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INFORMATION
TECHNOLOGY

Lecture 4

Navigation, Menus and Design Guidelines: Web and Desktop (Part I)

FIT5152 - User Interface Design and Usability

GROUP OF EIGHT AUSTRALIA

Learning objectives

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To learn about navigation and menus (Web and Desktop):

- what are the elements of an interface that help with navigation
- the basics of menu design and what is important
- principles and guidelines for designing effective menus (Web and Desktop)

Navigation

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- Navigation is about finding information by navigating through the interface
- Navigation does not just occur between the screens and pages but it also happens:
  - within a page/screen,
  - between windows, panels and frames,
  - and between menu options

Navigation (cont'd)

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- Navigation is also about orientation
  - Where am I?
  - What's here?
  - Where can I go from here?
- Navigation is critical to usability
- It requires understanding user needs and behaviour, identifying tasks, and effective content organisation

(James 2007)

Web Navigation Types

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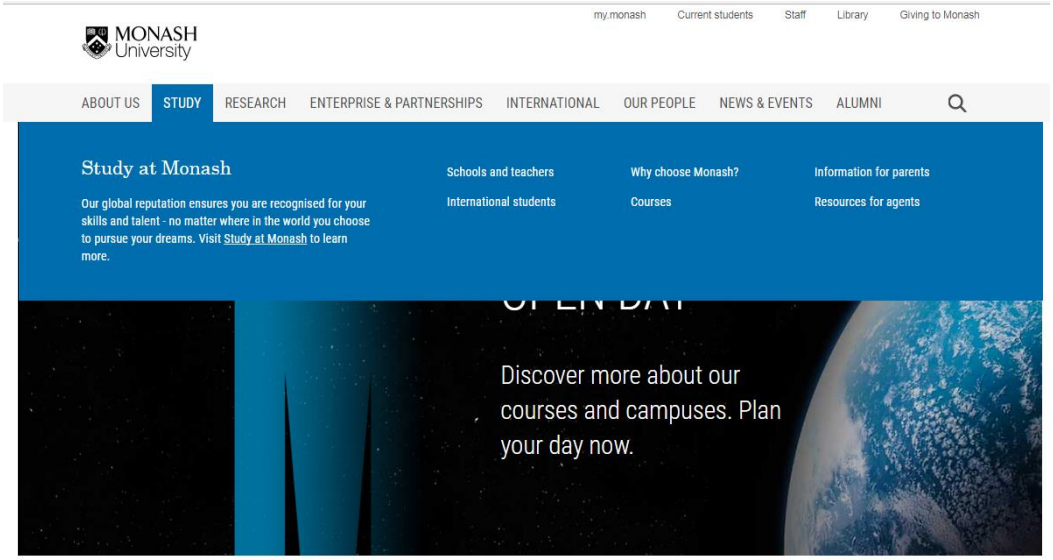
- Structural navigation
- Associative navigation
- Utility navigation

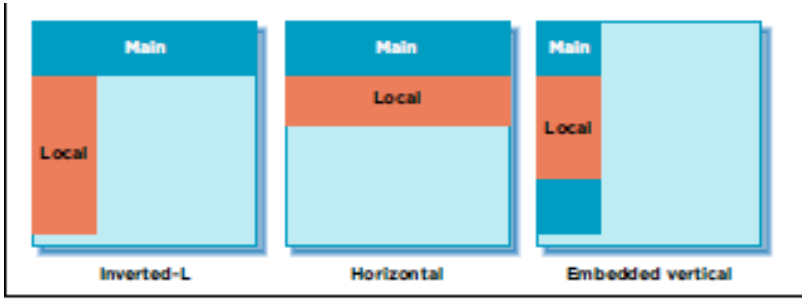
(James 2007)

Structural Navigation

- It involves navigation between pages according to a hierarchy:
  - Primary/main navigation between top-level pages
  - Local/secondary navigation between lower levels of the hierarchy
    - It can include three types of inverted-L, horizontal, and embedded vertical navigation

(James 2007)





(James 2007, pg 89)

Associative Navigation

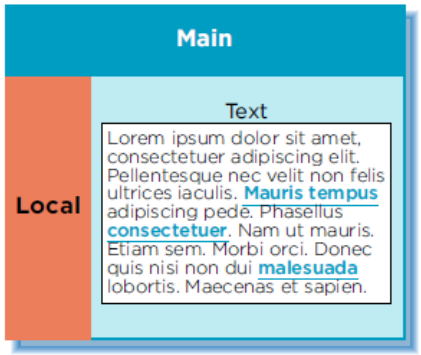
- Associative navigation connects pages with similar topics and content or with the same level of importance without considering their location in the hierarchy
- Three types of associative navigation:
  - Footer navigation, quick links and Contextual navigation

(James 2007)

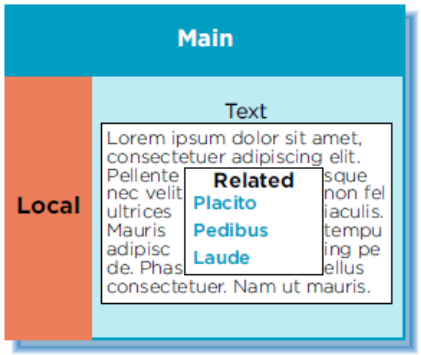
Source http://www.health.gov.au/

Contextual Navigation

- Navigation occurs within the content
- Three types of contextual navigation:
  - Embedded navigation (e.g. Links within the text)
  - Related links
    - Usually provided at the end or to the side of page
  - Adaptive navigation
    - E.g. the links change based on what the site visitors do/select



Embedded navigation



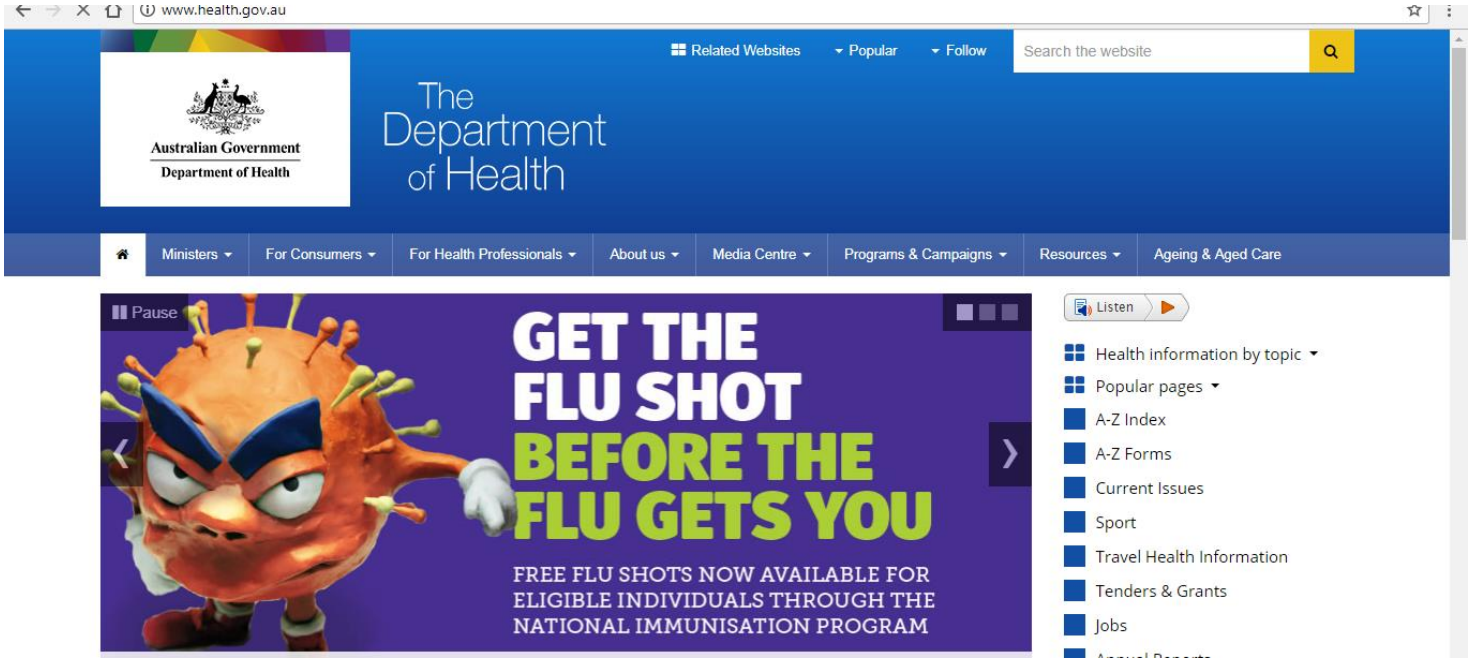
Related links

(James 2007, pg 92)

Adaptive navigation on amazon.com

Utility Navigation

- Utility navigation
  - Navigation between pages and features that helps with using the interface
    - E.g. Search
  - These might not be included in the hierarchy (James 2007)



Source http://www.health.gov.au/

How do we read a screen?

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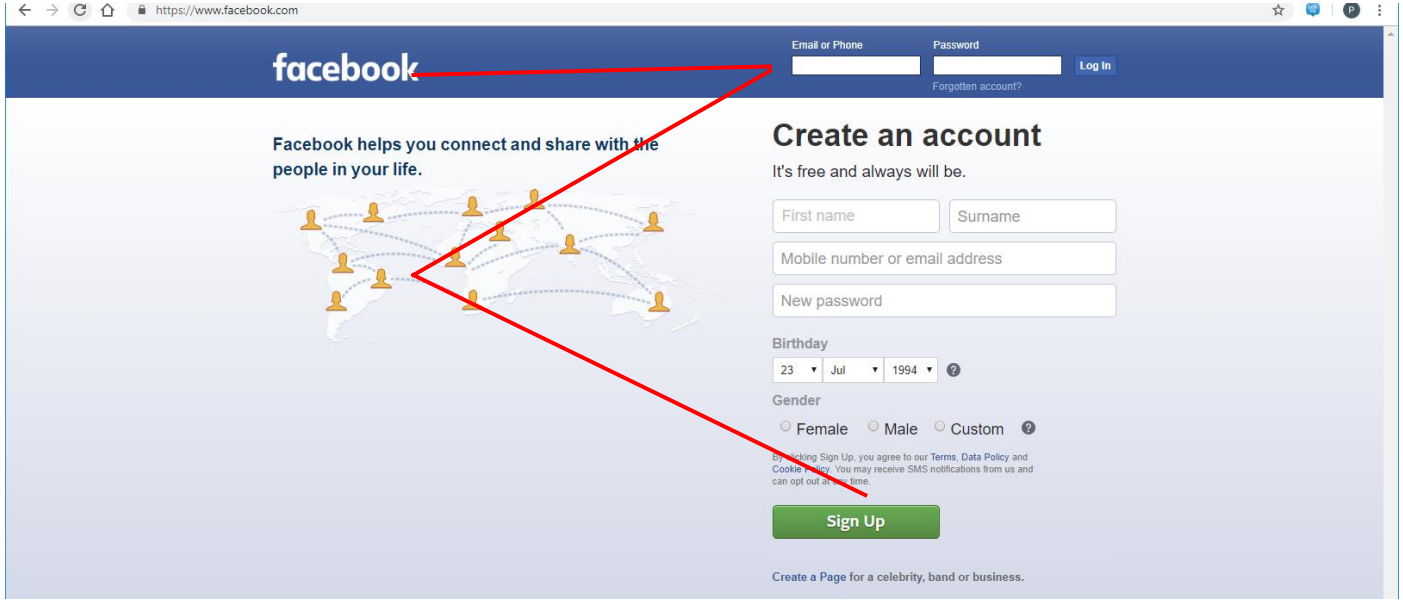
We read left to right, top to bottom



- The Z pattern is common for the human eye's scanning
- The F pattern is common for reading the contents of the page

Visual Flow

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- Consider the logical flow of the users' tasks.
- Create a logical path.
- Minimise eye movement.
- Use alignment and size uniformity for screen elements.

Designing for Eye Natural Movements

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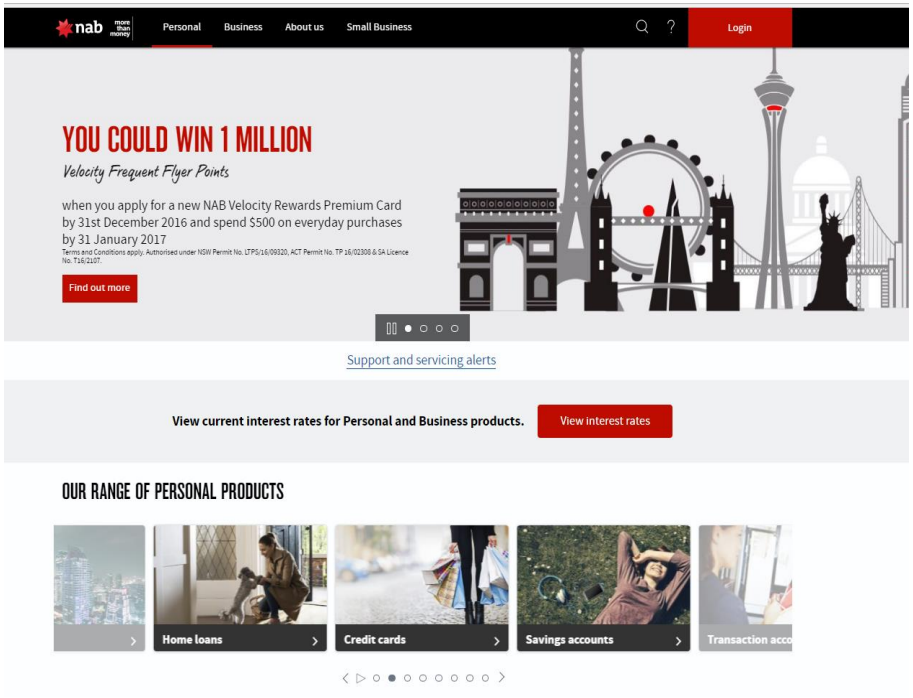
How do you read and search these screens?

Good logical flow

Eye movement follows a logical path



Source https://www.nab.com.au/

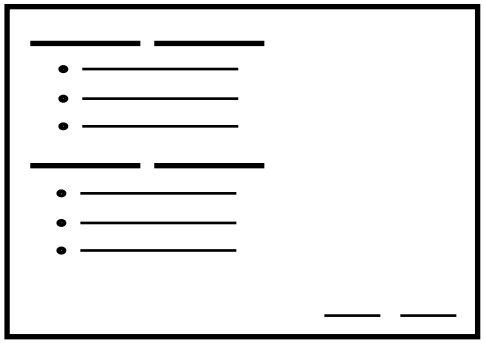
Bad logical flow

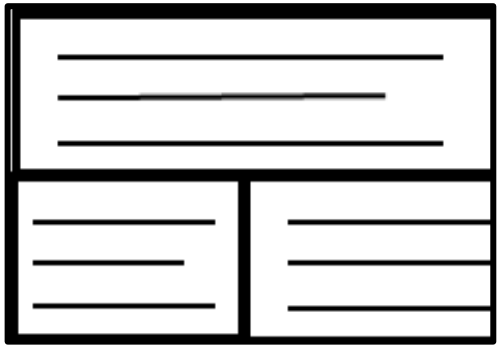
Eye movement all over the place

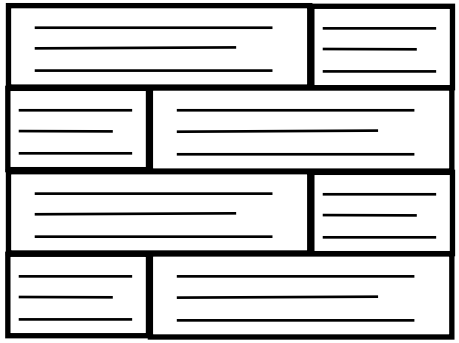
Source http://www.alternativetransportservices.co.uk/

Logical Flow and Sequencing

- Design to reflect how users normally read and search



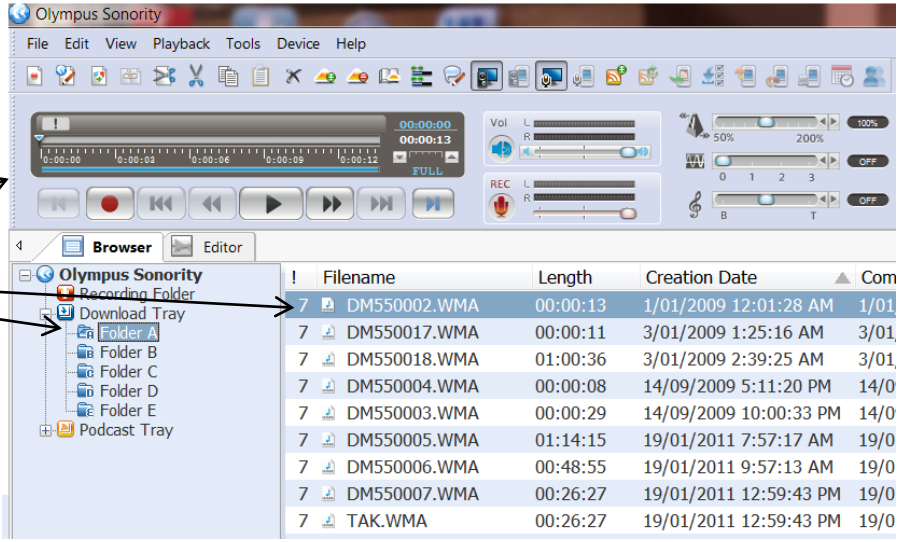




Good **Bad**

Direct attention to important items as appropriate.

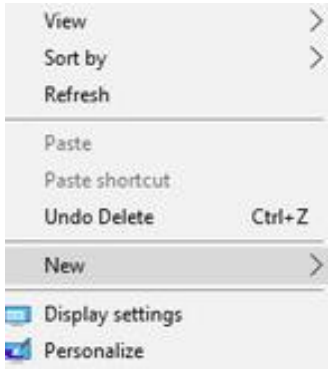
Provide initial focus.



Where am I?

- Allow users to backtrack in a sequence
- Provide good visual signposts and navigational cues
  - To indicate another menu is available (e.g. arrows, marked links)
  - Breadcrumbs show the user's position within an application so they can keep track of their location

My home ▶ My units ▶ Faculty of Information Technology ▶ FIT S2 2016 ▶ FIT-Hons-MT-S2-2016 ▶ Assignments



https://developer.apple.com/design/human-interface-guidelines/ios/app-architecture/navigation/

Navigation and Menus

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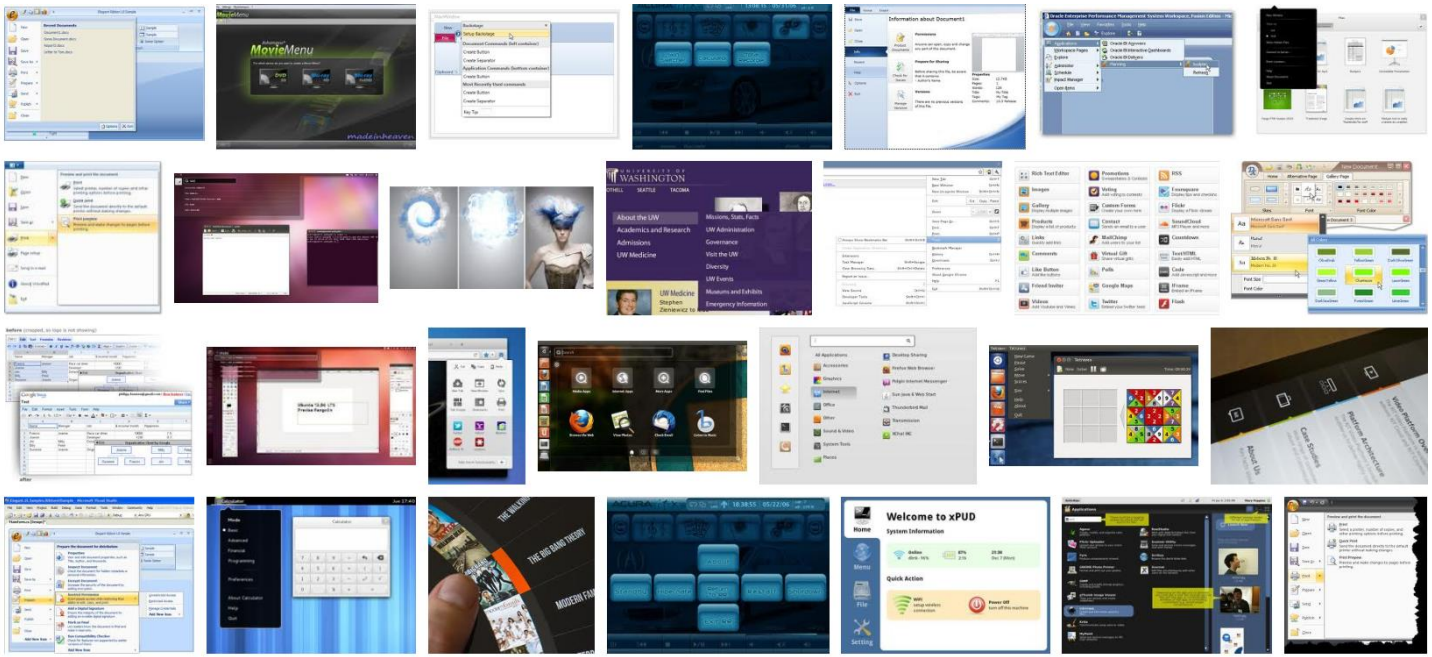
- The main mechanisms for navigation are the **menus**

Menus

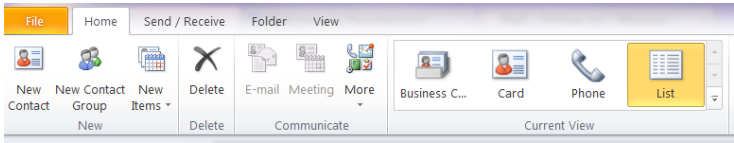
- A menu is a set of options from which the user can choose
- They are not just typical menu bars
- It provides the user with a list of choices relevant to their tasks
- They aim to reduce memory load by providing relevant options



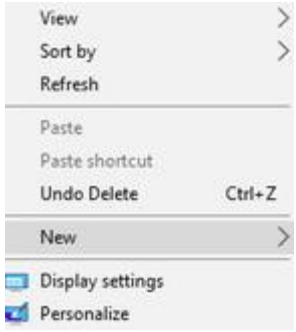
Menus Types

- Menu bar – menu items all displayed on one bar.

- Ribbons – group different tasks (introduced by Microsoft Office)



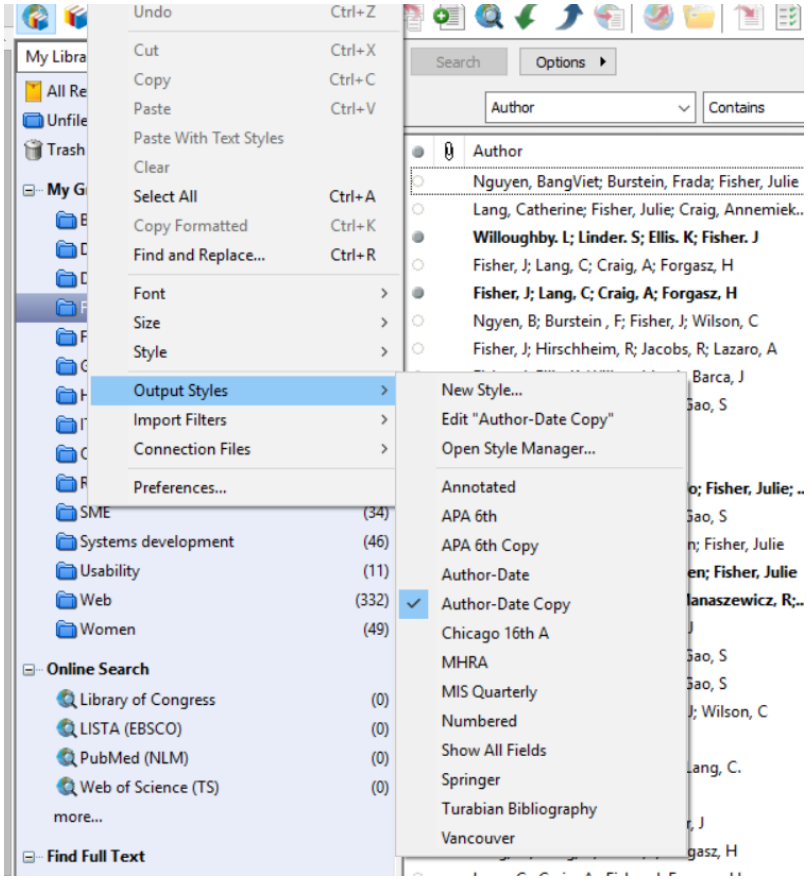
- Popup menus – cover part of the screen (when right-clicking), e.g. Windows popup menus



(Shneiderman et al, 2014)

Cascading Menus

- Cascading menus allow more functions to be offered on one single top-level menu item
- They usually use an arrow to point to the next item list in the menu



(Shneiderman et al, 2014)

Issues with Cascading Menus

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- Should be avoided if possible because:
  - Cannot see all the options available
  - Requires precise mouse movements
  - Difficult to select items
  - Difficult to remember where items are located

Drop Down Menus

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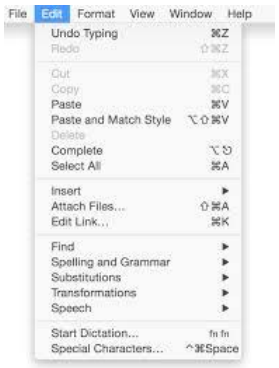
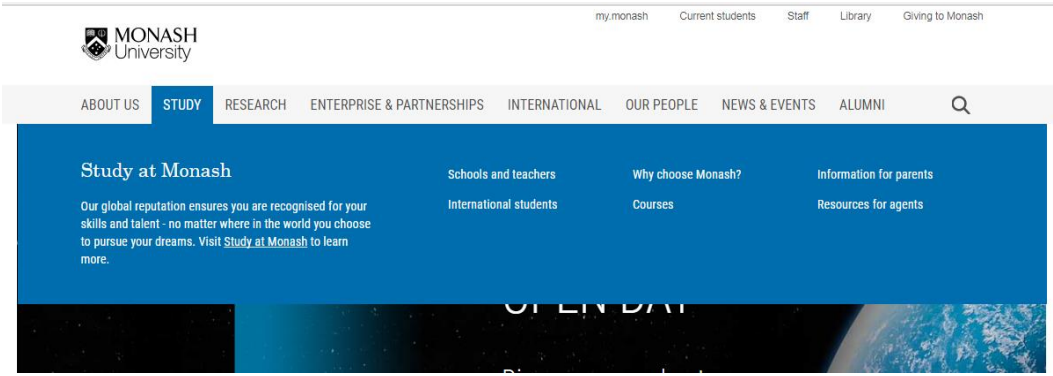
- Drop down menus are the most common type of menus
- They are usually accessible from the top menu bar
- They help to save the screen space
- Use constraints to grey out the unavailable options
- Avoid deep list of options (requires scrolling)
- Vertical or horizontal menus



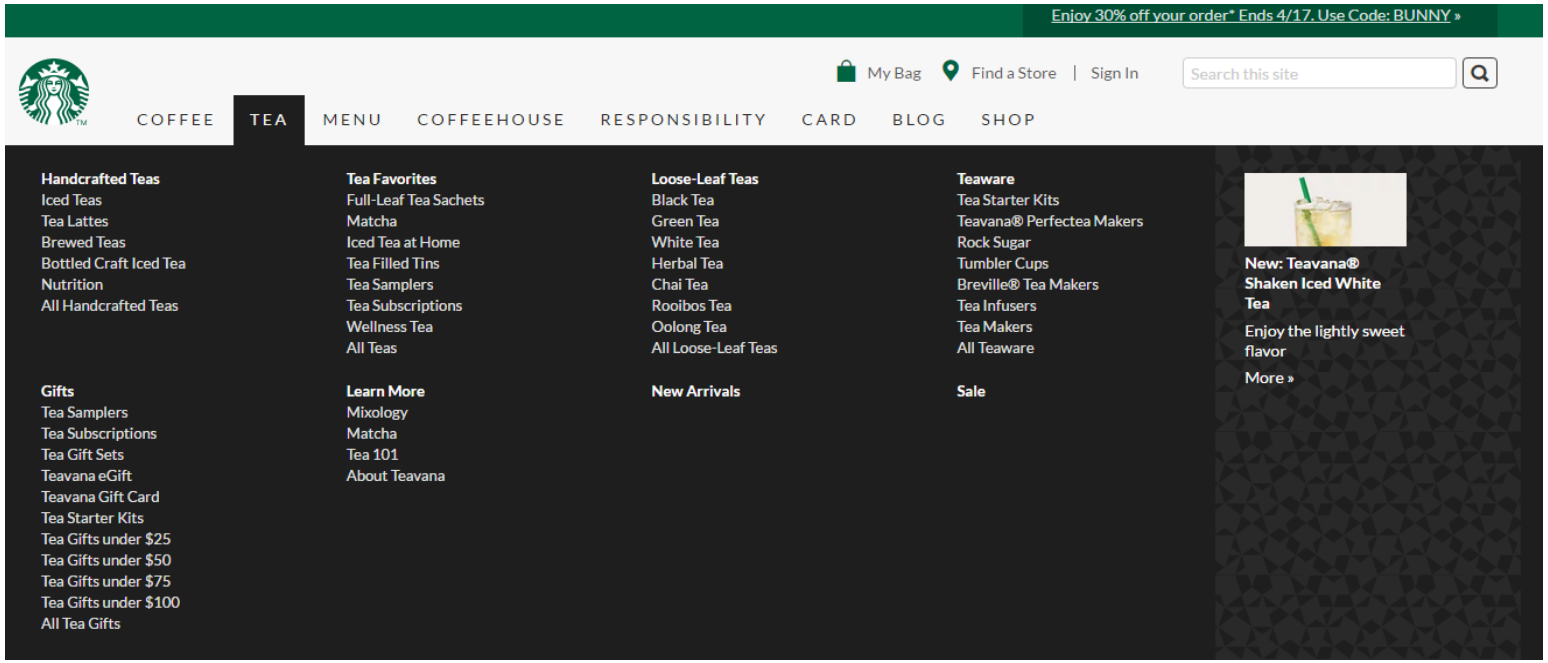


https://www.nngroup.com/articles/drop-down-menus/

Mega Menus

- Mega menus are used when there is a large number of menu options within multiple categories
- They usually drop down from the primary navigation menu

Depth



<- Breadth ->

http://www.vandelaydesign.com/mega-menus/

Mega Menus (cont'd)

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They improve **visibility**

- They provide users with a wider view and a big picture of the available options
- They show all the lower level options within the hierarchy
- The use of effective white/negative space

They **reduce memory load**

- Users can easily find and compare the items in the menu at a glance
  - Grouping items under categories, highlighting the title of each category, and the negative space between groups

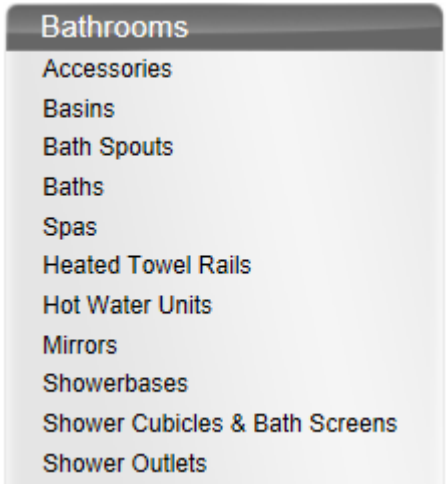
They **improve efficiency** (and usability as a result)

- Users can select options at any level without having to go through the hierarchy (e.g. selecting one level and then the other level)

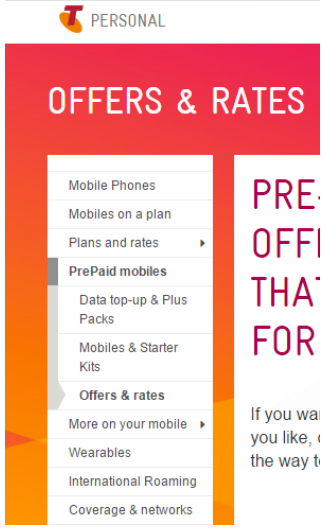
Grouping Menu Items

- Alphabetic
- Physical properties
- Frequency (popularity)
- Importance and relevance

Alphabetic



Frequency



What Type of Grouping?

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MYER

Search

login | join

giftorium | women | men | miss shop | beauty | kids & toys | home | electrical | sale | myer one | blog

gifts for her

Sleepwear
Accessories
Beauty Gift Sets
Body & Mind
Fashionable Tech
For the Home
Top Books
Trendy Young Thing
Shop All

gifts for him

Accessories
Barware
Fragrance
Grooming
Licensed Clothing
Star Wars
Top Books
Shop All

gifts for the host

Barware & Glassware
Brewing & Coffee
Serveware
Shop All

food fanatic

Appliances
Food for Gifts
Kitchen Gadgets
Top Cookbooks
Shop All

tech guru

Audio
Fitness Trackers
Instant Photography
Tech Toys
Shop All

kids cubby

Action Hero Zone
Art & Craft
Christmas Clothing
Figurines & Collectibles
Games & Puzzles
Nursery
Sleepwear
Top Books
Top Toys
Wooden Toys
Shop All

paws corner

stocking fillers

the christmas shop

Shop by Theme
Shop by Product

gift cards

christmas at myer

Christmas Events
Christmas Film
Christmas Storybook
Santaland
Write a letter to Santa
Christmas CD

personalised gifts

Nutella
M&Ms
Barbie
Mitch Dowd
Mon Purse
Personalised Art
Men's Leather Goods
Kiehl's
Disney
Tommy Hilfiger

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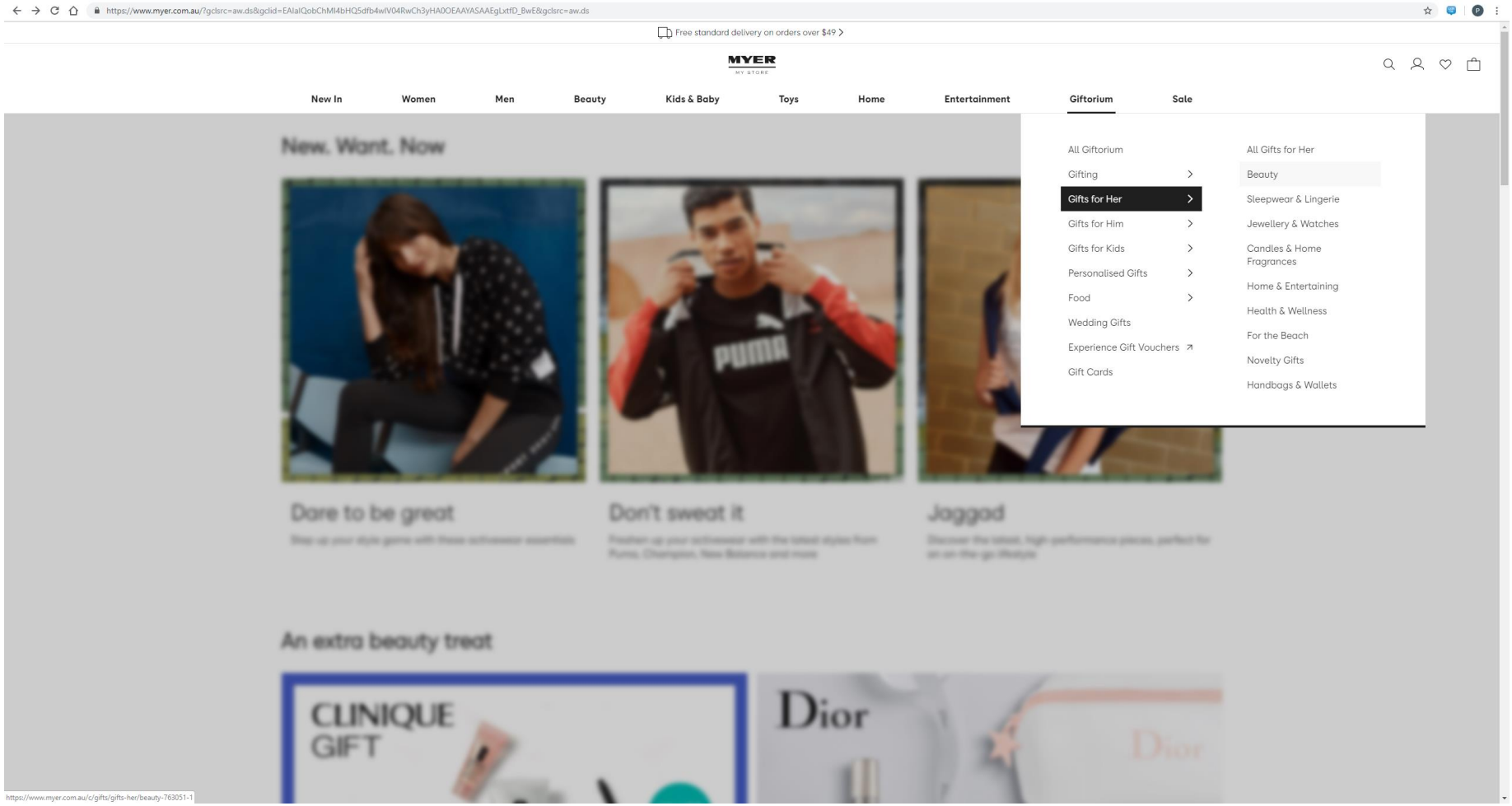
REVLON

INIQUE

Source http://www.myer.com.au/ December 2016

Changes in Menu Design Trends



Source http://www.myer.com.au/ July 2019

Hidden Menus

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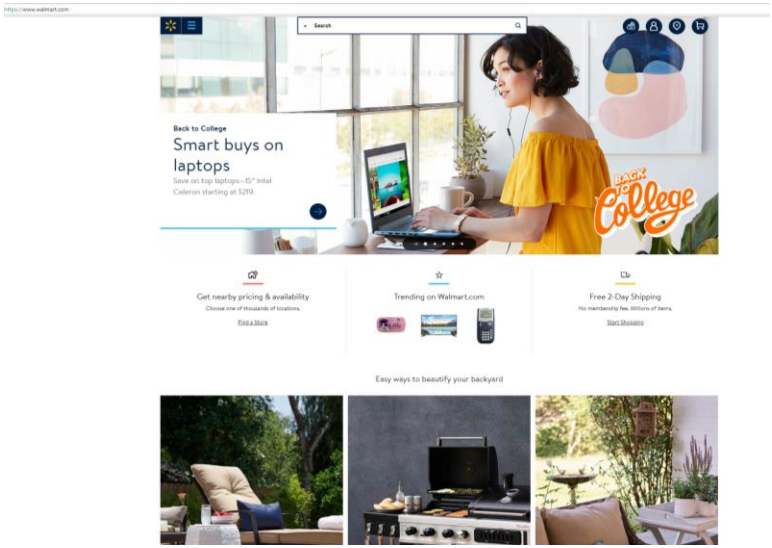
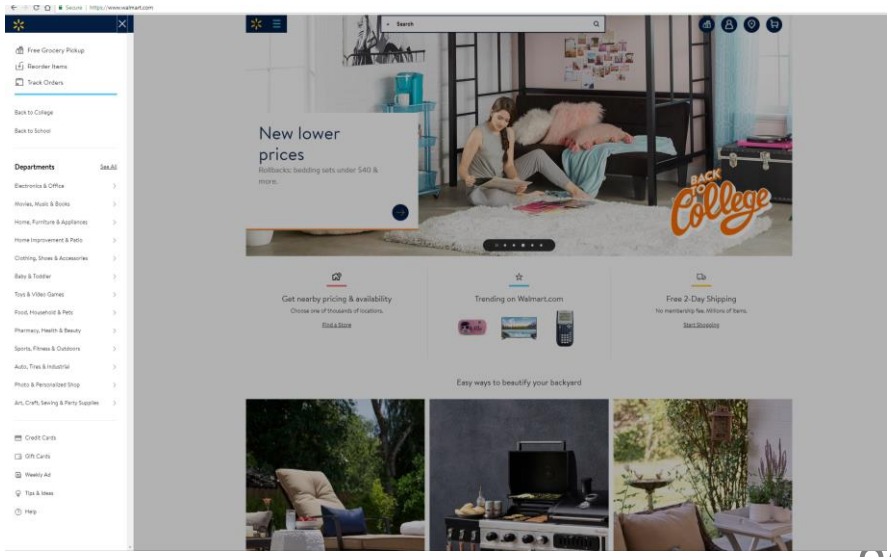
- The menus that use a navicon (aka the hamburger icon) that consists of three horizontal stripes and lines

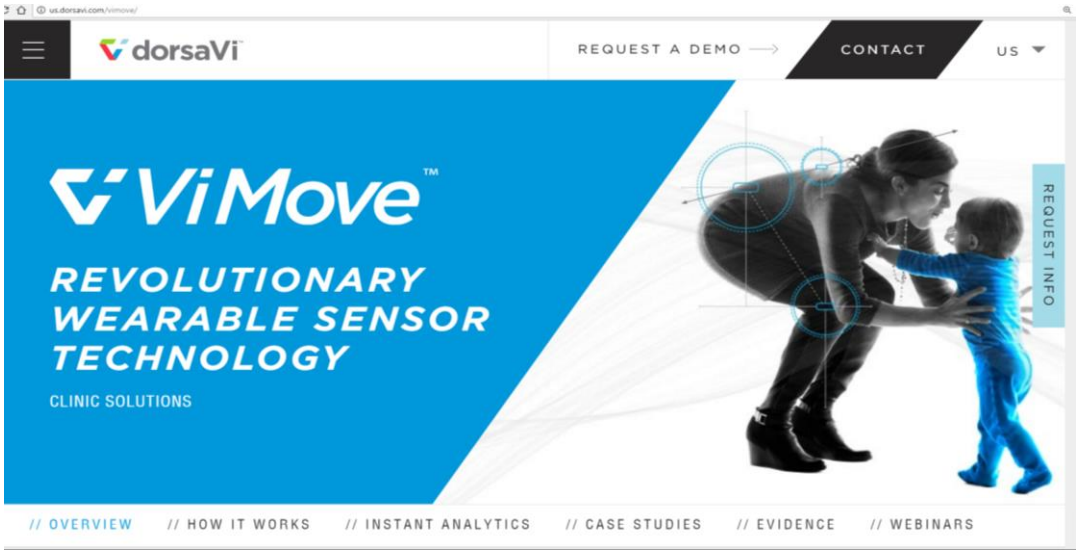
- They hide the menu and show it when the user clicks on the icon
- It helps to avoid cluttering the screen
- But it introduces usability problems (visibility)

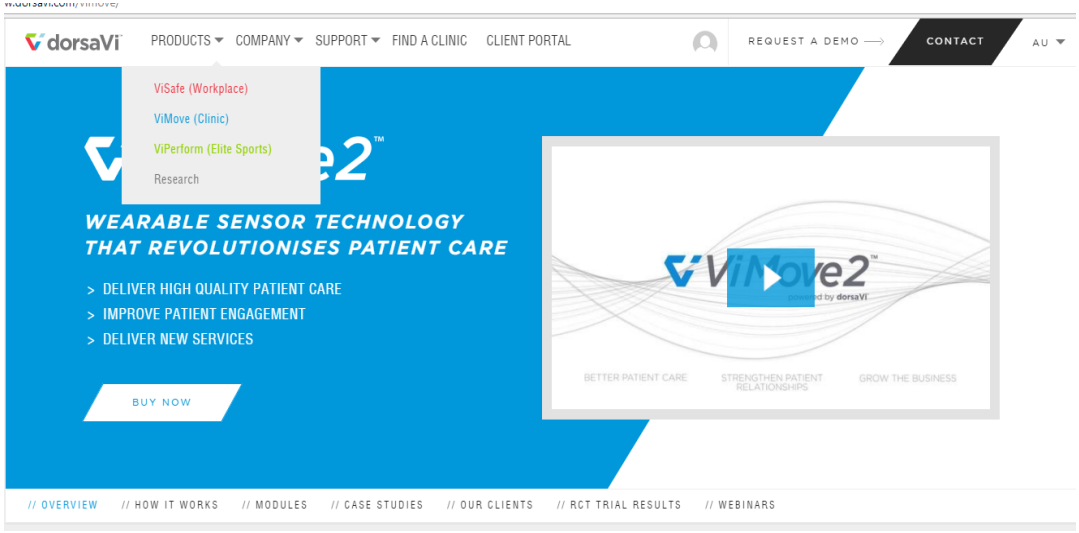




https://www.walmart.com/

Changes in Design Trends





https://www.dorsavi.com/au/en/vimove/

Mystery meat navigation

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- The video for Mystery meat navigation

Guidelines for Menu Design

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- Strive to be consistent
- Use familiar and concise terminology to describe items
- Provide visibility
- Avoid long and complex menus, and reduce short term memory
- Meaningful grouping of items
- Structure the menu and organise your items relevant to user tasks
- Logical sequence of items
- Using effective negative spaces
- Provide an easy option to go back, and return to the main menu
- Consider knowledge in the head and the world

Guidelines for Menu Design (cont'd)

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- Display menus such that they are effortless and natural to find and use
- Provide a number of different navigation options for items
- Limit the use of cascading menus for frequently used functions
- Reduce errors through disabling/greying out inapplicable menu items
- With mega menus, broad-shallow menus are preferred to narrow-deep ones

Summary

- Menus are important for navigation
- There are a variety of menu types and selecting the right style is important to ensure users find the items quickly, and complete their task easily and successfully.

Importance of Navigation

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"Unnecessary or difficult navigation is a major frustration to users. In fact poorly designed navigation presents one of the largest and most common problems in the usability of interactive products – desktop, web-based, or otherwise."

(Cooper, Reimann and Cronin 2007)

References

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- Don Norman, 2013, The Design of Everyday Things
- Preece, J., Y. Rogers and H. Sharp (2002). *Interaction Design -- beyond human computer interaction*. USA, John Wiley and Sons.
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