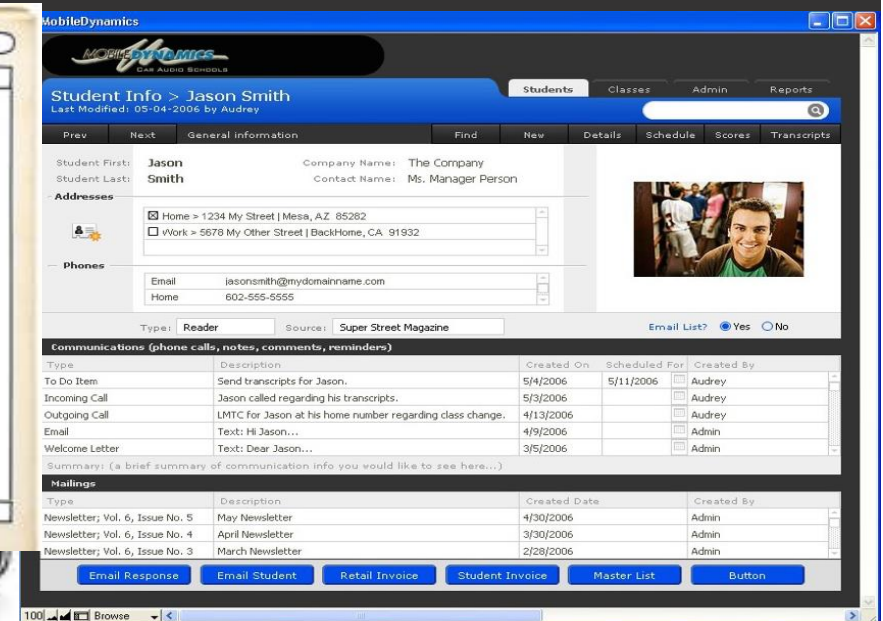
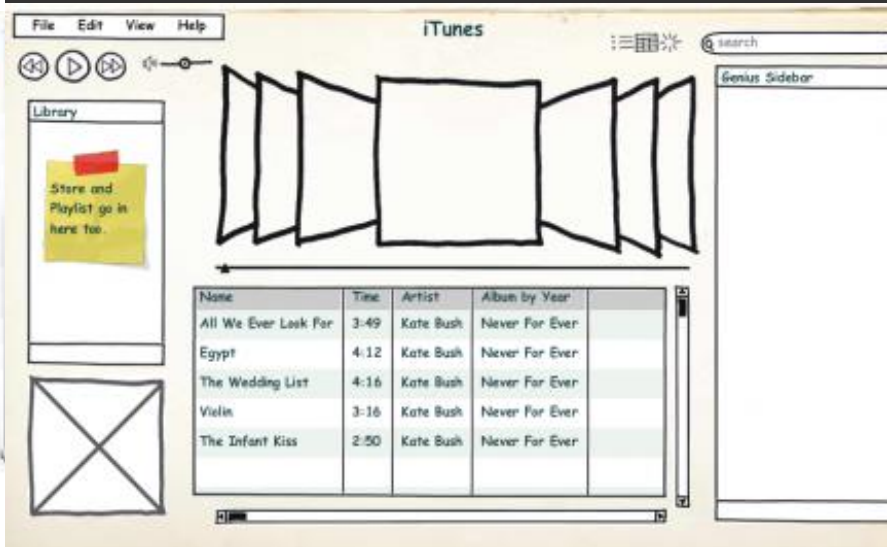




FIT2001 – Systems Development

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

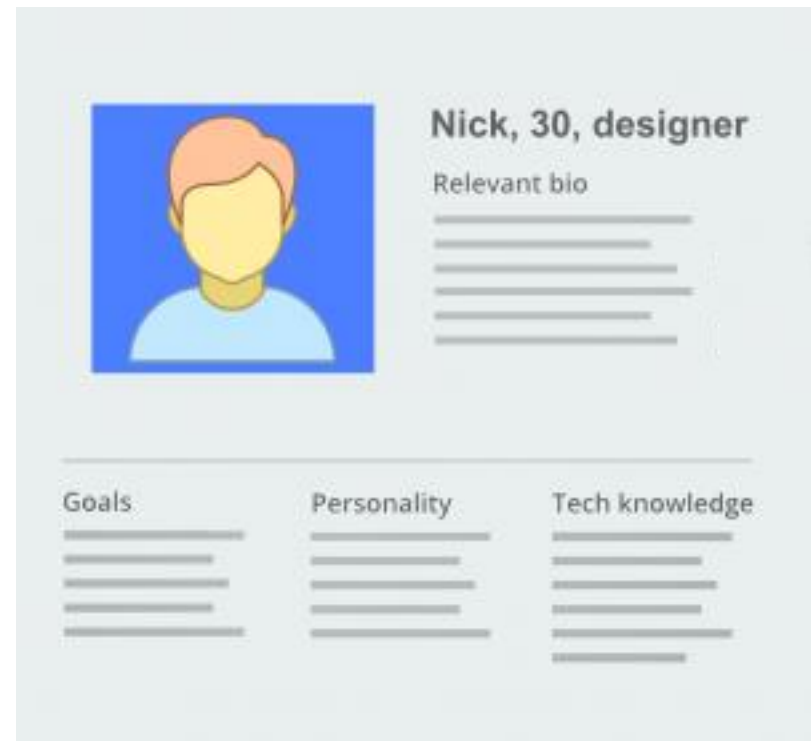
Use a User-centred design approach

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



“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



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



Frustrations



Too much time spent on booking.



Always need to search for favourite hotels.



Planning the proper timeline for the total journey.

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

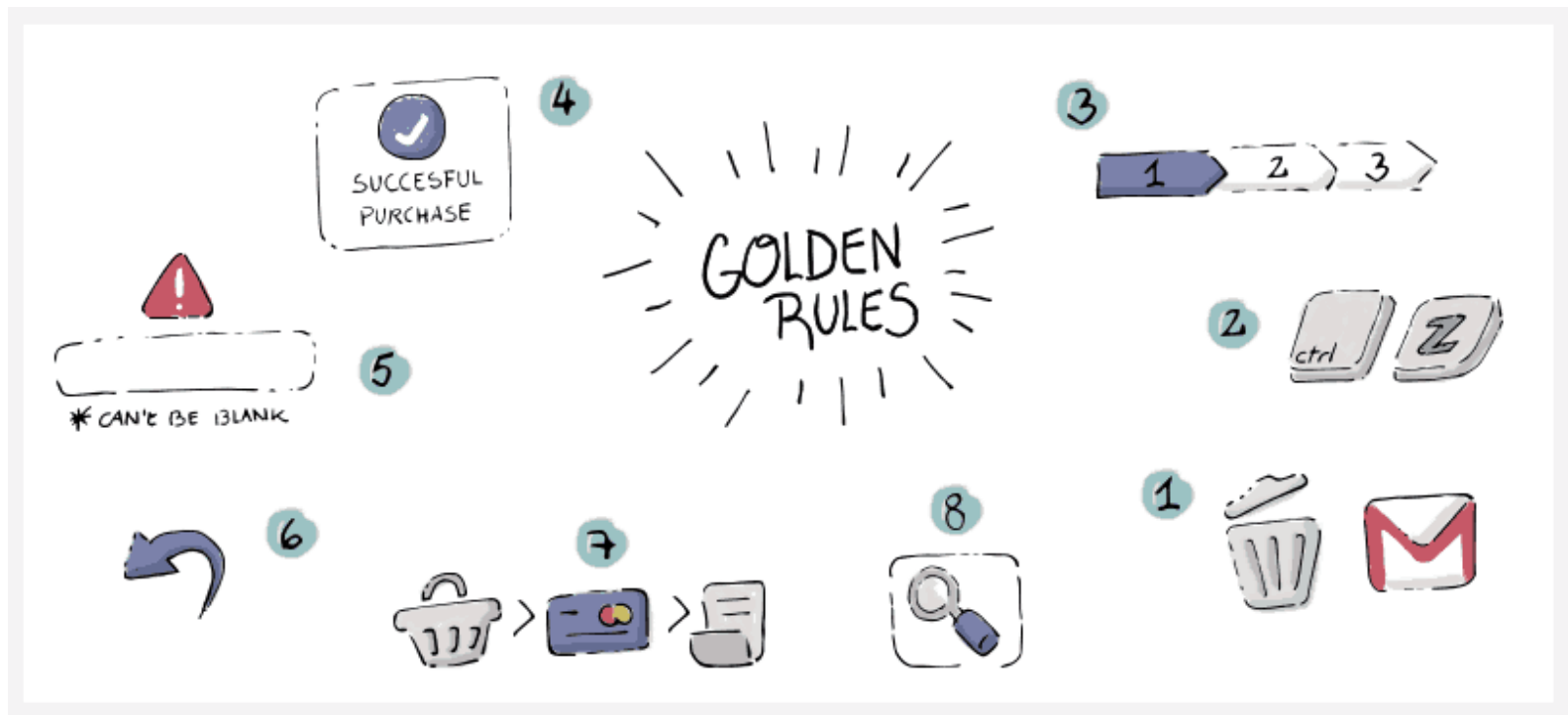
- The team does not understand what Personas are or their purpose

The personas are flawed

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

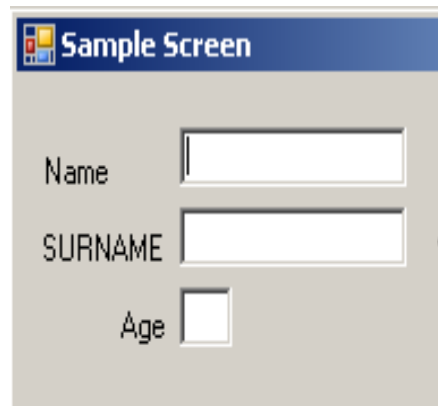
Ben Shneiderman's 8 Golden Rules

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



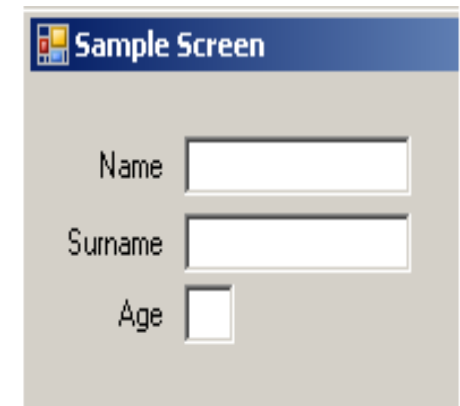
Sample Screen

Name

SURNAME

Age

This screenshot shows a form titled 'Sample Screen' with three input fields. The labels are 'Name', 'SURNAME', and 'Age'. The labels 'Name' and 'Age' are in title case, while 'SURNAME' is in all caps. There is a small dot to the right of the SURNAME field.



Sample Screen

Name

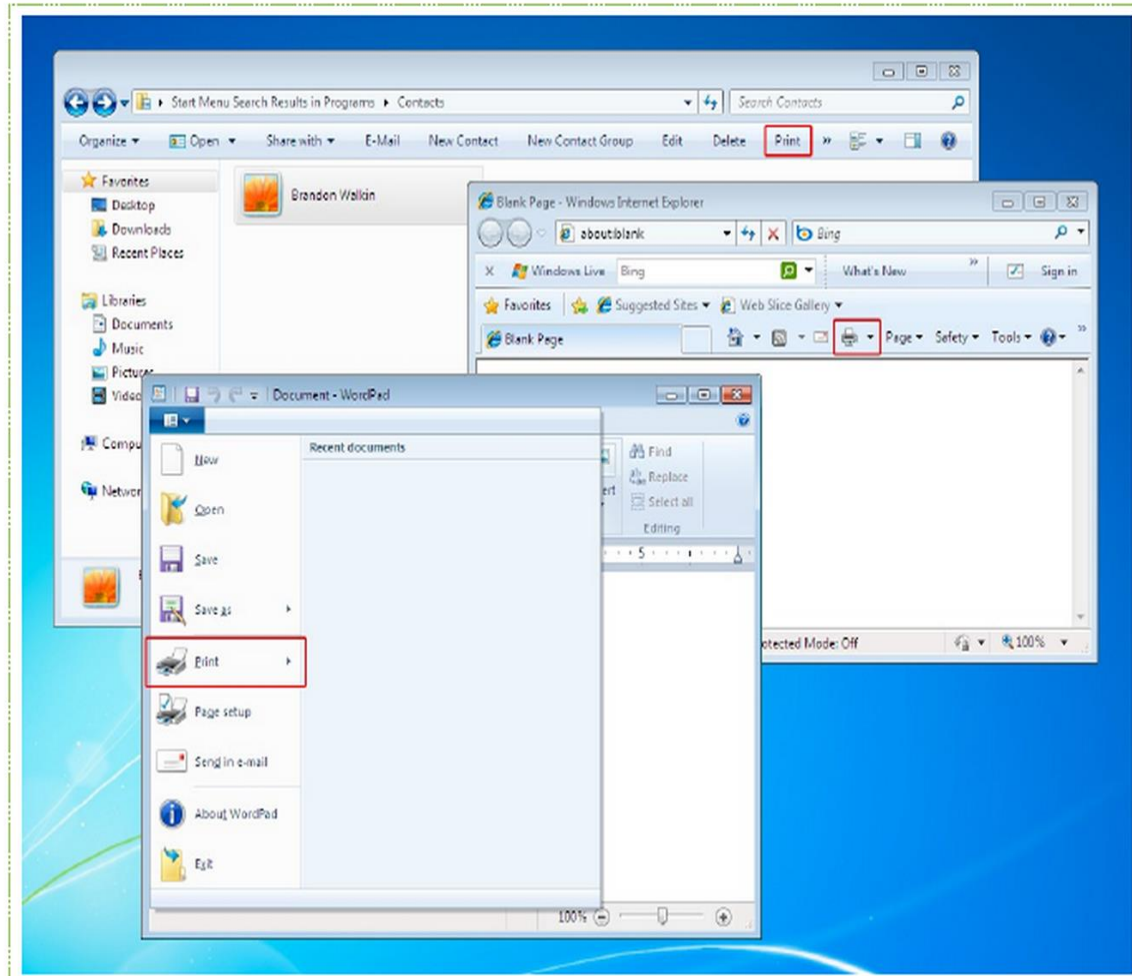
Surname

Age

This screenshot shows a form titled 'Sample Screen' with three input fields. The labels are 'Name', 'Surname', and 'Age', all in title case. The layout is identical to the first screenshot, but the label 'SURNAME' has been changed to 'Surname' for consistency.

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

Inconsistent examples

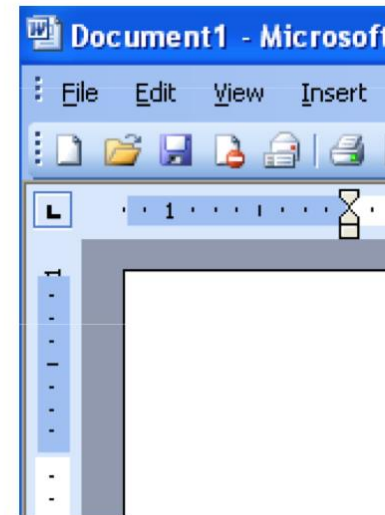
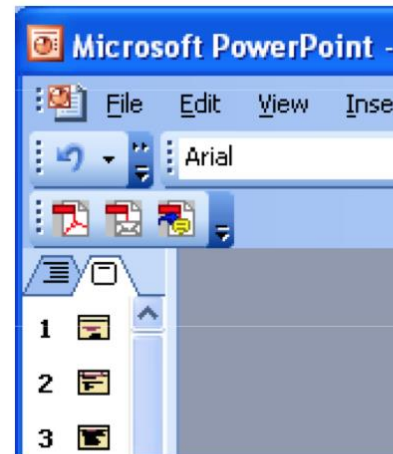
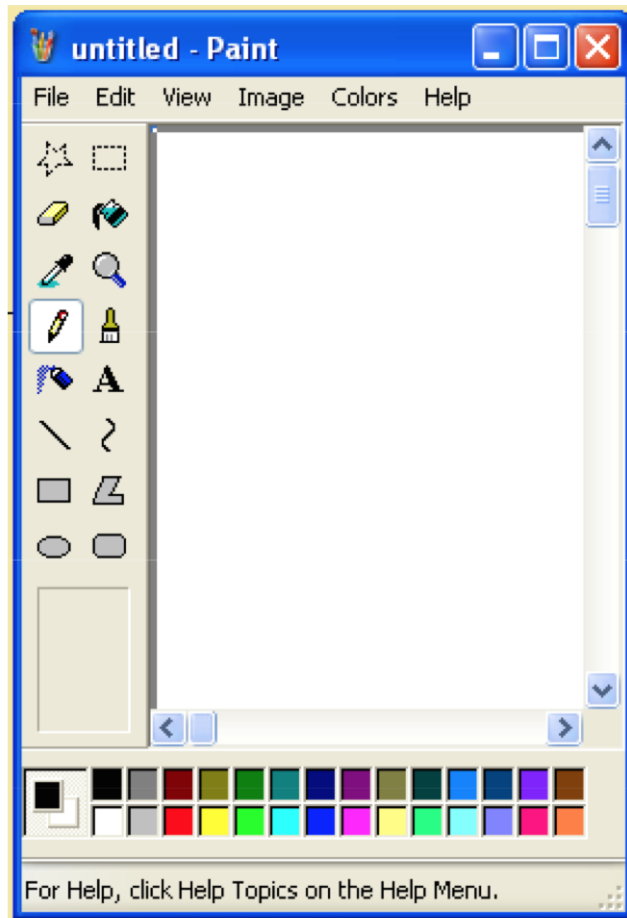


7

Inconsistent examples



Consistency example - Windows

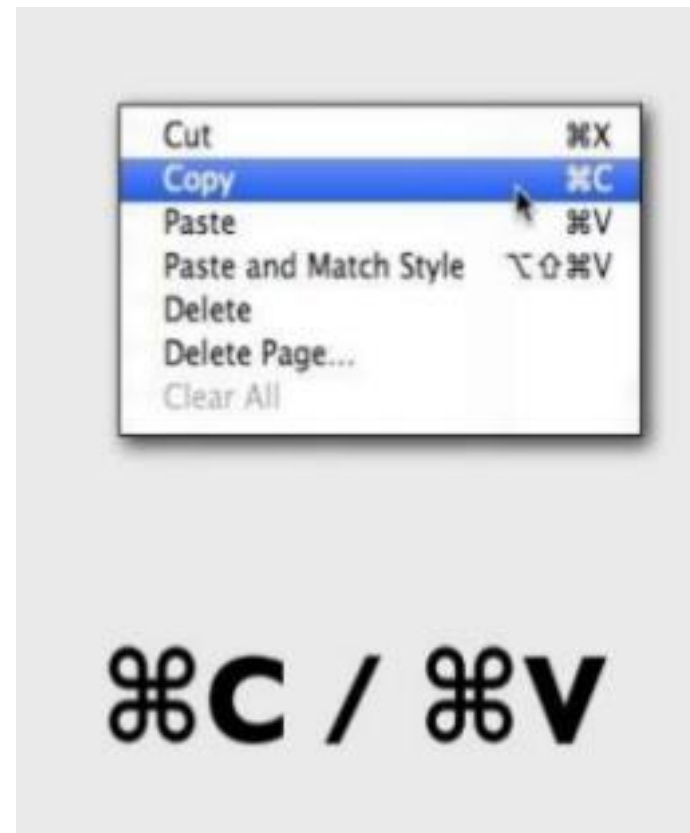
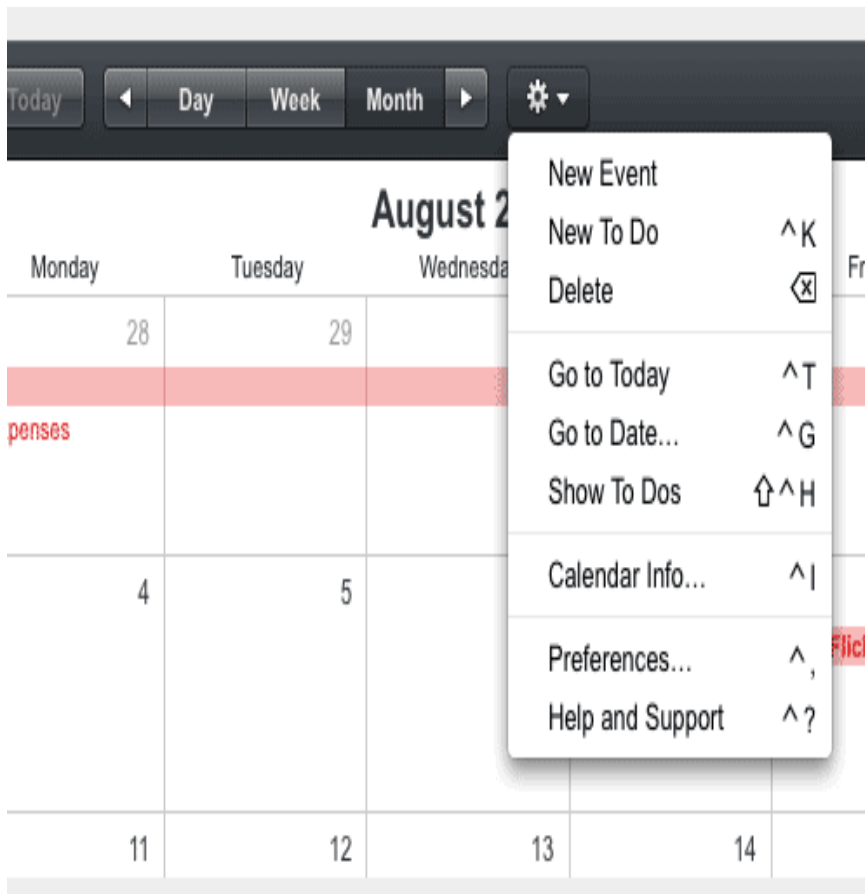


Windows consistent menus – File, Edit, View

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

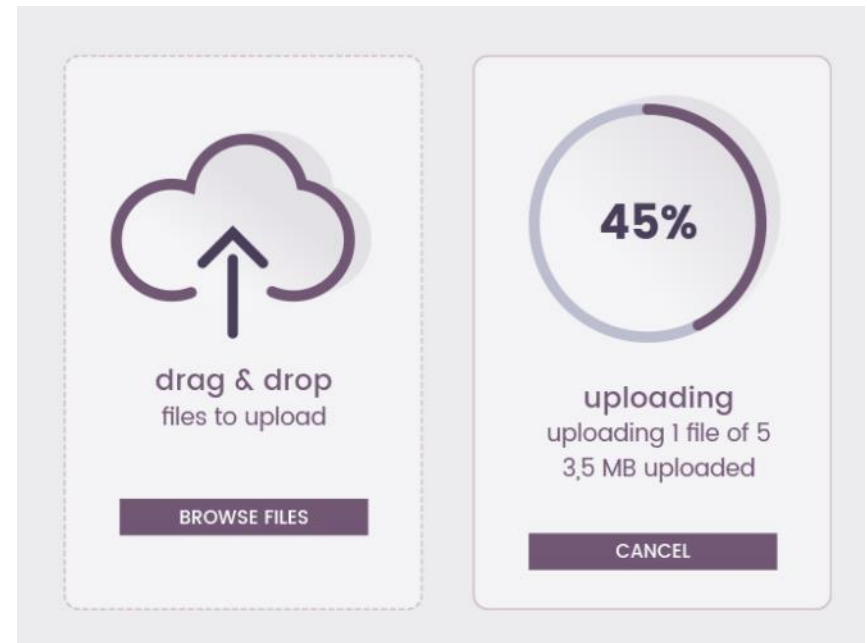
2. Cater for diverse users

Eg. Offer experienced, frequent users shortcuts

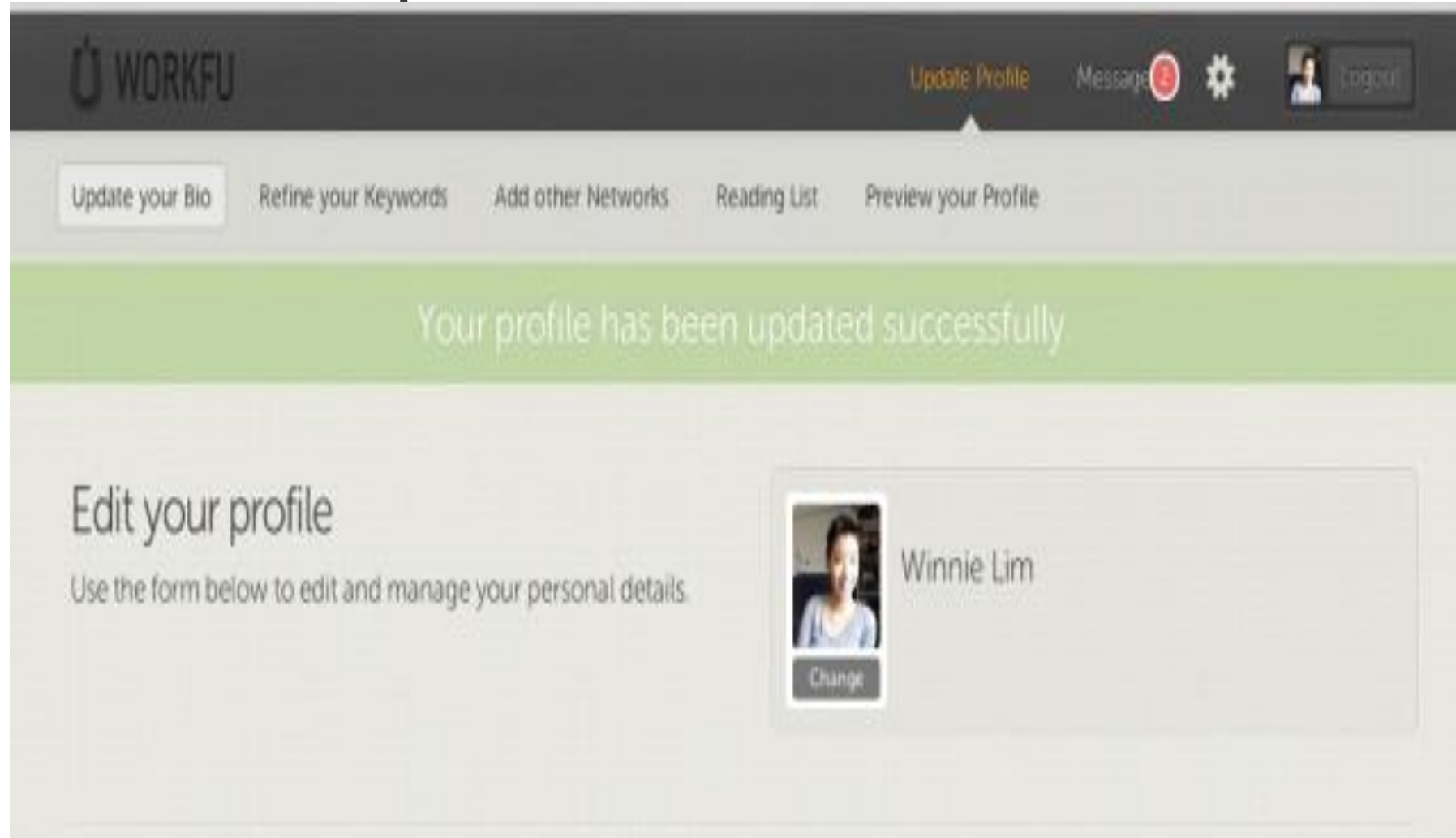


3. Offer informative feedback

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



Feedback examples



Feedback examples

Password

••••••

Weak

Password

••••••••|

Good

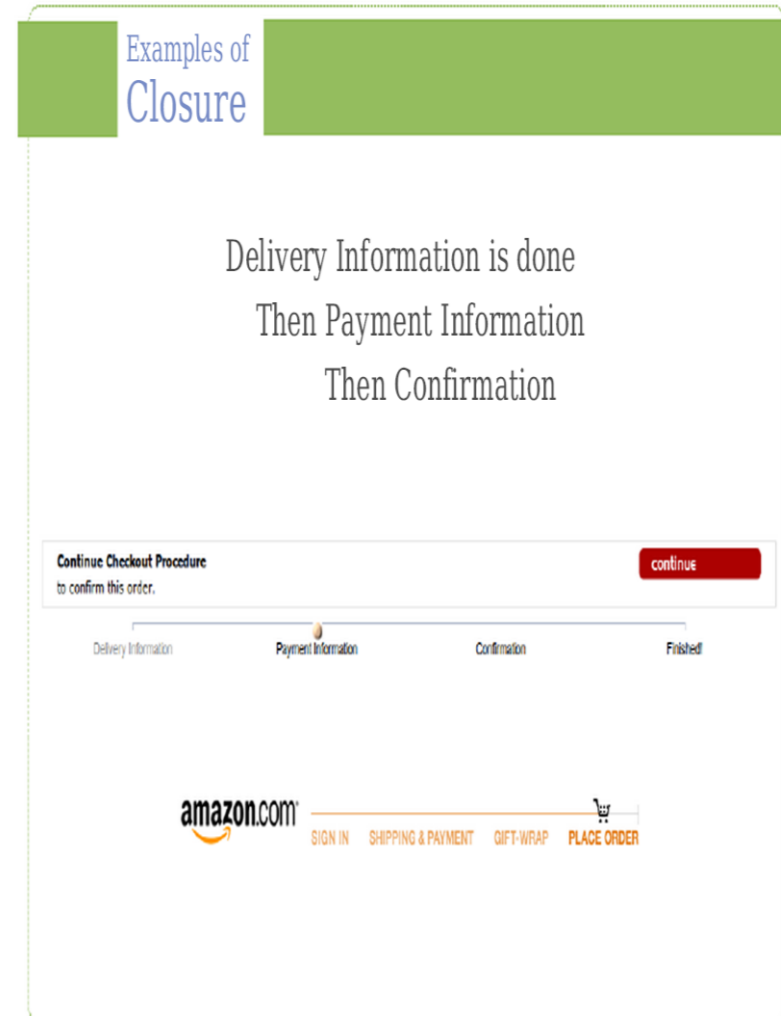
Password

••••••••••|

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



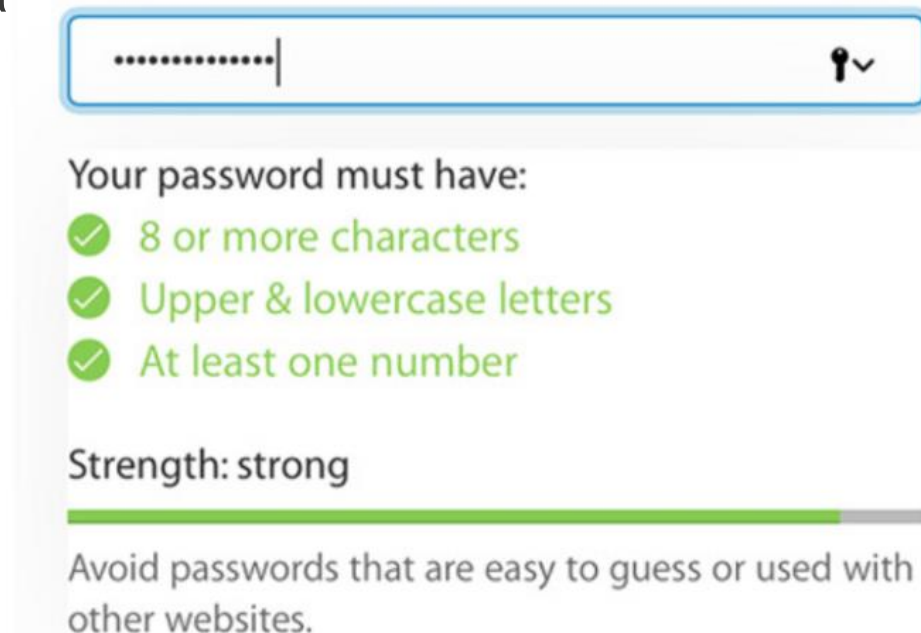
5. Prevent errors

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



.....| 🔑

Your password must have:

- ✓ 8 or more characters
- ✓ Upper & lowercase letters
- ✓ At least one number

Strength: strong

Avoid passwords that are easy to guess or used with other websites.

Error 404

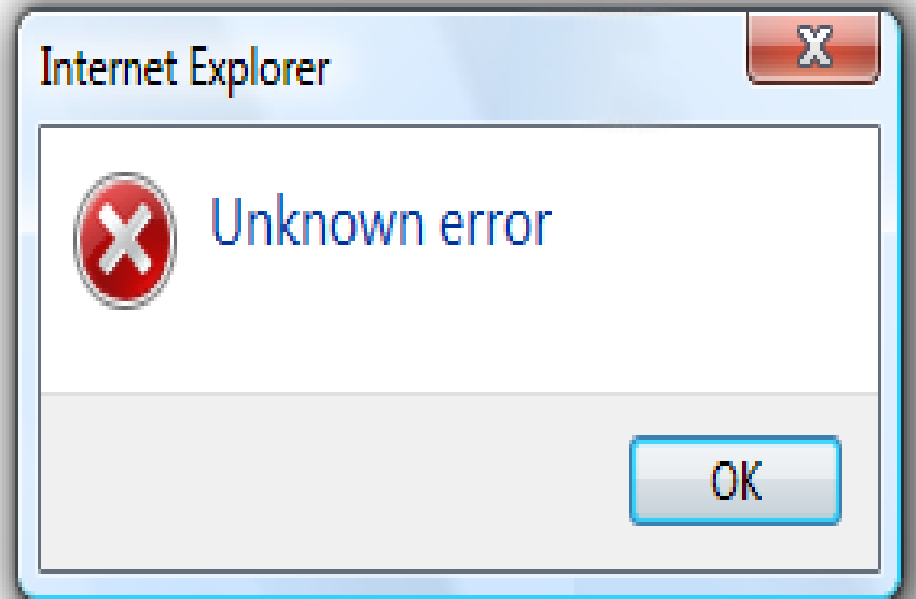
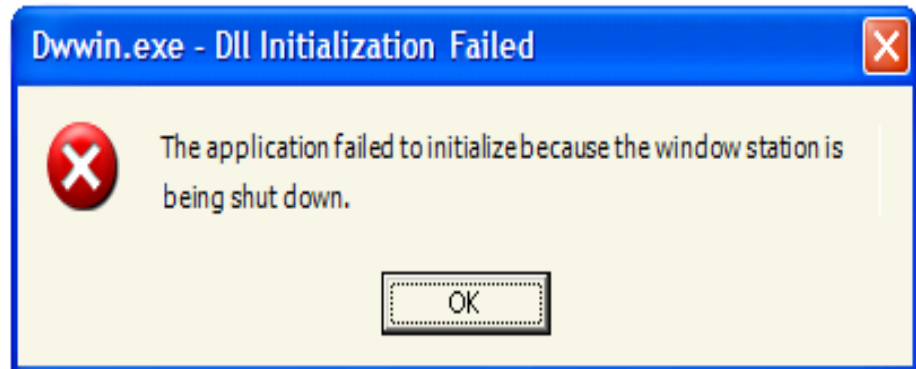
http://www.ted.com/talks/renny_gleeson_404_the_story_of_a_page_not_found

“Little things done right matter

... Well designed moments build brands”

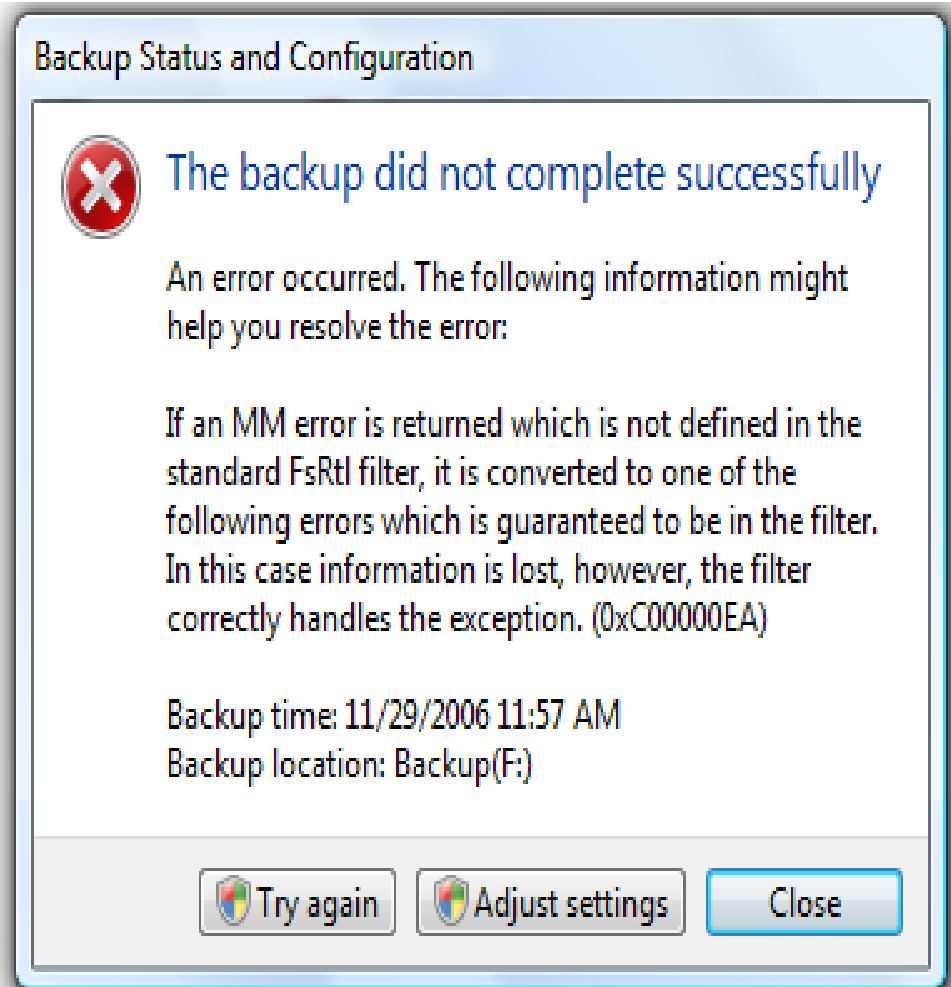
Characteristics of poor error messages

- **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

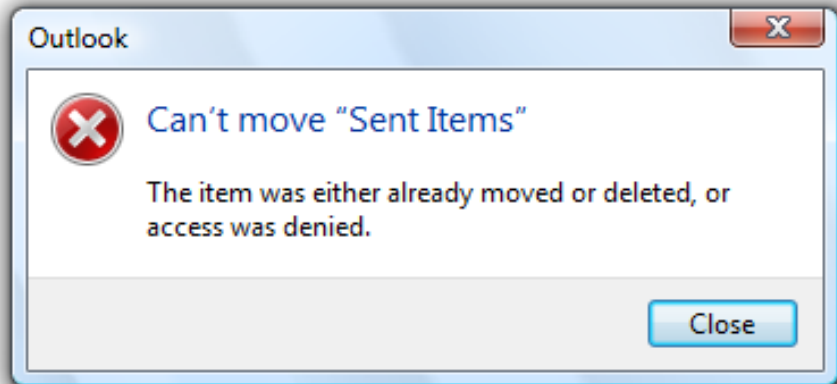
- **Incomprehensible error messages**



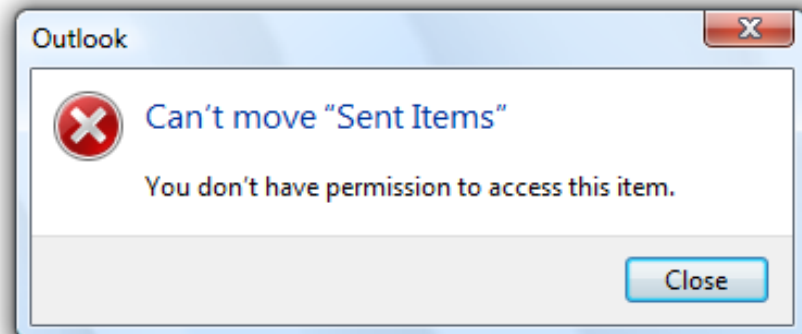
Characteristics of poor error messages

- Irrelevant issues in problem statement

Incorrect error message



Correct error message



A better way:

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

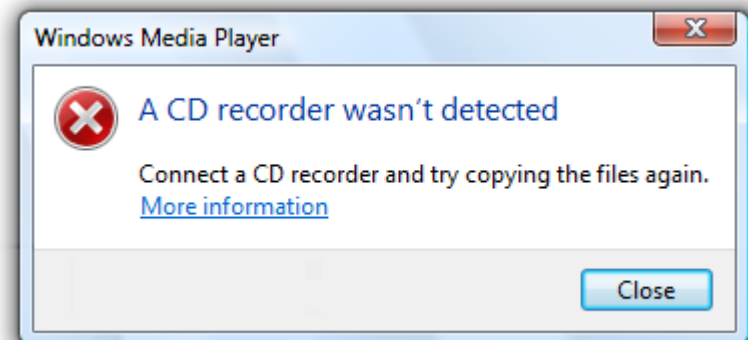
A better way:

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

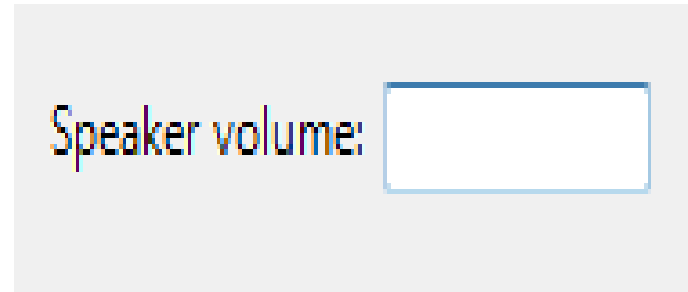


User input errors

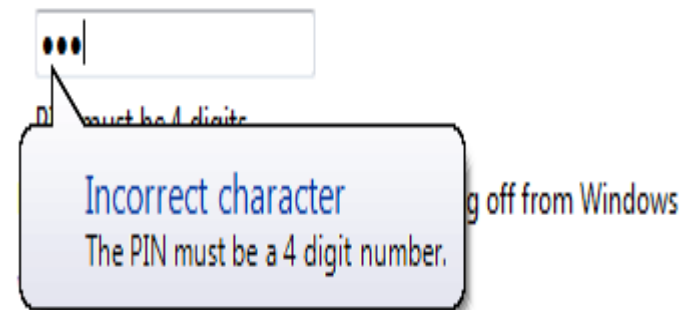
- **Whenever possible, prevent or reduce user input errors by:**
 - Using controls that are constrained to valid values
 - Providing good format examples

- **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

 Please type your e-mail address in the format yourname@example.com.

 Windows Live ID:
(example555@hotmail.com)

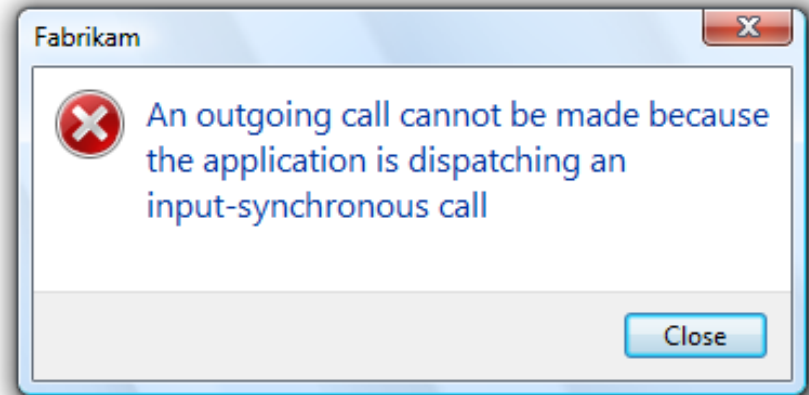
 Please type your password.

Password:

[Forgot your password?](#)

The use of sound and text in error messages

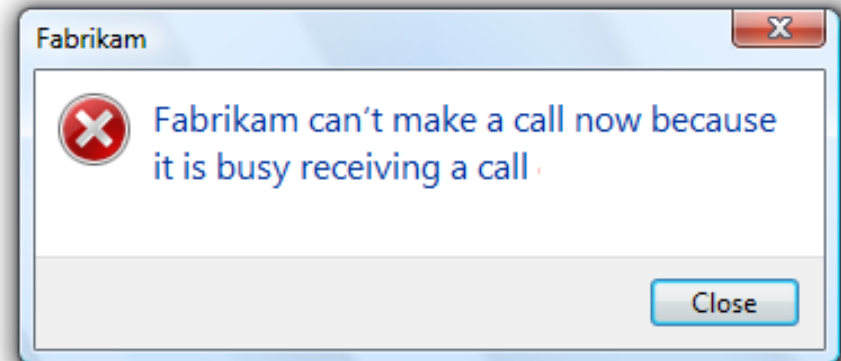
Incorrect error message



- **Sound**

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

Correct error message



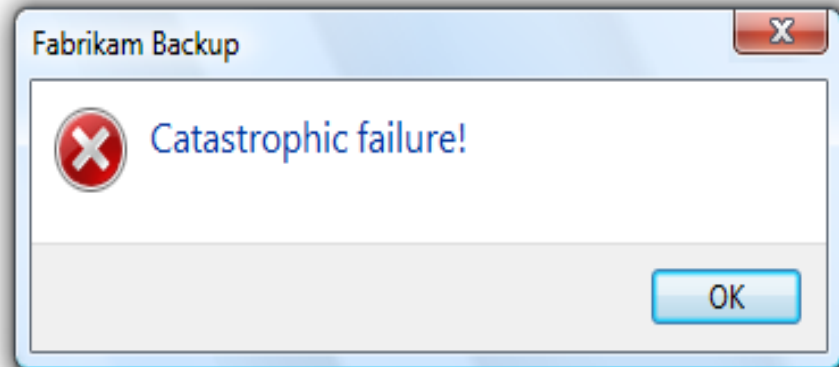
- **Text**

- Remove any redundant text
- Avoid technical jargon

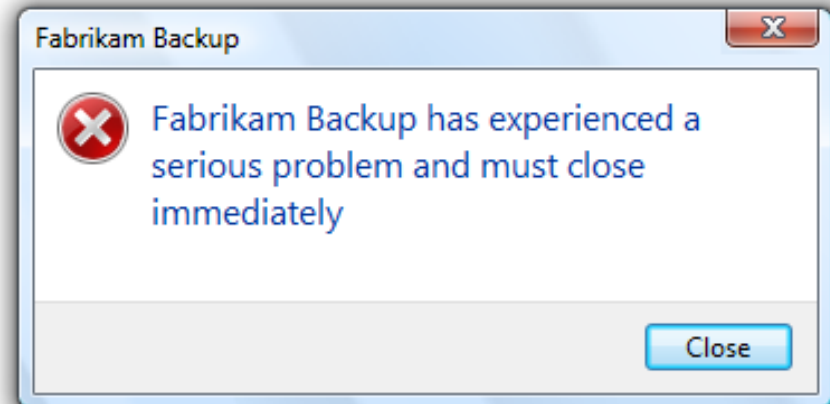
The use of text in error messages

- 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



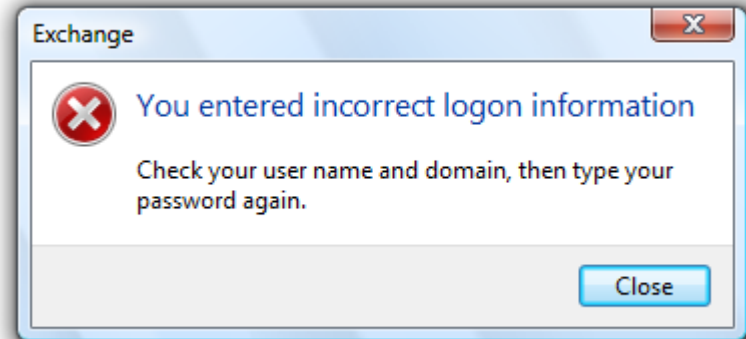
Example: More appropriate error message



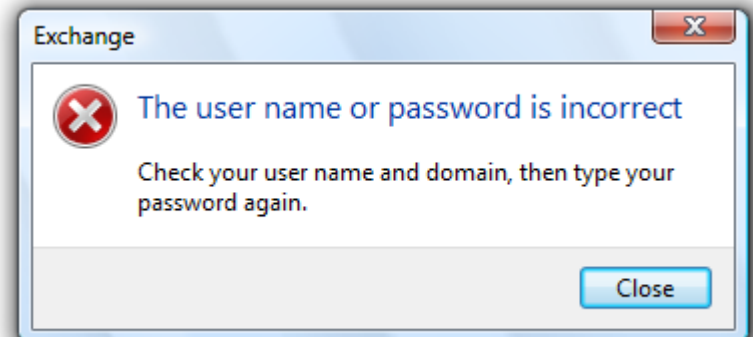
The use of text in error messages

- 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



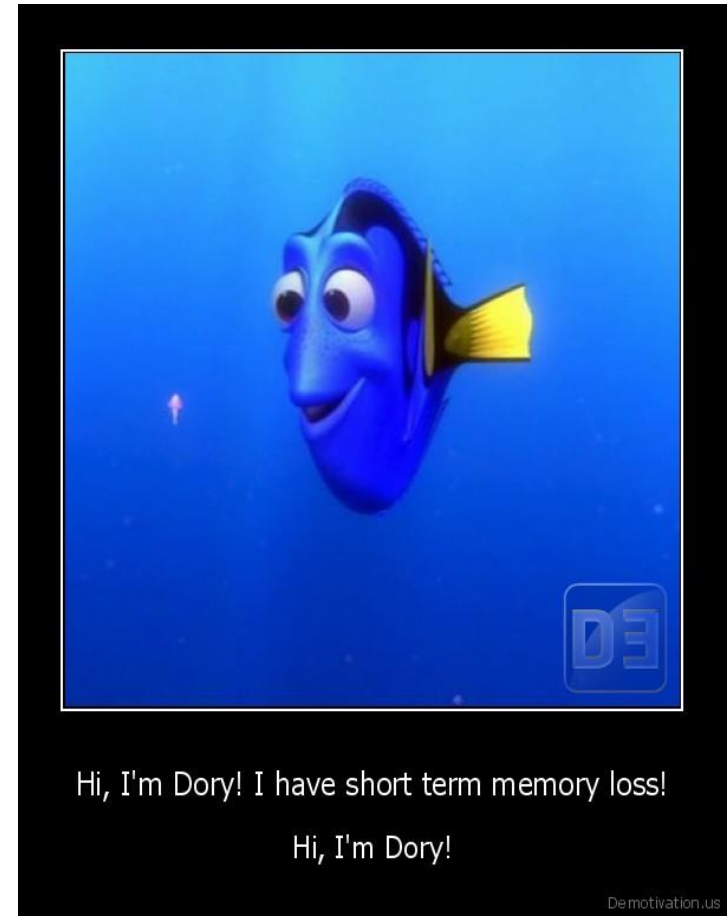
Example: Appropriate error message



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



Short-term memory: Implications for UI design

- Highlights where you are and shows sequence of actions

————— cart >> checkout >> receipt —————

safe easy fast

Cancel and Continue Shopping

step 1: your email

Email*

Please enter your email address.

☒ Checkout as a Guest

☐ Create or use an Account

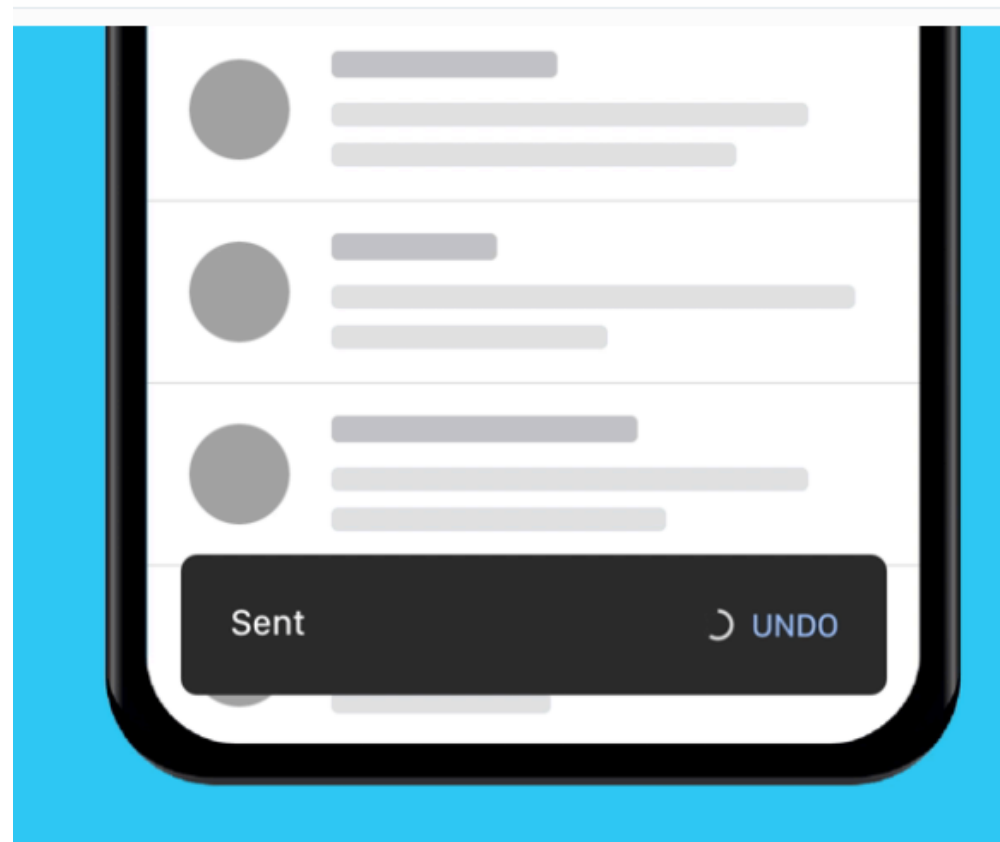
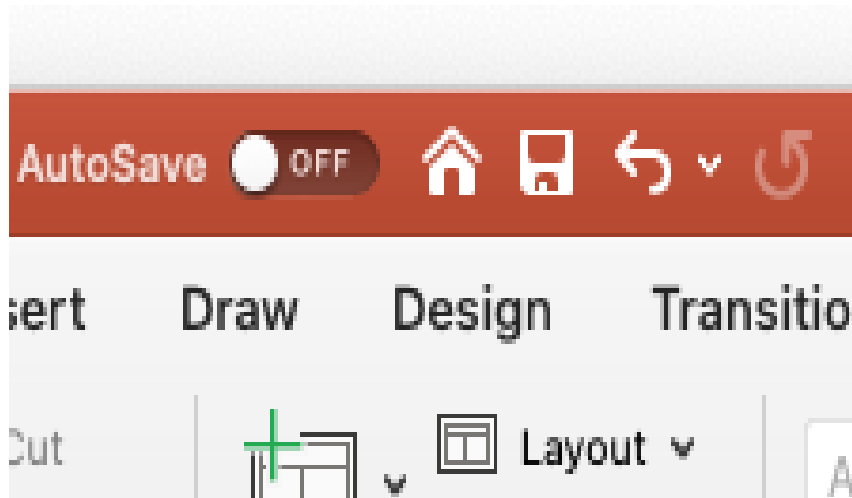
item	quantity	price
 AKG Q460 Quincy Jones -Black Code: 002-012-0460 Weight: 1.3 LBS	1	\$109.00
Subtotal:		\$109.00
Shipping & Handling:		TBD
Order Total:		\$109.00

amazon.com

SIGN IN SHIPPING & PAYMENT GIFT-WRAP PLACE ORDER

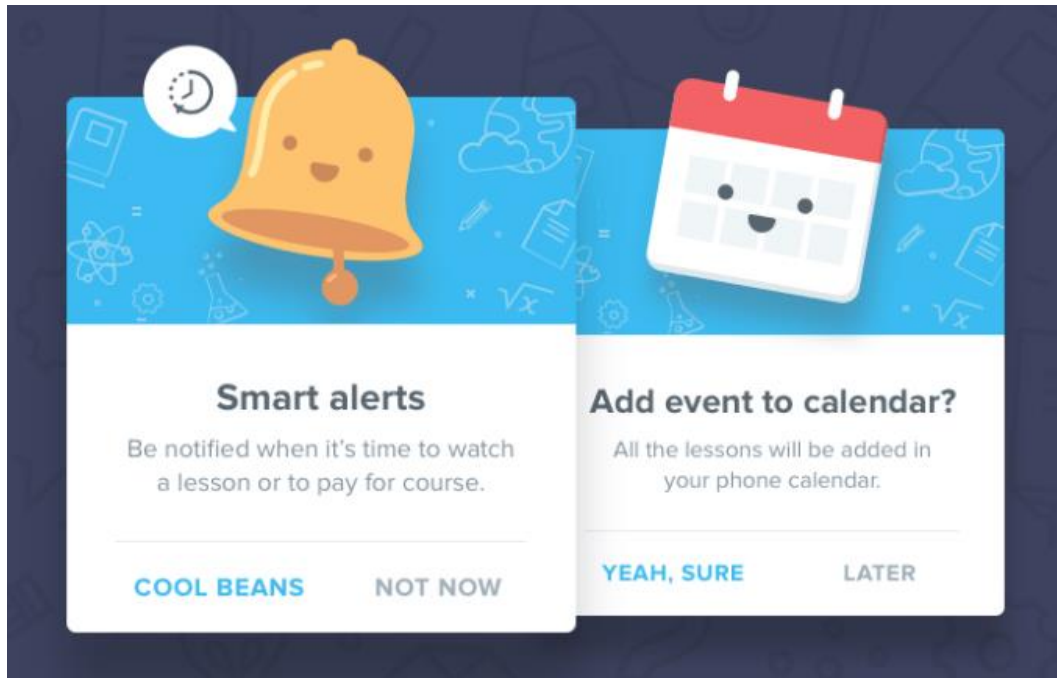
6. Permit easy reversal of actions

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

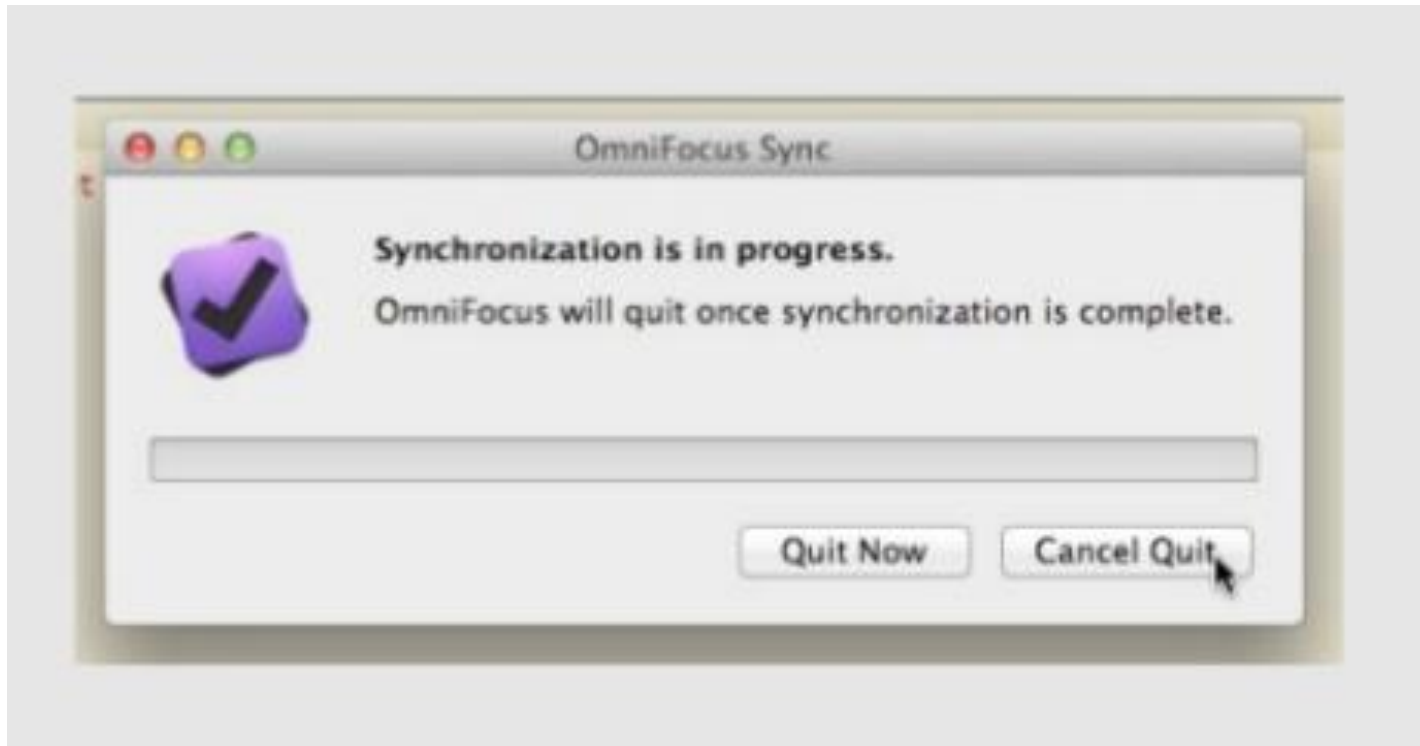


8. Support internal locus of control

- Experienced users want to be in charge while interacting with the system
- They do not like:
 - Tedious 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

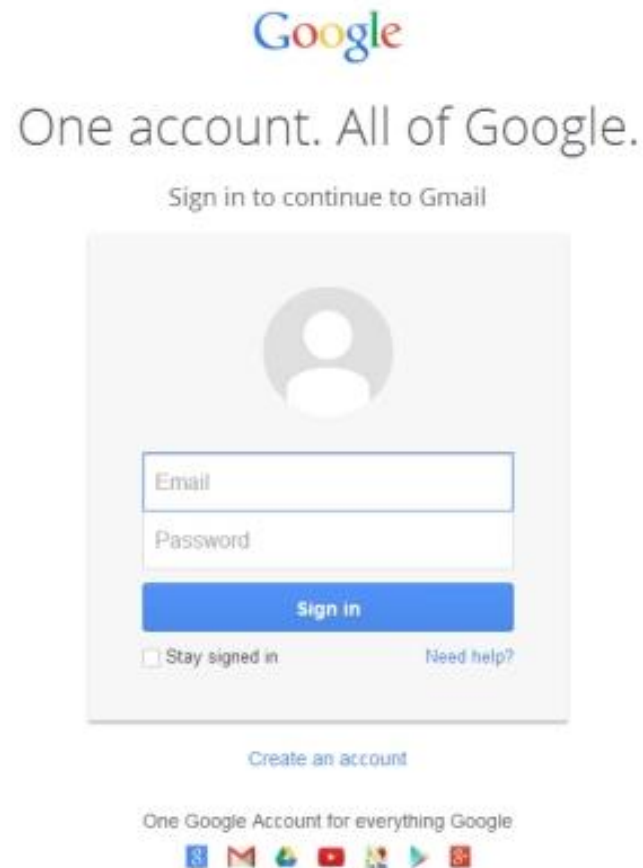
- MacIntosh's bin icon to delete files
- Form fill-ins (paper-based forms as a metaphor)
- Digital camera software (photo album as a metaphor)
- Tabs in a GUI (physical filing system as a metaphor)
- To-do list
- Calendar
- Shopping cart metaphor for e-commerce applications

Aesthetics and Minimalist design - Bad

The screenshot displays the LINGSCARS.com website, which is criticized for its lack of minimalist design. The page is heavily cluttered with a vibrant, multi-colored paisley border on the left and right sides. The main content area is divided into several sections:

- Top Header:** Features the site logo "LINGSCARS.com" with a traffic light icon and a Union Jack, along with the tagline "Leader of the Pack - The UK's favorite car leasing website!".
- Left Sidebar:** Contains a "Menu" with links to Home, Cars, Vans, Customers, About Ling, Fun stuff, and Live staff. Below this is a "CARS A-Z" section with a green arrow pointing down to a list of car models: ABARTH (595 Convertible, 695 Convertible) and ALFA ROMEO (Giulia Saloon, Giulietta, Stelvio Estate).
- Central Content Area:** Dominated by a large video player showing a person on a motorcycle. Below the video is a quote from "the guardian" dated February 2017, stating: "Leader of the Pack '[Ling Valentine is] Britain's BIGGEST individual seller of new cars.'" It also mentions "BREXIT RISK FREE".
- Right Sidebar:** Lists "2 DELIVERIES TODAY" and "13 DELIVERIES IN LAST WEEK" with various car models and locations, such as Ford Puma, Hyundai Santa Fe, Nissan Qashqai, BMW 2 Series Coupe, Seat Leon 2020, Vauxhall Corsa, Seat Arona, Hyundai Kona, VW Golf Mk7, and Land Rover RR Evoque.
- Bottom Section:** Promotes "MY BEST SELLING CAR LEASING DEALS!" with images of a Toyota Aygo, Fiat 500, and Citroen C3 2020, each with its specifications and a "RENT NEW" button. It also includes a "Car Leasing Online Service Response Times" section showing a timer at 0:02:13 and a "77 CUSTOMERS IN 'PROPOSEAL'" section.

Aesthetics and Minimalist design - Good



Guidelines for designing UI

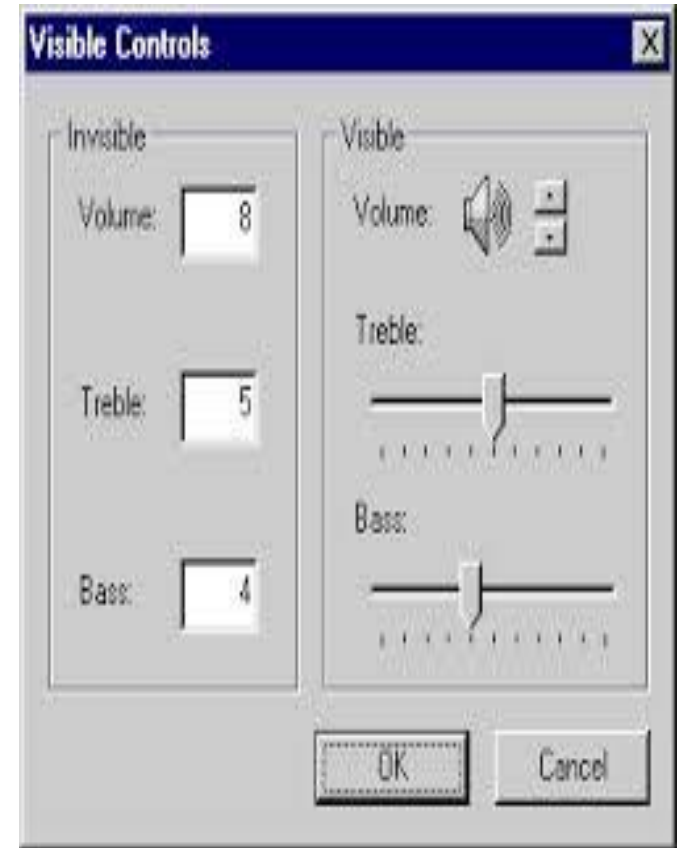
Donald Norman advises designing UI based on: Affordance and Visibility

■ Affordance

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

■ Visibility

- The user should 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/>



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

- 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

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

Even Longer Label

One More Label
☒ Value 1
☐ Value 2

Primary Action

Advantage:
Adjacent Label and corresponding Input field

Advantage:
Rapid Processing

Disadvantage:
Increased vertical space

Label

Longer Label

Even Longer Label

One More Label
☒ Value 1
☐ Value 2

Primary Action

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

The diagram illustrates the benefits and drawbacks of right-aligned labels. It shows two versions of a form layout. The top version is a clean representation of the form. The bottom version is annotated with green and red text and arrows. A green arrow points from the text 'Advantage: Adjacent Label and corresponding Input field' to the space between the label 'Label' and its input field. Another green arrow points from the text 'Advantage: Reduced vertical space' to the vertical alignment of the labels and input fields. A red arrow points from the text 'Disadvantage: Reduced readability' to the labels, indicating that the lack of a left margin makes it harder to scan the labels.

Label

Longer Label

Even Longer Label

One More Label ☒ Value 1 ☐ Value 2

Primary Action

Disadvantage:
Reduced readability

Advantage:
Adjacent Label and corresponding Input field

Label

Longer Label

Even Longer Label

One More Label ☒ Value 1 ☐ Value 2

Primary Action

Advantage:
Reduced vertical space

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:

Longer Label:

Even Longer Label:

One More Label: ☒ Value 1 ☐ Value 2

Primary Action

Disadvantage:
Adjacency of Label and corresponding Input field

Advantage:
Easy to scan labels

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

Even Longer Label

One More Label

☒ Value 1

☐ Value 2

Primary Action

[Secondary Action](#)

Label

Long Label (optional)

Longer Label

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.

Phone Number 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 6 characters, including a number or special character. Example: eXpr1\$\$

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.

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" value="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" value="Select Value"/>
Even Longer Label:	<input type="text"/>

Primary Action

4. Practical Interface Design Tips

Bad
example –
too much
visual
noise

The screenshot shows the Office Depot International Website checkout page. The page is highly cluttered with numerous links, banners, and form fields. The top navigation bar includes links for Home, En Español, Tech Depot, and Ask Depot. Below this, there are more links for Office Supplies, Furniture, Technology, Business Center, Customer Service, and Compare Info. The page features a large 'Login' section with fields for User ID and Password, and a 'New Customer Checkout' section. The checkout process is divided into several steps: Billing Info, Shipping Info, Payment Info, and Shipping Cart. Each step contains multiple form fields and checkboxes, many of which are redundant or unnecessary. For example, the Billing Info section includes fields for Business Name, First Name, Middle Initial, Last Name, Address, City, State/Province, Zip/Postal Code, Country, Phone, Fax, and Billing Email. The Shipping Info section includes fields for Business Name, First Name, Middle Initial, Last Name, Address, City, State/Province, Zip/Postal Code, Country, Phone, and Shipping Email. The Payment Info section includes fields for Payment Type, Credit Card Type, Credit Card Number, Expiration Date, and Card ID. The Shipping Cart section includes a table with columns for Item Number, Unit Price, Unit Price (incl. tax), Quantity, Stock Ordered, Extended Price, and Taxable. The page also features a 'Place Order' button and a 'Click to select your order' link. The overall design is visually noisy and lacks a clear, streamlined checkout process.

Office DEPOT International Website

Log in: Username Password [Register](#) [Forgot My Info](#)

Shopping 45114 [Change It](#)

[Home](#) [En Español](#) [Tech Depot](#) [Ask Depot](#)

[1-800-501-DEPOT](#) [Office Supplies](#) [Furniture](#) [Technology](#) [Business Center](#) [Customer Service](#) [Compare Info](#)

Do you stop with us by phone, fax, or already have a tax exempt account?

Do you want to apply for a tax exempt account?

Would you like to sign up for a Government account?

Login
Please login if you are a returning customer or fill in information below.

User ID: Password:

New Customer Checkout

Billing Info
Address should match that of the credit card.

Business Name:

First Name:

Middle Initial:

Last Name:

Address:
(Street, Number, Name)

City:

State/Province:

Zip/Postal Code:

Country: USA

Phone: Ext.

Fax: Ext.

Billing Email:

☐ Please send my emails in HTML format.

☐ Yes, please send me exclusive discounts and special offers available only to Office Depot's email customers.

Shipping Info

☐ Same as billing.

Add you can pick up at:

Business Name:

First Name:

Middle Initial:

Last Name:

Address:
(Street, Number, Name)

City:

State/Province:

Zip/Postal Code:

Country: USA

Phone: Ext.

Shipping Email:

☐ Please send my emails in HTML format.

☐ Yes, please send me exclusive discounts and special offers available only to Office Depot's email customers.

Optional Info
Send a message for the driver or information for your own reference.

Customer PCW: Customer use only.

Office DEPOT ADVANTAGE Member Number

Payment Info

Payment Type:

Credit Card Type: (Please select your card type)

Credit Card Number:

Expiration Date: / (month/year)

Card ID: ☐ Required for American Express, Visa, MasterCard and Discover Card. [Check Us Out Now!](#)

Shipping Cart

To enter valid Referral ID/Coupon Code, please click here

Order #: 263653303-001 Delivery Date: 11/05/2004

Item Number	Unit Price	Unit Price (incl. tax)	Units	Quantity	Stock Ordered	Extended Price	Taxable
617902	\$2.50	\$2.99	000	<input type="text"/>	0	\$2.99	<input type="checkbox"/>

Office Depot® Map Tacks, Assorted Colors, Pack of 100

Subtotal: \$2.99
Delivery Charge: \$5.99
Coupon: \$0.00
Estimated Taxes: \$0.00
Total \$8.98

Click to select your order

Site Info **Other Depots** **Customer Service** **Compare Info** **Specials**

[Site Map](#) [International Depot](#) [Contact Us](#) [Affiliate Program](#) [Great Value](#)

[Terms of Use](#) [Tech Depot](#) [Product Info](#) [Career Opportunities](#) [Scribe Center](#)

[Privacy Policy](#) [Office Depot en Español](#) [Find a Store](#) [17941 ADVANTAGE](#) [Advised Specials](#)

[Customer Service](#) [Business Center](#) [Technology](#)

Good example

Other Costs (if they apply) ▶ Learn more

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 the home owner's association transfer documents?

☐ Buyer

☐ Seller

Horse Warranty

Do you want to order a horse warranty?

Who will pay for the horse warranty?

☐ Buyer

☐ Seller

How much horse warranty coverage?

Which horse warranty options do you want?

☐ Air conditioner ☐ Well

☐ Kettle ☐ Bath

☐ 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 the offer is signed by the seller and a copy of the offer is personally received 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

Actions - Examples

TYPICAL WEB FORM

Personal Information

First Name

Last Name

Contact Information

Address

City

Country
-- Select Country --

Post Code

Country
United Kingdom

Submit | [Cancel](#)

PRIMARY ACTION **SECONDARY ACTION**

A

Post Code

Country
United Kingdom

Submit | [Cancel](#)

B

Post Code

Country
United Kingdom

Submit **Cancel**

C

Post Code

Country
United Kingdom

Submit **Cancel**

D

Post Code

Country
United Kingdom

Submit **Cancel**

E

Post Code

Country
United Kingdom

Cancel **Submit**

F

Post Code

Country
United Kingdom

Submit **Cancel**

Actions – Heat tracking map

A

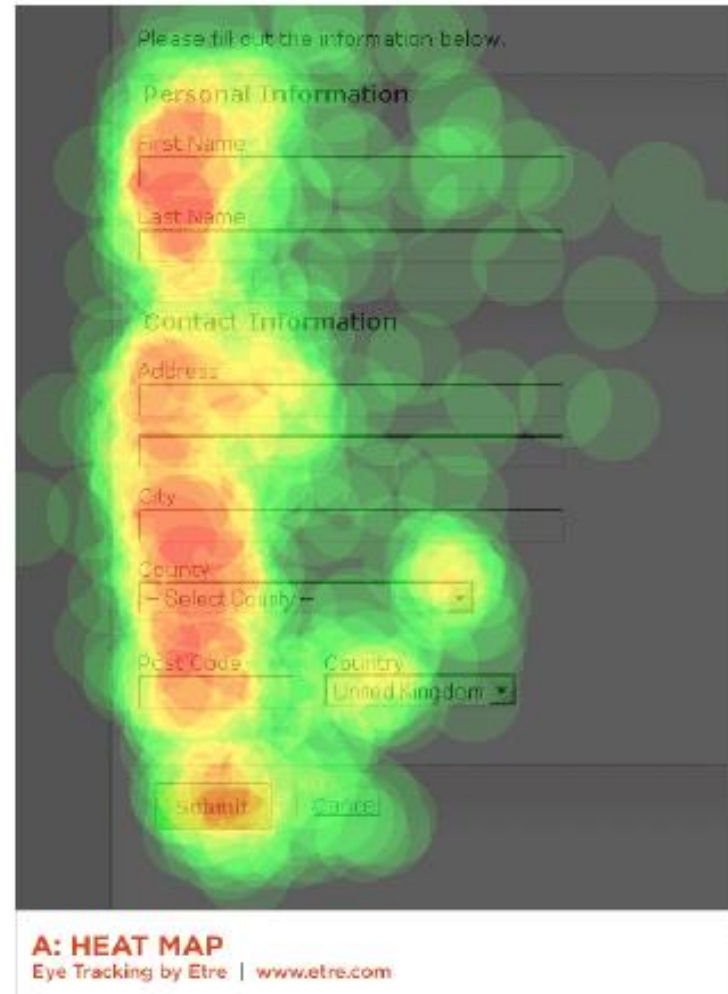
Post Code: Country:

B

Post Code: Country:

C

Post Code: Country:



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 screenshot displays the Wufoo User Registration form. The form is titled "II. User Registration" and is set against a light yellow background. The Wufoo logo is in the top left corner. The form contains three main 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. A text box on the right side of the form states: "You must supply a valid email address. We will never sell or disclose your email address to third parties." Below the form, there are two checkboxes: "Keep me updated about Infinity Box projects." and "I agree to Wufoo's [Terms of Service](#)." At the bottom of the form, there are two buttons: "Create Account" and "Cancel". The footer of the page includes the text "Wufoo · Infinity Box Inc. · Tampa, FL" and a list of links: "About · Blog · Forums · Terms · Privacy · Support · Contact". The Wufoo logo is also present in the bottom right corner.

Wufoo

II. User Registration

1. Enter Your Email Address

2. Choose a Password Verify Password

3. Pick your Wufoo Name / URL

<http://username.wufoo.com>

☐ Keep me updated about Infinity Box projects.

☐ I agree to Wufoo's [Terms of Service](#).

Wufoo · Infinity Box Inc. · Tampa, FL
About · Blog · Forums · Terms · Privacy · Support · Contact

Wufoo

Help – User activated inline exposure



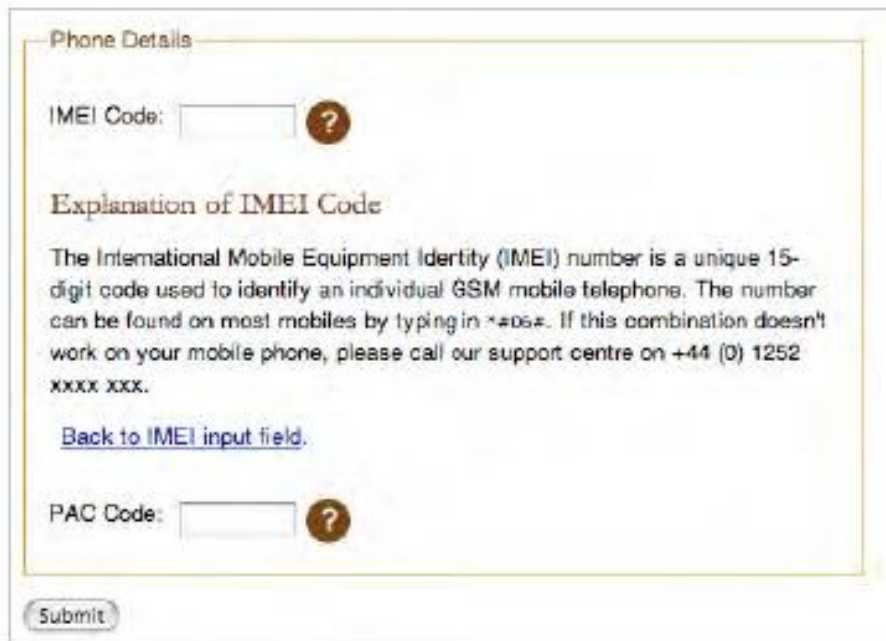
Phone Details

IMEI Code: ?

PAC Code: ?

Submit

This form illustrates a user interface where help is provided inline. It features two input fields, 'IMEI Code' and 'PAC Code', each followed by a small circular icon containing a question mark. A 'Submit' button is located at the bottom left of the form.



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 xxx.

[Back to IMEI input field.](#)

PAC Code: ?

Submit

This form illustrates a user interface where help is provided inline. It features two input fields, 'IMEI Code' and 'PAC Code', each followed by a small circular icon containing a question mark. The 'IMEI Code' field is expanded to show an 'Explanation of IMEI Code' section, which contains a paragraph of text and a link 'Back to IMEI input field.' A 'Submit' button is located at the bottom left of the form.

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 the PayPal 'Check Payment Details' page. A red arrow originates from the 'Pay To' field and points directly to the 'Send the \$37' button, illustrating a clear path to completion. The page layout includes a top navigation bar with links like 'Log Out' and 'Help', a secondary navigation bar with buttons for 'My Account', 'Send Money', 'Request Money', 'Merchant Tools', and 'Auction Tools', and a main content area with 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 radio buttons for 'Ship to' and 'No shipping address required'. The 'Send the \$37' button is highlighted in yellow, and the footer contains various links and copyright information.

PayPal[®] [Log Out](#) | [Help](#)

[My Account](#) [Send Money](#) [Request Money](#) [Merchant Tools](#) [Auction Tools](#)

Check Payment Details Secure Transaction

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


Standard delivery

[Add another shipping service](#)

Shipping Insurance

Not offered

View insurance [rate table](#).

Shipping & Handling
\$
Don't know what to charge? Try the  [Shipping Calculator](#). To offer free shipping, enter 0.00 above.

Sales Tax
I don't charge tax [Change](#)

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 web form for creating a password. It includes a 'Create Password' section with a text input field containing seven asterisks. Below the field is a validation message: 'Must be at least 6 characters, including a number or special character. Example: eXpr3\$\$'. To the right of the input field is a 'How secure is your password?' section featuring a progress bar that is approximately 75% full and a text prompt: 'Check your password strength - the higher, the better'. Below the 'Create Password' section is a 'Re-enter Password' section with an empty text input field.

Create Password

Must be at least 6 characters, including a number or special character. Example: eXpr3\$\$

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

The image shows a screenshot of the Wufoo User Registration form. The form is titled "II. User Registration" and is set against a light yellow background. The Wufoo logo is in the top left corner. The form contains three main sections, each with a red border and a red error message:

- 1. Enter Your Email Address:** A text input field with the error message "Invalid email address" below it.
- 2. Choose a Password / Verify Password:** Two text input fields. The first field has the error message "Password is required" below it.
- 3. Pick your Wufoo Name / URL:** A text input field with the error message "Username can only contain letters and numbers." below it, followed by the URL "http://username.wufoo.com".

Below these sections are two checkboxes:

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

Below the checkboxes is the error message "Please accept Wufoo's Terms of Service." At the bottom of the form are two buttons: "Create Account" (with a green icon) and "Cancel" (with a red X icon).

At the bottom of the page, the text "Wufoo - Infinity Box Inc. - Tampa, FL" is displayed, followed by a list of links: "About - Blog - Forums - Terms - Privacy - Support - Contact". The Wufoo logo is also in the bottom right corner.

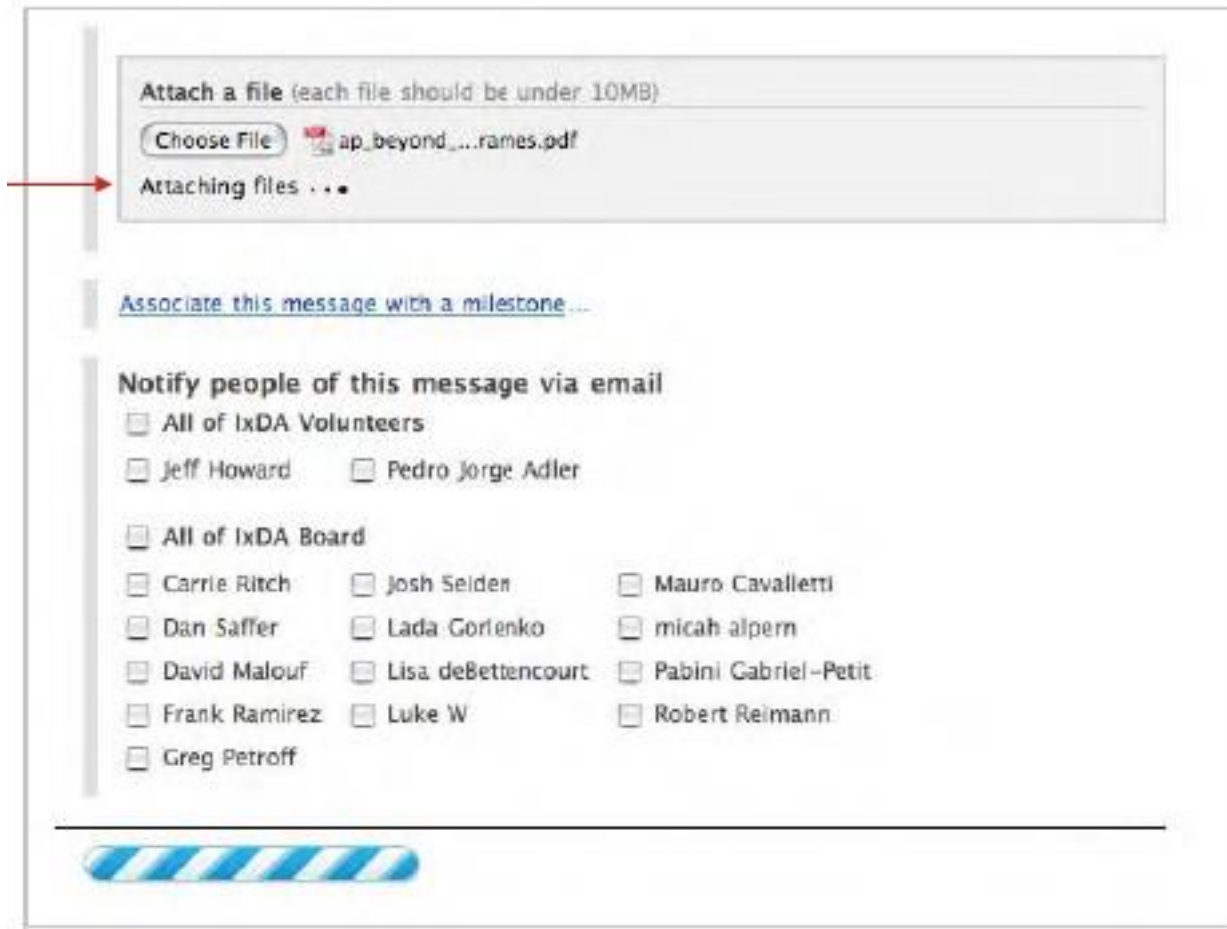
Error handling: Best practice

- 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



The screenshot shows a web form with a light gray background. At the top, a section titled "Attach a file (each file should be under 10MB)" contains a "Choose File" button and a file name "ap_beyond...rames.pdf" with a red icon. Below this, the text "Attaching files ..." is displayed. A red arrow points to a vertical gray bar on the left side of the form, which indicates the progress of the file upload. Below the progress bar, there is a link "Associate this message with a milestone...". Further down, a section titled "Notify people of this message via email" contains a list of checkboxes for various individuals and groups, including "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". At the bottom of the form, there is a blue and white striped progress bar.

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

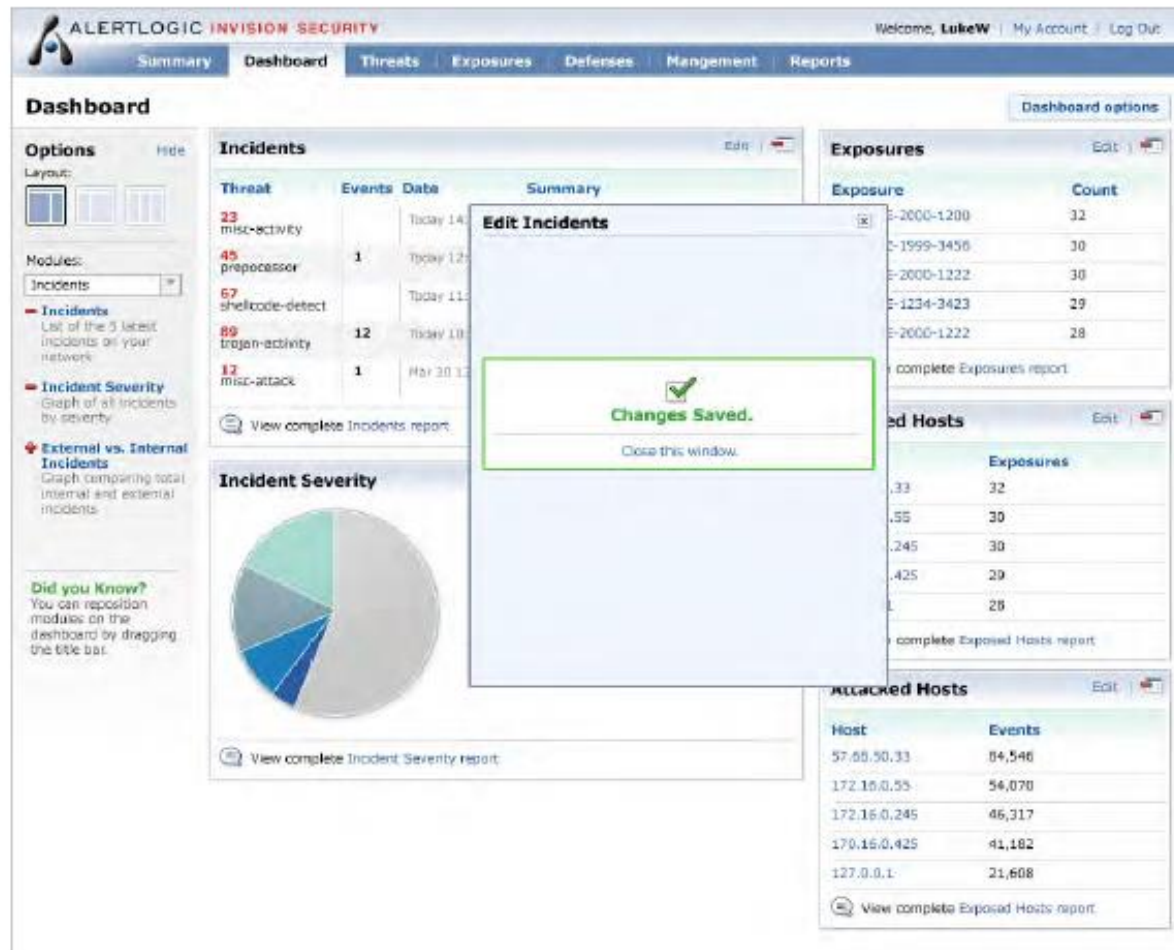
Progress: Best practice

- 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



Successful completion: Best Practice

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