

FIT3175 - Usability

# User Interfaces and Design Guidelines

Week 2 Lecture P2

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# Learning objectives

## Graphical User Interfaces

- Evolution of user interfaces
- WIMP systems
- Metaphors and skeuomorphism

## Navigation Menus

- Navigation and menu types
- Menu design guidelines

## Interface Design Guidelines

- Shneiderman's 8 Golden Rules
- Comparison with Norman's Principles

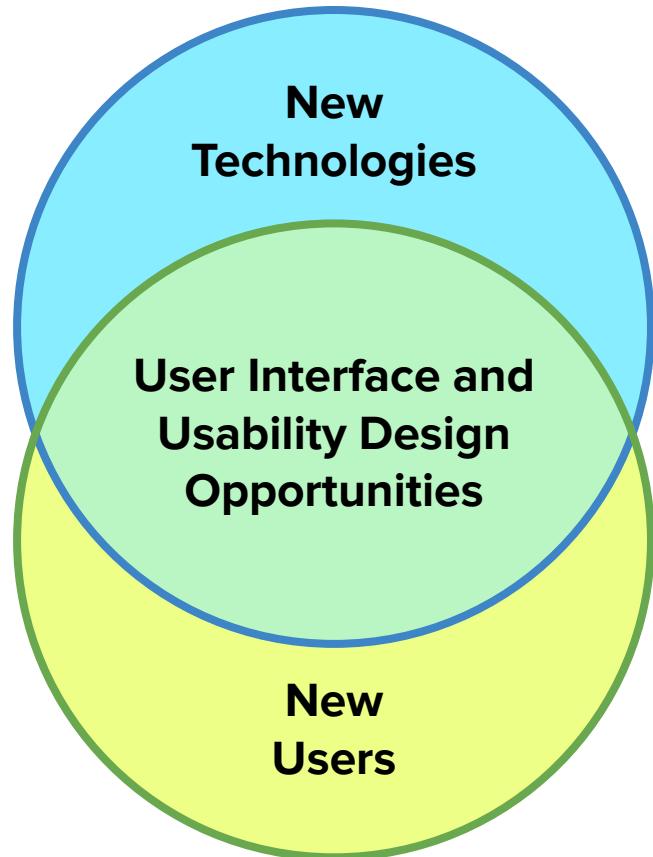
# Graphical User Interfaces

# Paradigm shifts in UI design

There have been paradigm shifts in computing that also shifted expectations of UI design:

- Business computing
- Home computing
- Educational computing
- The World Wide Web
- Mobile and responsive design
- Virtual and augmented reality

Changes in technology and users, necessitate design changes to maximise usability.



# Command Line Interface (CLI)

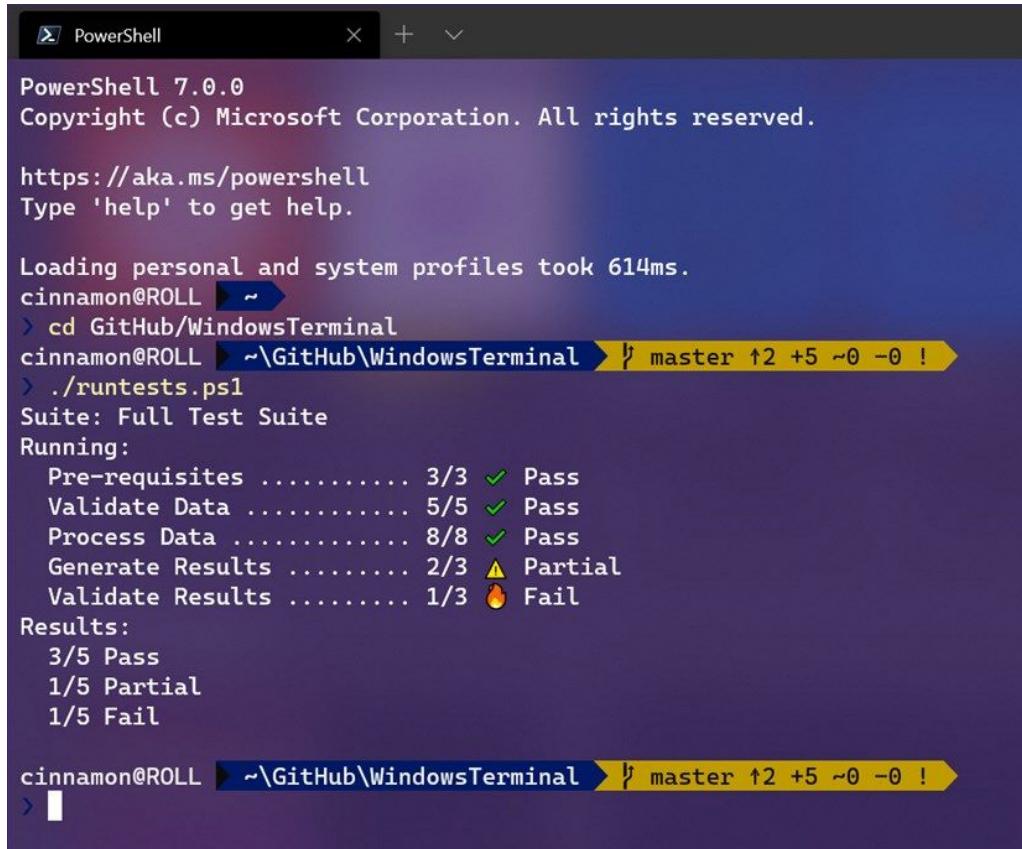


Early computers (after those primarily controlled with manually switches) used text based interfaces.

## Common interaction method:

- Typed commands, often with user-supplied parameters.
- Typed selection from an on-screen text menu of commands (a letter or number that for a single command).

# Command Line Interface (CLI)



A screenshot of a PowerShell window titled "PowerShell 7.0.0". The window shows the following command-line session:

```
PowerShell 7.0.0
Copyright (c) Microsoft Corporation. All rights reserved.

https://aka.ms/powershell
Type 'help' to get help.

Loading personal and system profiles took 614ms.
cinnamon@ROLL ~
> cd GitHub\WindowsTerminal
cinnamon@ROLL ~\GitHub\WindowsTerminal > master ↑2 +5 ~0 -0 !
> ./runtests.ps1
Suite: Full Test Suite
Running:
  Pre-requisites ..... 3/3 ✓ Pass
  Validate Data ..... 5/5 ✓ Pass
  Process Data ..... 8/8 ✓ Pass
  Generate Results ..... 2/3 ⚠ Partial
  Validate Results ..... 1/3 🔥 Fail
Results:
  3/5 Pass
  1/5 Partial
  1/5 Fail

cinnamon@ROLL ~\GitHub\WindowsTerminal > master ↑2 +5 ~0 -0 !
> █
```

Still present in modern computer systems, **CLI has advantages:**

- Low system requirements
- Remote work
- Fast and precise

**... and disadvantages:**

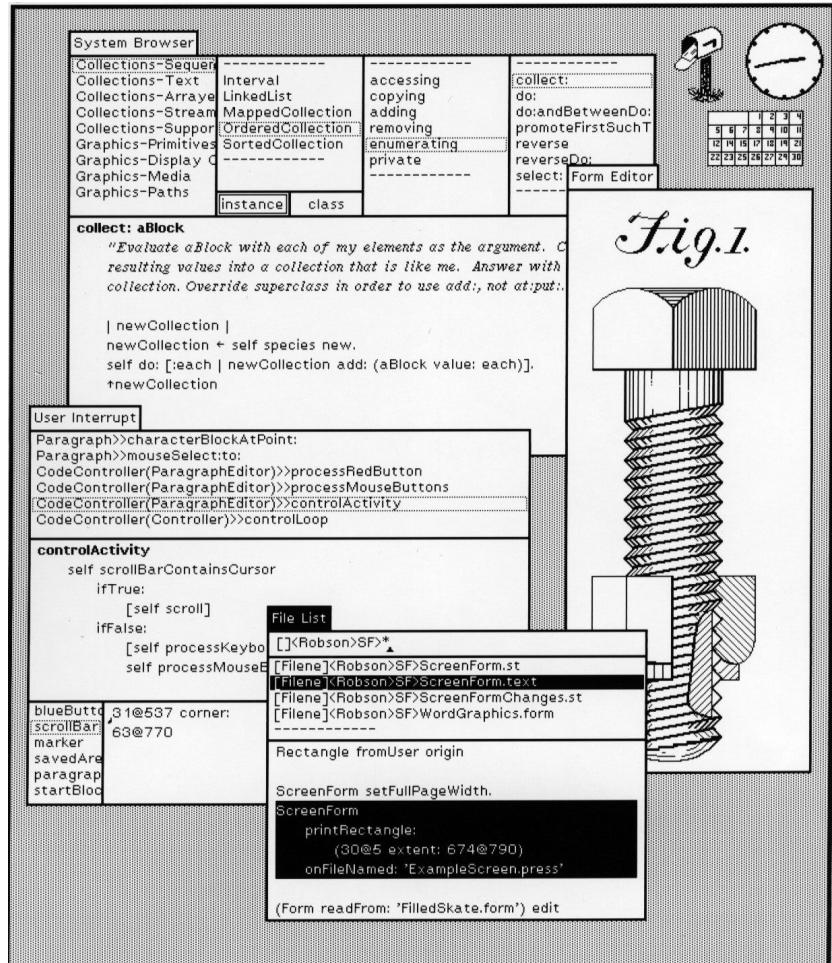
- Remembering commands
- Remember syntax
- Command entry errors
- Limited direct interactivity

# Xerox Alto GUI (1973)

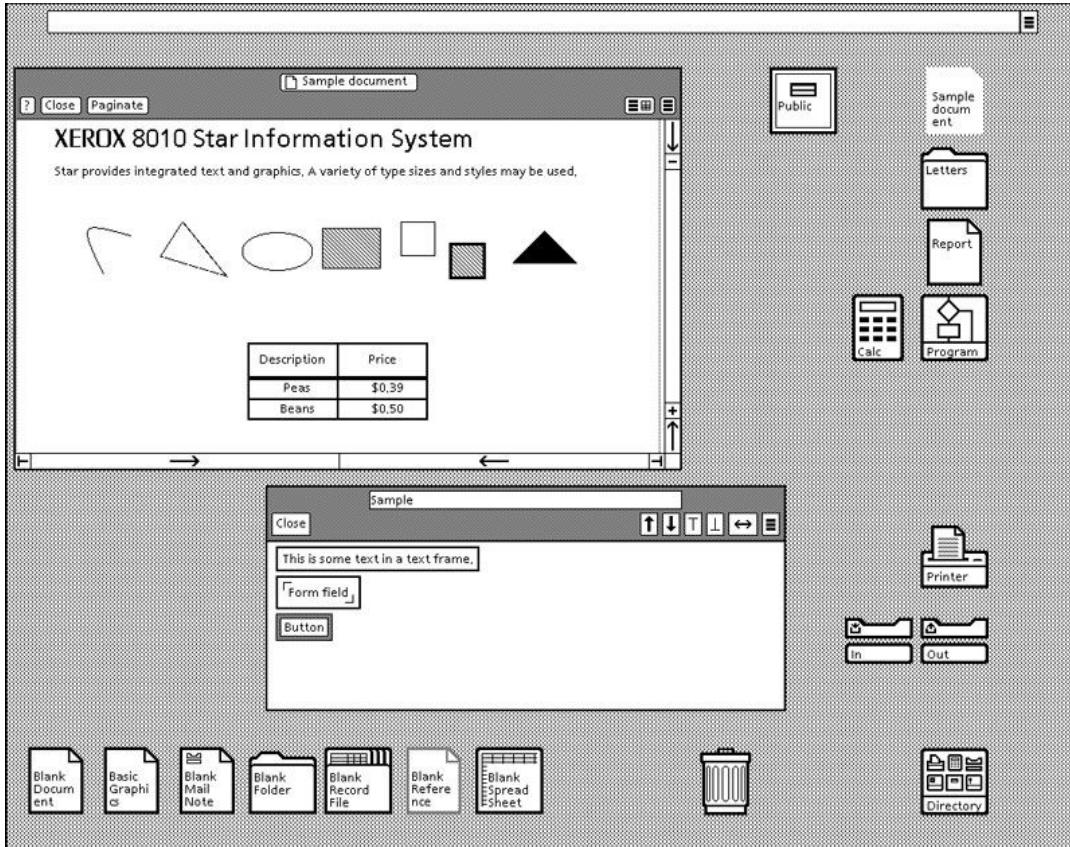
The first computer designed with the intent of having a graphical user interface.

- Raster-based (pixel) display - compared to line-based text displays.
- Included a keyboard and three-button mouse for input.
- Pioneered **What You See Is What You Get (WYSIWYG)** word processing.

Xerox Alto was targeted at large corporations - not personal use.



# Xerox Star desktop GUI (1981)



The **Xerox 8010 Information System** was the first commercial personal computer.

Introduced a new "**desktop**" metaphor to help familiarise new users to computing tasks.

**What do you think the main purpose of this computer was?**

**Who is the target audience?**

# Metaphoric interfaces



**Microsoft Bob (1995)** was released shortly ahead of Windows 95, at the boom of personal home computing.

The interface presents users with a room containing familiar objects that can be interacted with.

***Who is the target audience?***

***Does this UI feel intuitive?***

# WIMP interface style



## WIMP Interfaces

- Windows
- Icons
- Menus
- Pointers

Well-suited for managing tasks requiring mostly 2-dimensional input.

# Mobile interfaces

These interfaces retain many familiar concepts of desktop computing, but with differences.

- "Home screens" instead of desktops
- Windowless task-focussed application-based interfaces
- Icons and menus still present
- No visual representation of pointer (unless using a mouse)



# Skeuomorphic interfaces

The screenshot shows an iPad screen with a note-taking application. At the top left, it says "6 Notes". Below is a search bar with the placeholder "Search". A list of notes is on the left, with the first one circled in red: "[2 days ago  
It's the City Journal Books Podcast: 21st century conversations for 19th century attention spans.

I'm Joel Mathis, contributing editor to Philadelphia Magazine online.

\(Ben\)

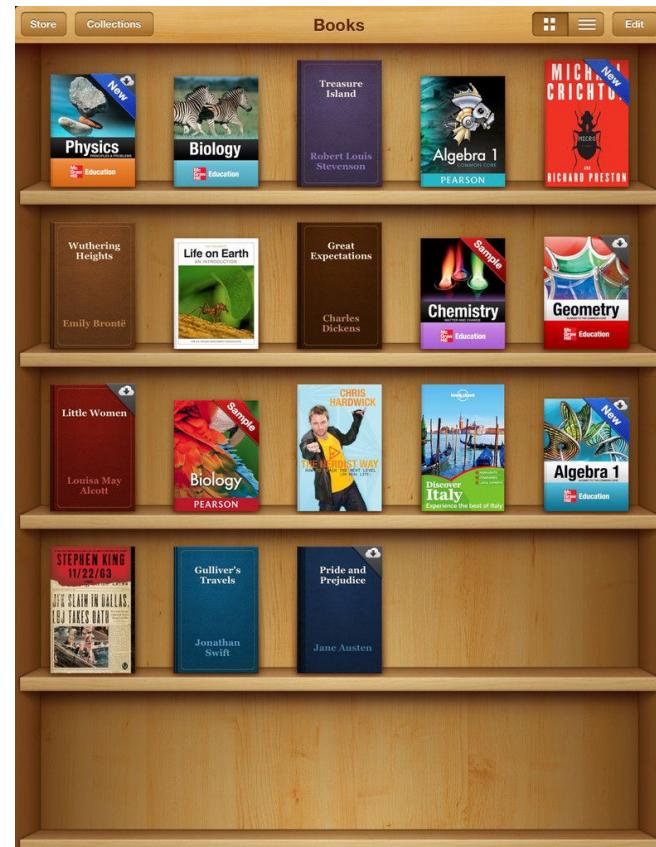
AND we're joined today by Erica GREEDER. She's a senior editor at Texas Monthly—formerly, she was the southwest correspondent for The Economist. Her work has also appeared in the New York Times, the New York Sun, The Spectator \(UK\), and More Intelligent Life. And she is currently the author of BIG HOT CHEAP AND RIGHT: WHAT AMERICA CAN LEARN FROM THE STRANGE GENIUS OF TEXAS. Welcome to the podcast

What CAN America learn from the strange genius of Texas?

In fact, kind of the underlying thesis is that the quote-unquote "TEXAS MODEL" works, "incontrovertibly" you say at the end of the book. So a two-part question: What exactly is the Texas Model? It's not quite simply unfettered free enterprise is it?

The second part of the question is: Who is the model working for? I know you're familiar with the "Texas on the Brink" booklet put out by the state's Democrats in 2011, but let me kind of go through the quick litany here: Texas ranks 50th among the states in the percentage of its population 25 or older

At the bottom are four circular icons: a plus sign, a share icon, a trash can, and a refresh/circular arrow icon.](http://www... Saturday)



# Skeuomorphic vs metaphoric



Real Braun Calculator



Skeuomorphic Design



Metamorphic Concept

# Navigation Menus

# The purpose of navigation menus

Navigation is about finding information by navigating through the interface

## Navigation is

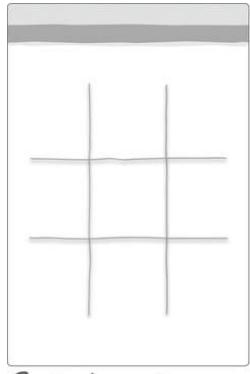
- Movement between different screens or pages of information
- Movement between UI elements within a single screen
- Direct movement between different systems, such as websites

Moving between options within any menu is "navigation" between UI elements.

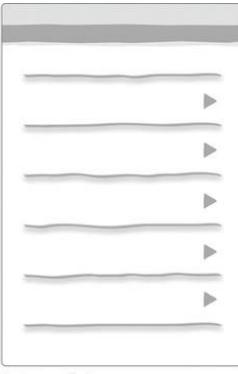
Unlike other types of menus (selection menus, tool menus, context menus, etc.) a navigation menus purpose is to **facilitate navigation as a user goal**.

# Types of menus

Navigation should feel natural - different menu styles suit different users and tasks.



Springboard



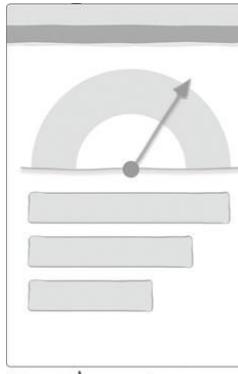
List Menu



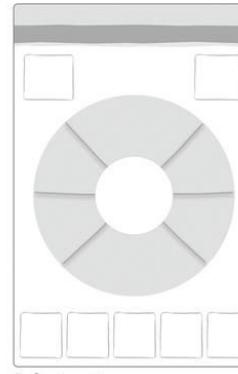
Tab Menu



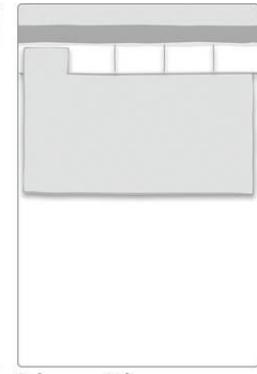
Gallery



Dashboard



Metaphor



Mega Menu

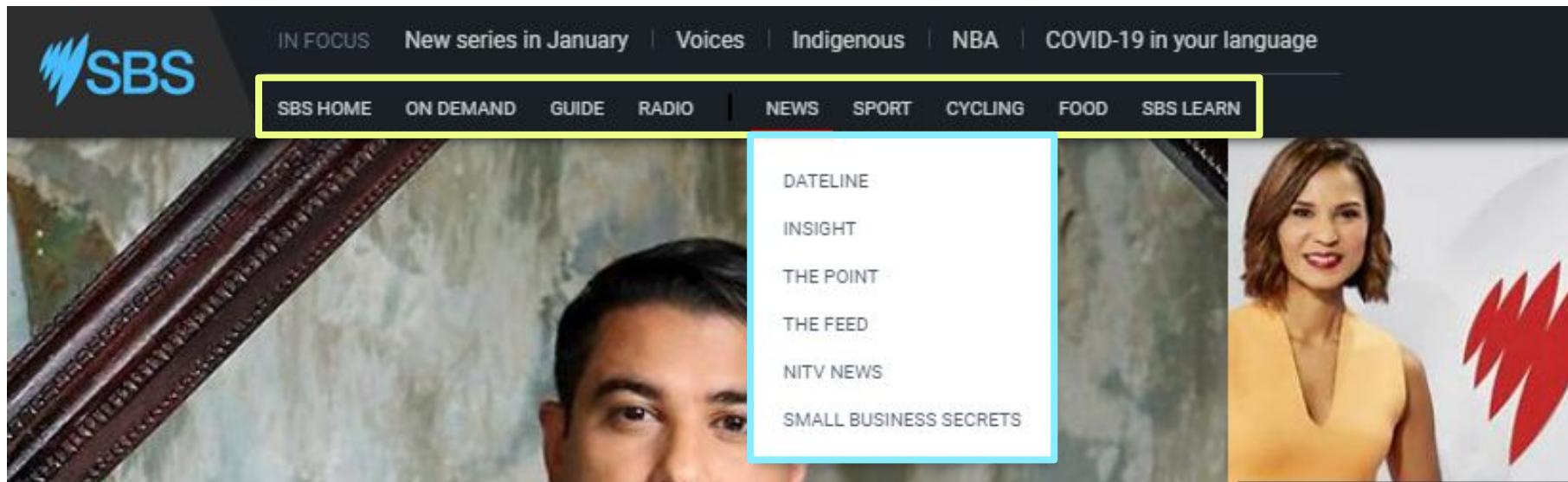
These are common design patterns for navigation - they are not just based on layout.

- **Dashboard menus** focus on providing overviews of data
- **Metaphor menus** base their visual appearance on the conceptual model.

# Structural navigation

This menu structure involves navigation between pages according to a hierarchy:

- **Primary/main navigation** between pages at the top-level of the hierarchy.
- **Secondary/local navigation** between options located deeper in the hierarchy.



# Associative navigation

Associative navigation connects pages with similar topics and content.

- Hierarchical relationships are not represented in the groupings.
- Pages may have the same or different hierarchical importance.

**Common types include:** Footer navigation, quick links and contextual navigation.

<p>Department of Health</p>  <p>© Commonwealth of Australia ABN: 83 605 426 759</p>	<p>HEALTH.GOV.AU</p> <p>Home Ministers For Consumers For Health Professionals About Us Media Centre Programs &amp; Campaigns Resources Ageing &amp; Aged Care</p>	<p>QUICK LINKS</p> <p>Jobs Consultations Tenders and Grants Budget Annual Reports Calendar Reporting Suspected Fraud</p>	<p>TOOLS</p> <p>A-Z Index A-Z Forms Site Map Links Acronyms &amp; Glossary Subscription Other Languages </p>	<p>ABOUT</p> <p>Feedback Complaints Enquiry Contact Us Accessibility Privacy Disclaimer Copyright Senate Order Contracts</p>
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# Contextual navigation

Navigation occurs in-context, within the content

Common types of contextual navigation include:

- **Embedded navigation**
  - Links within the context, such as linked text within a sentence.
- **Related links**
  - Usually beside/below the main content.
- **Adaptive navigation**
  - Links that change destination based on the selected context.

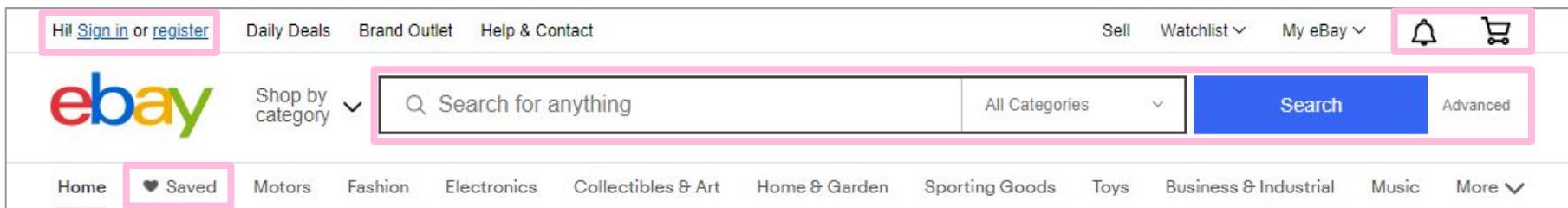
The object of use can be a [software application](#), [website](#), [book](#), [tool](#), [machine](#), [process](#), [vehicle](#), or anything a human interacts with. A usability study may be conducted as a primary job function by a *usability analyst* or as a secondary job function by [designers](#), [technical writers](#), marketing personnel, and others. It is



# Utility navigation

Navigation menus often provide access to tools that help with using the interface.

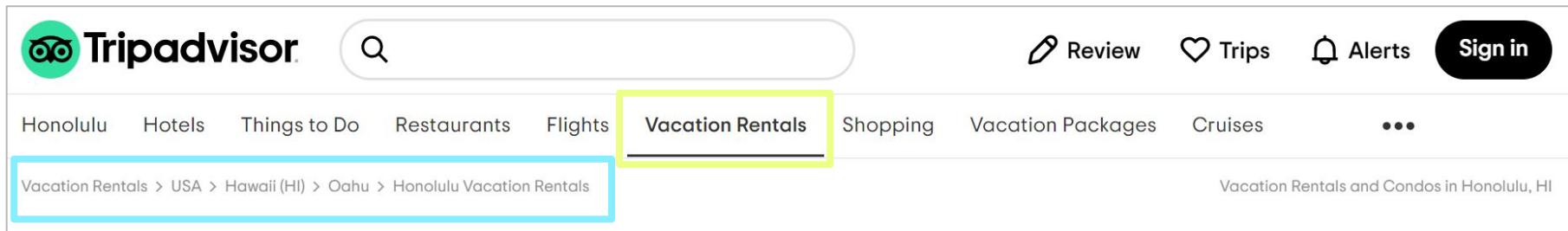
- Newsletter subscription
- Font size and dark mode
- Share and follow
- Website search
- Shopping cart
- Log-in and Sign-up



Notice that some special cases exist where a link that navigates to a page can be grouped with utility navigation. **These pages typically have a task-based role.**

# Where am I?

Navigation can also help users identify where they are currently within the hierarchy of a system.



In the above example, 2 techniques are implemented:

- A signifier **highlighting the current page** (location relative to top level)
- A **breadcrumb trail** (location in hierarchical/categorical context)

# Transient menus

These menus require interaction to reveal their options.

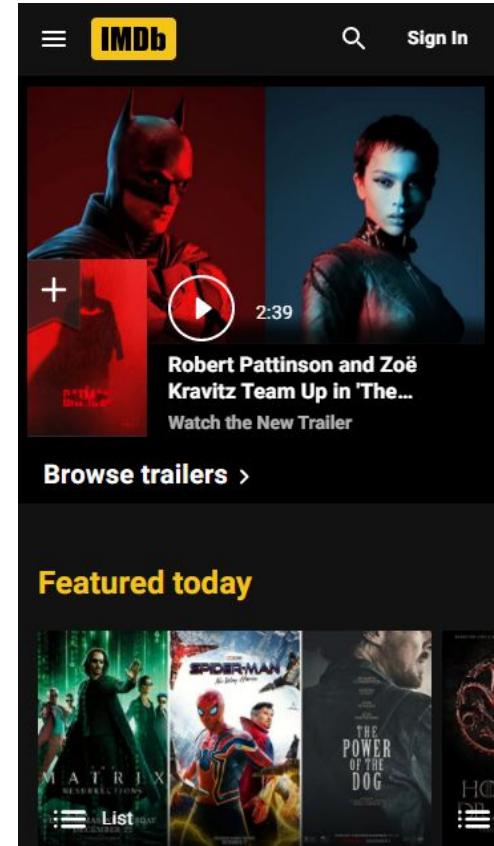
Context menus are transient by nature.

These patterns arise from the constraints of smartphone screen sizes. The most common menus include:

- A menu button - typically a "hamburger button"
- An off-canvas menu drawer, located off-screen

**Right:** IMDB uses a typical hamburger button with the an off-canvas menu drawer located outside the left edge of the screen

**What are some problems with transient menus?**



# Visual flow considerations



Eye-tracking studies support an **"F-shaped pattern"** for visual scanning of web content.

This can be used to guide placement of primary and secondary navigation options.

# Interface Design Guidelines

# **Ben Shneiderman's 8 Golden Rules**

Ben Shneiderman is an American Professor and co-author of "**Designing the User Interface**"

- 1. Strive for consistency**
- 2. Seek universal usability**
- 3. Offer informative feedback**
- 4. Design dialogs to yield closure**
- 5. Prevent errors**
- 6. Permit easy reversal of actions**
- 7. Keep users in control**
- 8. Reduce short-term memory load**



# Preface: What Shneiderman says...

*"These principles, derived from experience and refined over three decades, require validation and tuning for specific design domains. No list such as this can be complete, but even the original list from 1985, has been well received as a useful guide to students and designers."*

*"These underlying principles must be interpreted, refined, and extended for each environment. They have their limitations, but they provide a good starting point for mobile, desktop, and web designers."*

- Ben Shneiderman

Refer to the full list of rules: <https://www.cs.umd.edu/users/ben/goldenrules.html>

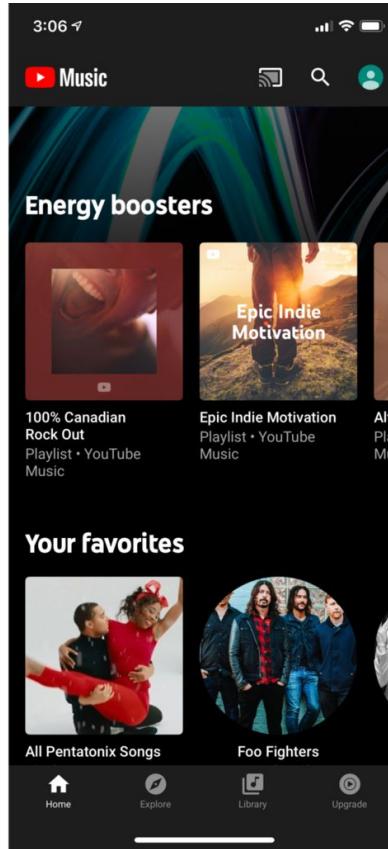
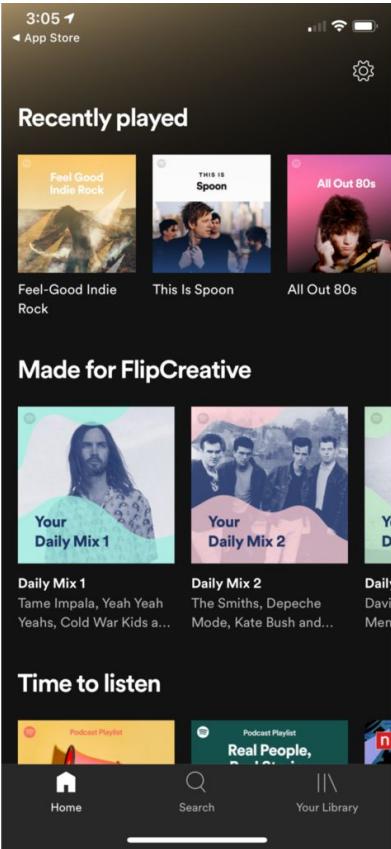
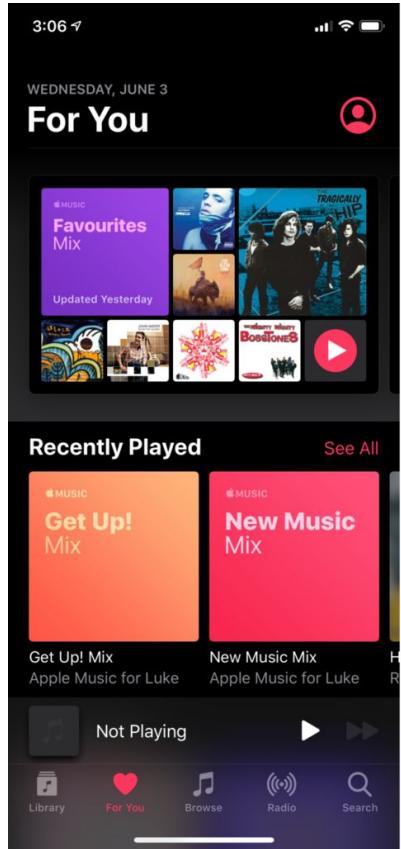
# 1. Strive for Consistency

Beyond general psychological concepts of consistency, this Golden Rule provides guidance specific to the design of computer interfaces.

- Consistent sequences of actions should be required in similar situations
- Identical terminology should be used in prompts, menus, and help screens
- Consistent color, layout, capitalization, fonts, and so on, should be employed throughout.

Exceptions, such as required confirmation of the delete command or no echoing of passwords, should be comprehensible and limited in number.

# 1. Strive for Consistency

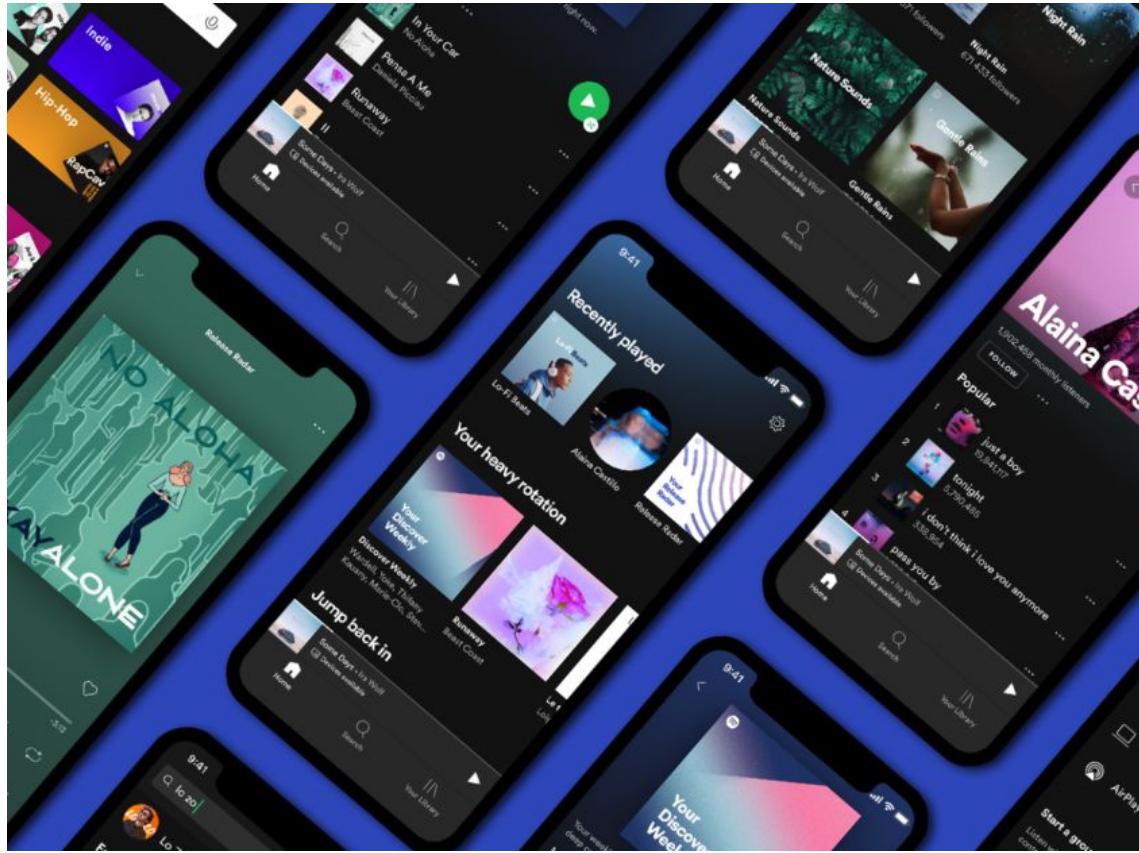


**Right:** Apple Music, Spotify and YouTube Music are designed with consistent conceptual models.

**What do you think  
about this approach to  
design?**

- Benefits?
- Disadvantages?

# 1. Strive for Consistency



**Left:** Spotify implements **internal consistency** in the design of various screen elements seen across the mobile app.

*Internal consistency creates familiarity within the system and even between apps for different platforms.*

- Users spend less time searching for features.
- Users can make assumptions about functionality.
- Consistent branding results in a feeling of quality in the product.

# 1. Strive for Consistency



Patrizia Plastic Aviator Sunglasses

A\$29.00

(GST incl.)



CELINE

56MM Square Sunglasses

AUD 515.33



Tortoiseshell Blue Light Reader Glasses

AUS\$8.39 AUS\$14 40% OFF

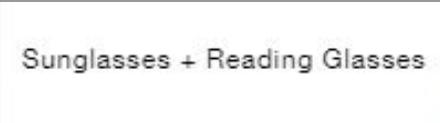
Take 40% Off!

★★★★★ (2) 23 Comments



Accessorize Rubee flat top oversize sunglasses in tortoiseshell

£12.50 £10.00



**Above Left:** Observe the **external consistency** between product tiles from 4 major fashion retailers. Consistent conceptual models helps reinforce users' mental models.

**Above Right:** Inconsistencies in terminology used reduce navigation efficiency as users search through menus to locate a desired option among many navigation choices.

## 2. Seek Universal Usability

When originally published, this rule was "**Enable frequent users to use shortcuts**".

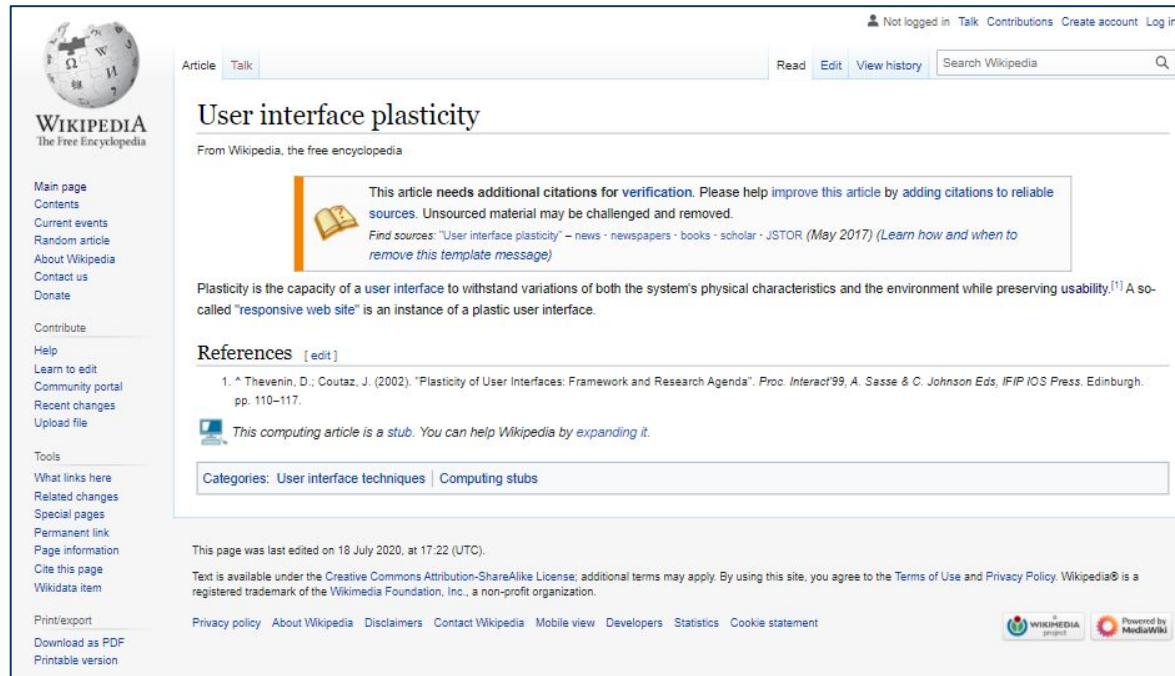
Since then, views about the types of user that interact with technology has changed.



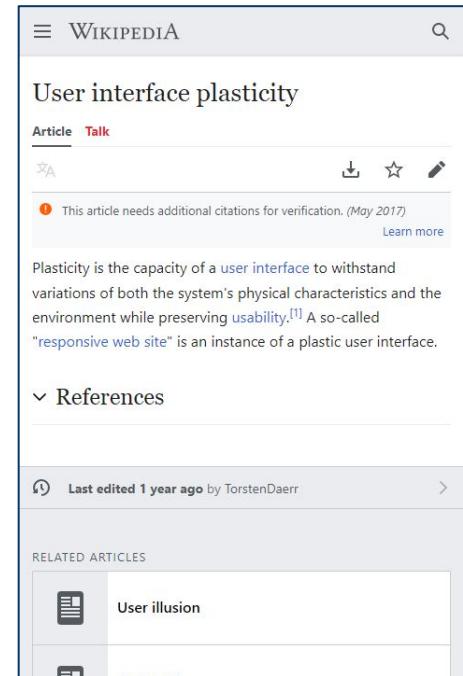
Novice to expert differences, age ranges, disabilities, international variations, and technological diversity each enrich the spectrum of requirements that guides design.

## 2. Seek Universal Usability

People use interfaces in different contexts and different ways. Recognize the needs of diverse users and **design for plasticity**, facilitating **transformation of content**.



The screenshot shows the Wikipedia article "User interface plasticity". The page title is "User interface plasticity" and it is from the English Wikipedia. The sidebar on the left contains links like Main page, Contents, Current events, Random article, About Wikipedia, Contact us, Donate, Contribute, Help, Learn to edit, Community portal, Recent changes, Upload file, Tools, What links here, Related changes, Special pages, Permanent link, Page information, Cite this page, Wikidata item, Print/export, Download as PDF, and Printable version. The main content area includes a "Verification" section with a book icon, a note about needing citations, and a "Find sources" link. Below this is a paragraph about plasticity, a "References" section with a citation, a "Stub" notice, and a "Categories" section. At the bottom, there is a note about the page's last edit and a footer with links to Privacy policy, About Wikipedia, Disclaimers, Contact Wikipedia, Mobile view, Developers, Statistics, Cookie statement, and the Wikimedia Foundation logo.



The screenshot shows the same Wikipedia article "User interface plasticity" after transformation. The sidebar remains the same. The main content area now includes a "Last edited 1 year ago by TorstenDaerr" note, a "RELATED ARTICLES" section with a link to "User illusion", and a "Learn more" link next to the original "Find sources" note.

## 2. Seek Universal Usability

An interface should cater to different levels of experience and knowledge. **Often the only difference between novices and experts is prior experience and frequency of use.**

- Add features for novices, such as explanations.
- Adding features for experts, such as shortcuts and faster pacing.

**Right:** Setup of a new android device provides clear written steps for novices, but also allows experts start using the device immediately and configure settings manually at a later time.

The screenshot shows a step in the Android device setup process. At the top, there's a red signal strength icon with three bars. Below it, the text "Connect to mobile network" is displayed. A sub-instruction says "If you have a SIM card, insert it now". In the center, there's a large circular button with a white phone icon inside, which is partially overlaid by a smaller circle containing a SIM card icon. At the bottom of the screen, there are two buttons: one labeled "Download a SIM instead?" with a SIM card icon, and another labeled "Add a number using eSIM". At the very bottom right, there's a "Skip" button.

### 3. Offer Informative Feedback

As explained by Norman's Principles and 7 Stages of Action, humans continuously assess feedback to validate their interactions.



For every user action, there should be an interface feedback. Feedback should be comprehensible well-mapped to the action.

### 3. Offer Informative Feedback

Prominence of feedback should be proportional to the magnitude of the action and severity of outcome.

- For frequent and minor actions, the response can be modest.
- For infrequent and major actions, the response should be more substantial.

**Right top:** The error message has more prominent feedback compared to the valid input to represent a more severe outcome.

**Right bottom:** This form error is a larger change of state and requires more effort to process and respond to.

The image shows two rectangular feedback boxes. The top box is red with a red border and contains a grey checkbox icon labeled "Input field" and a red exclamation mark icon. Below it is a red horizontal bar with the text "This field cannot be empty." The bottom box is green with a green border and contains a grey checkbox icon labeled "Valid input" and a green checkmark icon.

The image shows a large, dark grey modal dialog box. Inside, there is a white rectangular area containing a yellow exclamation mark icon, the text "Incomplete Values", and a message stating "There are incomplete fields in your submission:". Below this is a bulleted list: "• is required". At the bottom, it says "Please [go back](#) and fix the problem(s)".

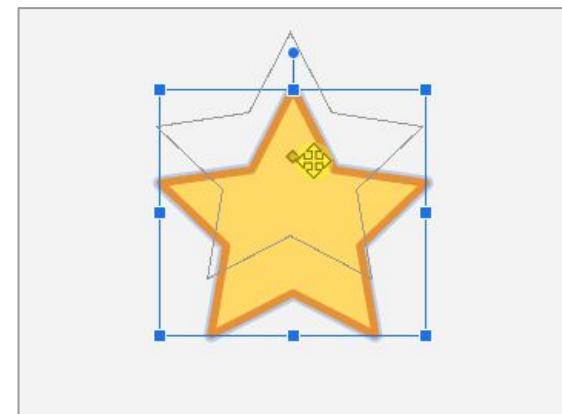
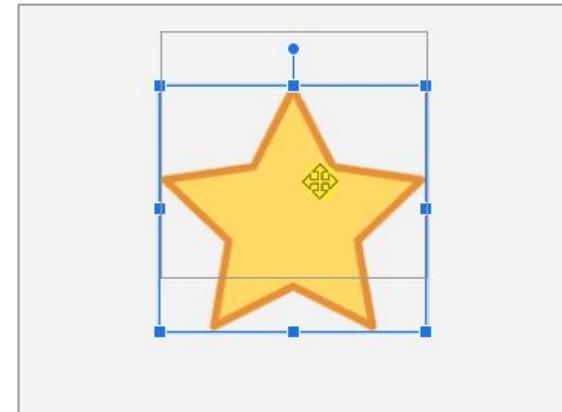
### 3. Offer Informative Feedback

Visual presentation of the objects of interest provides a convenient environment for showing changes explicitly.

We should make use of the capabilities of the system to provide rich and accurate feedback for a pleasant experience.

**Right top:** Lower-fidelity feedback is more **implicit** - good spatial and temporal mapping inform that the action is producing a result.

**Right bottom:** Higher-fidelity feedback is more **explicit**. It shows a more accurate representation of the user's action, allowing for more reliable prediction of the result.



## 4. Design Dialogues to Yield Closure

Users engage in **dialogue (conversations)** with computers via interactions. Avoid creating conversations that feel too open-ended.

- Sequences of actions should be grouped with a **beginning, middle, and end**.
- Informative **feedback at the completion** of a group of actions gives users the satisfaction of accomplishment

Closure provides a sense of relief, allow users to prepare for the next group of actions.

# 4. Design Dialogues to Yield Closure

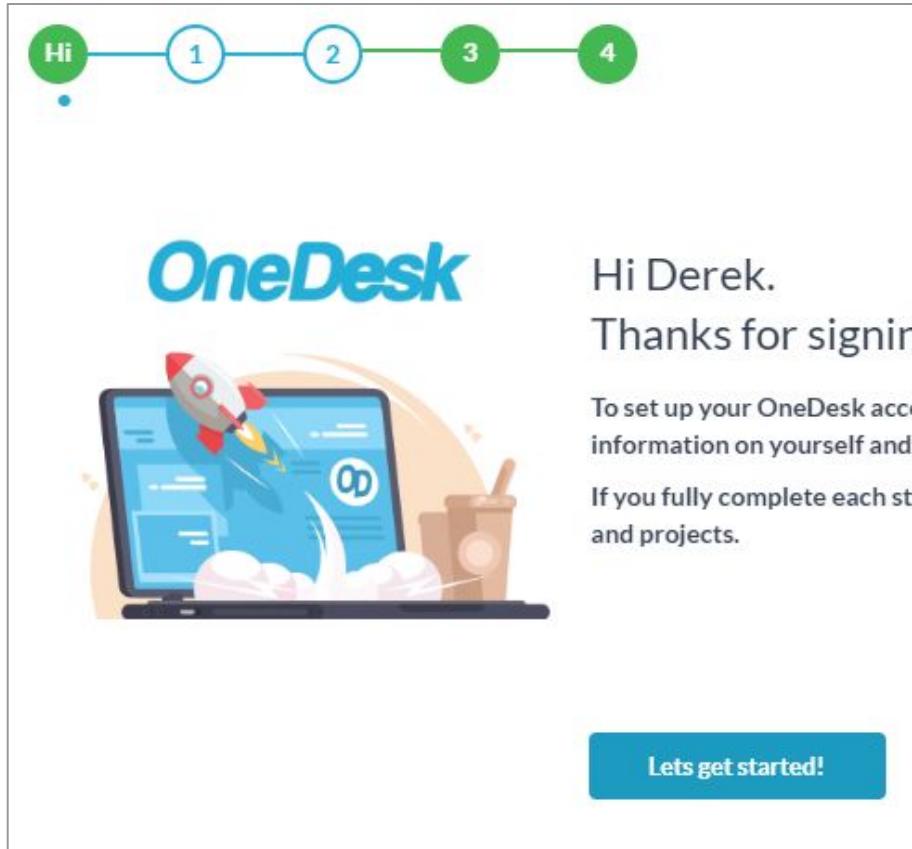
For example, as a user moves through an e-commerce checkout, the **completion of the dialogue** should be clearly signalled.

**Right:** The checkout process in the ASOS app provides a clear message for closure and useful information to details to be confirmed with minimal cognitive load.

Additionally, further options for action are provided to maintain the action cycle.

The screenshot shows a mobile application interface for ASOS. At the top, there is a "THANK YOU FOR YOUR ORDER" message with a note to check the inbox for a confirmation email. Below this, the "ORDER TOTAL" is listed as £44.00. The "ORDER REFERENCE" is 02VN4247FUO9. Under "DELIVERY", it says Tuesday, 8 May, 2018. The "ORDER STATUS" is "Received". A "HAVE YOUR SAY" section encourages users to take a survey, with a "LET'S GO" button. The "2 ITEMS" section shows a product thumbnail of a person wearing a patterned dress, priced at £16.00, with the text "ASOS Made In Kenya x". A "CONTINUE SHOPPING" button is at the bottom. To the right, there is a sidebar with product cards for "zManySiblings T-Shirt" (Blue XS, Qty: 1) and "ASOS Made In Kenya x 2ManySiblings Revere Sh..." (Black S, Qty: 1), both labeled "EXCLUSIVE". Below these are links for "Cancel this order", "My Account", and "Returns Policy". A recycling note at the bottom states: "Our plastic bags and cardboard boxes are 100% recyclable".

## 4. Design Dialogues to Yield Closure



Users will be less anxious if given a general understanding of where they are currently relative to the dialogue's closure.

**Left:** The setup wizard for OneDesk provides a timeline of steps that is always visible throughout the setup process.

Assuming that interactions grouped into each step require a similar amount of effort, the user gains a sense of how much work they have done compared to how much work remains.

## 5. Prevent Errors

This rule refers to the possible errors a user could make - not system errors where an interface enters an invalid state due to an unforeseen technical issue.

- Design the interface so that users cannot make serious errors
- If users make an error, the interface should offer simple, constructive, and specific instructions for recovery.
- Erroneous actions should leave the interface state unchanged, or the interface should give instructions about restoring the state.

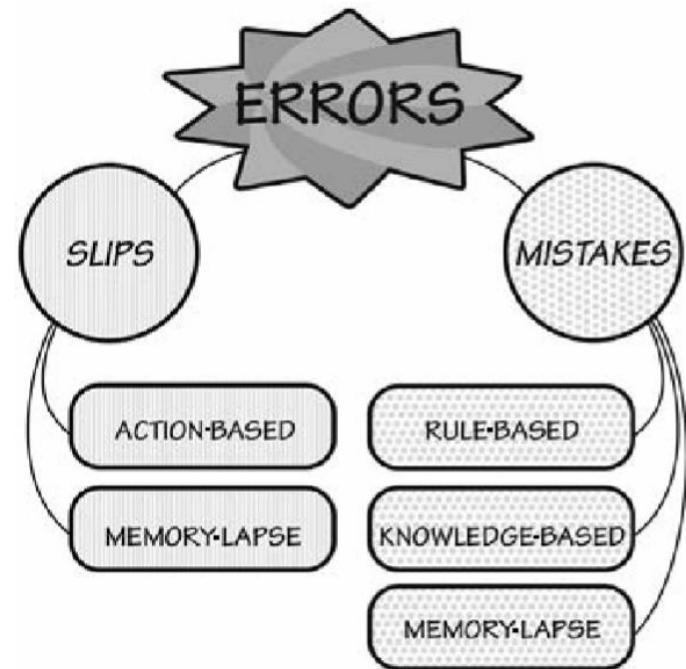
***Can you recall how Norman's Principles can be used to prevent users from performing invalid or undesirable actions?***

## 5. Prevent Errors

In "*The Design of Everyday Things*", Don Norman describes 2 general classifications for human error.

- **Slips** occur when goal is planned correctly but the execution is flawed.
- **Mistakes** occur with a goal or plan is wrong.

Both types of mistakes can be caused by lapses in memory. Conscious decisions resulting in error are mistakes. Subconscious errors are slips.

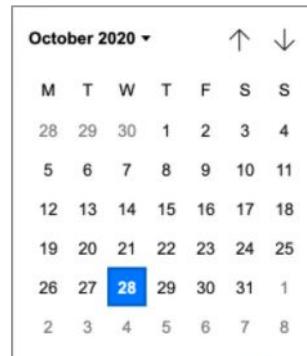


# 5. Prevent Errors

Slip and mistakes can be minimised or prevented by correctly designing interactions.

- **Affordances** that encourage valid interactions.
- **Signifiers** that provide clear guidance.
- **Constraints** that limit or remove options for incorrect input.
- **Feedback** that highlights errors.
- **Conceptual models** and **natural mappings** that reduce confusion.

Credit Card	XXXX XXXX XXXX XXXX
Credit Card	4543 XXXX XXXX XXXX
Phone	021--23-_____
	021-23



**Top:** Input placeholders, examples and masks guide provide guidance.

**Left:** Date pickers will only allow valid dates.

## 5. Prevent Errors

Random system errors are sometimes unpreventable. Ensuring that these crashes do not occur is not in the domain of a UX designer.

However, we can still strive to provide clear messages and useful recovery options to improve the user experience.



Your PC ran into a problem and needs to restart. We're just collecting some error info, and then we'll restart for you.

20% complete



For more information about this issue and possible fixes visit <http://www.windows.com/stopcode>

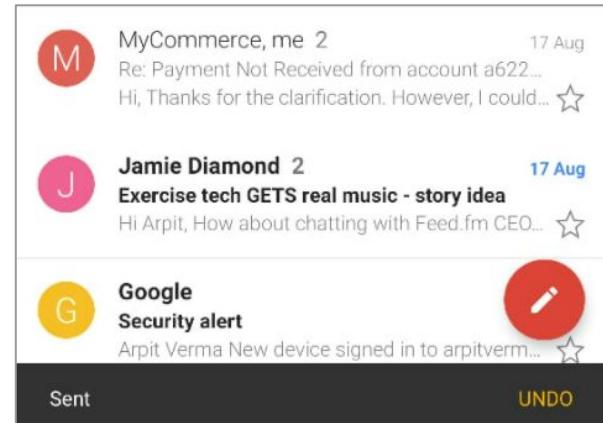
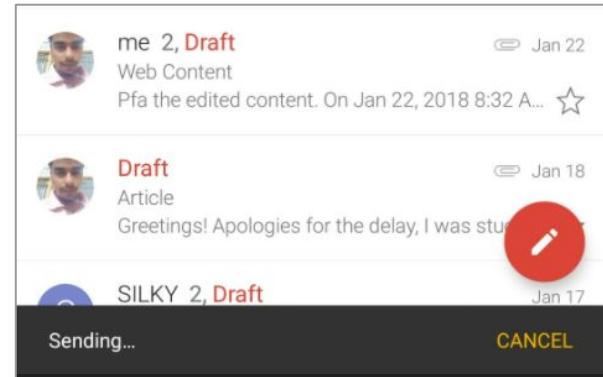
If you call a support person, give them this info:  
Stop code: CRITICAL\_PROCESS\_DIED

## 6. Permit Easy Reversal of Actions

A user should feel safe in knowing that any changes made to a system do not have a permanent effect.

- As much as possible, actions should be reversible.
- The units of reversibility may be a single action, a data-entry task, or a complete group of actions, such as entry of a name-address block.

Reversing the action should require minimal effort from the user. If a change cannot be reversed, strive to prevent users from making mistakes.



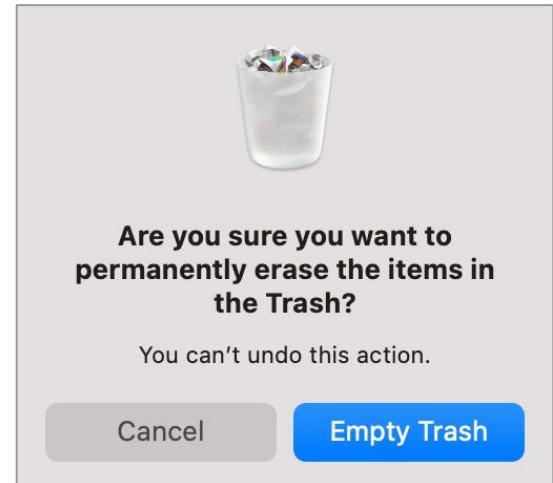
## 6. Permit Easy Reversal of Actions

Not only for error recovery, reversible actions have psychological benefits.

When users have knowledge that actions can be undone with minimal inconvenience:

- Reversible actions relieve anxiety
- Encourages exploration of unfamiliar options
- Reduces instances of critical user error

Where actions are not easily reversible, consider the severity of outcomes and implement constraints if necessary.

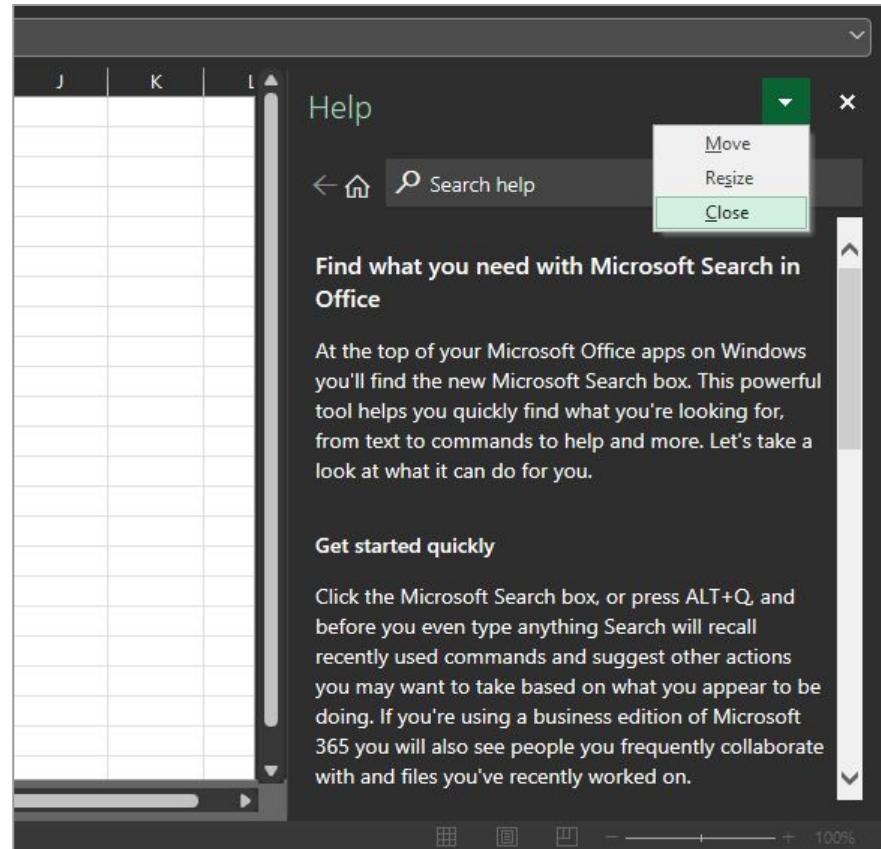


## 6. Permit Easy Reversal of Actions

When an action needs to be reversed, the action should be intuitive and convenient.

**Consider the example shown here:**

- Excel's help pane can activated by pressing **F1** on the keyboard.
- Closing the panel requires an interaction within the panel.
- ***How could we make this more convenient for users?***



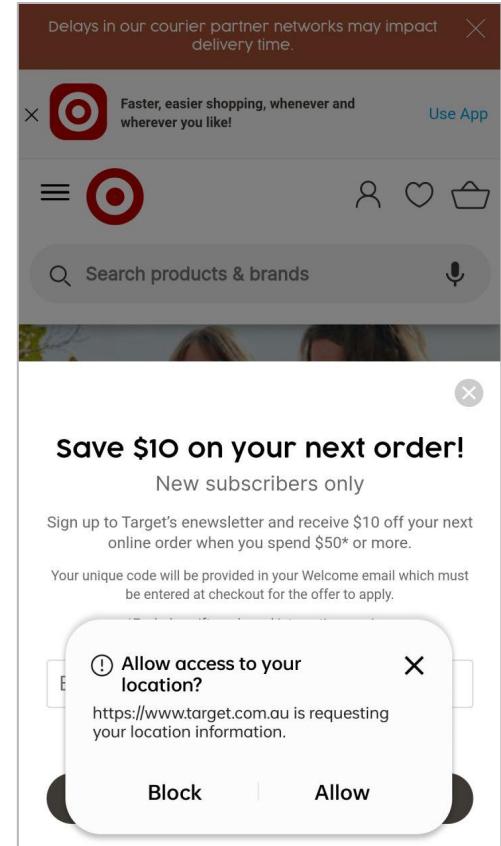
## 7. Keep users in control

Do users feel like they control the interface? Or does the interface feel like it controls the user?

- Users should feel that the interface responds to their actions.
- They don't want surprises or changes in familiar behavior.

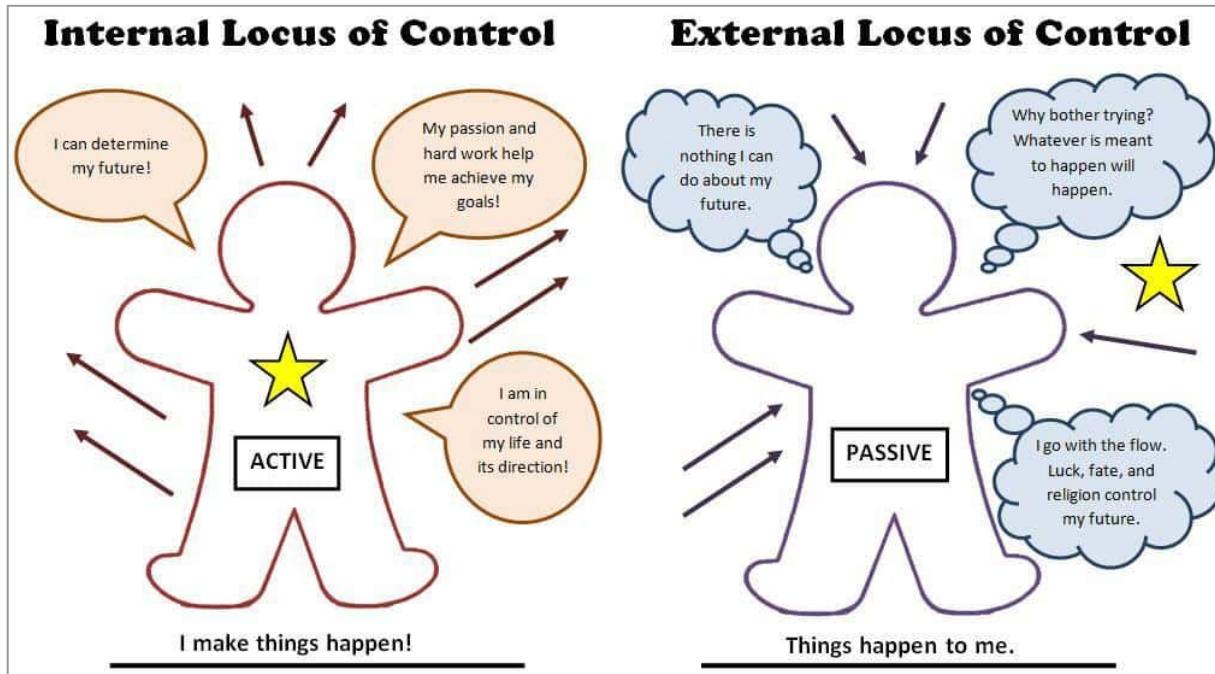
Avoid situations that make the user feel trapped - where the system feels like it forces users into a pause or an action.

**Right:** Visiting Target Australia for the first time - how does this make you feel?



# 7. Keep users in control

**Locus of control** describes how individuals perceive that they have control over their own actions, or if the actions are dictated by an external force.



**Consider this scenario:**

You walk up to a pedestrian crosswalk. You can see that another person has already pressed the crosswalk button.

**What do you do next?**

- **Press the button.**
- **Do nothing.**

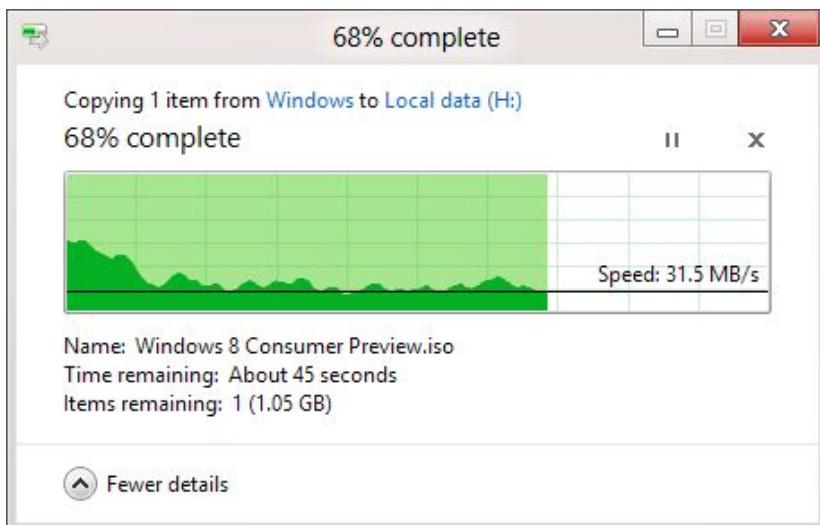
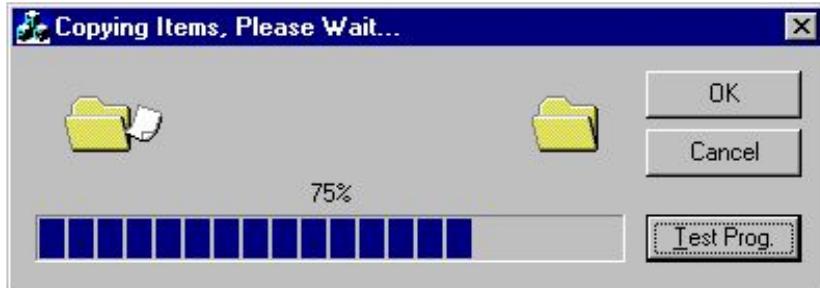
# 7. Keep users in control

**Users feel trapped and annoyed by:**

- Tedious sequences of actions
- Difficulty in obtaining information
- Inability to produce their desired result
- Time wasted in idle states

**When major actions take time to complete:**

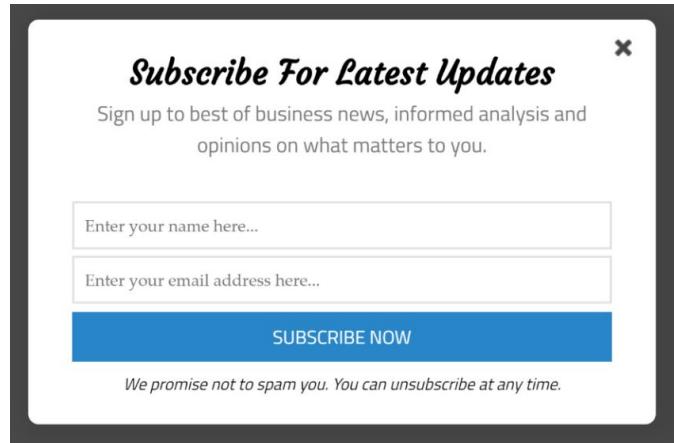
- Chunk the action into manageable pieces
- Provide minor feedback that is informative or entertaining.



## 7. Keep users in control

Users need to feel like they are in command of the interface. There are ways to design interfaces that provide users with a feeling of control.

- Set clear expectations before the interaction
- Make actions easy to execute
- Minimise cognitive load
- Provide immediate feedback
- Provide accurate feedback
- Complete the action as quickly as possible



**Above:** Newsletter subscription pop-ups interrupt the user's workflow, removing their sense of control.

A well-designed popup should offer an immediate benefit and not interrupt important actions that are in progress.

## 8. Reduce Short-Term Memory load

This concept has been previously covered in our discussion of psychology and external cognition.

- Humans have limited capacity for information processing in short-term memory
- Generally, people can remember "**7 plus or minus 2 chunks**" of information
- Avoid interfaces in which users must remember information from one display and then use that information on another display.

**Recall last week's discussion of external cognition and cognitive aids.**

- Externalising
- Computational offloading
- Annotation and cognitive tracing

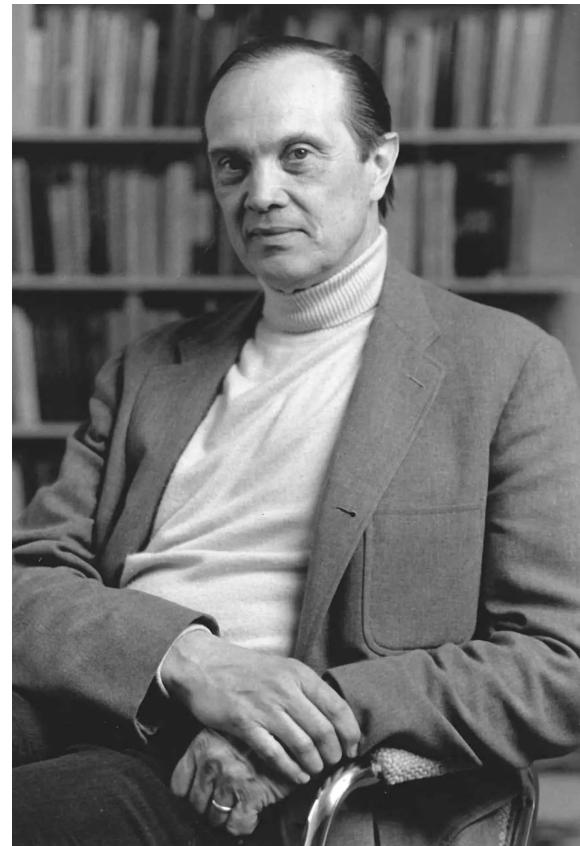
## 8. Reduce Short-Term Memory load

From George A. Miller's much cited research paper,  
**"The Magical Number Seven, Plus or Minus Two":**

- Performance is nearly perfect up to 5-6 stimuli.
- Performance declines as the number of different stimuli is increased.

**Can you memorise new random values easily?**

- Can you remember a new phone number?
- Are 2-factor authentication codes easy to use?
- **What cognitive techniques/aids do you use?**



# 8. Reduce Short-Term Memory load

Home | Entertainment | Headphones, Speakers & Audio | Headphones | Headphones

Categories	Shop By	What's new	Brands
Action Figures	Toys under \$20	New Arrivals	Barbie
Arts & Craft	Toys under \$50	FAO Schwarz	Bluey
Bikes & Ride-ons	Toys \$100 & Over	LEGO Super Mario & Luigi	B.Toyz
Board Games & Puzzles	Most Popular Toys	Disney Store	Crayola
Costumes	Disney Store		Cyclops
Dolls & Accessories	Sports & Outdoor		Disney Frozen
Educational Toys			Disney Store

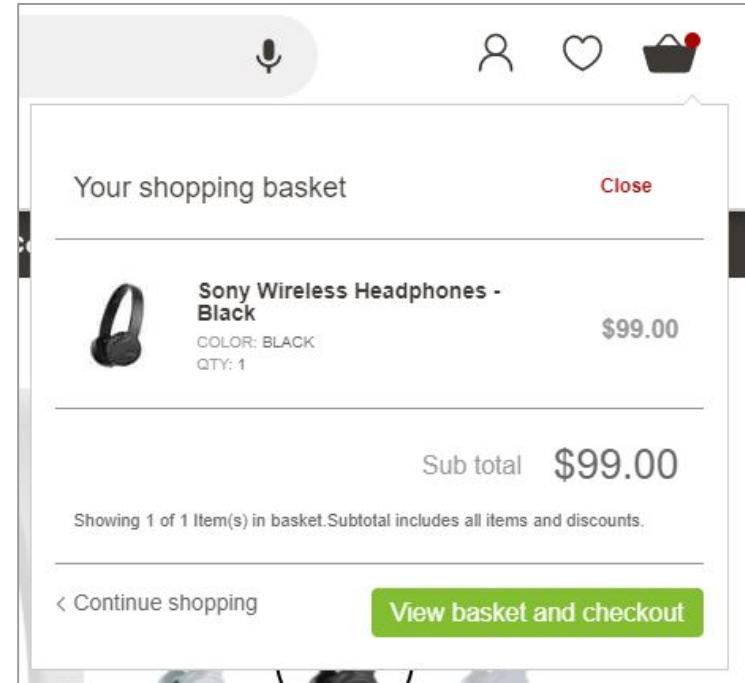
Observe how each interface component externalises information that a user would otherwise maintain in short term memory.

**Clockwise from top-left:** Breadcrumb trails, highlighted current link, menu categories and shopping cart preview.

Deals & Exclusives

Women

Men



# 8. Reduce Short-Term Memory load

A travel booking process is quite linear, but as an infrequent process with many steps, can feel very complex.

**What cognitive aids are used here to reduce short-term memory requirements for users?**

The screenshot shows a travel booking interface with the following features:

- Progress Indicators:** At the top, there are three circular icons: a green one with a checkmark labeled "Options", a grey one labeled "3" for "Passengers", and another grey one labeled "4" for "Payment".
- Call-to-Action:** A large red button at the bottom left contains the text "LOG IN NOW →". Below it, a link says "Not a member? [Join for free](#)".
- Flight Information:** On the right, there are two flight sections:
  - Sydney to Melbourne:** Departs Thursday, 20 January 2022 at 06:00, arrives 07:35. Class: ECONOMY Flex, Flight: QF401.
  - Melbourne to Sydney:** Departs Friday, 4 February 2022 at 06:45, arrives 08:10. Class: BUSINESS Business, Flight: QF408.
- Passenger Details:** A section titled "Passenger details" with the instruction: "as they appear on your driver's licence or in your passport. Qantas protects information. View our [Privacy Statement](#).  
[Redacted input fields for passenger details].
- Frequent Flyer Program:** A dropdown menu titled "Select Program" is shown.
- Tax Information:** A note about tax: "GST \$1,238.52\* AUD".
- Buttons:** A "CONTINUE >" button at the bottom right.

# Discussion Forum 1

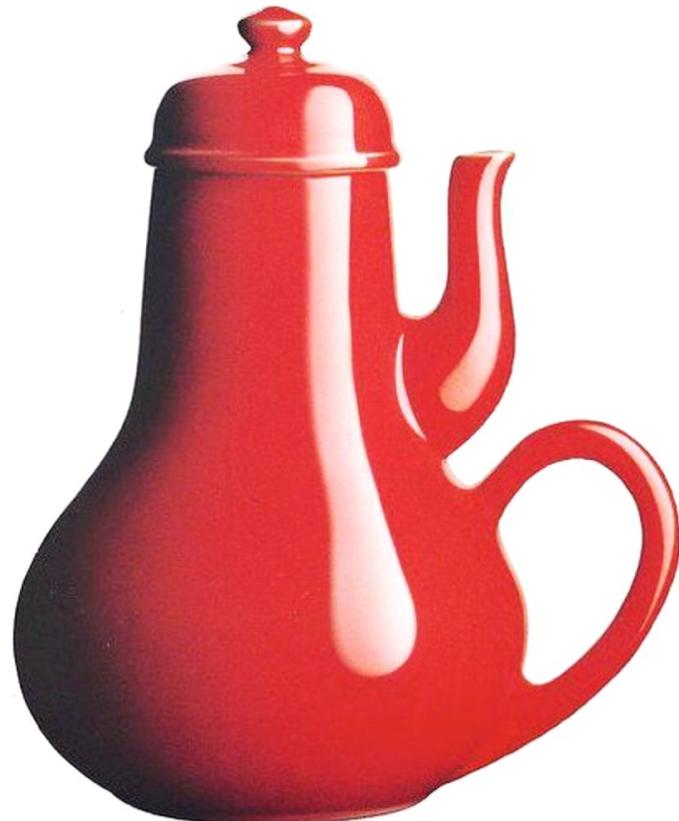
# Discussion Forum 1

This individual assessment task is now available.

Contribute an example of **everyday physical object** that you own that is difficult to use because of poor consideration of usability in its design.

## Task:

- Upload an original photograph of an object that you own that has a major or minor usability issue.
- Explain the usability issue by applying one of Norman's 7 principles (choose one only).
- Describe how the issue affects effectiveness, efficiency or satisfaction (choose one only).



# Discussion Forum 1

## Posting rules:

- Create a new discussion post with the name of the object as the title.
- Embed your photo using the  **Insert Image** option.
- The word count must be **between 150-300 words** inclusive.
- The **photo must be original** - not sourced from the Internet.
- The object and issue **must not be software-based or a GUI**.

## Marking Criteria (5 marks, weighted at 2.5%)

- Clear photo and description, posting rules have been followed (2 marks)
- Identification and correct application of one Norman Principle (2 marks)
- Description of usability impact (1 mark)

# Next session

- Navigation and Information Architecture
- Menu and Icon Design

## Reminders

- **Stage A submission this week (Due Fri 14 January)**
  - Upload to be completed by 1 group member.
- **Stage B submission next week (Due Tue 18 January)**
  - Individual task - each group member uploads a submission
- **Discussion Forum 1 is now available (Due Fri 21 January)**
  - Demonstrate your understanding of Norman's Principles