

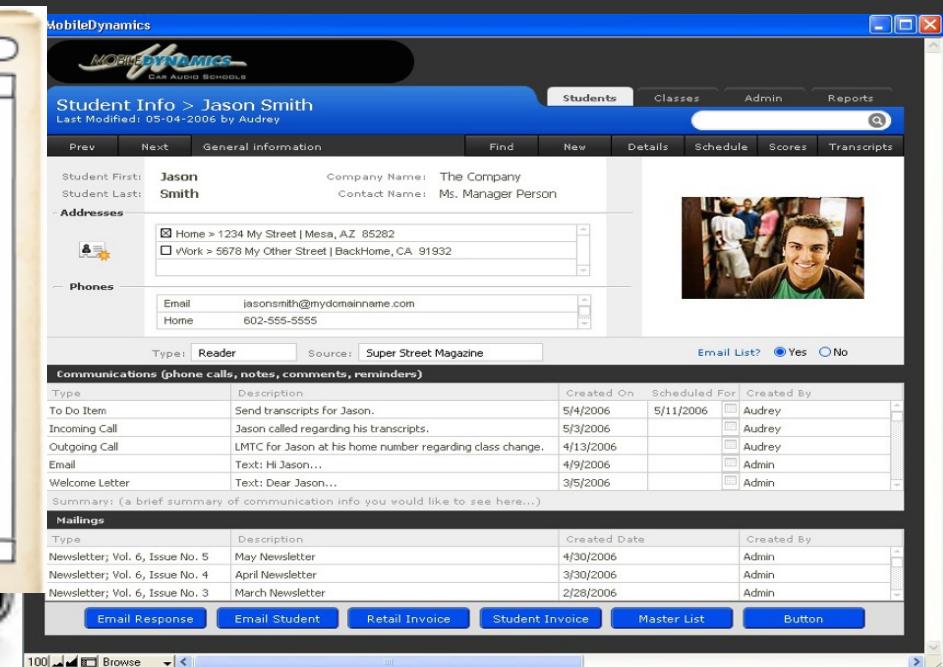
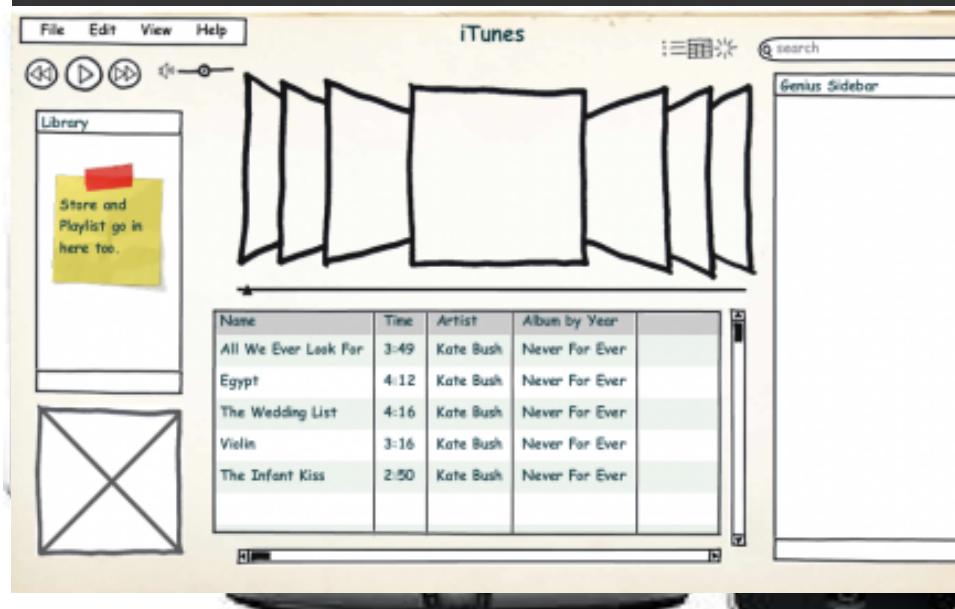


Information Technology

FIT2001 – Systems Development

Seminar 8: Designing the User Interface (HCI)

Chris Gonsalvez



Our road map

- What are Information Systems?
- How do we develop them? Systems Development (SDLC) – key phases
- Traditional vs. Agile approaches to developing systems
- Some System Development roles and skills
- Understand the requirements gathering process
- Managing stakeholders
- A range of Requirements gathering and documentation techniques
- An overview of Design activities
- Designing systems that our clients want - Usability

Designing systems that our clients want

- Interface Design principles
- Interface Design Tips

At the end of this topic you will be able to:

- Use the persona method to explore users of the system to assist with interface design
- Understand the principles of good interface design
- Use best practice tips for interface design

Lecture Outline:

1. Design Introduction
2. User Interfaces – Overview
3. UI Design Guidelines
 - 3.1 User centred approach, Personas
 - 3.2 Ben Shneiderman: 8 Golden Rules
 - 3.3 Jakob Nielsen: 10 heuristics for Interface Design
 - 3.4 Metaphors
 - 3.5 Affordance & Visibility
 - 3.6 Example
4. Practical Interface Design Tips to review in your own time

User Interface (UI) - Definition

- “All components of an interactive system (software or hardware) that provide information and controls for the user to accomplish specific tasks with the interactive system.”

ISO 9241-11

- “That part of a computer system with which a user interacts in order to undertake his or her tasks and achieve his or her goals”

Stone et al, User Interface Design and Evaluation, 2005

User interfaces

- Usability can be drastically enhanced by carefully designing user interfaces
- **User interface**
 - require human interactions
 - varies depending on:
 - purpose (input, dialog box, report)
 - user characteristics (users with disability, novice/experienced)
 - device (e.g. mobile phone screen size)

Guidelines for designing UI

A wide range of guidelines available. Some important ones:

- User Centred Design
- Ben Shneiderman – The eight golden rules of interface design
- Jakob Nielsen – 10 usability heuristics for interface design
- Donald Norman's guidelines based on Affordance and Visibility

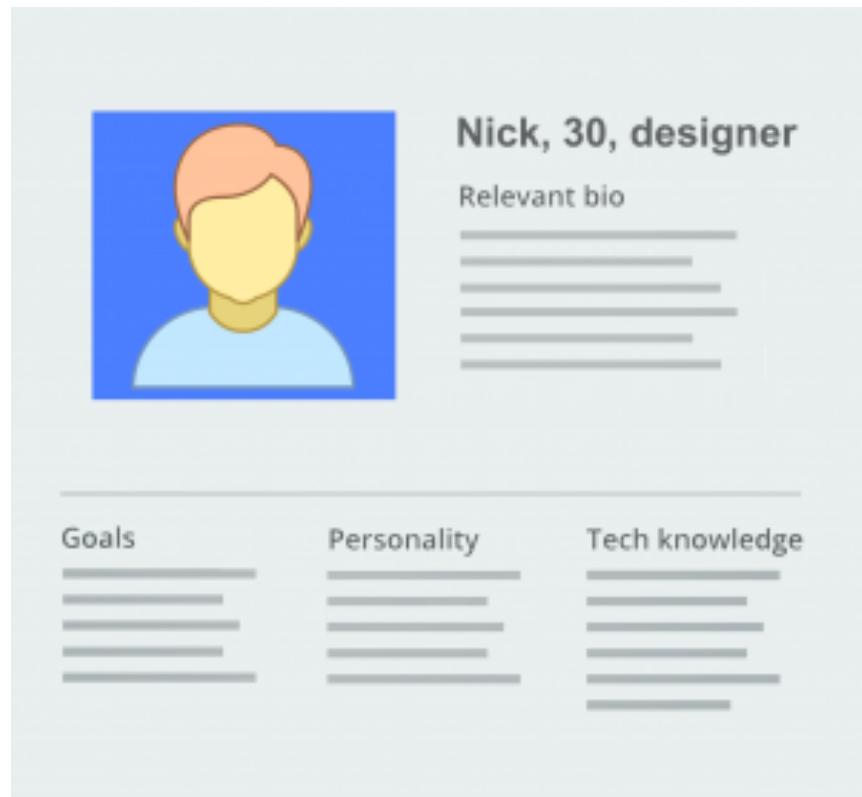
Use a User-centred design approach

Three key principles:

- Early and continuous focus on users and their work ... Personas are a useful tool
- Evaluate all designs to ensure usability
 - *Use prototypes to observe behaviour*
- Design iteratively

Personas - Designing for your users

- The personas method allows you to explore the psychology of an imagined user's interaction with the product.
- Creating products for specific NOT generic users, provides a clear vision rather than unfocussed goal



What is a Persona?

- “Archetypical descriptions of user behaviour patterns into representative profiles, to humanise design focus, test scenarios, and aid design communication.” Cooper, A. (2004)
- Create representations of key audience segments for reference throughout the design process

How do you create Personas?

1. Collect information about your users
 - understand the target audience's mindsets, motivations, and behaviours ..
Use research - interviews, workshops, questionnaires
2. Identify behavioural patterns from research data
 - find patterns in data to help group users
3. Create personas and prioritise them
 - assemble personas around patterns – add just enough detail to characterise the user base
 - if you have multiple personas define the primary persona (the most relevant) and follow the rule "*design for the primary – accommodate the secondary.*"
4. Identify relevant scenarios for the personas
 - by pairing the personas with the scenarios, you can gather requirements and design relevant solutions
5. Share your findings and socialise personas among stakeholders
 - team should see the value in them, they should be front and centre of the design process

Persona – What information do you include?

- *Persona Name and photo*
- *Demographics - Gender, age, place of residence, Profession and field of work, Marital status, Financial status – fictional personal details to make more realistic*
- *Personality - Hobbies, Favourite brands, Do they follow trends?, Media consumption habits, hours spent online, What kind of gadgets do they use and how? Quote or slogan that captures the personality*
- *Behaviour patterns, Goals, Skills, Attitudes, Frustrations or pain points, Environment they operate in*
- *Product context information - Do they have previous knowledge about the product? In what context do they use the product? What are their motivations? Why would they use the product? Context specific details eg. For a banking app financial details*

Persona example for Travel booking site



Amelie Alexander

“ Looking for a site that will simplify the planning of my business trips.

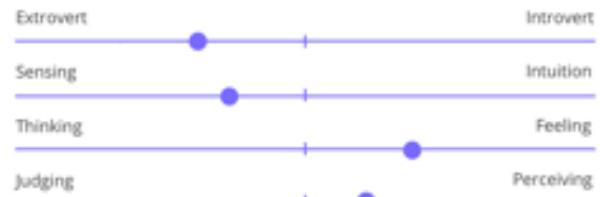
Demographics

Age :	35
Occupation :	Regional Director
Status :	Married
Location :	United States
Tier :	Frequent Traveler
Archetype :	The Planner

Bio

Stella is a Regional Director who travels 2-3 times each month for work. She has a specific region in which she travels to & often visits the same cities and stays in the same hotel. She's frustrated by the fact that no matter how frequent she takes similar trips, she spends hours of her day booking a reservation. She expects her travel solutions to be organized as she is.

Personality



Frustrations



Too much time spent on booking.



Always need to search for favourite hotels.



Planning the proper timeline for the total journey

Goals

1. To spend less time booking a reservation.
2. To save her searches & favourite hotels.
3. To narrow her options when needing to search.
4. To see recommendations based on her past bookings and interests.
5. To book the reservation through customised budget plans.

Type of Travel Planner



Motivations



Why are Personas important?

Build Empathy

- Helps users seem more real - designers empathise and build for their users

Provide Direction For Making Design Decisions

- Helps focus design decision on users – don't build it for yourself or a generic user

Communicate Research Findings

- Team on the same page, communicates information in an easy to understand format

Why Personas can fail

Personas were created but the team did not use them

- If team have had a bad experience they see them as a waste of time and are loathe to try again

No buy-in from the team

- They think they know their users well so don't need it

Personas were not developed collaboratively

- If users and team not involved they think you have created pretty pictures of fake people

Communication failure

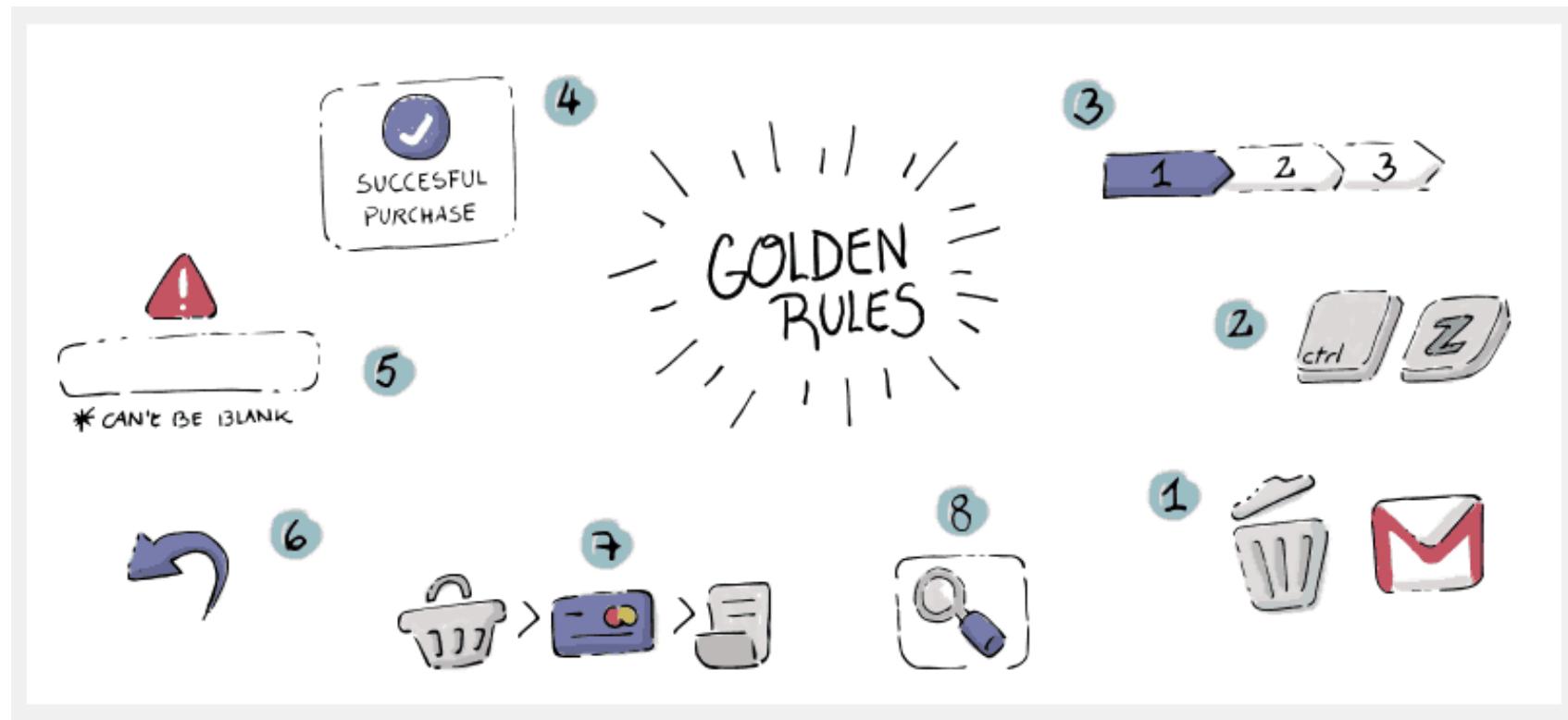
- The team does not understand what Personas are or their purpose

The personas are flawed

- The persona is not built to reflect the scope of work it is meant to impact.

Ben Shneiderman's 8 Golden Rules

Ben was asked to distill effective user interface design into a few key principles – this was the birth of the 8 Golden rules



1. Strive for consistency

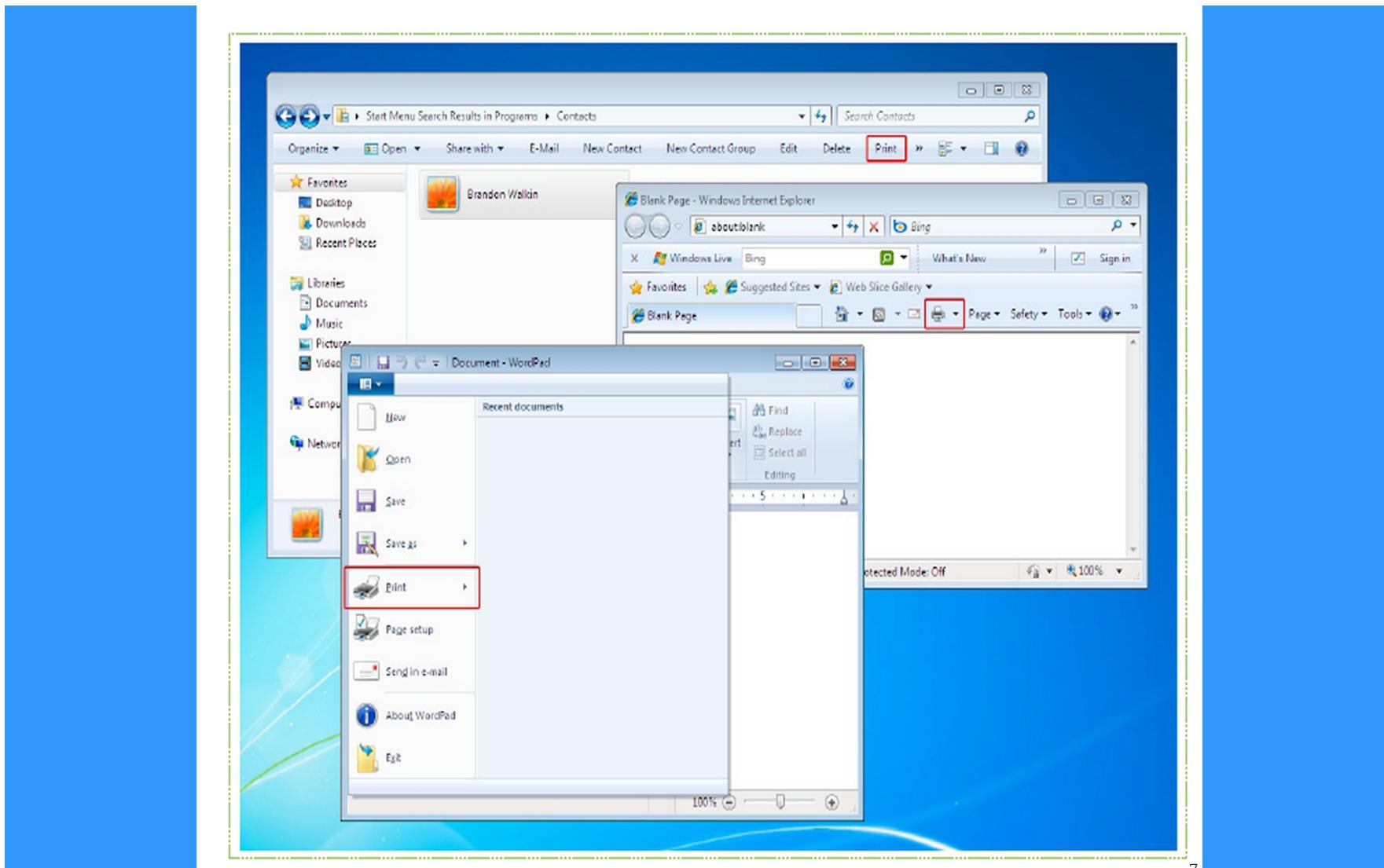
- Consistency refers:
 - to the way information is arranged on forms
 - the names, and arrangement of menu items
 - the size and shape of icons
 - and the sequence followed to execute tasks should be consistent throughout the system
- Inconsistency in interface results
 - Longer time to learn
 - Will be harder for users to remember

A screenshot of a Windows application window titled "Sample Screen". It contains three text input fields. The first field is labeled "Name" and has a placeholder "I". The second field is labeled "SURNAME" and has a placeholder " ". A small blue dot is positioned to the right of the second field. The third field is labeled "Age" and has a placeholder " ".

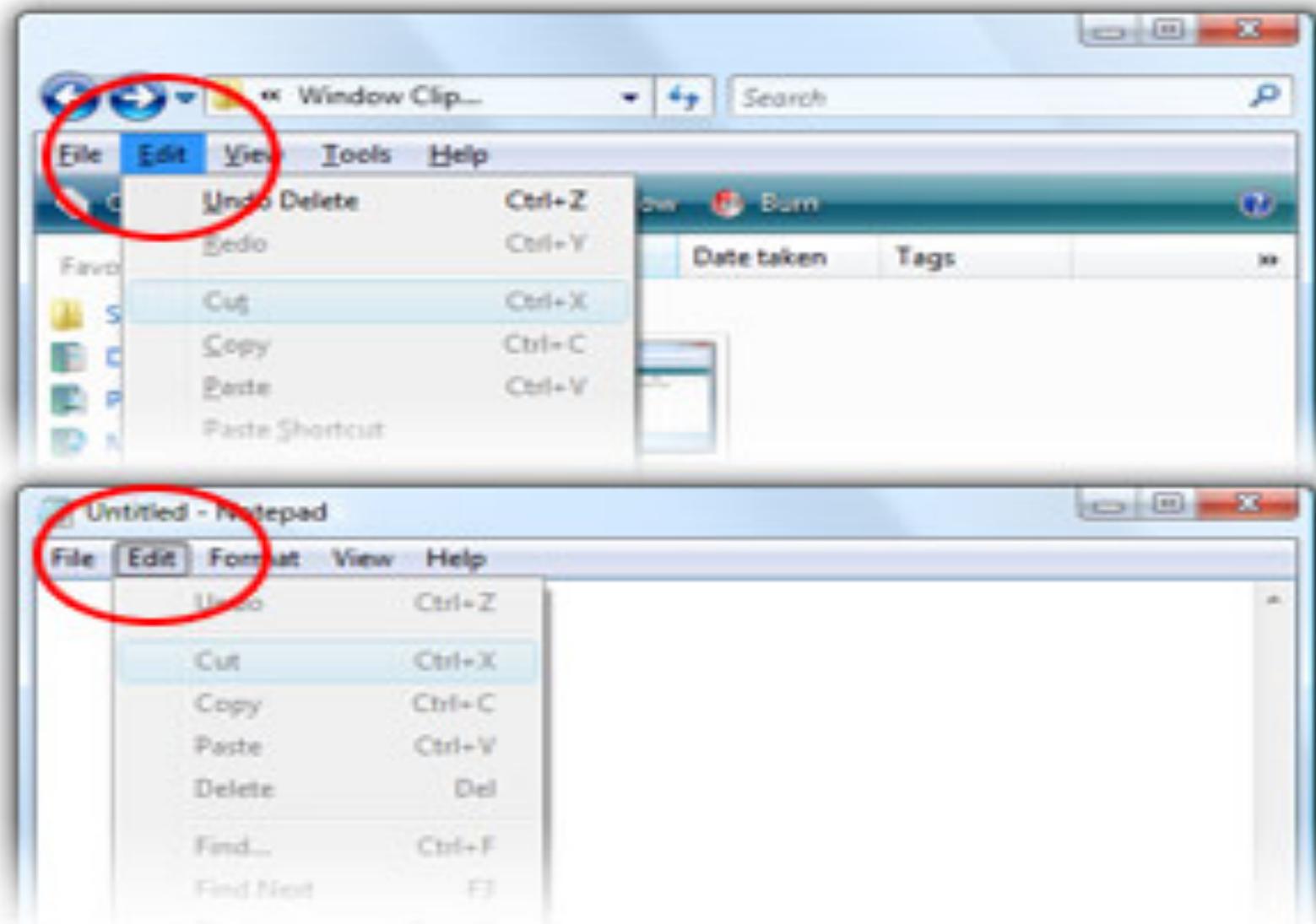
A screenshot of a Windows application window titled "Sample Screen". It contains three text input fields. The first field is labeled "Name" and has a placeholder " ". The second field is labeled "Surname" and has a placeholder " ". The third field is labeled "Age" and has a placeholder " ".

Just small changes can lead to feeling unsettled when using an interface

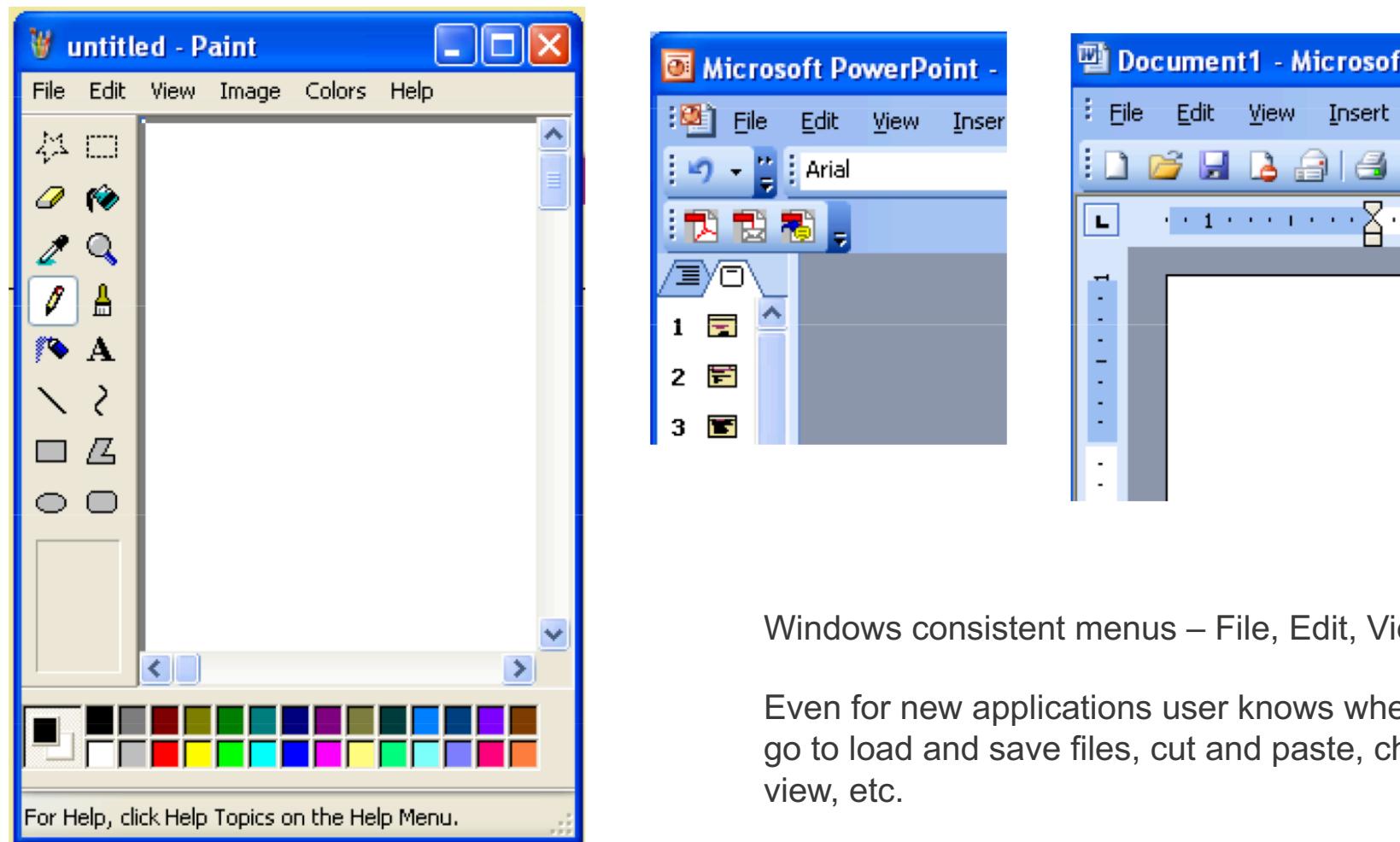
Inconsistent examples



Inconsistent examples



Consistency example - Windows

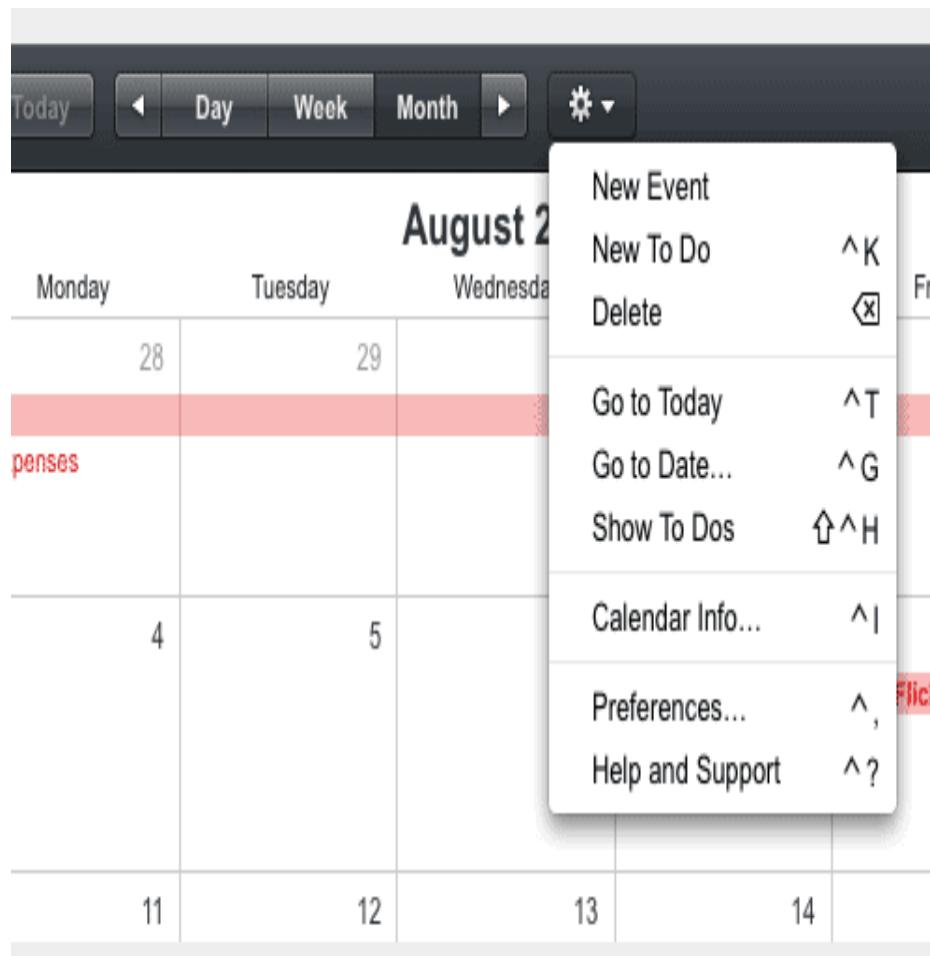


Windows consistent menus – File, Edit, View

Even for new applications user knows where to go to load and save files, cut and paste, change view, etc.

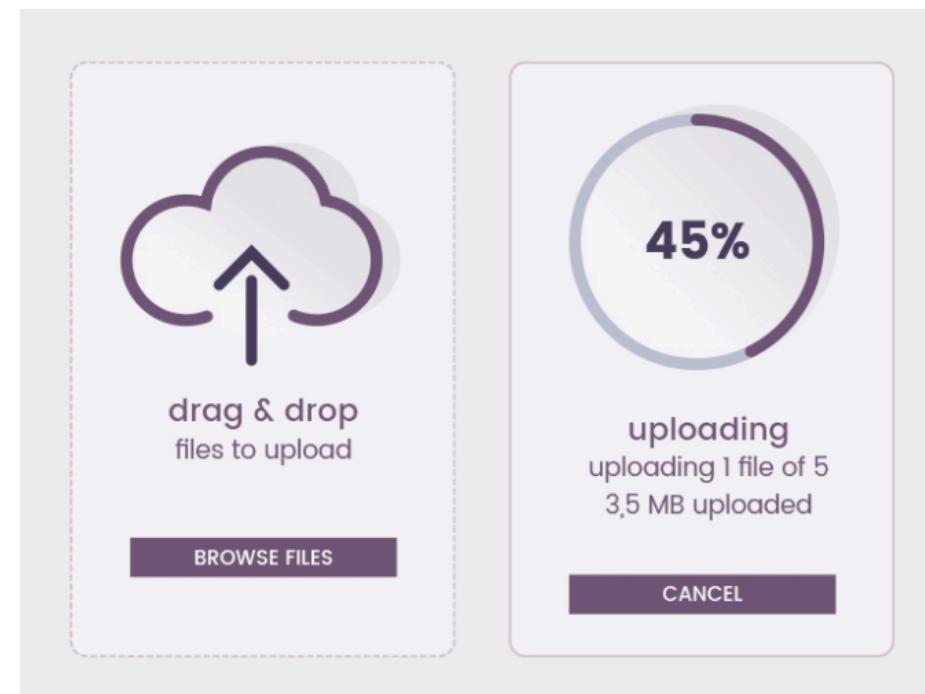
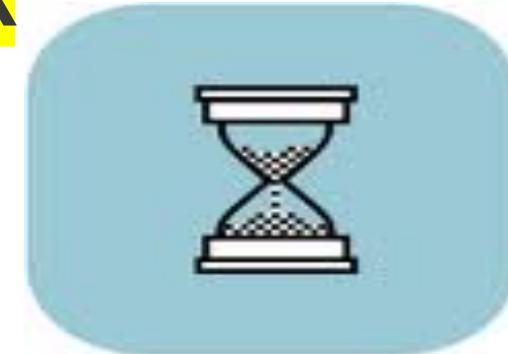
2. Cater for diverse users

Eg. Offer experienced, frequent users shortcuts



3. Offer informative feedback

- Inform user that their actions was received
- Include feedback when something is complete
- Make sure that the feedback is:
 - Informative
 - Clear
 - Concise



Feedback examples

The screenshot shows a user interface for updating a profile. At the top, there is a dark header bar with the 'uWORKFU' logo on the left and several navigation links on the right: 'Update Profile', 'Message (2)', a gear icon, and a user icon labeled 'Logout'. Below the header, there are five buttons: 'Update your Bio' (highlighted with a white border), 'Refine your Keywords', 'Add other Networks', 'Reading List', and 'Preview your Profile'. A green horizontal bar spans across the middle of the page, containing the message 'Your profile has been updated successfully.' In the lower-left area, there is a section titled 'Edit your profile' with the sub-instruction 'Use the form below to edit and manage your personal details.' To the right of this, there is a profile card for 'Winnie Lim'. It features a thumbnail image of a woman, her name 'Winnie Lim' in bold text, and a 'Change' button at the bottom.

Update your Bio Refine your Keywords Add other Networks Reading List Preview your Profile

Your profile has been updated successfully.

Edit your profile

Use the form below to edit and manage your personal details.

Winnie Lim

Change

Feedback examples

Password

•••••

✗ Weak

Password

••••••••|

✓ Good

Password

•••••••••••|

✓ Strong

4. Design dialogues that yield closure

- Organise sequences of actions:
 - Beginning
 - Middle
 - End

- Ensure that users know when a conversation or task is at end:
 - Users should know when a task is completed
 - User should be put at ease

Examples of Closure

Delivery Information is done
Then Payment Information
Then Confirmation



Continue Checkout Procedure to confirm this order.

continue

Delivery Information Payment Information Confirmation Finished

amazon.com SIGN IN SHIPPING & PAYMENT GIFT-WRAP PLACE ORDER

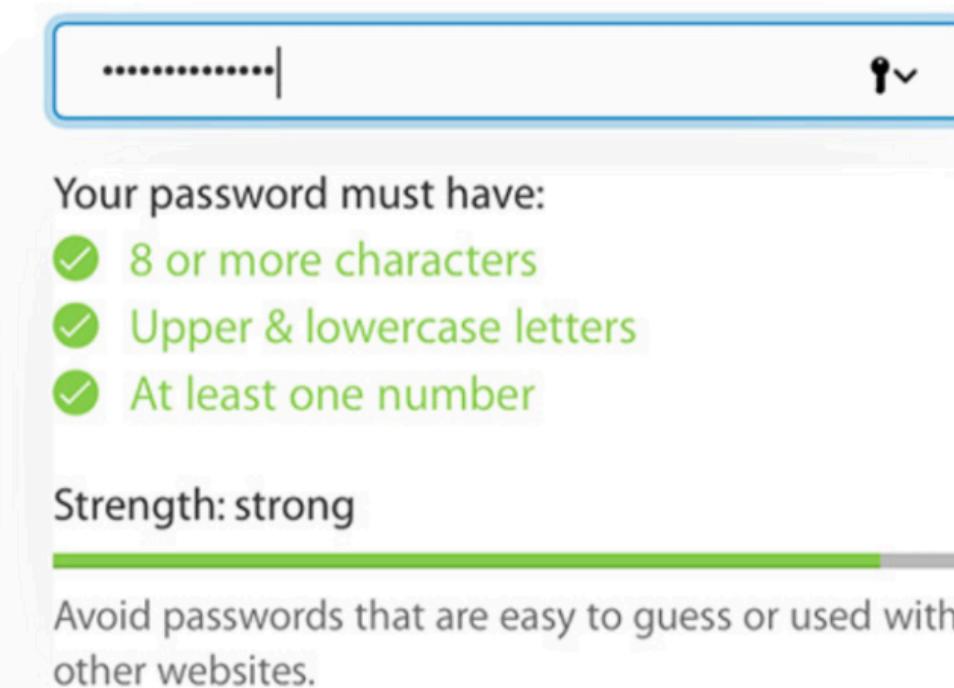
5. Prevent errors

Message types

- **Error messages:** alerts users of a *problem that has already occurred*.
- **Warning:** alerts users of a *condition that might cause a problem in the future*.
- **Information:** highlights a statement or fact

Effective error messages:

- Inform users that a problem occurred
- Explain why it happened and provide a solution so users can fix the problem



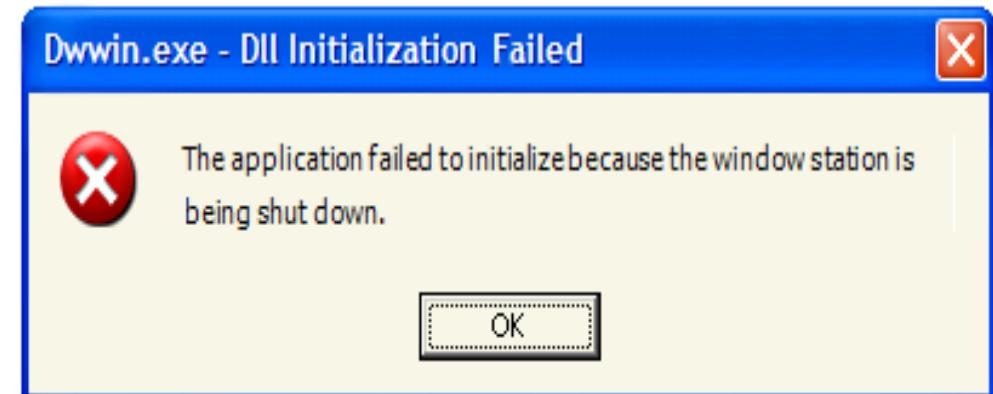
Error 404

http://www.ted.com/talks/reenny_gleeson_404_the_story_of_a_page_not_found

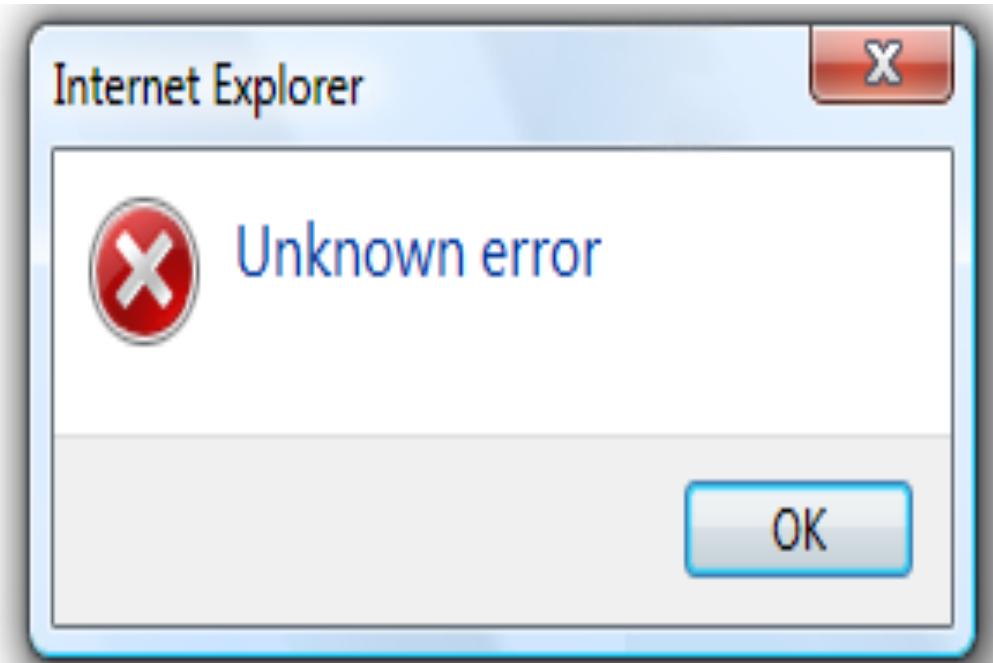
"Little things done right matter
... Well designed moments build brands"

Characteristics of poor error messages

- **Unnecessary error messages**

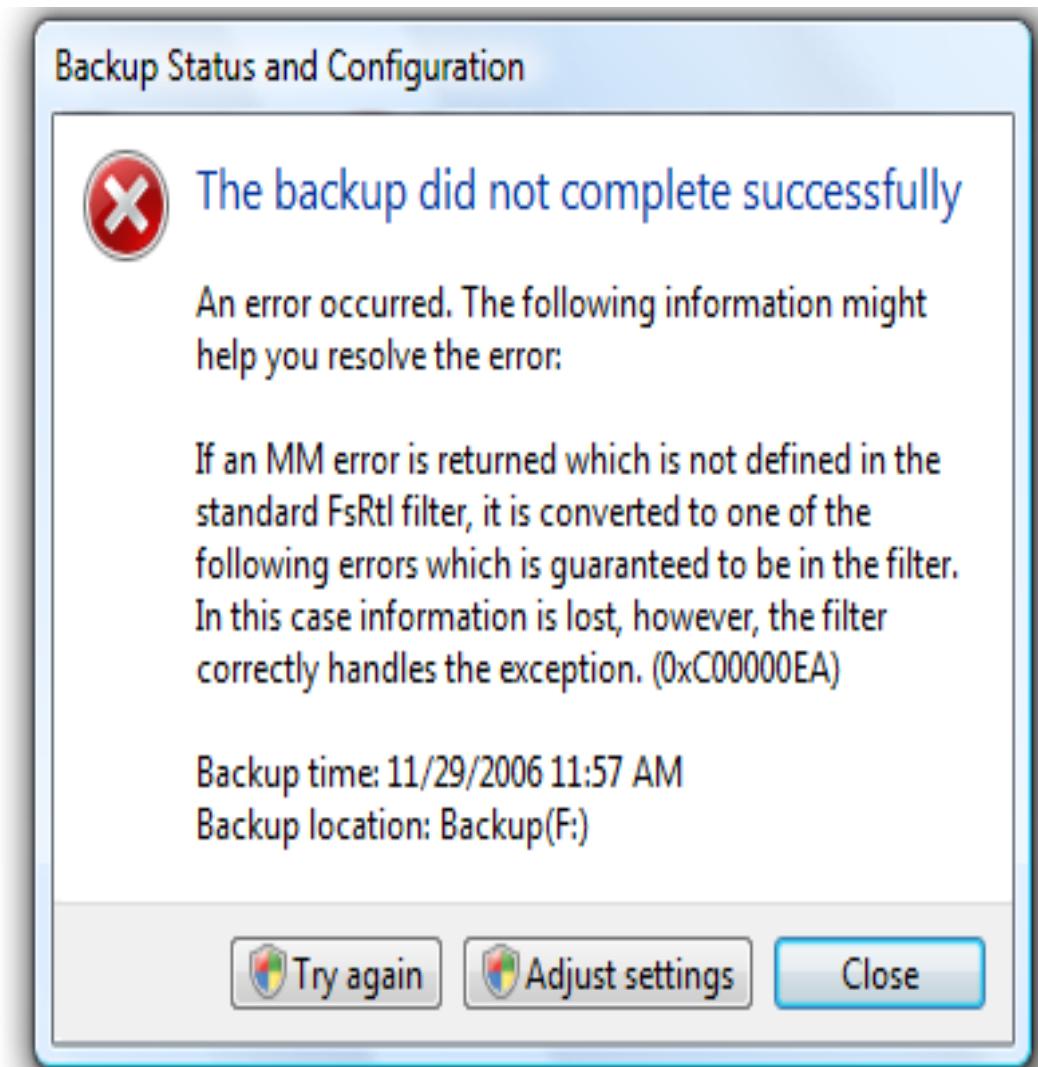


- **Meaningless message** - users learn that there is an error but:
 - has no idea what it is
 - or what to do about it



Characteristics of poor error messages

- Incomprehensible error messages



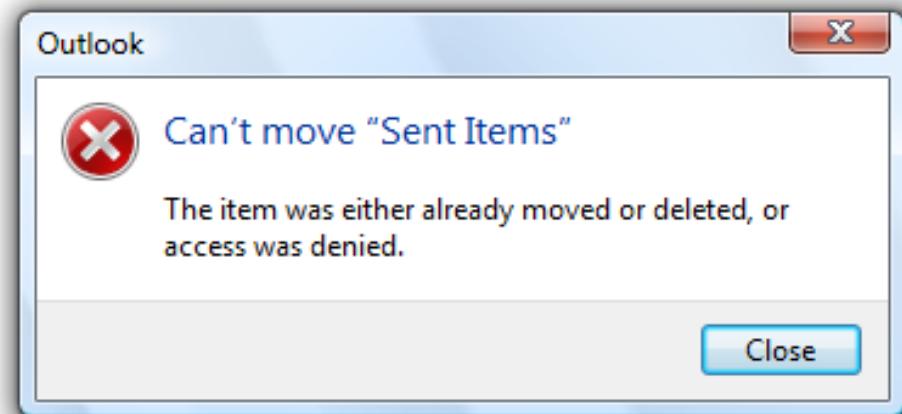
Characteristics of poor error messages

- **Irrelevant issues in problem statement**

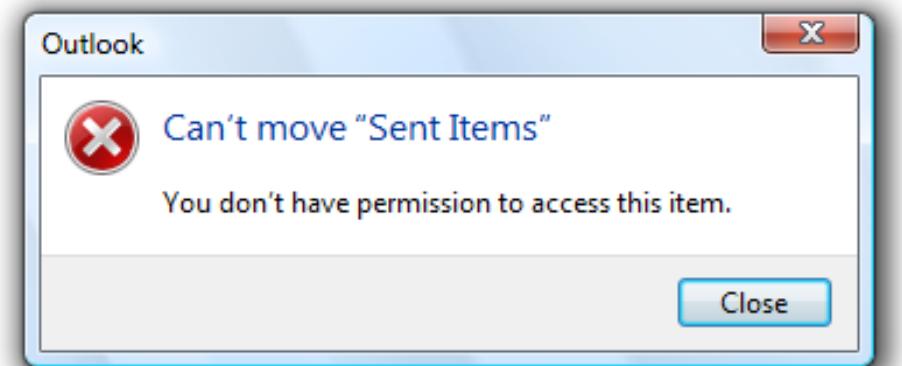
A better way:

The program can determine if access was denied, so this problem should be reported with a specific error message.

Incorrect error message



Correct error message



Characteristics of poor error message

▪ Avoid over-communicating

- Generally, users don't read, they scan
- reduce the text down to its essentials
- Should not require motivation to read

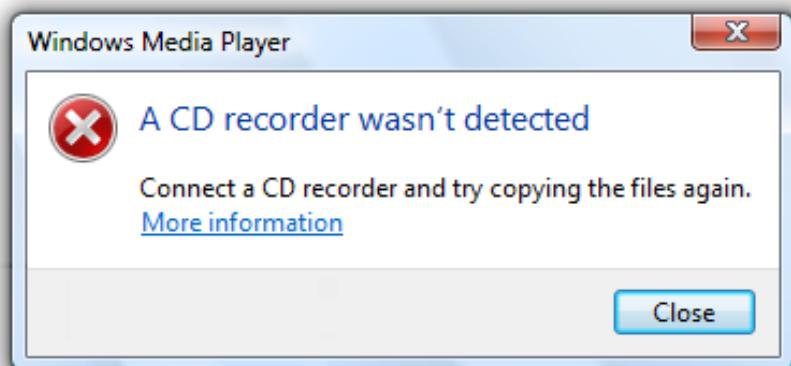
A better way:

The program can determine if access was denied, so this problem should be reported with a specific error message.

Incorrect error message



Correct error message



User input errors

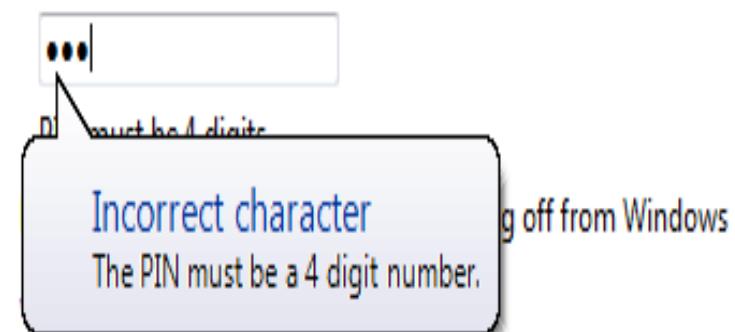
- Whenever possible, prevent or reduce user input errors by:
 - Using controls that are constrained to valid values
 - Providing good format examples

- Use **balloons** for non-critical, single-point user input problems detected while in a text box.
 - If error message placed immediately after the text box difficult to see.

Example 1: Incorrect input
(No control)



Example 2: Incorrect input



User input errors

Sign in

- Use in-place errors for delayed error detection
- There can be multiple in-place errors at a time

The screenshot shows a 'Sign in' form for Windows Live. It includes fields for 'Windows Live ID:' containing 'hotmail.com' and 'Password'. Both fields have red validation messages: 'Please type your e-mail address in the format yourname@example.com.' for the ID and 'Please type your password.' for the password. A 'Forgot your password?' link is also visible.

Windows Live ID:
(example555@hotmail.com)

Please type your password.

Password:

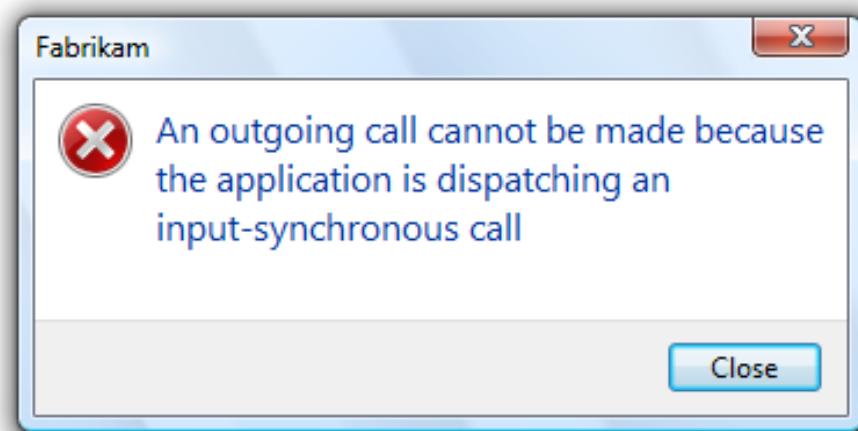
[Forgot your password?](#)

The use of sound and text in error messages

▪ Sound

- Generally, error messages should not be accompanied with a sound effect or beep
- Doing so is jarring and unnecessary

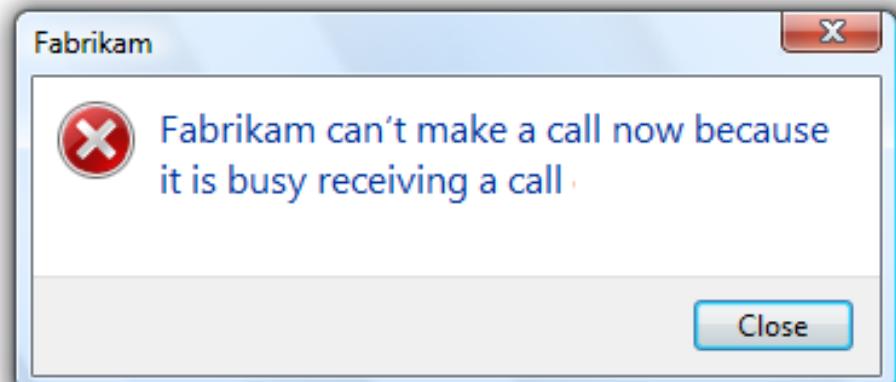
Incorrect error message



▪ Text

- Remove any redundant text
- Avoid technical jargon

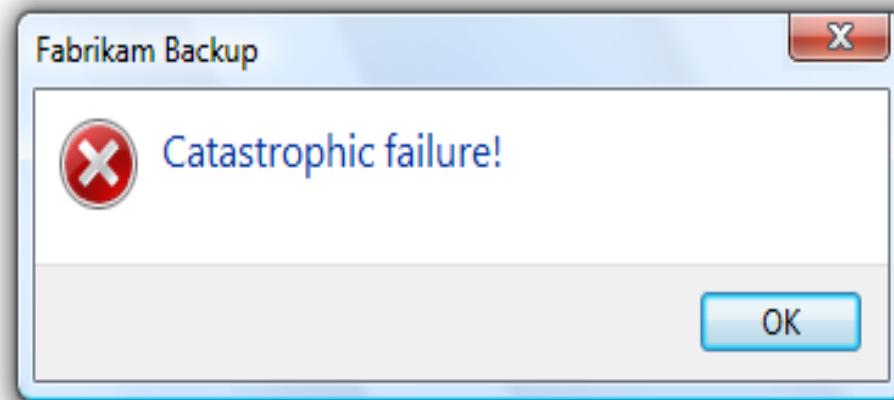
Correct error message



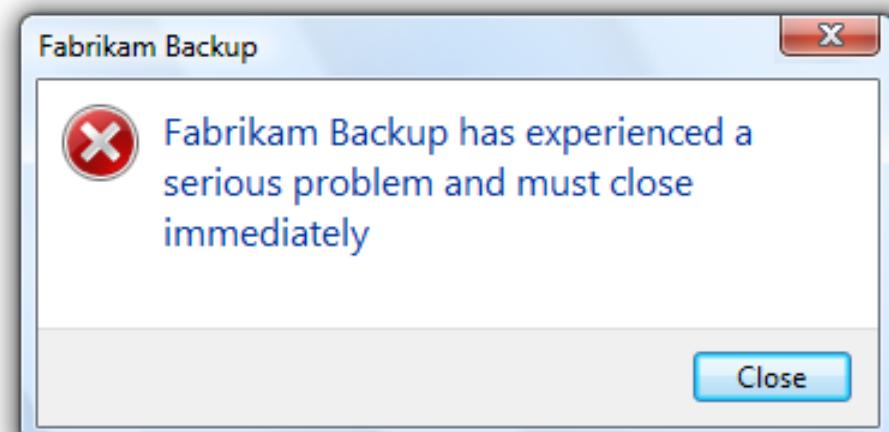
The use of text in error messages

- When designing error messages, use an **ENCOURAGING** tone
- Avoid using the following words:
 - Error, failure
.. use *problem*
 - Failed to
.. use *unable to*
 - Illegal, invalid, bad
.. use *incorrect*
 - Abort, kill, terminate
.. use *stop*
 - Catastrophic, fatal
.. use *serious*

Example: Inappropriate error message



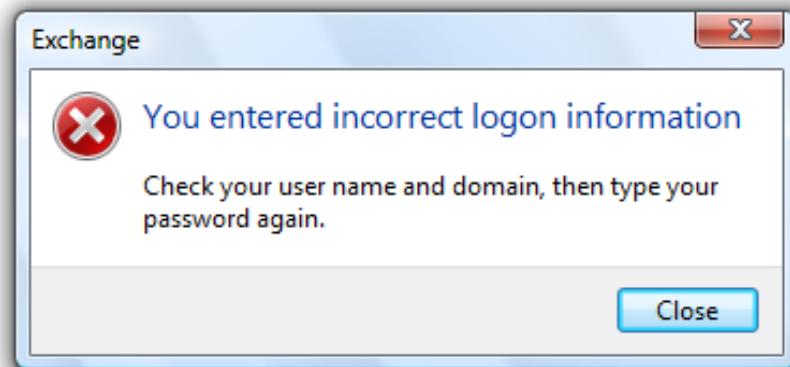
Example: More appropriate error message



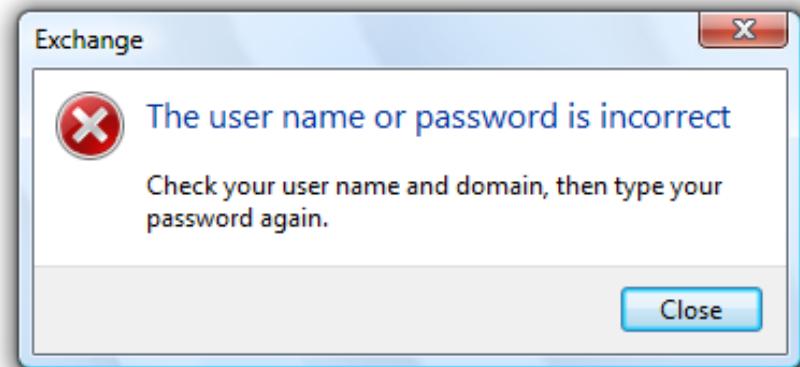
The use of text in error messages

- Don't use phrasing that ***blames*** the user
- Avoid using ***you*** and ***your*** in the phrasing.
- Use the passive voice when the user is the subject

Example: Inappropriate error message – it blames the user by using the active voice



Example: Appropriate error message



7. Reduce short-term memory load

Humans have limited capacity for processing info in short-term memory

- 7 +/- 2 chunks of information, 20-30 seconds
- Avoid interfaces where users have to remember information from one screen to the next



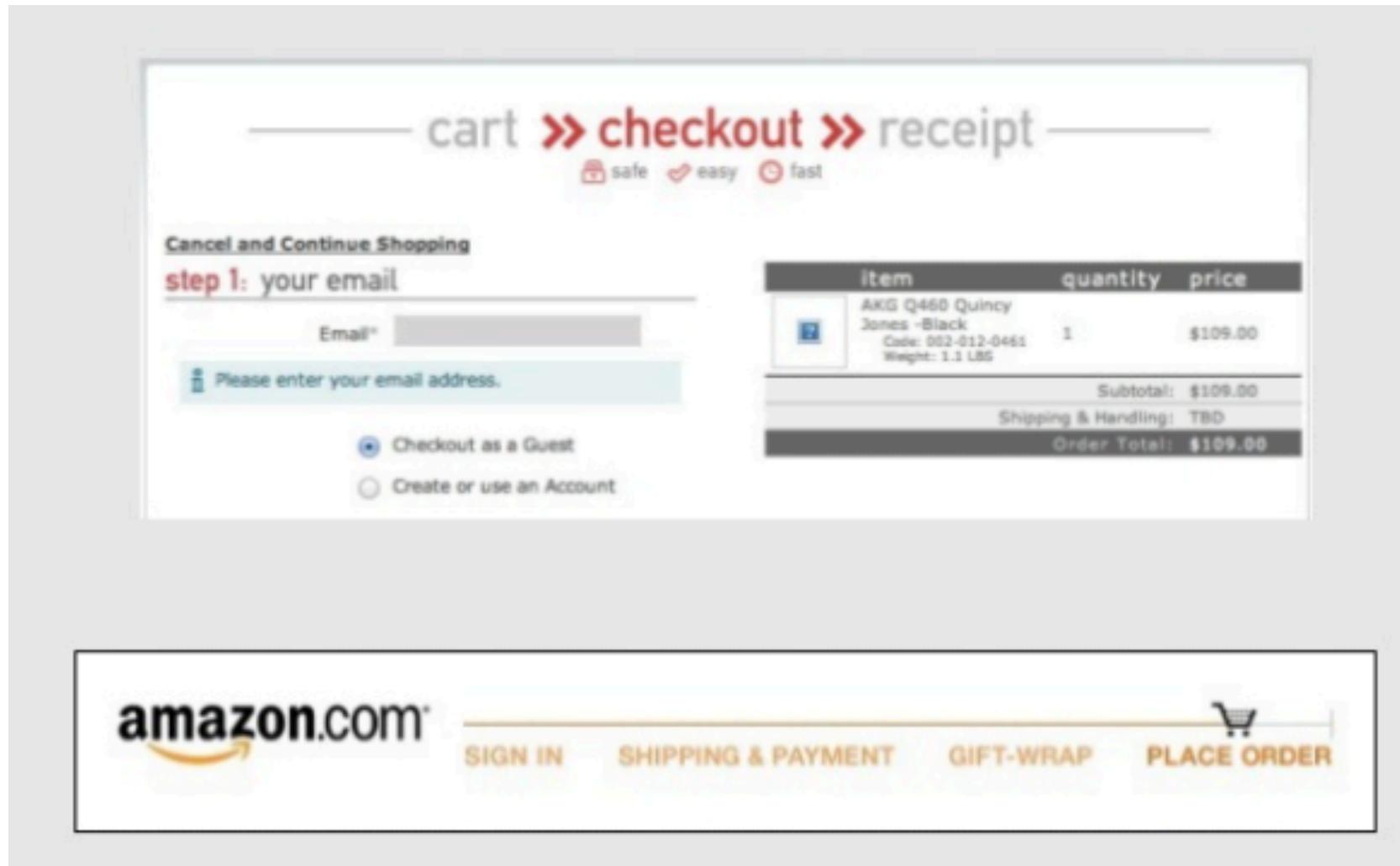
Hi, I'm Dory! I have short term memory loss!

Hi, I'm Dory!

Demotivation.us

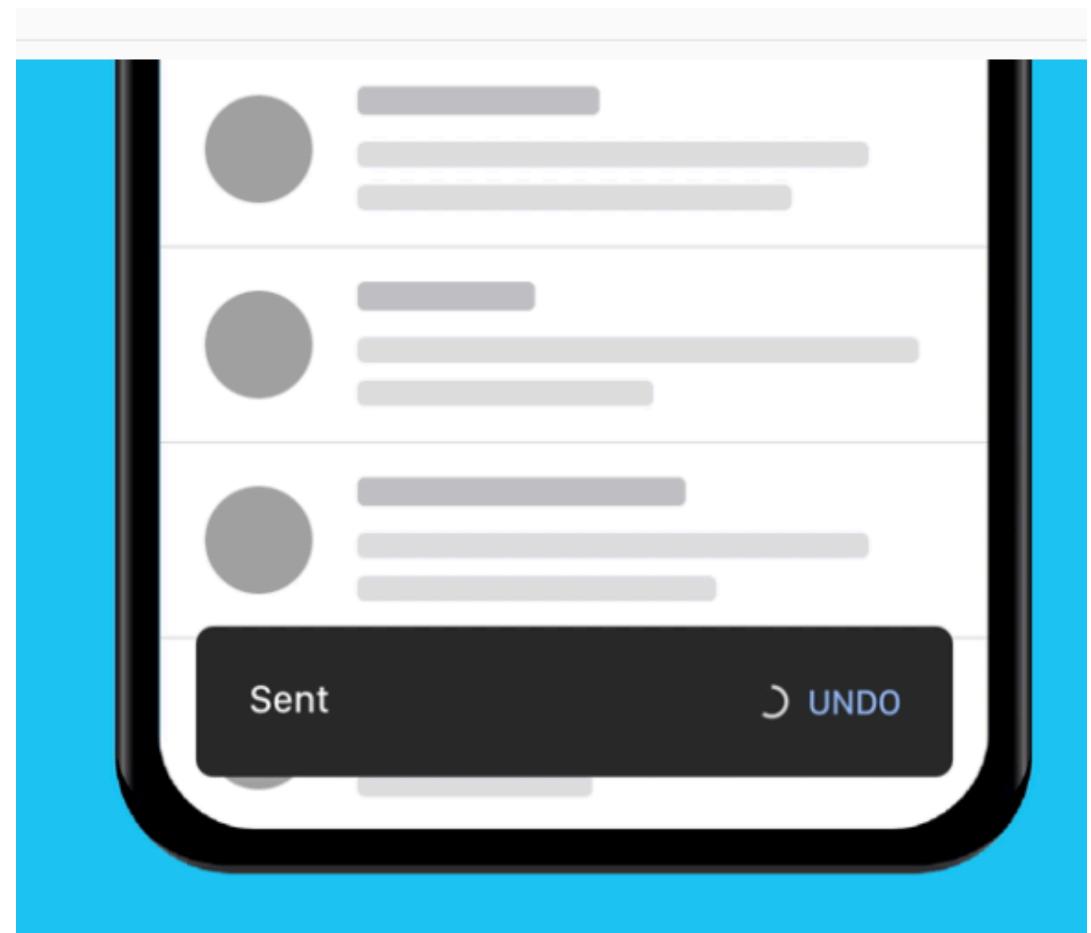
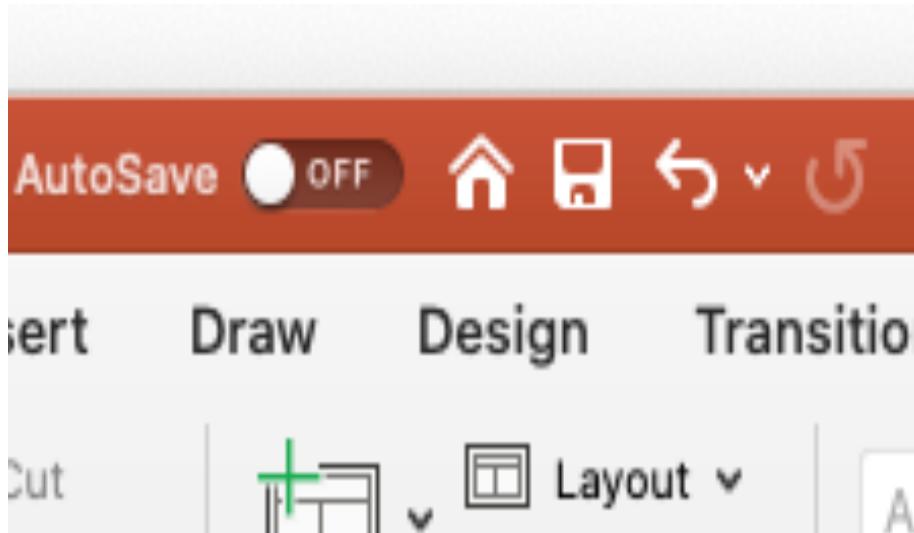
Short-term memory: Implications for UI design

- Highlights where you are and shows sequence of actions



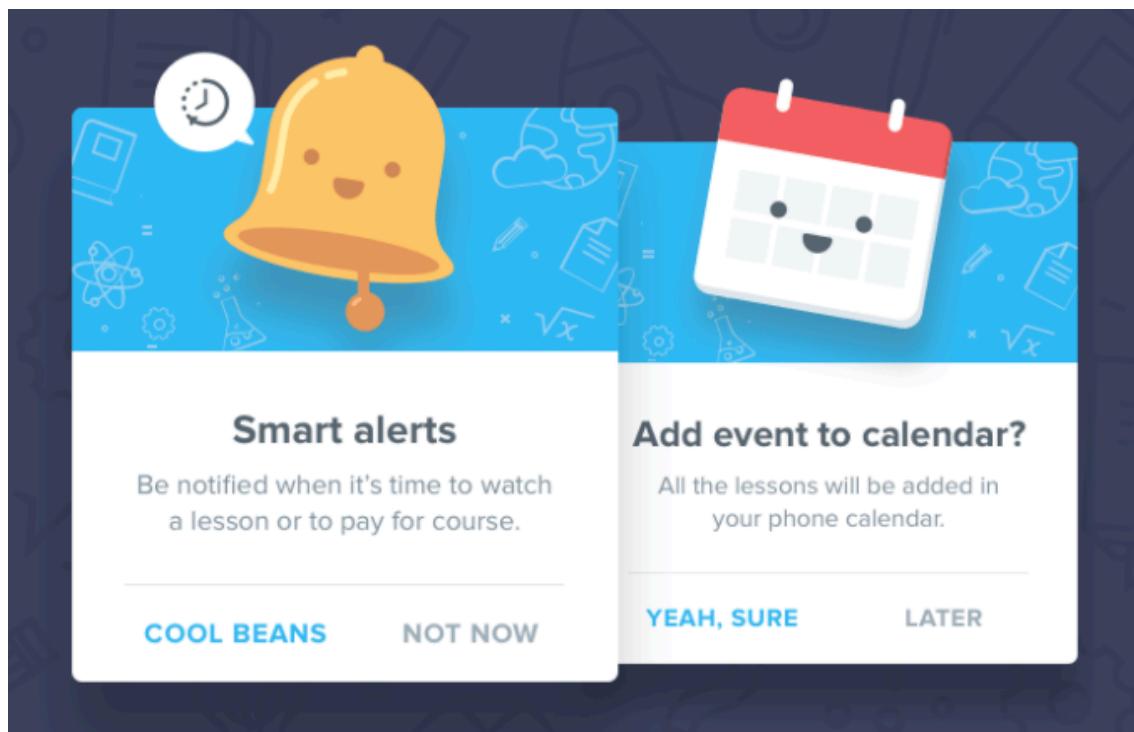
6. Permit easy reversal of actions

- Users need to feel that they can cancel or reverse an action
- Provide tools for reversal of their actions – buttons or menu bar options

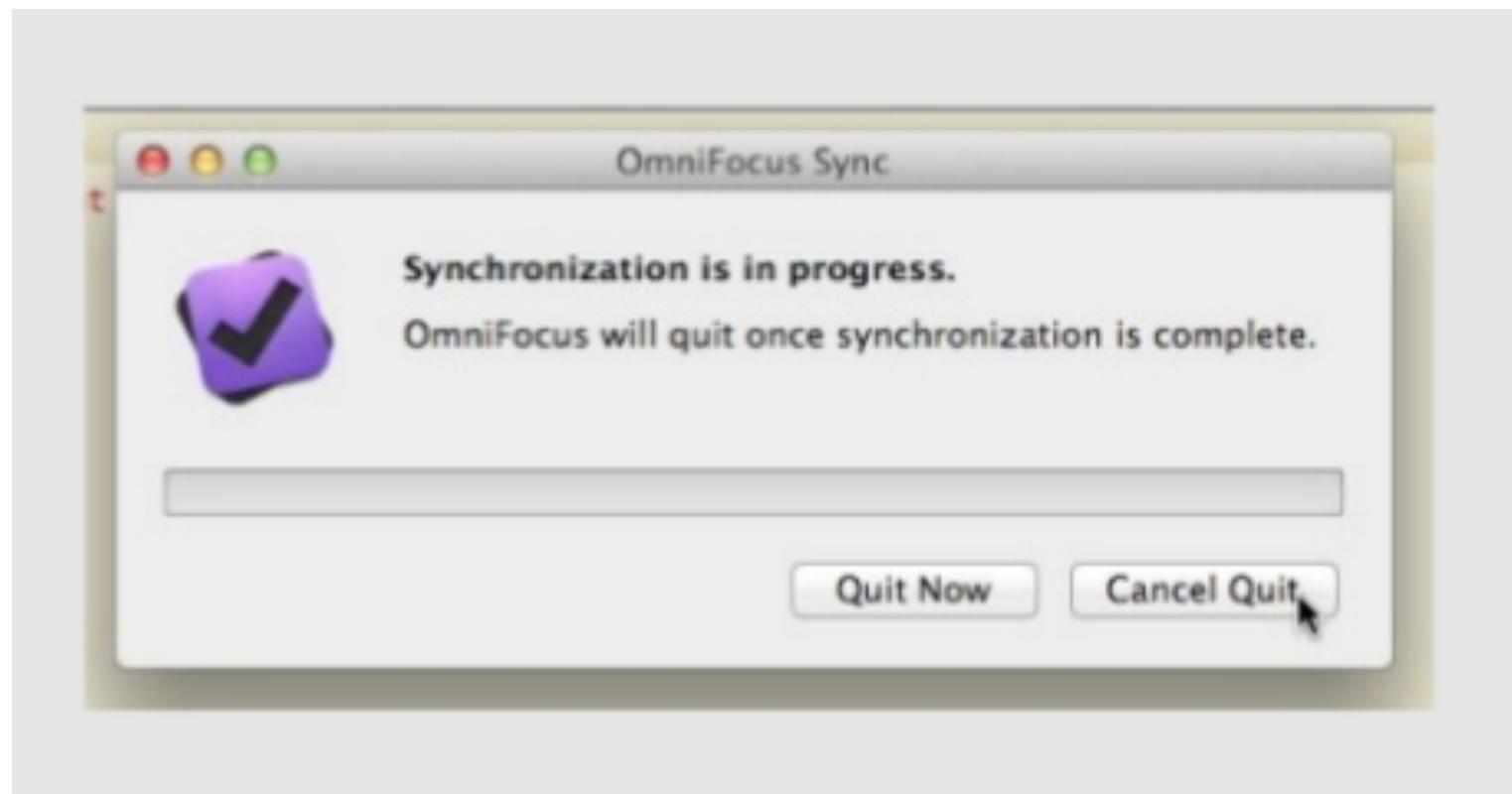


8. Support internal locus of control

- Experienced users want to be in charge while interacting with the system
- They do not like:
 - Tediumous data entry
 - Surprising system actions
 - No help messages
 - Complex error message
 - Being forced to remember



The user decides what to do next



Jakob Nielsen has 10 heuristics for Interface Design (a few similar to the 8 Golden rules)

- Visibility of system status (3)
- Match between system and the real world
- User control and freedom (8)
- Consistency and standards (1)
- Error prevention (5)
- Recognition rather than recall (7)
- Flexibility and efficiency of use (2)
- Aesthetic and minimalist design
- Help users recover from errors (5)
- Help and documentation

... and some other things to think about

Match between the system and the real world Metaphors

- Metaphors are *analogies between features of the UI and some aspects of physical reality* that users are familiar with.
- Use of a concept or word from one setting (e.g., real world) to convey meaning in another (e.g., digital world)
 - physical analogies (e.g., trash, spreadsheet, file cabinet)
 - cultural standards (e.g., colour, words)
- Help reduce cognitive load for user and improves ease of learning



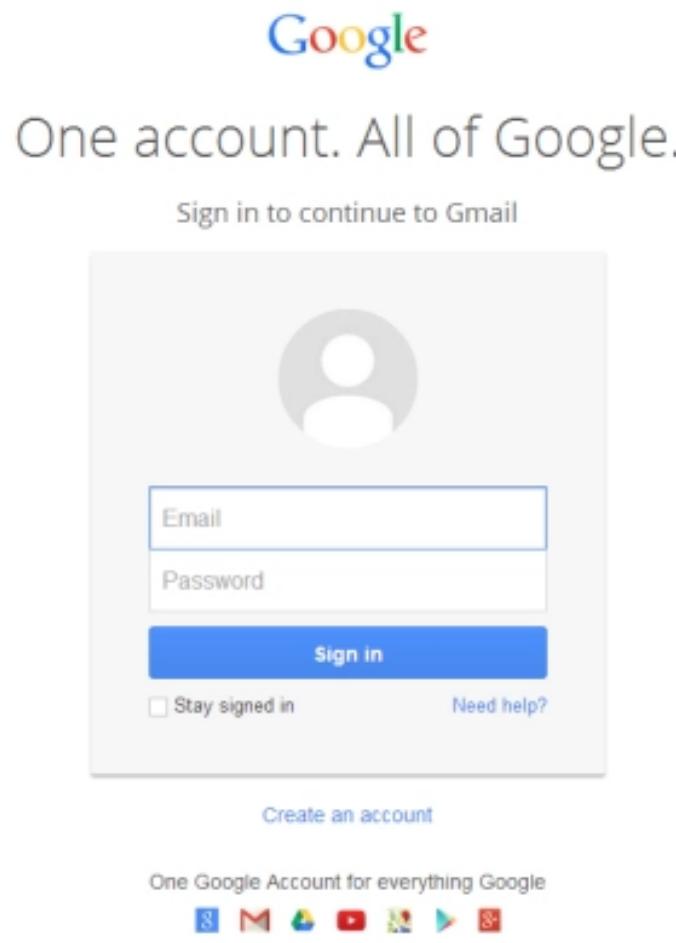
Examples of Metaphors in GUI

- MacIntosh's bin icon to delete files
- Form fill-ins (paper-based forms as a metaphor)
- Digital camera software (photo album as a metaphor)
- Tabs in a GUI (physical filing system as a metaphor)
- To-do list
- Calendar
- Shopping cart metaphor for e-commerce applications

Aesthetics and Minimalist design - Bad



Aesthetics and Minimalist design - Good



Guidelines for designing UI

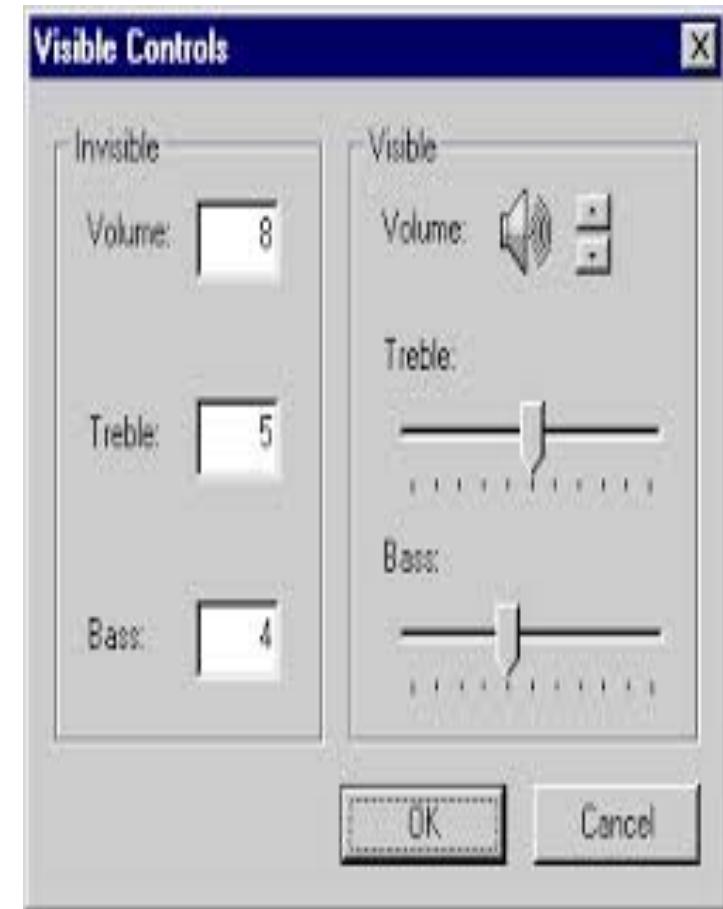
Donald Norman advises designing UI based on: Affordance and Visibility

▪ Affordance

- the appearance of a specific control should suggest the purpose for which it is used (i.e. functionality)

▪ Visibility

- The user shown know how to operate something by just looking at it
- All controls must provide immediate feedback to indicate control is responding



Assess this online form

[https://register.monash.edu.au/
enquiry/](https://register.monash.edu.au/enquiry/)

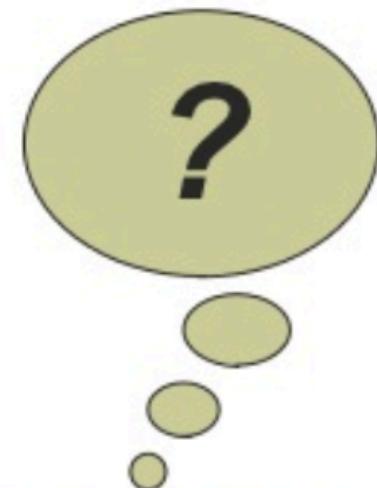


Design principles

- Minimise the pain
 - No one likes filling in forms
 - Smart defaults, inline validation, forgiving inputs
- Illuminate a path to completion
- Consider the context
 - Familiar vs. foreign
 - Frequently used vs. rarely uses
- Ensure consistent communication
 - Errors, Help Success
 - Single voice despite many stakeholders

Don't make me think

- Eliminate questions in user's heads like:
 - Why did they call it *that*? Names of things should be obvious
 - Is it clickable? Buttons should look like buttons; links should look like links.
 - How to search? – use a search box labeled Search or a box with a button that says “Search” next to it.
 - Where am I?
 - Where should I begin?
 - Where did they put _____?
 - What are the most important things on this page?



Points from Steve Krug's book: *Don't make me think*

Workshop Preparation

Make sure to look at the additional material at the end of the seminar

Thanks for watching

Resources:

Satzinger, J. W., Jackson, R.B., Burd, S.D. and R. Johnson
(2016) Systems Analysis and Design in a Changing World, 7th
Edition, Thomsen Course Technology, *Chapter 8*

- Jakob Nielsen - 10 Heuristics for Interface design
<http://www.nngroup.com/articles/ten-usability-heuristics/>
<http://www.whatwasithinking.co.uk/2009/02/27/explaining-usability-heuristics-a-quick-guide/#.Uy-NjNwVdFw>
<http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5>
- Ben Shneiderman – 8 Golden rules for Interface design
<http://www.cs.umd.edu/~ben/goldenrules.html>
<https://www.interaction-design.org/literature/article/shneiderman-s-eight-golden-rules-will-help-you-design-better-interfaces>
- Examples: <http://designingwebinterfaces.com/6-tips-for-a-great-flex-ux-part-5>

Practical Interface Design Tips

by Luke Wroblewski

Ref: <http://www.slideshare.net/lukew/best-practices-for-form-design-81133>

Design principles

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 - No one likes filling in forms
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Top aligned labels

- When data being collected is familiar
- Minimize time to completion
- Require more vertical space
- Spacing or contrast is vital to enable efficient scanning
- Flexibility for localization and complex inputs

Vertical Labels

Label
Longer Label
Select Value
Even Longer Label
One More Label
<input checked="" type="radio"/> Value 1
<input type="radio"/> Value 2
Primary Action

Advantage: Rapid Processing

Advantage: Adjacent Label and corresponding Input field

Disadvantage: Increased vertical space

Right aligned labels

- Clear association between label and field
- Requires less vertical space
- More difficult to just scan labels due to left rag
- Fast completion times

Right-Justified Horizontal Labels

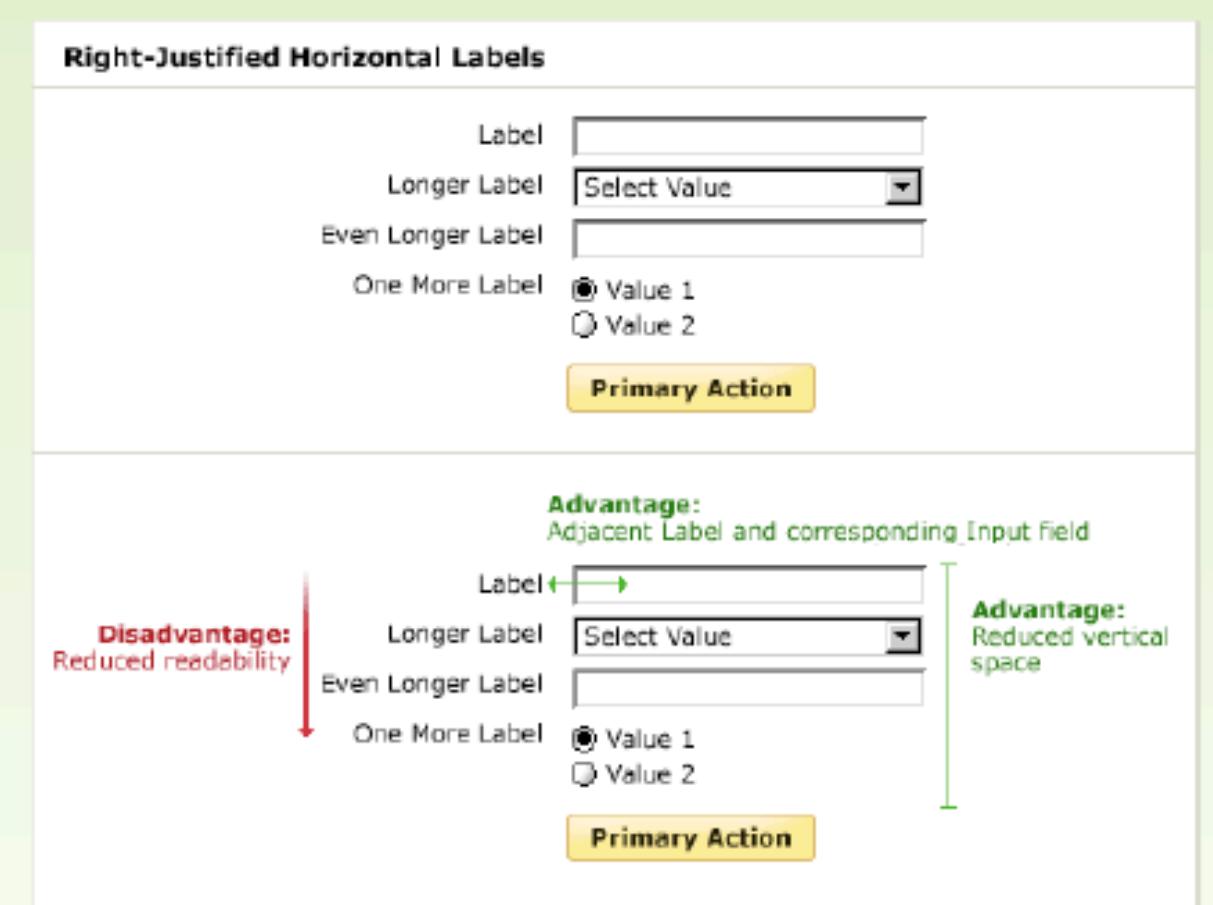
Label	<input type="text"/>
Longer Label	<input type="text"/> Select Value ▾
Even Longer Label	<input type="text"/>
One More Label	<input checked="" type="radio"/> Value 1 <input type="radio"/> Value 2
Primary Action	

Disadvantage: Reduced readability

Advantage: Adjacent Label and corresponding Input Field

Advantage: Reduced vertical space

Primary Action



Left aligned labels

- When data required is unfamiliar
- Enables label scanning
- Less clear association between label and field
- Requires less vertical space
- Changing label length may impair layout

Left-Justified Horizontal Labels

Label:	<input type="text"/>
Longer Label:	<input type="text"/> Select Value ▾
Even Longer Label:	<input type="text"/>
One More Label:	<input checked="" type="radio"/> Value 1 <input type="radio"/> Value 2
Primary Action	

Advantage: Easy to scan labels

Disadvantage: Adjacency of Label and corresponding Input field

Label:	<input type="text"/>
Longer Label:	<input type="text"/> Select Value ▾
Even Longer Label:	<input type="text"/>
One More Label:	<input checked="" type="radio"/> Value 1 <input type="radio"/> Value 2
Primary Action	

Advantage: Reduced vertical space

Labels: Best practice

- **Left-aligned labels**
 - Easily associated labels with the proper input fields
 - Excessive distances between labels inputs forced users to take more time
- **Right-aligned labels**
 - Reduced overall number of fixations by nearly half
 - Form completion times were cut nearly in half
- **Top-aligned labels**
 - Permitted users to capture both labels & inputs with a single eye movement'
 - Fastest completion times

Required/Optional form

- **Indication of required fields is most useful when**
 - There are lots of fields
 - But very few are required
 - Enables users to scan form to see what needs to be filled in
- **Indication of optional fields is most useful when**
 - Very few fields are optional
- **Neither is really useful when**
 - All fields are required

Required/Optional form fields - Example

Form with Required Fields

Label

Long Label *required

Longer Label *required

Select Value ▾

Even Longer Label

One More Label
 Value 1
 Value 2

Primary Action **Secondary Action**

Label

Long Label (optional)

Longer Label

Select Value ▾

Even Longer Label

One More Label
 Value 1
 Value 2

Primary Action **Secondary Action**

Required/Optional form fields: Best Practice

- Try to avoid optional fields
- If most fields are required: indicate optional fields
- If most fields are optional: indicate required fields
- Text is best, but * often works for required fields
- Associate indicators with labels

Field Lengths

- Field lengths can provide valuable affordances
- Appropriate field lengths provide enough space for inputs
- Random field lengths may add visual noise to a form

Enter Your Information (Already registered? Sign In)

Please enter your U.S. address and email address to create your account.

First Name Last Name

Street Address

City

State ZIP Code Country or Region U.S. addresses only, please.
United States

Phone Number
 - ext: Needed if there are questions about your order

A valid email address is required to communicate with you.

Email address

Re-enter Email address

Create Password How secure is your password?
Check your password strength - the higher, the better.

Must be at least 8 characters, including a number or special character. Example: eXpr3SS

Re-enter Password

By clicking "Register" you agree to eBay Express's privacy policy and terms of use. You also agree to be contacted for marketing purposes, but you can change your notification preferences in your account.

Register

Field Lengths: Best Practice

- When possible, use field length as an affordance
- Otherwise consider a consistent length that provides enough room for inputs

Content Grouping

- Content relationships provide a structured way to organize a form
- Groupings provide
 - A way to scan information required at a high level
 - A sense of how information within a form is related

Separating Related Content

Label:	<input type="text"/>
Longer Label:	<input type="text"/> Select Value ▾
Even Longer Label:	<input type="text"/>
One More Label:	<input checked="" type="radio"/> Value 1 <input type="radio"/> Value 2
Label:	<input type="text"/>
Longer Label:	<input type="text"/> Select Value ▾
Even Longer Label:	<input type="text"/>
Primary Action	

4. Practical Interface Design Tips

Bad example –
too much
visual
noise

The screenshot shows a complex registration form on the Office Depot website. At the top, there's a navigation bar with links like 'Home', 'En Espanol', 'Tech Depot', 'Intl Depot', 'Customer Service', and 'Company Info'. Below the navigation, there are three sections of questions:

- Do you shop with us by phone, fax, or already have a tax exempt account? Yes No
- Do you want to apply for a tax exempt account? Yes No
- Would you like to sign up for a government account? Yes No

Below these is a 'Login' section with fields for 'User ID' and 'Password'.

The main form is titled 'New Customer Checkout' and is divided into several sections:

- Billing Info:** Fields for Business Name, First Name, Middle Initial, Last Name, Address (Street, Number, Name), City, State/Province, Zip/Postal Code, Country (set to USA), Phone, Fax, and Billing Email. A note says "Address should match that of the credit card".
- Shipping Info:** Fields for Business Name, First Name, Middle Initial, Last Name, Address (Street, Number, Name), City, State/Province, Zip/Postal Code, Country (set to USA), Phone, and Shipping Email. A note says "Also you can pick up at: Select a Store".
- Required Information:** Two checkboxes:
 - Please send my emails in HTML format.
 - You'll receive exclusive discounts and special offers available only to Office Depot's Email customers.
- Optional Info:** A field for "Special message for the above set information for your own reference".
- Customer P.O.#:** A field for "Customer service only".
- Office Depot ADVANTAGE Number:** A field for "Number Number".
- Payment Info:** Fields for Payment Type (Credit Card selected), Credit Card Type (Please select your card type), Credit Card Number, Expiration Date, and Card ID. A note says "Required for American Express, Visa, MasterCard and Discover Card".
- Shopping Cart:** A table showing an item: "Office Depot® Map Tacks, Assorted Colors, Pack of 100".

Item Number	Unit Price	Our Price	Units	Quantity	Stock Ordered	Extended Price	Remove
017202	\$2.00	\$2.00	100	1	0	\$2.00	<input type="checkbox"/>

Subtotal: \$2.00
Delivery Charge: \$5.95
Coupons: \$0.00
Estimated Taxes: \$0.25
Total: \$7.15

Update Shopping Cart **Place Order**

At the bottom, it says "Click to submit your order".

Site Info: Links to Site Map, Terms of Use, Privacy Policy, Invitation Discount, Tech Depot, and Office Depot en español.
Other Depots: Links to Contact Us, Delivers, Find a Store, Customer Support, and Customer Feedback.
Customer Service: Links to Sales, Account, Career Opportunities, International, and Customer Support.
Company Info: Links to About Us, Press Room, Customer Opportunities, and International.
Specialties: Links to Home Office, Business Center, Advertised Specialties, and Office Supplies.

4. Practical Interface Design Tips

Good example

[► Learn more](#)

Other Costs (if they apply)

Who will pay the county transfer fee?

Buyer
 Seller

Who will pay the city transfer fee?

Buyer
 Seller

Who will pay the home owner's association transfer fee?

Buyer
 Seller

Who will pay for title/abstract vendor's association transfer documents?

Buyer
 Seller

Home Warranty

Do you want to order a home warranty?

Who will pay for the home warranty?

Buyer
 Seller

How much home warranty coverage?

Which home warranty options do you want?

Air conditioner Well
 Carpet Roof
 Pool Washer / Dryer / Refrigerator
 Other

Liquidated Damages

Liquidated damages can be assessed if the buyer fails to complete the purchase because of default. If the buyer agrees to pay liquidated damages in case of default, then the seller retains the deposit actually paid by the buyer.

If you default, do you agree to pay liquidated damages?

Yes
 No

Dispute Resolution

Rather than having disputes resolved in courts, buyers and sellers can agree to have all disputes resolved by arbitration as provided by California law.

Do you agree to submit disputes to neutral arbitration?

Yes
 No

Expiration

When do you want your offer to expire? (Commonly 3 calendar days after the buyer signs and dates the offer)

This offer shall officially expire, be deemed revoked, and the deposit shall be returned, unless this offer is signed by the seller and a copy of the offer is personally notarized by the buyer at 5 p.m. on the third day after this offer is signed by the buyer.

If the seller makes a counter-offer, your Redfin Agent will help you respond appropriately.

Content Grouping: Best Practice

- Use relevant content groupings to organize forms
- Use the minimum amount of visual elements necessary to communicate useful relationships

Actions



- Not all form actions are equal
 - Reset, Cancel, & Go Back are secondary actions: rarely need to be used (if at all)
 - Save, Continue, & Submit are primary actions: directly responsible for form completion
- The visual presentation of actions should match their importance

4. Practical Interface Design Tips

Actions - Examples

TYPICAL WEB FORM

Personal Information

First Name

Last Name

Contact Information

Address

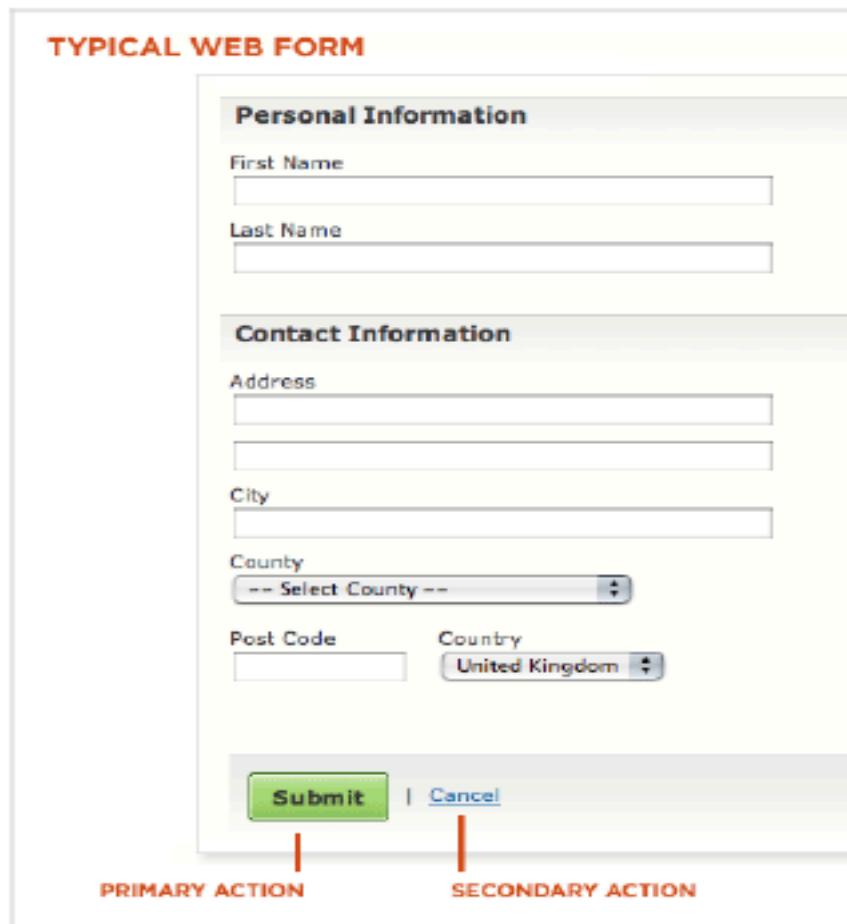
City

County

Post Code Country

Submit | **Cancel**

PRIMARY ACTION **SECONDARY ACTION**



A

Post Code Country

B

Post Code Country

C

Post Code Country

D

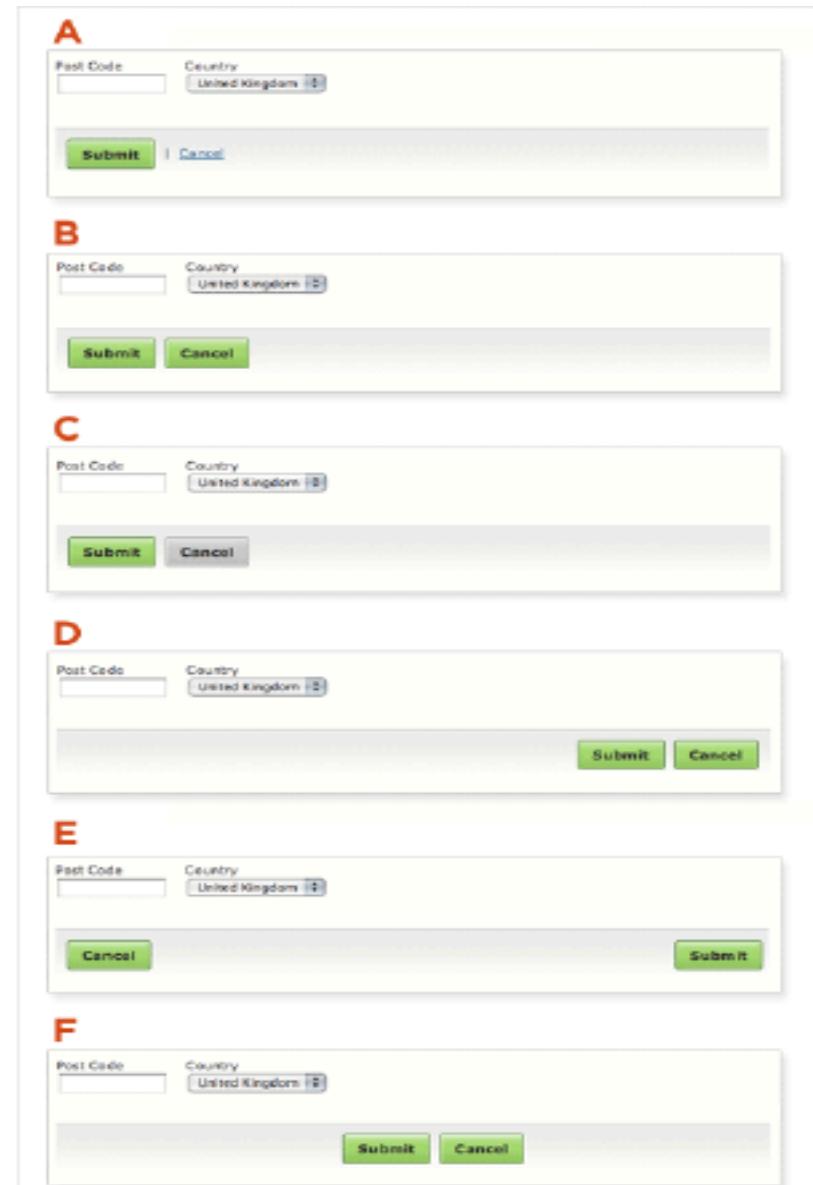
Post Code Country

E

Post Code Country

F

Post Code Country



Actions – Heat tracking map

A

Post Code Country

Submit Cancel

B

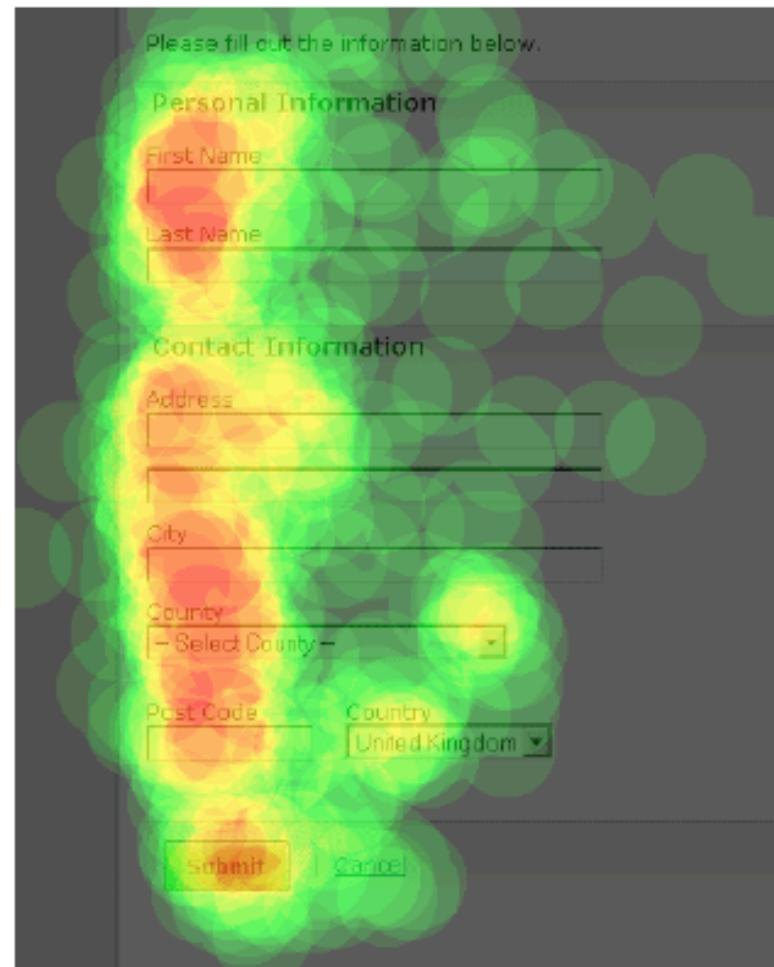
Post Code Country

Submit Cancel

C

Post Code Country

Submit Cancel



A: HEAT MAP
Eye Tracking by Etre | www.etre.com

Actions: Best practice

- **Avoid secondary actions if possible**
- **Otherwise, ensure a clear visual distinction between primary & secondary actions**
- **Align primary actions with input fields for a clear path to completion**

Providing Help & Tips

- **Help & Tips are useful when:**
 - Asking for unfamiliar data
 - Users may question why data is being requested
 - There are recommended ways of providing data
 - Certain data requests are optional
- **However, Help & Tips can quickly overwhelm a form if overused**
- **In these cases, you may want to consider a dynamic solution**
 - Automatic inline exposure
 - User activated inline exposure
 - User activated section exposure

Help – Automatic inline exposure

The image shows a screenshot of the Wufoo User Registration page. The page has a red header bar with the Wufoo logo. Below it, the title "II. User Registration" is displayed. The registration form consists of three numbered steps: 1. Enter Your Email Address, 2. Choose a Password, and 3. Pick your Wufoo Name / URL. Step 1 is highlighted with a yellow background. Step 2 includes two input fields: "Choose a Password" and "Verify Password". Step 3 includes a single input field for the Wufoo name. To the right of the "Enter Your Email Address" step, there is a callout box containing the text: "You must supply a valid email address. We will never sell or disclose your email address to third parties." At the bottom of the form, there are two buttons: "Create Account" (with a green icon) and "Cancel" (with a red X icon). The footer of the page contains the text "Wufoo · Infinity Box Inc. · Tampa, FL" and links to "About", "Blog", "Forums", "Terms", "Privacy", "Support", and "Contact". On the right side of the footer, the Wufoo logo is displayed.

Help – User activated inline exposure

Phone Details

IMEI Code: ?

PAC Code: ?

Phone Details

IMEI Code: ?

Explanation of IMEI Code

The International Mobile Equipment Identity (IMEI) number is a unique 15-digit code used to identify an individual GSM mobile telephone. The number can be found on most mobiles by typing in *#06#. If this combination doesn't work on your mobile phone, please call our support centre on +44 (0) 1252 xxxx xxxx.

[Back to IMEI input field.](#)

PAC Code: ?

Providing Help & Tips: Best Practice

- Minimize the amount of help & tips required to fill out a form
- Help visible and adjacent to a data request is most useful
- When lots of unfamiliar data is being requested, consider using a dynamic help system

Path to Completion

Primary goal for every form is completion

Every input requires consideration & action

- Remove all unnecessary data requests
- Enable flexible data input

Provide a clear path

Enable smart defaults

Clear Path to Completion

The screenshot shows a PayPal transaction page for a payment of \$37.00. The page is titled "Check Payment Details" and includes sections for "Payment Details" and "Shipping Information". The "Payment Details" section contains fields for Pay To, Amount, Source of Funds, Email Subject, and Note. The "Shipping Information" section has options for shipping to an address or selecting "No shipping address required". A prominent yellow button at the bottom left says "Send the \$37". A red arrow points from the text "A clear path to completion" to this "Send the \$37" button.

Check Payment Details

Payment Details

Pay To: paypal.jf@spinfree.com (a verified member)

Amount: \$37.00

Source of Funds: PayPal balance [more funding options](#)

Email Subject: Here's the cash I owe ya

Note: Thanks for bailing me out! I also included \$7 for the cab ride.
Thanks again!

Shipping Information

Ship to 400 North May Street, #301, Chicago, IL 60622, USA [Add Address](#)

No shipping address required

Send the \$37 | [Edit Transaction](#) | [Cancel Transaction](#)

[About Us](#) | [Accounts](#) | [Fees](#) | [Privacy](#) | [Security Center](#) | [User Agreement](#) | [Developers](#) | [Shops](#)
Copyright © 1999-2003 PayPal. All rights reserved.

Flexible inputs

Flexible Data Input

Phone Number
 (ex. 555-123-4444)

Phone Number
() - -

Phone Number

(555) 123-4444

555-123-4444

555 123 4444

555.123.4444

5551234444

Smart Defaults

Shipping Costs

Shipping Service <input type="button" value="Standard delivery"/> <input type="button" value="▼"/>	Shipping & Handling \$ <input type="text"/>
Don't know what to charge? Try the  Shipping Calculator . To offer free shipping, enter 0.00 above.	
Shipping Insurance <input type="button" value="Not offered"/> <input type="button" value="▼"/> \$ <input type="text" value="0.00"/>	Sales Tax I don't charge tax Change
View insurance rate table .	

Path to Completion: Best Practice

- Remove all unnecessary data requests
- Enable smart defaults
- Employ flexible data entry
- Illuminate a clear path to completion
- For long forms, show progress & save

Tabbing: Best Practice

- Remember to account for tabbing behavior
- Use the tabindex attribute to control tabbing order
- Consider tabbing expectations when laying out forms

Progressive disclosure: Best Practice

- Not all users require all available options all the time
- Progressive disclosure provides additional options when appropriate
 - Advanced options
 - Gradual engagement
- Most effective when user-initiated
- Maintain a consistent approach

FEEDBACK

- **Inline validation**
 - Assistance
- **Errors**
 - Indication & Resolution
- **Progress**
 - Indication
- **Success**
 - Verification

Inline validation

- Provide direct feedback as data is entered
 - Validate inputs
 - Suggest valid inputs
 - Help users stay within limits

Inline validation - Example

The screenshot shows a user interface for creating a password. On the left, there is a field labeled "Create Password" containing "*****". Below it, a message states: "Must be at least 6 characters, including a number or special character. Example: eXpr3SS". On the right, there is a field labeled "How secure is your password?" with a progress bar indicating a low level of security. Below the progress bar, the text reads: "Check your password strength - the higher, the better."

Create Password

Must be at least 6 characters, including a number or special character. Example: eXpr3SS

How secure is your password?

Check your password strength - the higher, the better.

Re-enter Password

Inline validation: Best practice

- Use inline validation for inputs that have potentially high error rates
- Use suggested inputs to disambiguate
- Communicate limits

Error handling

- Errors are used to ensure all required data is provided and valid
 - Clear labels, affordances, help/tips & validation can help reduce errors
- But some errors may still occur
- Provide clear resolution in as few steps as possible

Error handling - Example

WUFOO

II. User Registration

1. Enter Your Email Address

Invalid email address

2. Choose a Password Verify Password

Password is required

3. Pick your Wufoo Name / URL

Username can only contain letters and numbers.
http://username.wufoo.com

Keep me updated about Infinity Box projects.
 I agree to Wufoo's [Terms of Service](#).

Please accept Wufoo's [Terms of Service](#).

Create Account Cancel

[Wufoo](#) - Infinity Box Inc. - Tampa, FL
[About](#) • [Blog](#) • [Forums](#) • [Terms](#) • [Privacy](#) • [Support](#) • [Contact](#)

Error handling: Best practice

- Clearly communicate an error has occurred: top placement, visual contrast
- Provide actionable remedies to correct errors
- Associate responsible fields with primary error message
- “Double” the visual language where errors have occurred

Progress

- Sometimes actions require some time to process
 - Form submission
 - Data calculations
 - Uploads
- Provide feedback when an action is in progress

Progress - Example

A screenshot of a web-based file upload interface. At the top, there is a text input field labeled "Attach a file (each file should be under 10MB)". Below it is a "Choose File" button with a small thumbnail icon and the path "ap_beyond...rames.pdf". A red arrow points from the left towards this area. To the right of the button, the text "Attaching files ..." is displayed. Below this section, there is a link "Associate this message with a milestone ...". The main body of the form contains a heading "Notify people of this message via email" followed by a list of names with checkboxes next to them. The names are grouped into sections: "All of IxDA Volunteers", "Jeff Howard", "Pedro Jorge Adler", "All of IxDA Board", "Carrie Ritch", "Josh Seiden", "Mauro Cavalletti", "Dan Saffer", "Lada Gorlenko", "micah alpern", "David Malouf", "Lisa deBettencourt", "Pabini Gabriel-Petit", "Frank Ramirez", "Luke W", "Robert Reimann", and "Greg Petroff". A decorative blue and white striped bar is at the bottom.

Attach a file (each file should be under 10MB)

Choose File ap_beyond...rames.pdf

Attaching files ...

Associate this message with a milestone ...

Notify people of this message via email

All of IxDA Volunteers

Jeff Howard Pedro Jorge Adler

All of IxDA Board

Carrie Ritch Josh Seiden Mauro Cavalletti

Dan Saffer Lada Gorlenko micah alpern

David Malouf Lisa deBettencourt Pabini Gabriel-Petit

Frank Ramirez Luke W Robert Reimann

Greg Petroff

Progress: Best practice

- Provide indication of tasks in progress
- Disable “submit” button after user clicks it to avoid duplicate submissions

Successful completion

- After successful form completion confirm data input in context
 - On updated page
 - On revised form
- Provide feedback via
 - Message (removable)
 - Animated Indicator

Successful completion - Example

The screenshot shows the AlertLogic Invision Security dashboard. A modal window titled "Edit Incidents" is open in the center, displaying a success message: "Changes Saved." with a checkmark icon. The background dashboard features several modules:

- Incidents**: A table showing 23 misc-activity, 45 preprocessor, 67 shellcode-detect, 89 trojan-activity, and 12 misc-attack incidents.
- Exposures**: A table showing exposure counts for various IP ranges.
- Exposed Hosts**: A table showing exposed hosts with their respective exposure counts.
- Attacked Hosts**: A table showing attacked hosts with their respective event counts.
- Incident Severity**: A pie chart showing the distribution of incident severity.
- Did you Know?**: A note about repositioning modules.
- Options**: Layout and module selection.

Successful completion: Best Practice

- Clearly communicate a data submission has been successful
- Provide feedback in context of data submitted