codes

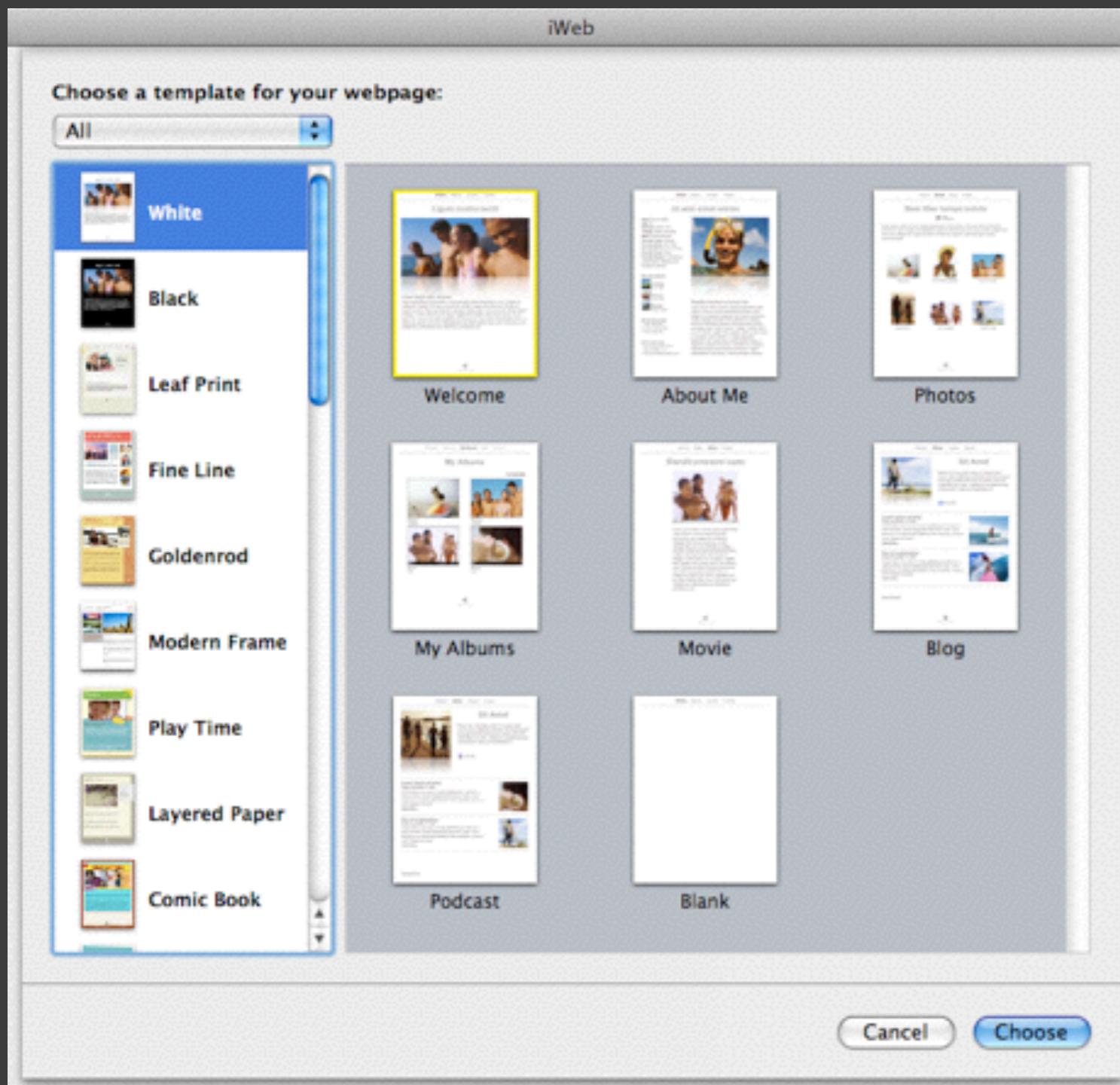


Recognition with previews



Adobe Dreamweaver New Document dialog

Recognition with previews

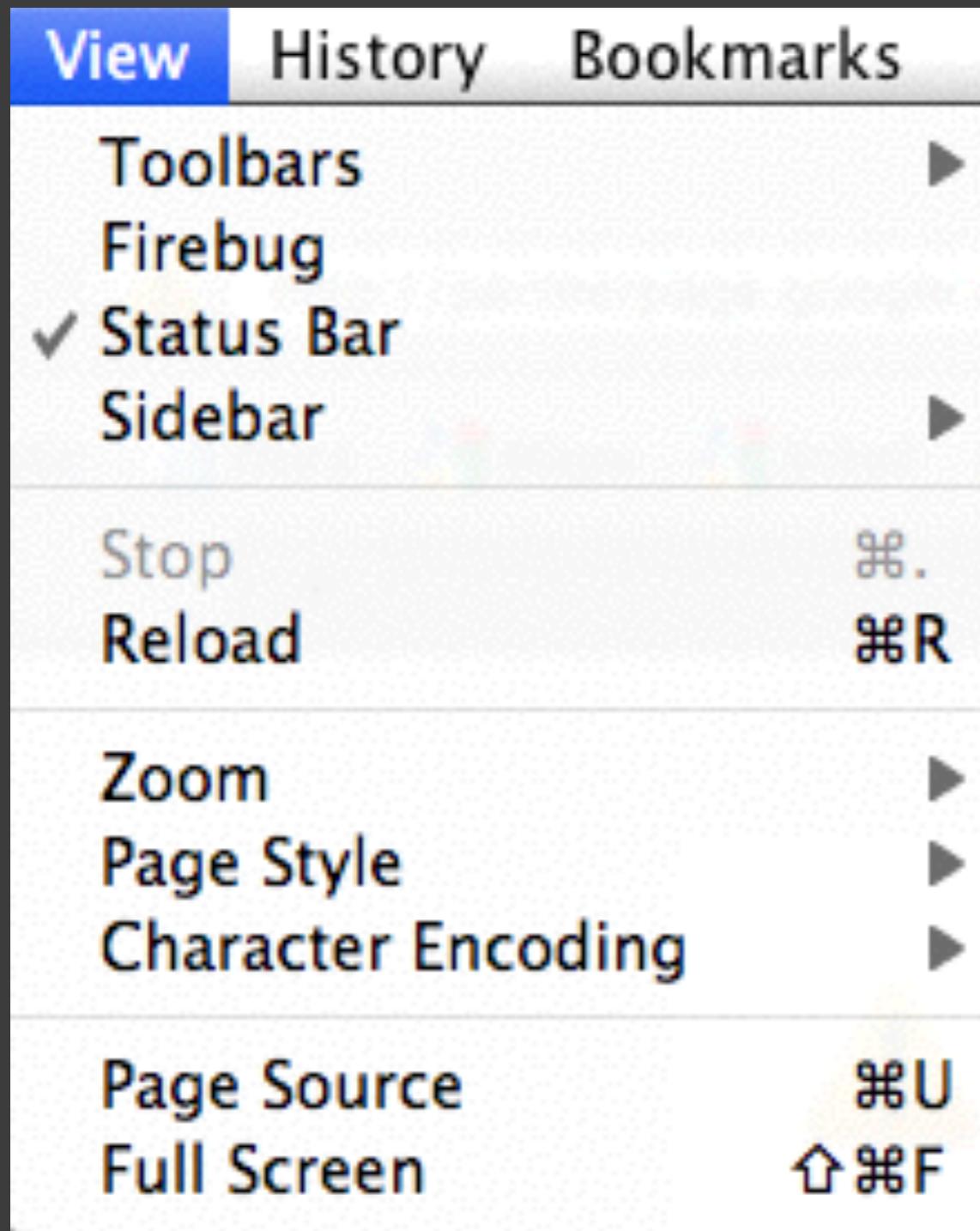


Apple iWeb Choose a template dialog

Flexibility & Efficiency

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Flexible shortcuts



Firefox View menu

Flexible defaults with options

```
// Getter/Setter functions for all properties in the
class
function get_name() {
    return $this->
}
function set_name($r
    $this->name = $e
}
function get_experie
    return $this->e
}
function set_experi
    $this->experi
}
function get_lang()
    return $this->l
}
function set_lang($r
    $this->lang = $s
```

education (variable)

experience (variable)

get_education (function)

get_experience (function)

get_lang (function)

get_name (function)

lang (variable)

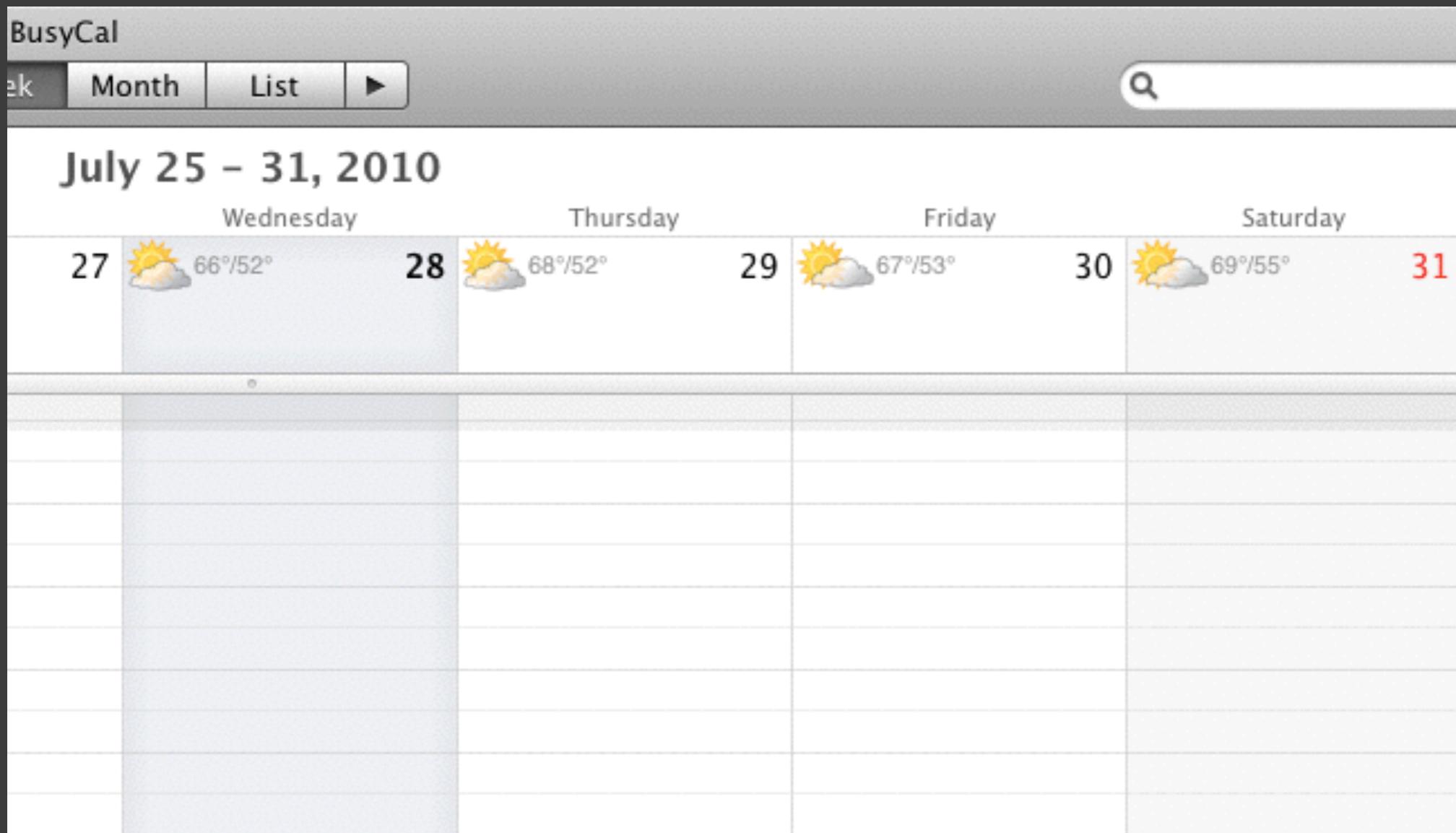
name (variable)

output (function)

Programmer (function)

set_education (function)

Flexible: ambient information



BusyCal weather in week view

Flexible proactivity

Advance Program Available: IS&T/SPIE Electronic Imaging [Inbox](#) | [X](#)

SPIE Meetings [to srk](#) [show details](#) 12:50 PM (0 minutes ago) [Reply](#) ▾

Images are not displayed.
Display images below - Always display images from SPIE-Meetings@reply.spie.org

To view this email as a web page, go [here](#).

IS&T/SPIE Electronic Imaging Advance Program

• View the [Advance Program Online](#)
• Download the [Advance Program](#) (PDF)

Attend IS&T/SPIE Electronic Imaging. Hear the latest developments in imaging science and technology in these program tracks:

- 3D Imaging, Interaction, and Measurement
- Imag
- Imag
- Digita
- Multir
- Visua

Unsubscribe from SPIE Meetings? [X](#)

In addition to marking this message as spam, Stanford University HCI Group Mail can attempt to automatically unsubscribe you from **SPIE Meetings**, by sending an unsubscribe request on your behalf. [Learn more](#).

[Unsubscribe and report spam](#) [Report spam](#) [Cancel](#)

Your Ele
• More than 800 presentations in 23 conferences

Flexibility: Recommendations

Customers Who Bought This Item Also Bought

The screenshot shows a grid of four book recommendations. Each recommendation includes the book cover, title, author, rating, and price. A 'LOOK INSIDE!' button is visible on each cover.

Book Title	Author	Rating	Price
Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability	Steve Krug	★★★★★ (5)	\$27.89
Emotional Design: Why We Love (or Hate) Everyday Things	Don Norman	★★★★★ (38)	\$10.49
Don't Make Me Think: A Common Sense Approach to Web Usability	Steve Krug	★★★★★ (406)	\$16.00
Universal Principles of Design, Revised and Updated	William Lidwell	★★★★★ (56)	\$16.50

Amazon recommendations on the “Design of Everyday Things” page

Flexibility: keep it relevant

Customer Discussions

This product's forum

Discussion	Replies	Latest Post
No discussions yet		

Ask questions, Share opinions, Gain insight

Start a new Active discussions in related forums

Topic:

Discussion		
<input checked="" type="checkbox"/> toys USPS Carriers smoke in their trucks		
<input checked="" type="checkbox"/> toys NO harm in second hand smoke		
<input checked="" type="checkbox"/> home improvement BEST PERFORMING REPLACEMENT TOILET??		
<input checked="" type="checkbox"/> toys Will these resellers now honor returns on the Zhu Zhus?		
<input checked="" type="checkbox"/> home improvement Several Sunset and Lowes Home Improvement Books RECALLED		
<input checked="" type="checkbox"/> toys lollipop haters are disgusting		
<input checked="" type="checkbox"/> home improvement Quiet Bedroom Fan		
<input checked="" type="checkbox"/> health Why are Americans still struggling with obesity?	1901	3 hours ago
<input checked="" type="checkbox"/> health Why do you read or post to these forums? Honestly.	260	20 hours ago

Active discussions

Discussion

<input checked="" type="checkbox"/> health Male circumcision
<input checked="" type="checkbox"/> health fat and slimming
<input checked="" type="checkbox"/> health Does chewing gum make you fat?
<input checked="" type="checkbox"/> health Do you think you're fat?
<input checked="" type="checkbox"/> health Phrases that make you fat
<input checked="" type="checkbox"/> health Why are Americans still struggling with obesity?
<input checked="" type="checkbox"/> health Why do you read or post to these forums? Honestly.

Related forums

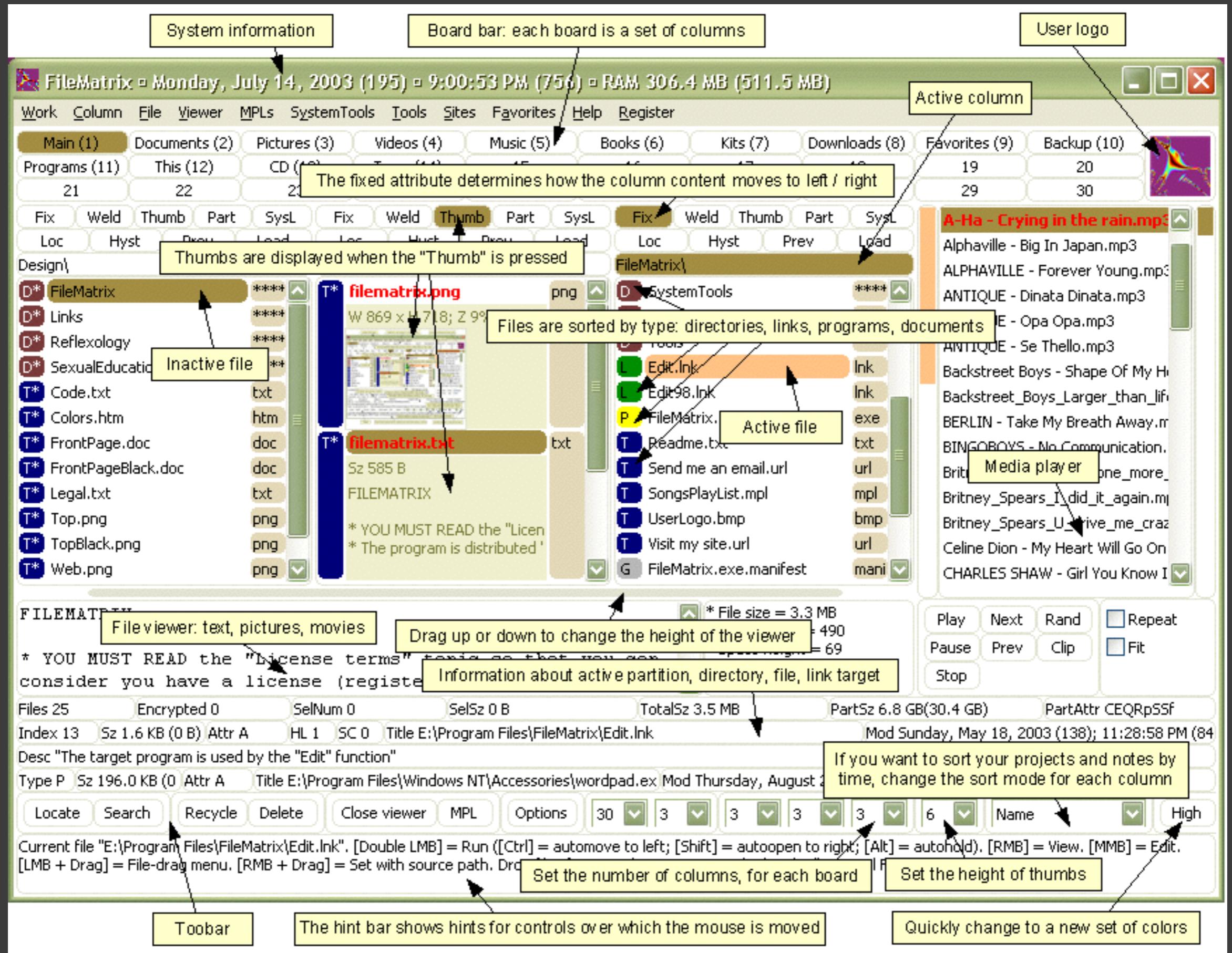
health

Search Customer Discussions

Flexibility: keep it relevant



User-modified remote control courtesy Bill Moggridge



Aesthetic & Minimalist Design

8 / 10

Our ancestors

The screenshot shows a vintage website for Video Sonic Labs, Inc. The header features a night photograph of the Luxor Hotel in Las Vegas, followed by the company name in large yellow script and "Electronics Repair & Installation Authority" in pink. A phone number "1 877 900 HDTV (4388)" is displayed with speaker icons. To the right is an image of a flat-screen television system. Below the header is a navigation bar with links for "On-Line Store", "Contact", "WHAT'S NEW", "Search", and "About Us". The time "6:28:45PM" is shown on the right. The main content area has a blue water-drop background. It includes a sidebar with services like "We Repair & Service All Make Model HDTV Experts", "PLASMA/LCD", "LCD,LCOS,DLP Projections TV", and "Projectors". The central part of the page promotes a new location in Las Vegas with a purple "VISIT OUR NEW LOCATION IN FABULOUS LAS VEGAS" banner and a link to the "ON-LINE STORE". Another banner below it says "Need Installation? Click Here" and "INSTALLATION". On the right side, there's a "Factory Authorized Service Center For DAEWOO ELECTRONICS" section with the Daewoo logo, and a "Address & Hours of Operations" section with "LOCATION #1" and operating hours.

Video Sonic Labs, Inc.
Electronics Repair & Installation Authority

1 877 900 HDTV (4388)

On-Line Store Contact WHAT'S NEW Search About Us 6:28:45PM

We Repair & Service All Make Model HDTV Experts

PLASMA/LCD

LCD,LCOS,DLP Projections TV

Projectors

VISIT OUR NEW LOCATION IN
FABULOUS LAS VEGAS

Click Here To Visit Our
ON-LINE STORE

Need Installation? Click Here
INSTALLATION

Factory Authorized Service Center For
DAEWOO ELECTRONICS

Address & Hours of Operations
LOCATION #1
Monday To Friday
10:00AM to 6:00PM
Saturday

Minimalism: above the fold

The screenshot shows the homepage of The Weather Channel. At the top left is the logo 'The Weather Channel'. To its right is a blue button labeled 'Add a Location' with a plus sign. On the far right are links for 'United States (English) ▾', temperature units ('°F °C'), and 'Sign In'. Below this is a navigation bar with tabs: Weather (selected), Lifestyle, Social, Maps, Video, News, TV, and a search bar with placeholder text 'Search Zip, City or Place (Disney World)' and a 'SEARCH' button. Underneath the main menu are sub-navigation tabs: Local, National Forecast, Severe Weather, Alerts, Hurricane Central, Safety & Preparedness, and Farming.

A large black banner at the top features the text 'LIFEGUARD! SOUTHERN CALIFORNIA +' in red and white, followed by 'THURSDAYS at 9/8c' and 'DIVE IN TO A NEW ORIGINAL SERIES'. It includes an image of a lifeguard on a jet ski and the 'The Weather Channel' logo.

The main content area starts with a 'San Francisco, CA (94110) Weather' section. It shows the date 'Updated: Mar 12, 2012, 9:05am PDT'. Below this is a 'SOCIAL' section with the text 'NEW! See what people are saying about the weather in San Francisco'. A navigation bar below these sections includes buttons for Today, Hourly, Tomorrow, Weekend, 5 day, 10 day, Monthly, and Map.

On the left side of the main content area, there's a weather map titled 'Precipitation Forecast' for the 'West All Models' scenario. To its right is a summary: 'More Wintry Weather for Mountain West'. It states: 'Rain and snow will fall over the next five in the Pacific Northwest and Mountain West. See what type of precipitation your area will get and when.' A link 'More Details' is provided. Below this is a link 'Winter Weather Update' with a small icon.

At the bottom of the main content area is an 'ALERT' section for a 'Special Weather Statement'. It includes links for 'Map', 'Safety and Awareness Tips', and 'Desktop Alerts'. To the right is a button for 'ALL ALERTS' with a notification count of '2'.

To the right of the main content area is a vertical sidebar with a blue background. It features a graphic for Citi ThankYou Premier credit cards, showing a card with the name 'L WALKER'. Below this is the text: 'Earn unlimited ThankYou® Points with no expiration date.'

Minimalism: signal-to-noise

RELIABLE COPIER SERVICE
SERVING COPIES SERVICE

Office Equipment Computers Equipment Supplies Other Items

Checkout Account Search Store Front Product List Basket Contents



Reliable accepts Visa, Mastercard, American Express and Discover Card

International Orders Shipped via U.S.P.S. Only !

Code	Product	Quantity	Price/Ea.	Total
TZS145	Brother 3/ 4" Extra Strength Super Adhesive White on Clear Industrial Tape TZS145 TZ-S145	1	\$13.95	\$13.95
				Total: \$13.95

Basket Contents

Qty	Product	Price
1	Brother 3/ 4" Extra Strength Super Adhesive White on Clear Industrial Tape TZS145 TZ-S145	\$13.95
		Subtotal \$13.95

Bold=Required
Italic=Optional

Ship To:

First Name:
Last Name:
Email Address:
Phone Number:
Fax Number:
Company:
Address:
City:
State/Province:

Bill To (If Different):

First Name:
Last Name:
Email Address:
Phone Number:
Fax Number:
Company:
Address:
City:
State/Province:

Please complete the following optional questions

Comments:
How did you find us?
Rate our server speed:

Reliable Copier Service checkout screen

Minimalism: signal-to-noise

What information were you primarily looking for during your visit?				
<input type="radio"/> How to get started with AdWords	<input type="radio"/> Ad approvals and policy help	<input type="radio"/> Customer support contact information	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="radio"/> Other reason (please specify): landing page help				
Did you find the information you were looking for?				
No, I found none of it	I found part of it	Yes, I found all of it		
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		
During your past visit, you browsed this help center page: https://adwords.google.com/support/aw/bin/answer.py?hl=en&answer=177673				
Thinking about this page specifically, how helpful was the information on the Help Center page you saw, for the purpose of your visit? :				
Not at all helpful	Not very helpful	Somewhat helpful	Very helpful	Extremely helpful
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How clear was the information on this page (https://adwords.google.com/support/aw/bin/answer.py?hl=en&answer=177673)?				
Not at all clear	Not very clear	Somewhat clear	Very clear	Extremely clear
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please rate the amount of information on this page (https://adwords.google.com/support/aw/bin/answer.py?hl=en&answer=177673):				
Too little information	Just enough information	Too much information	I'm not sure	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Minimalist Login

Your personal domain management dashboard is only a few seconds away!

Ordering a domain is fast and easy!

Sign in with your email address and iWantMyName password or enter a new one if you are not a customer yet:

What is your email address?

My email address is:

Do you have an iWantMyName password?

- Yes, I'm a returning customer and have a password.
- No, I'm a new customer.

Enter password:

Type it again:

I accept the [Terms and Conditions](#)

With an iWantMyName account

- Register domains in 90+ extensions
- Set up the best web services in one click
- Use free email with Google Apps & Gmail
- Purchase domains from your iPhone
- Manage DNS records in real-time

payments powered by
WorldPay



We accept Visa and MasterCard credit cards. You will receive an email invoice for every order. Please note that we will only process your order after successful payment. You can rest assured that iWantMyName is fully PCI standard compliant.



Continue (secure connection) »

[Forgot your password?](#)

Minimalism: Redundancy

Round-Trip ? One-Way ? Multi-City ? AAdvantage Award ?

One-Way Flight Search

1. Where Do You Want to Go?

From: [City or Airport Code](#)
JFK
and airports within 0 Miles

To: [City or Airport Code](#)
SFO
and airports within 0 Miles

2. How Do You Want to Search?

Show Results By: Price & Schedule
Number of Stops None

Schedule
Show 10 flight results.
Number of Stops None

3. When Do You Want to Go?

Departure Date
 Month Day Morning

4. Number of Passengers

1 Adult (15-64)
0 Senior (65+)
0 Young Adult (12-14)
0 Child (2-11)
0 Infant in Seat (under 2)

(Maximum of 6 passengers per reservation)

 [Children Under 15 Traveling Alone](#)
 [Information Regarding Lap Infants](#)

5. What Is Your Cabin Service Preference?

Economy Business Class & Higher First/Diamond

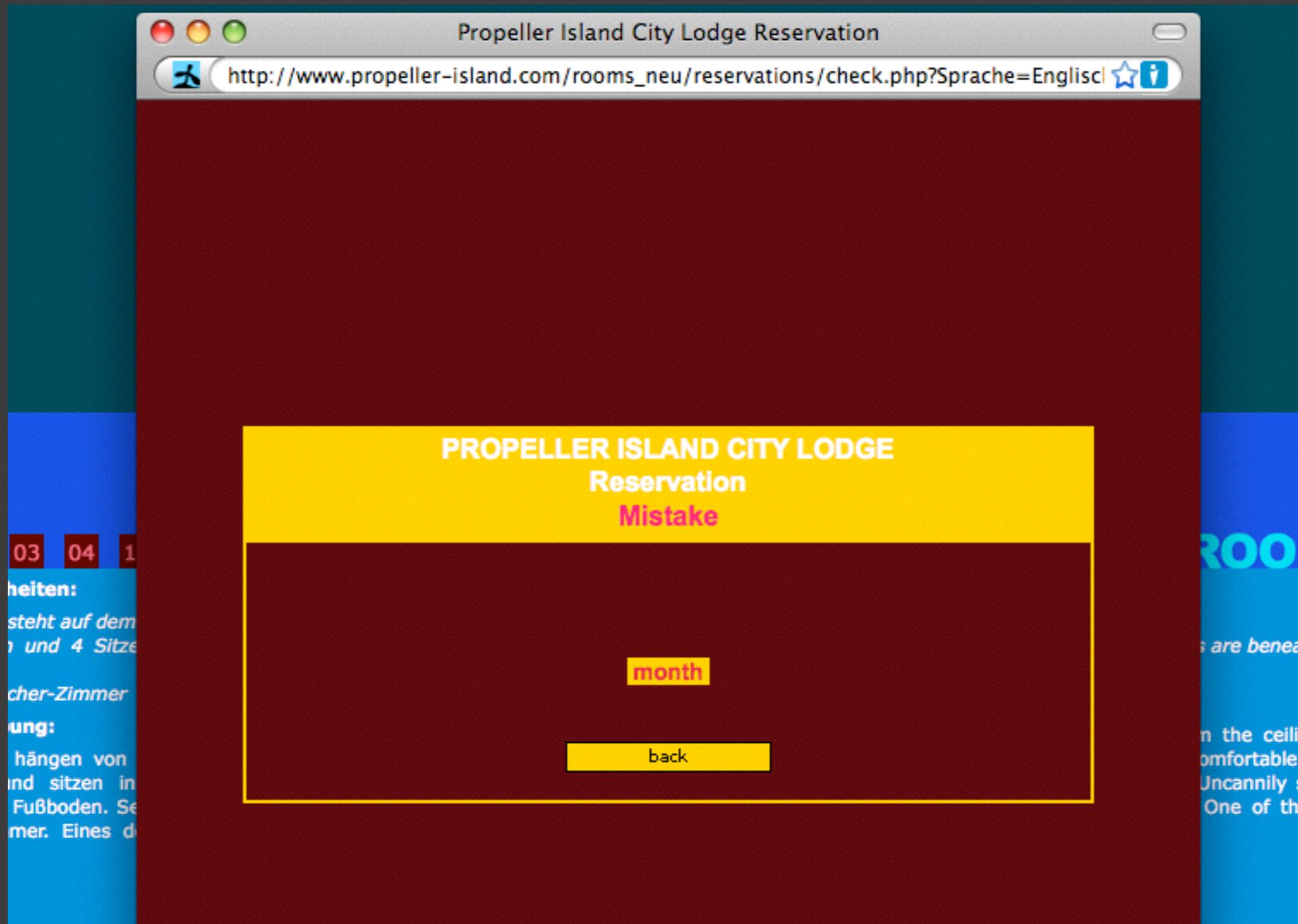
Minimalism: functionality

The screenshot shows a minimalist web application interface. On the left, there is a sidebar with a light gray background containing two blue links: "Print Loan Summary Letter" and "Forms". The main content area has a white background and a header bar with a light blue gradient. The header bar contains the text "My Widgets" in dark blue and "(add widgets)" in a smaller blue font. Below the header is a large, central rectangular button with a light gray background and a subtle dotted pattern. The button features the text "Add Widget" in a dark gray sans-serif font at the top center. In the middle of the button is a large, faint gray icon of a gear. At the bottom of the page, there is a thin green horizontal bar with the copyright notice "© 2001-2011 Nelnet, Inc. and Affiliates. All Rights Reserved" and links to "Terms of Use" and "Privacy & Security".

Recognize, Diagnose, & Recover from Errors

9 / 10

Errors: make problem clear



Errors: make problem clear

NASA IT Summit 2011 Registration Site [\(View Details\)](#)

Registration Information **Agenda** Checkout Confirmation

 **The following errors were detected:**

- You must fill out all required fields.

Please select which sessions you plan to attend:

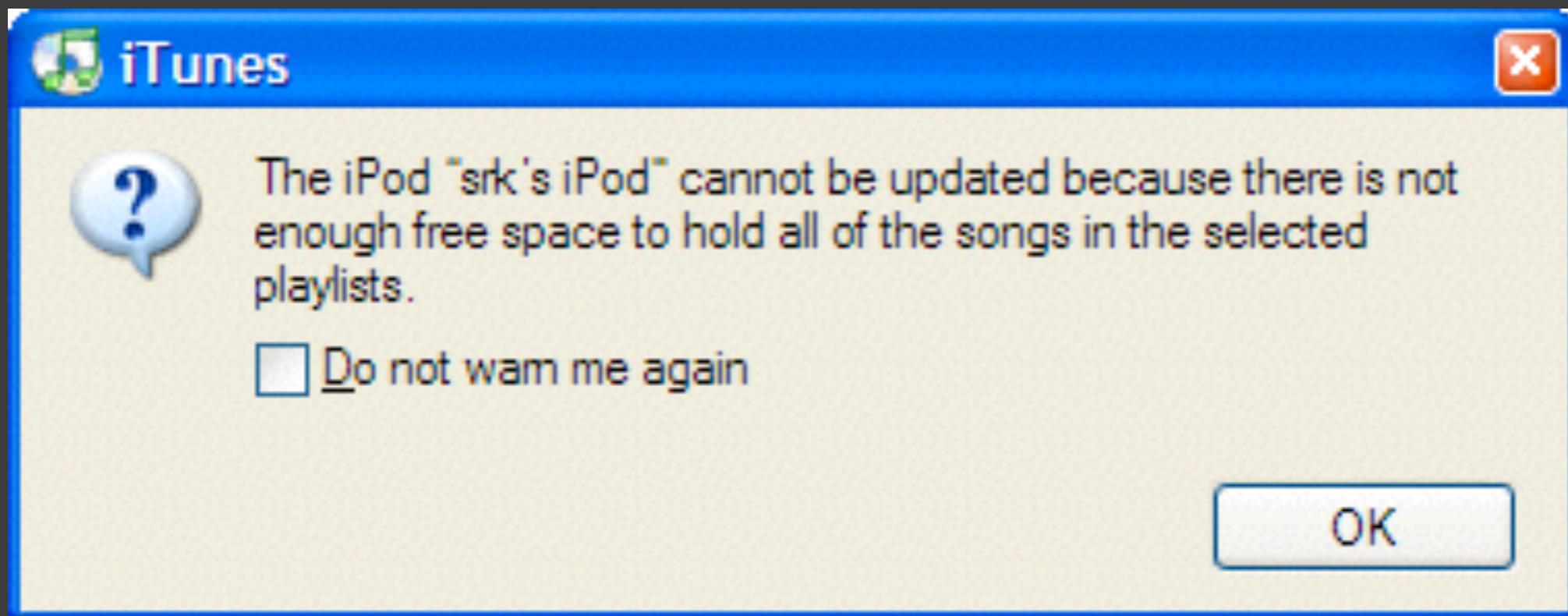
Monday, August 15 -

General Session
KEYNOTE SPEAKER: Lynn Tilton, Chief Executive Officer, Patriarch Partners LLC
Date: 8/15/2011 8:00 AM - 9:15 AM (Pacific Time)
Location: Yerba 7-9

Mission IT Supporting Science & Engineering
Title: NASA Supercomputing and Its Impact on Agency Missions
Speaker: Rupak Biswas, Ames Research Center
Date: 8/15/2011 9:45 AM - 10:45 AM (Pacific Time)
Location: Yerba 5-6

Waves of the Future

Errors: Provide a solution



Errors: propose an alternative

The screenshot shows a flight search interface with the following details:

- Flight Type:** Multi-city
- Departure:** SFO San Francisco
- Arrival:** BOS Boston
- Departure Date:** Tue, February 11
- Arrival Date:** Sat, February 15
- Class:** Economy
- Filters:** Nonstop, Under \$100, Airline, Times, More, Reset

Search Summary: San Francisco – Boston Tuesday, February 11

Sort by: price

No results found matching your criteria.
Remove individual filters above, or [clear all filters](#).

Recognize Errors



Reported Attack Page!

This web page at batmazgumruk.com.tr has been reported as an attack page and has been blocked based on your security preferences.

Attack pages try to install programs that steal private information, use your computer to attack others, or damage your system.

Some attack pages intentionally distribute harmful software, but many are compromised without the knowledge or permission of their owners.

[Get me out of here!](#)

[Why was this page blocked?](#)

[Ignore this warning](#)

Help (I need somebody)

10 / 10

Help learning with examples

The screenshot shows a Codecademy jQuery tutorial page. At the top left is a back arrow labeled "← jQuery". The title "Modifying HTML Elements" is at the top center, with a progress bar indicating "1/14". On the right, the "Codecademy" logo is displayed. Below the title, there's a snippet of code: `$p = $('p');`. A text block explains: "We'll want to pass in an entire HTML element in quotes:". Another snippet of code is shown: `$p = $("<p>I'm a new paragraph!</p>");`. To the right, the file structure shows "index.html" and "script.js". The "index.html" file contains:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Result</title>
5     <script type='text/javascript' src='script.js'>
6   </script>
7   </head>
8   <body></body>
9 </html>
```

Help choices with examples

Sign up to receive e-mail from UPS and stay on top of the latest promotions, news, critical updates and announcements.

E-mail Options:

- Send me the following UPS e-mail communications:
 - New Product Announcements/Enhancements
 - Promotions and Offers
 - Newsletters
 - Service Updates / Regulatory Changes

- Remove me from UPS e-mail communications*

Need more information?

[View Examples](#)

4 Payment Defaults

How will you pay for your shipping?

No Payment Default

Note: After completing registration, you can change your payment defaults in Shipping Preferences.

5 Primary Role

Which of these statements best describes you? ♦

- I don't ship daily, but when I do, I want it to be quick and informative.
- I use ups.com daily and know several shortcuts to save time.
- I use ups.com to troubleshoot and to report on shipping activity.
- I focus on the big picture and monitor shipping operations performance.
- I prefer to use the web only when necessary. My job is easier without it.

You can manage the e-mail communications you receive from UPS. To receive the types of communications that are of interest to you, choose any of the following options:

New Product Announcements/Enhancements

Select **New Product Announcements/Enhancements** to keep up to date with new product announcements and enhancements to existing products.



Promotions and Offers

Select **Promotions and Offers** to receive communications regarding available UPS promotions and special offers that best suit your business needs.



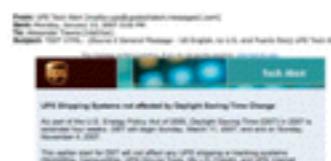
Newsletters

Select **Newsletters** to receive the latest information, exclusive news, and feature stories.

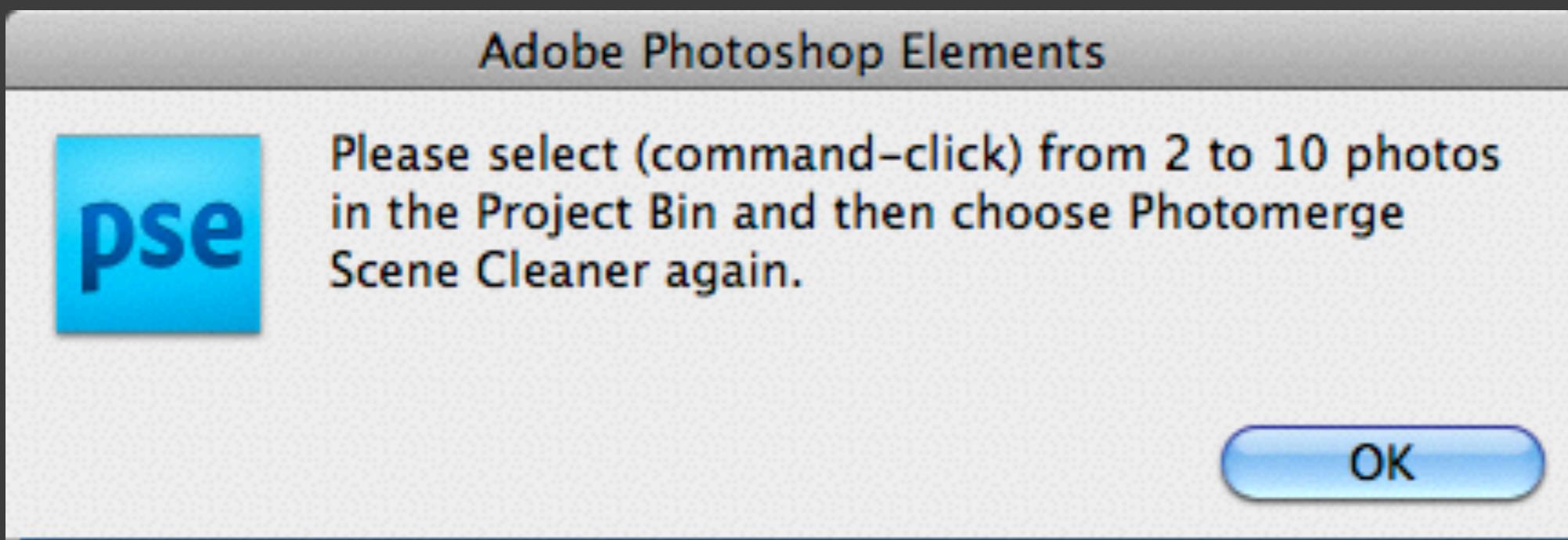


Service Updates/Regulatory Changes

Select **Service Updates/Regulatory Changes** to receive alerts about service changes or announcements of proposed regulatory changes.



Help show the steps



Help point things out

Re: You've received a message

To: UseTheYellowButton@ebay.com

Cc:

Bcc:

Subject: Re: You've received a message

I'll take it...

On Mar 25, 2009, at 5:50 AM, eBay Member: m...

eBay eBay sent this message to Scott K... Your registered name is included to show...

Message from eBay member,

 Do not respond to the sender if this message is outside of eBay. This type of offer is not covered by buyer protection programs. [Learn more](#)

User details:

From User: ... (200 - A)

condition: New with tags

Quantity: 1 1 available

Price: US \$22.00

Buy It Now

Add to cart 

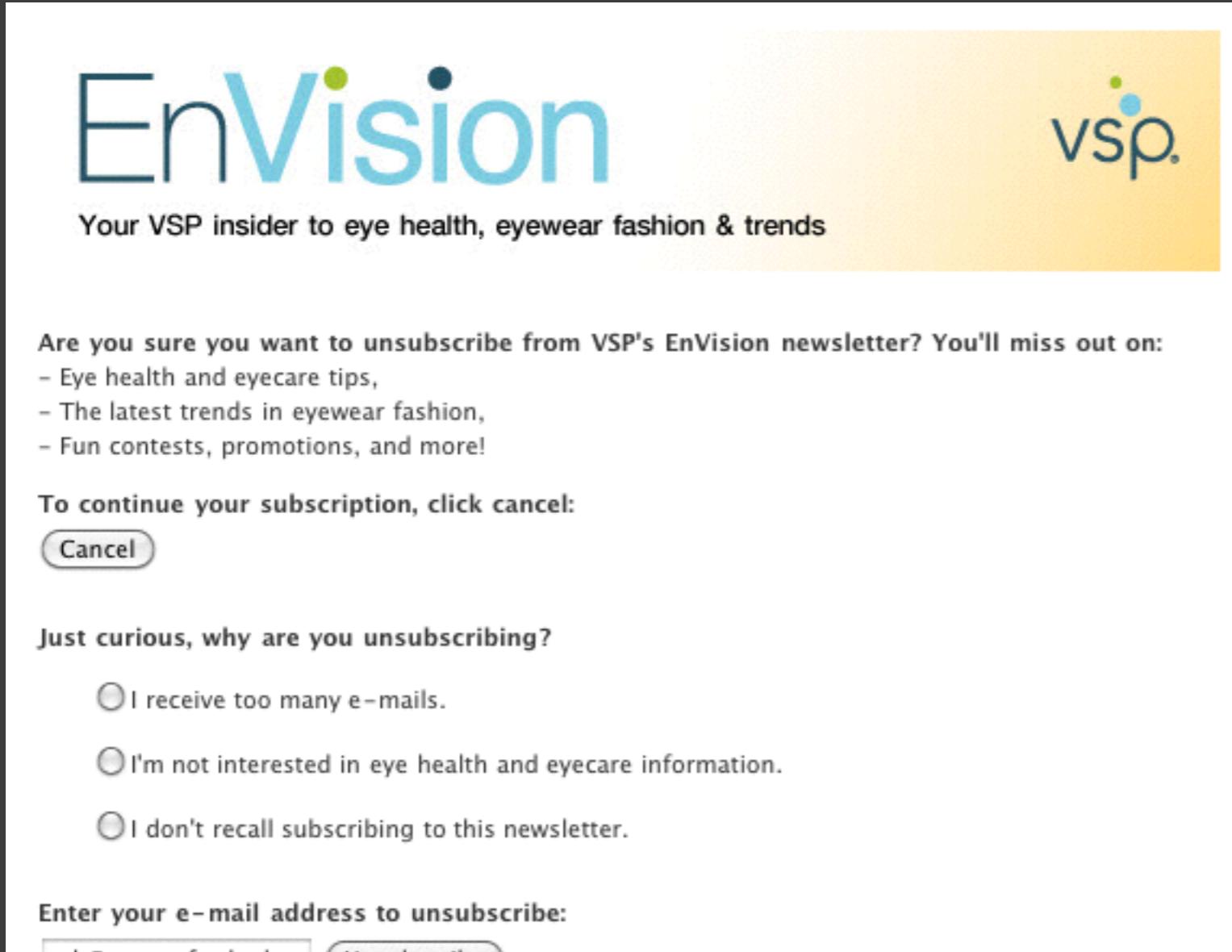
Add to Watch list ▾

100% Positive
✓ Consistent ratings
✓ Ships Items
✓ Has earned

NEW! eBay shopping cart
Shop, compare and buy several items at once with your shopping cart.

VISIT STORE: 

Help provide more information



The image shows a screenshot of an email from EnVision, a VSP newsletter. The header features the EnVision logo in blue and green, followed by the tagline "Your VSP insider to eye health, eyewear fashion & trends". The VSP logo is in the top right corner. The main content asks if the user is sure they want to unsubscribe, listing benefits like eye health tips and contests. It includes a "Cancel" button and a section for unsubscribing reasons with three radio button options. A text input field for an email address is at the bottom.

Are you sure you want to unsubscribe from VSP's EnVision newsletter? You'll miss out on:

- Eye health and eyecare tips,
- The latest trends in eyewear fashion,
- Fun contests, promotions, and more!

To continue your subscription, click cancel:

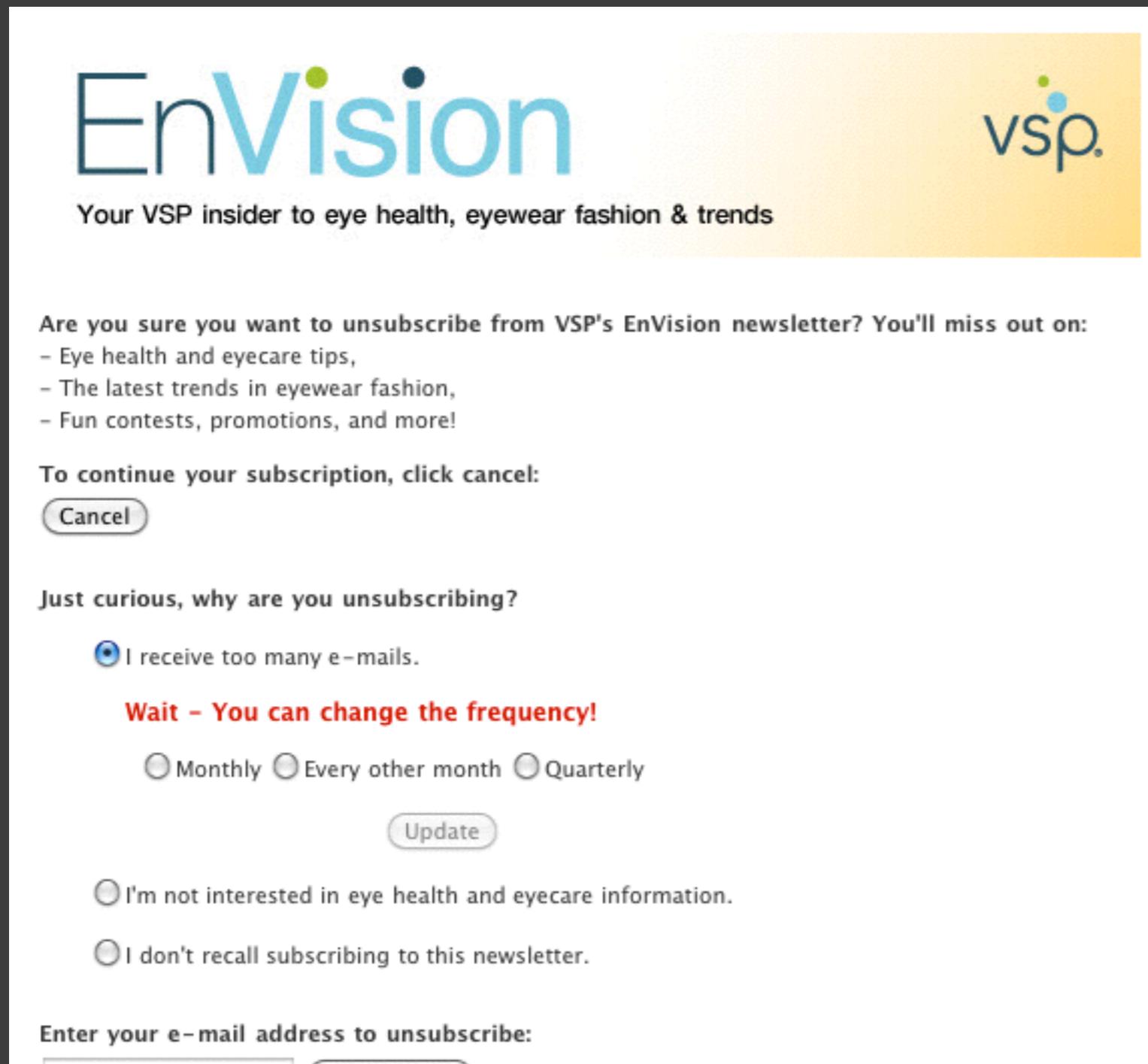
[Cancel](#)

Just curious, why are you unsubscribing?

I receive too many e-mails.
 I'm not interested in eye health and eyecare information.
 I don't recall subscribing to this newsletter.

Enter your e-mail address to unsubscribe:

Help provide more information



The image shows a screenshot of an email from EnVision, VSP's newsletter. The header features the EnVision logo in blue and green, followed by the tagline "Your VSP insider to eye health, eyewear fashion & trends". The VSP logo is in the top right corner. The main content asks if the user is sure they want to unsubscribe, listing benefits like eye health tips and contests. It includes a "Cancel" button and a section about unsubscribing frequency. At the bottom, there's a field to enter an email address and a "Submit" button.

Are you sure you want to unsubscribe from VSP's EnVision newsletter? You'll miss out on:

- Eye health and eyecare tips,
- The latest trends in eyewear fashion,
- Fun contests, promotions, and more!

To continue your subscription, click cancel:

[Cancel](#)

Just curious, why are you unsubscribing?

I receive too many e-mails.

Wait – You can change the frequency!

Monthly Every other month Quarterly

[Update](#)

I'm not interested in eye health and eyecare information.

I don't recall subscribing to this newsletter.

Enter your e-mail address to unsubscribe:

[Submit](#)

Help clearly

Please Accept the TurboTax License Agreement X

Just one more thing before you get started (our lawyers made us do it).

I have read and agree to the terms of the license agreement. [View agreement.](#)

Cancel Continue

- Add more personal information to your bill
- Yes, I want to be reminded by SMS if I forget my username and password

I agree that Telekom Deutschland GmbH can use my data to contact me by e-mail, mail, telephone SMS or MMS, to provide me with advice, information and for market research purposes.

Please carefully read the **Terms & Conditions and pricing**, **Data Privacy** and **Right of Withdrawal** notices before purchasing HotSpot

*) Please complete all mandatory fields.

back proceed

Help clearly

 GitHub Share review <http://tosdr.org/#github> ×

CLASS B The terms of services are fair towards the user but they could be improved.

 You don't grant any copyright license to github [Discussion](#)

"We claim no intellectual property rights over the material you provide to the Service. Your profile and materials uploaded remain yours. However, by setting [...] your repositories to be viewed publicly, you agree to allow others to view and fork your repositories."

 Changes can happen any time, sometimes without notice [Discussion](#)

"GitHub reserves the right to update and change the Terms of Service from time to time without notice." Fortunately, the privacy policy benefits from a special clause: changes to the privacy policy will be notified to you, but there is no delay.

 You shall defend and indemnify GitHub [Discussion](#)

"You shall defend GitHub against any claim, demand, suit or proceeding made or brought against GitHub by a third party alleging that Your Content, or Your use of the Service in violation of this Agreement, infringes or misappropriates the intellectual property rights of a third party or violates applicable law, and shall indemnify GitHub for any damages finally awarded against, and for reasonable attorney's fees incurred by, GitHub in connection with any such claim, demand, suit or proceeding; provided, that GitHub (a) promptly gives You

Help share what others know

```
1  
2 # Annotations in the Codex IDE  
3  
4  
5  
6 # Creating a nested hash  
7  
8 choices = Hash.new { |h,k| h[k] = {} }  
9  
10
```

Creating a Nested Hash

Total Count 75 Project Count 17

```
new do |var0, var1|  
  var0[var1] = {}  
end
```

Projects: [cassandra](#) [fakeweb](#) [fog](#) [jruby](#)

```
4 "a string".split("\n").to_s  
5  
6  
7
```



Function `to_s` has appeared 12 times and `split` has appeared 29 times, and they've appeared 0 times together.

Heuristic evaluation is a
hill-climbing technique

Heuristic evaluation
gives you terms
for intuitive ideas

it is a suite of unit tests for user interfaces