

# Information Architecture

## 1. Content Organisation and Labelling

# What is Information Architecture?

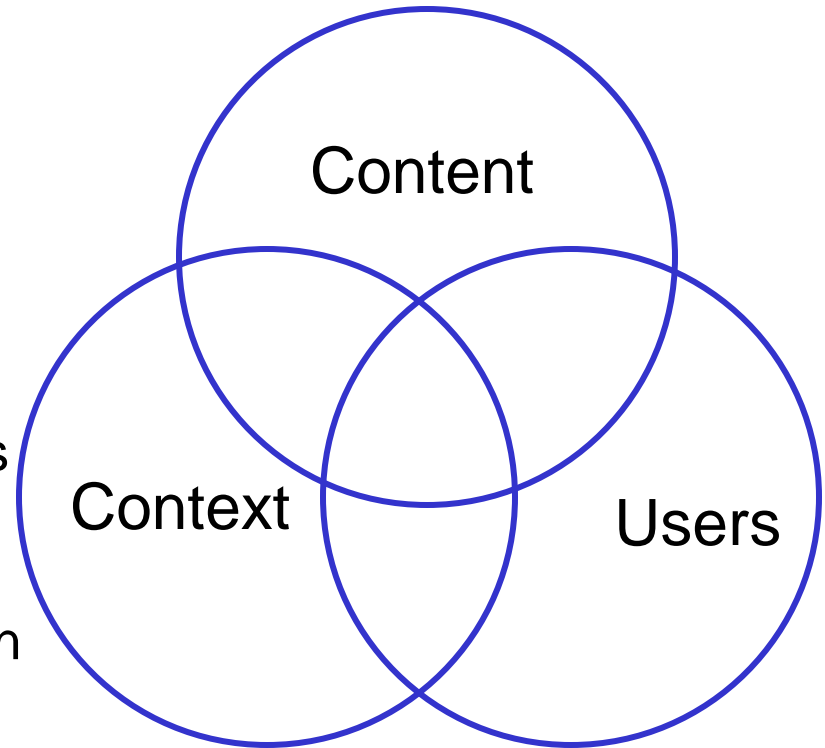
- “Information architects *organise* content and design *navigation* systems to help users find the information they need.”
- *Organise* means to group and *label* content at the macro (e.g. collections, areas) and micro (e.g. pages, fields) levels.
- *Navigation* refers to the presentation of the organisation of the site, the design of the means for “moving around” the site, and tools such as search engines, indexes and site maps [next lecture]

# IA model

**Content:** document/data types, content objects, volume, existing structure

**Context:** business goals, funding, politics, culture, technology, resources, constraints

**Users:** audience, tasks, needs, information seeking behaviour, experience



# Why is Information Architecture important?

*For the user...*

- Inability to find information is a major complaint
- Information needs vary (known item, exploratory, comprehensive research)
- Preferences vary (searching, browsing, mixture)
- Expertise varies (query languages, domain knowledge)

# Why is Information Architecture important?

*For the site owner*

- Cost of finding information (esp. for Intranets)
- Maintenance costs
- Cost of *not* finding information or carrying out function

# Role of Information Architect

- In the context of site development:
- Often leads the discovery/recommendations phase.
- Highly collaborative during conceptual design phase.
- Minimal involvement in production/implementation phase.

# IA deliverables

- Blueprints (from top level to “chunk” level).
- Major page mockups/templates.
- Navigation systems.
- Labelling systems/controlled vocabularies/thesauri.
- Policies and procedures.
- Production work (e.g. classification and indexing).
- Training (e.g. educating an indexer).

# These two lectures on IA

*Today:*

A. Content Organisation

B. Labelling

[how the system is organised “behind the scenes”]

*Next lecture:*

A. Navigation

[what the user actually sees/how they use it using a particular medium, e.g. web page, smart phone]



# A. Content Organisation

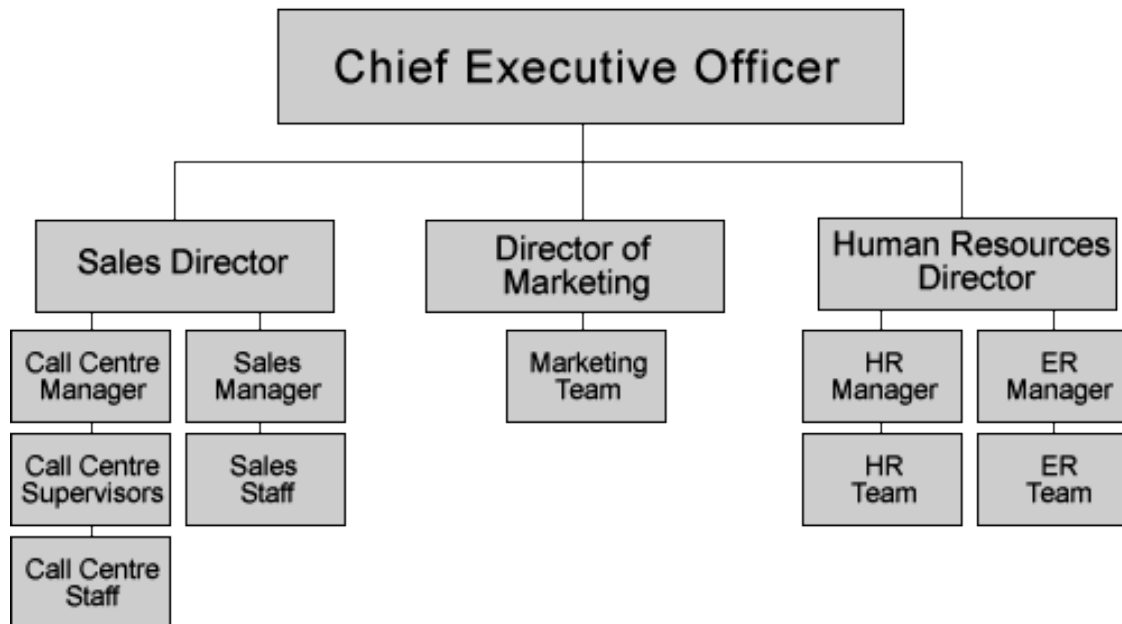
- Natural tendency for people to organise information
- Aids understanding, explanation, control
- Organisation systems composed of
  - a1) Organisation *structures* (possible “shapes”)
  - a2) Organisation *schemes* or classifications (how to map the information to the “shapes”)

# a1) Types of Organisation Structures

- Hierarchies: useful for the top levels of a site (most sites)
- Databases: organise large bodies of homogeneous content
- Linear, e.g. chronological
- Hypertext: complement other structural types
- Hybrids: often make most sense within a site

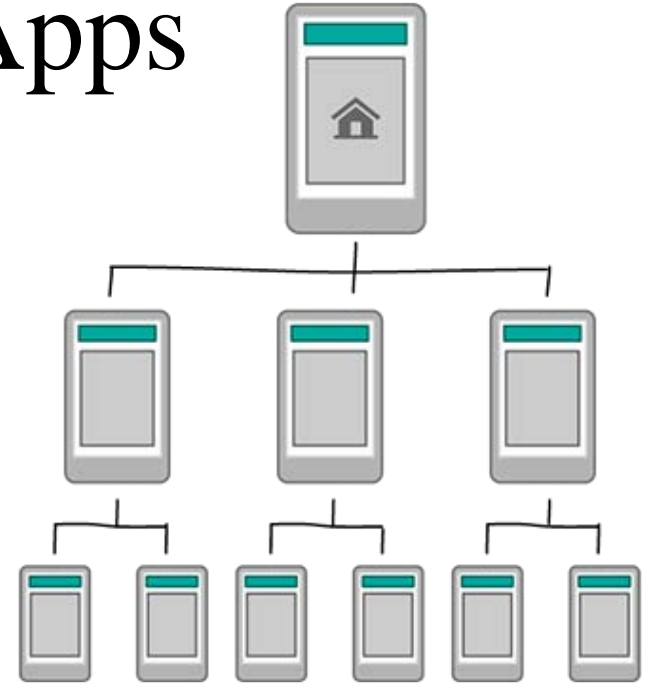
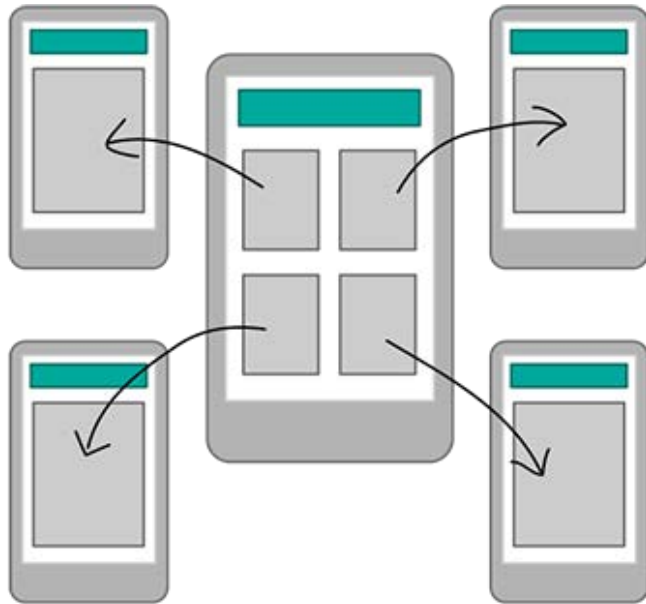
# Hierarchical Organisation Structure

- Top-down approach
- Familiar and simple concept
- Common way of structuring information

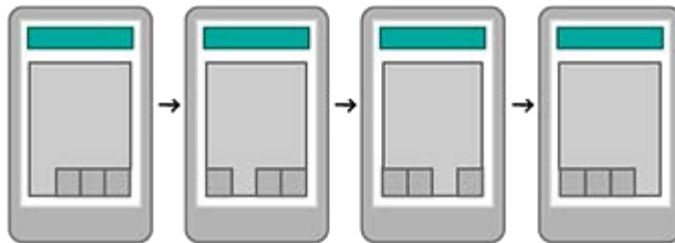


# Hierarchies in Mobile Apps

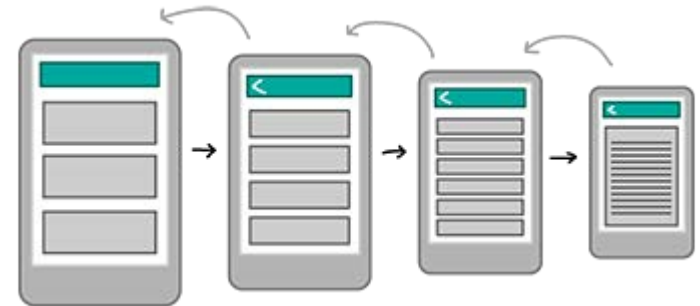
## Hub and Spoke



## Tabbed view



## Nested doll

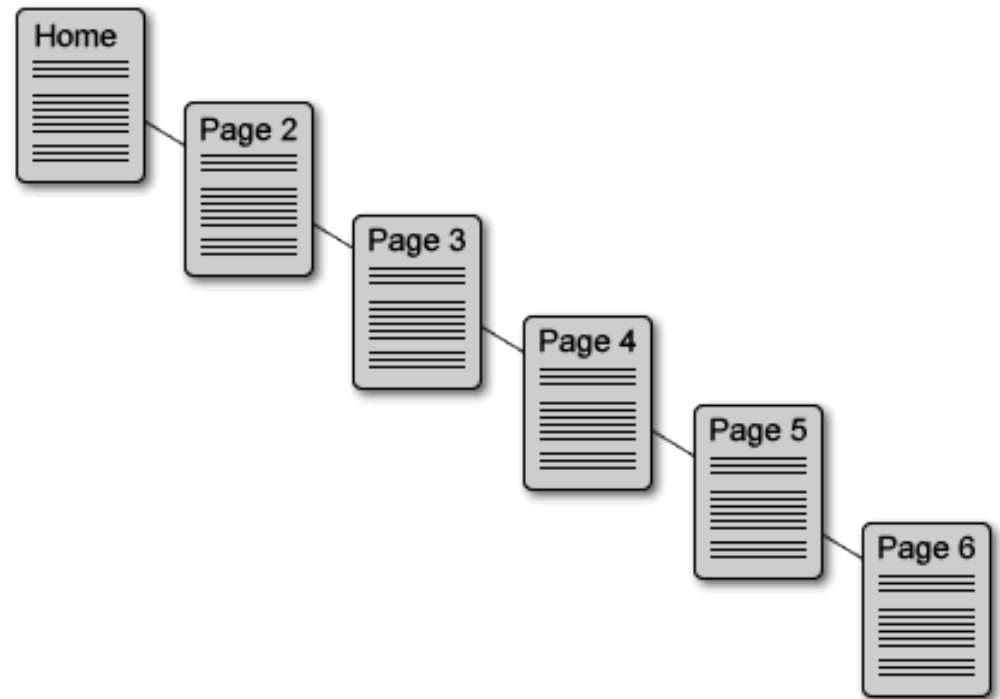


# Database Organisation Structure

- Bottom-up approach
- Useful for content that is relatively homogeneous
- Content is arranged for ease and speed of search and retrieval
- Metadata, controlled vocabularies are important to this approach
- Allows tagging of documents and info objects to enable searching and browsing

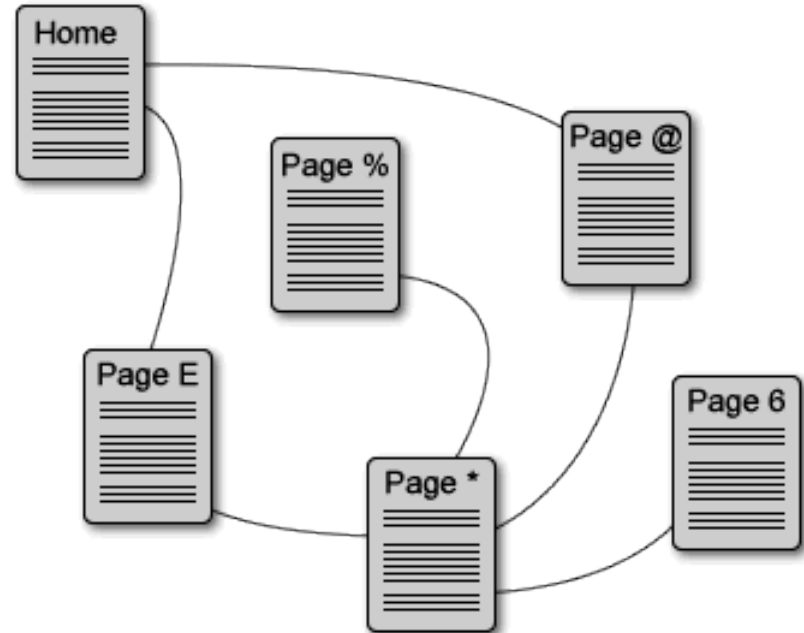
# Linear Organisation Structure

- A micro-structure suitable for only some types of content
- Not scalable
- Used more in transactional or process style tasks



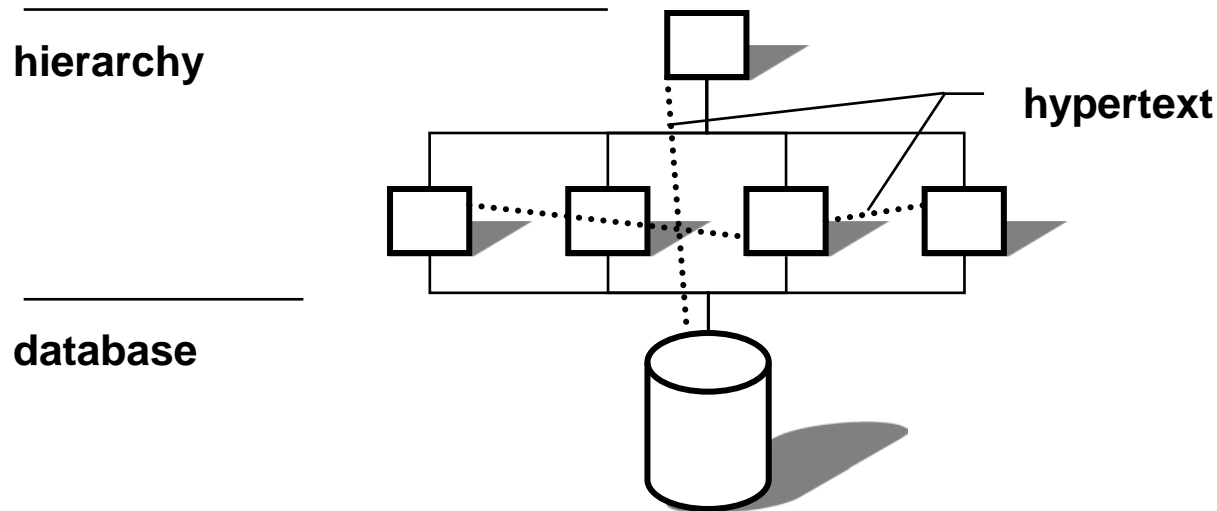
# Contextual Organisation Structure

- Facilitated by hypertext
- Reflected in hyperlinking
- Underlying structure should still be organised to prevent user confusion



# Hybrid Organisation Structure

- Combining different structures, for example:





## a2) Organisation Schemes: Exact

- Examples
  - By name, alphabetically (e.g. directory)
  - By geography (e.g. atlas)
  - By chronology (e.g. timeline)
- Characteristics
  - Neat and easy to maintain
  - Everything has a place (one right answer)
  - Extremely useful for users who know exactly what they're looking for

# Exact scheme: Example

## Browse Britannica

[E-mail this article](#) [Print this article](#)

In addition to an excellent search engine, *Britannica.com* offers a variety of browse features to enhance your research experience.



[Browse Alphabetically](#) | Using the traditional organization of the encyclopaedia, alphabetical browse is an excellent option when you are unsure of the proper spelling of a subject of interest. It is also a good way to stumble across some unexpected treasures.

Alphabetical classification



[World Atlas](#) | Interactive maps allow for easy exploration of the nations and cultures of the world's regions. Our atlas charts the people, land, government, history, major cities, and landmarks of the seven continents and four oceans.

Geographical classification

# Exact scheme: Example (chronological)

IMDb [Register](#) [NOW PLAYING](#) [MOVIE/TV NEWS](#) [MY MOVIES](#) [FUN & GAMES](#) [MESSAGE BOARDS](#) [U.S. MOVIE SHOWTIMES](#) [HELP & GUIDE](#) [IMDbPro](#)

[Also Available](#) [Top Movies](#) [Photo Galleries](#) [Video/DVD](#) [Browse IMDb](#) [Independent Film](#)

Search the database for  
 [Go!](#)  
[More searches](#) | [Tips](#)

Search Again  
 13 June  
 On this day:  
 January  
 February  
 March  
 April  
 May  
 June  
 July  
 August  
 September  
 October  
 November  
 December

## June 13 Movie History

On 13 June, the following people were born:

Name	Year	Name	Year
<a href="#">Justin R. Taylor</a> (15)	1987	<a href="#">Zoran Stojiljkovic</a> (65)	1937
<a href="#">Mary-Kate Olsen</a> (16)	1986	<a href="#">Shirô Itô</a> (65)	1937
<a href="#">Ashley Olsen</a> (16)	1986	<a href="#">Helena Ruzicková</a> (66)	1936
<a href="#">Kat Dennings</a> (16)	1986	<a href="#">Javier Aguirre (I)</a> (67)	1935
<a href="#">Phillip Van Dyke</a> (18)	1984	<a href="#">Christo</a> (67)	1935
<a href="#">Sarah Schaub</a> (19)	1983	<a href="#">Raili Tiensuu</a> (68)	1934
<a href="#">Jonathan Strauss (II)</a> (22)	1980	<a href="#">Janet Pilgrim</a> (68)	1934
<a href="#">Rochelle Davis</a> (22)	1980	<a href="#">Attila Lóte</a> (68)	1934
<a href="#">Dynamite (I)</a> (23)	1979	<a href="#">Dragomir 'Gidra' Bojanic</a> (69)	1933
<a href="#">Brian Dowling</a> (24)	1978	<a href="#">Holger Vistisen</a> (70)	1932
<a href="#">Collin Fletcher</a> (24)	1978	<a href="#">Anneli Haahdenmaa</a> (72)	1930
<a href="#">Ethan Embry</a> (24)	1978	<a href="#">Shelly Abend</a> (73)	1929

# Exact scheme: Example (geographical)

 **Destinations** 

① choose a region      ② choose a country

→  →



Europe      Asia      Americas


Africa      Middle East      Australasia+ Pacific

Where do you want to go

# Organisation Schemes: Inexact

- Examples
  - By topic (e.g. bookstore, yellow pages)
  - By task (e.g. buy, find, contact)
  - By audience (e.g. home, small business, government)
- Characteristics
  - Messy and full of overlap.
  - Hard to implement and maintain.
  - Extremely useful for users who don't know exactly what they're looking for (*subject searching, associative learning*).

# Inexact scheme: Example (topical)

 open directory project

[about dmoz](#) | [add URL](#) | [help](#) | [link](#) | [editor login](#)

[advanced](#)

**Arts**  
[Movies](#), [Television](#), [Music](#)...

**Games**  
[Video Games](#), [RPGs](#), [Gambling](#)...

**Kids and Teens**  
[Arts](#), [School Time](#), [Teen Life](#)...

**Reference**  
[Maps](#), [Education](#), [Libraries](#)...

**Shopping**  
[Autos](#), [Clothing](#), [Gifts](#)...

**World**  
[Deutsch](#), [Español](#), [Français](#), [Italiano](#), [Japanese](#), [Nederlands](#), [Polska](#), [Svenska](#)...

**Business**  
[Jobs](#), [Industries](#), [Investing](#)...

**Health**  
[Fitness](#), [Medicine](#), [Alternative](#)...

**News**  
[Media](#), [Newspapers](#), [Weather](#)...

**Regional**  
[US](#), [Canada](#), [UK](#), [Europe](#)...

**Society**  
[People](#), [Religion](#), [Issues](#)...

**Computers**  
[Internet](#), [Software](#), [Hardware](#)...

**Home**  
[Family](#), [Consumers](#), [Cooking](#)...

**Recreation**  
[Travel](#), [Food](#), [Outdoors](#), [Humor](#)...

**Science**  
[Biology](#), [Psychology](#), [Physics](#)...

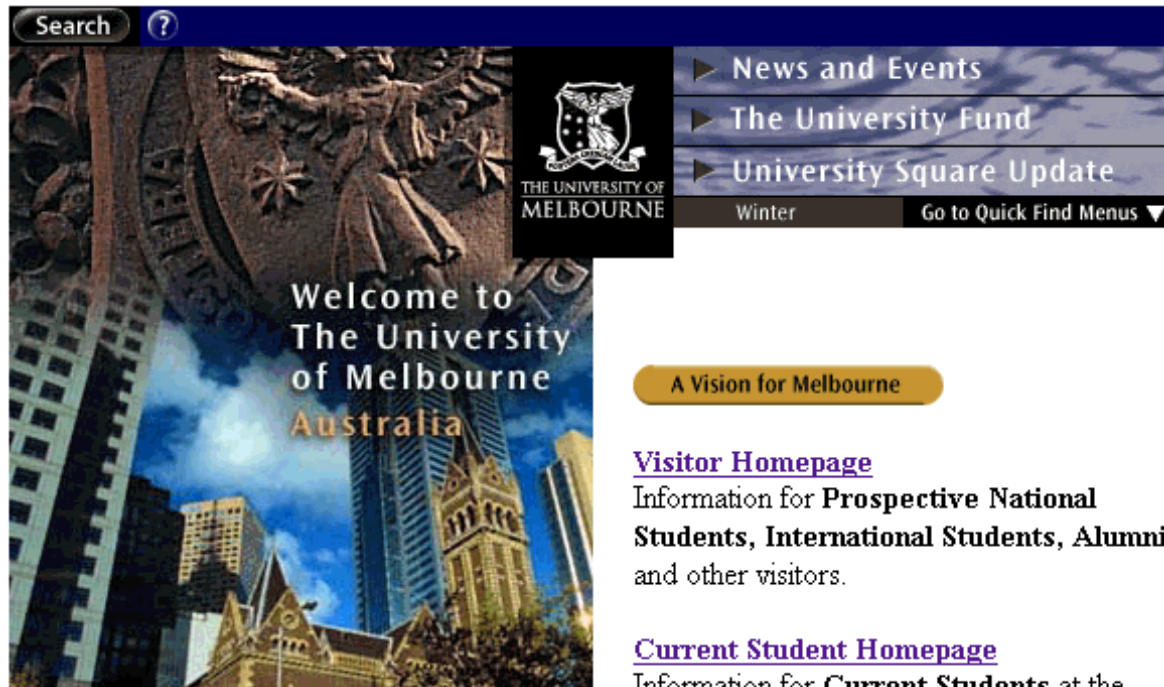
**Sports**  
[Baseball](#), [Soccer](#), [Basketball](#)...

[Become an Editor](#) Help build the largest human-edited directory of the web



Copyright © 1998-2002 Netscape

# Inexact scheme: Example (audience)



## [Visitor Homepage](#)

Information for **Prospective National Students, International Students, Alumni** and other visitors.

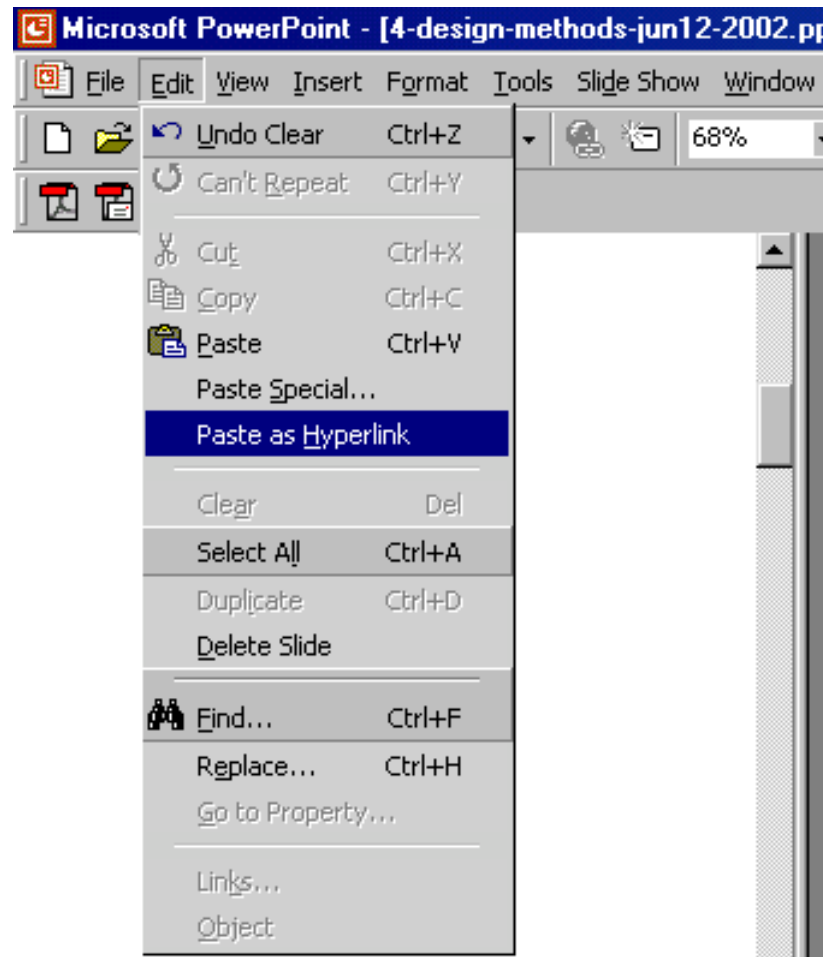
## [Current Student Homepage](#)

Information for **Current Students** at the University of Melbourne.

## [Staff Homepage](#)

Information for **Staff** at the University of Melbourne.

# Inexact scheme: Example (task)






# Organisation schemes: hybrid

- Hybrid scheme
  - Commonly used on the web
  - Use with caution
    - Can impede formation of correct mental model
    - Slows users down so they have to skim over all navigation options

# Hybrid scheme: Example (poor)




UNIVERSITY  
OF ABERDEEN

Welcome

Search | Email & Telephone |

- **A-Z Index**
- **The University and Aberdeen**
- **Prospective Students**
- **Prospective Postgraduates**
- **Prospectuses**
- **Departments, Colleges and Schools**
- **For Students**
- **For Staff**
- **Graduates and Alumni**
- **Giving to Aberdeen**
- **Jobs**
- **Research**
- **Freedom of Information**
- **Directory of Experts**
- **Commercial Services**



**Welcome from the Princip**  
Principal C Duncan Rice wel

**Undergraduate Bursarie:**  
Apply now for a chance to w

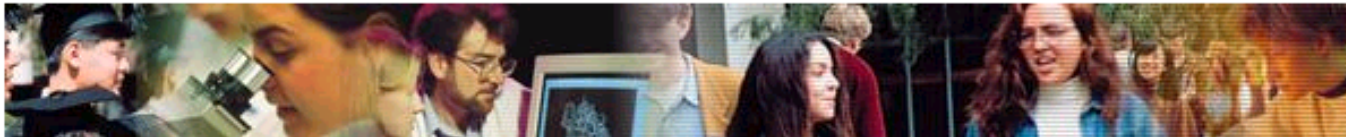
Audience-specific classifications are interspersed among topical classifications

# Hybrid scheme: Example (better)

[MONASH HOME](#) [MONASH INFO](#) [NEWS & EVENTS](#) [CAMPUSES & FACULTIES](#)

MONASH ONLINE


MONASH UNIVERSITY



## Welcome to Monash

Monash leads the way with its international focus and a long-standing commitment to quality teaching and learning, and innovative research.

## The Latest



- [Monash grads race for the top job](#)
- [DNA used to save the wombat](#)
- [Mum's the word](#)

## Quick Links


- [Monash University Library](#)
- [A - Z of Monash web sites](#)

**FOR**

- [Prospective Students](#)
- [Current Students](#)
- [Monash Alumni](#)
- [Monash Staff](#)

**ABOUT**

- [The University](#)
- [Studying at Monash](#)
- [Teaching at Monash](#)
- [Research at Monash](#)

A MEMBER OF  
**Group of Eight**  
AUSTRALIA'S LEADING UNIVERSITIES

[HELP ?](#) [CONTACTS](#) [SITEMAP](#) [STAFF DIRECTORY](#) [SEARCH](#)

# Hybrid scheme: Example (better)

Mixture of exact  
(alphabetical and  
geographical) with  
inexact (topical).

Clear divisions between  
each scheme

**Browse Britannica**

[E-mail this article](#) [Print this article](#)

In addition to an excellent search engine, *Britannica.com* offers a variety of browse features to enhance your research experience.



[Browse Alphabetically](#) | Using the traditional organization of the encyclopaedia, alphabetical browse is an excellent option when you are unsure of the proper spelling of a subject of interest. It is also a good way to stumble across some unexpected treasures.



[World Atlas](#) | Interactive maps allow for easy exploration of the nations and cultures of the world's regions. Our atlas charts the people, land, government, history, major cities, and landmarks of the seven continents and four oceans.



[Browse by Subject](#) | This browse feature organizes the encyclopaedia into an outline that allows for efficient subject matter research. At the top of the outline are art, history, society, religion, science, technology, mathematics, and philosophy.

# Content Organisation example:

## Mixed-up menu

- My minestrone soup
- Rabbit stew
- Warm salad of radicchio
- Radish & Fennel salade tiède
- Salade Nicoise
- Ratatouille
- Chickpea & leek soup
- Tagliatelle with mushroom
- Beetroot salad
- Taboulleh
- Tagliatelle with pesto and mussels
- Clam chowder
- Chicken liver salade tiède
- Ravioli & prosciutto
- North African lamb with apricots

# Some structure

- My minestrone soup
- Chickpea & leek soup
- Clam chowder
- Beetroot salad
- Salade Nicoise
- Taboulleh
- Warm salad of radicchio
- Radish & Fennel salade tiède
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# IA for mobile applications

- Same principles apply
- But, smaller screens pose challenges:
  - Smaller lists, Fewer categories
  - Less content per page
  - Less space for navigation
- Other challenges:
  - Touch screens
  - Changing contexts & viewing conditions
  - More distractions

## B. Labelling systems (1)

- Labelling is a form of representation
  - A label represents a content chunk
  - “Contact us” represents name, phone number, fax number, address, email address
  - Labels should trigger the right association in the user’s mind



# Labelling Systems (2)

- Strive for *systems* of labels which are:
  - specific and clear (*for intended audiences*)
  - predictable
  - consistent
- They will probably be the menu used to navigate your site

# Finding Labelling Systems

- Look for dominant organisation scheme (could use card sort)
- Observe physical analogues, e.g. shops, libraries
- Observe user behaviour through search logs (e.g. to note very popular searches - like Amazon's Harry Potter section)
- Check out the competition

# Card sorting - overview

- A technique used to gain an understanding of the user's concept of how information should be organised
  - Best as an individual activity
  - Main types are “open” and “closed”
  - Many variations are possible

# Open card sorting procedure

- User is given a stack of randomly arranged cards
- Each card contains the name of one item (and sometimes a brief description)
- User is asked to sort cards into groups of related items
- Users can be asked to label resulting groups

# Closed card sorting procedure

- Same as open card sorting, except:
- Users are given category labels and asked to assign cards to relevant category

# Analysing card sort data

- Some cards sorts are relatively easy to analyse
  - Enter data into a card pairing worksheet
  - Diagram the relationships so that you can see them visually (affinity diagrams)
- Others require statistical analysis
  - Easiest to use software to perform cluster analysis
  - WebCat (NIST)  
<http://zing.ncsl.nist.gov/WebTools/WebCAT/overview.html>

# Finding labelling systems

- Adjust for consistency, so don't have a function, a class and a user group in same list e.g. Making Your Own Pasta, Meat Dishes & For Slimmers
- Decide what to do with oddments and outliers...

# Finding Labelling Systems

- Do labels match?
- Do you have a reasonable number of categories? Not too few or too many?
- Are categories right size?
- Does each have several members?
- Is any category in need of further sub-categorising?
- You now have a taxonomy for your content



# Bad Reasons for Choosing Labels

How much space there is on the button

How bored the designer is feeling  
with current labels

# Likely approaches

- Expected users, e.g. landlords, holidaymakers, dog owners, potential students
- Functions, e.g. booking a room, registering, finding a flight
- Classes, e.g. stuffed animals, skiing holidays, cottages in Devon, desserts

# Imagination may be needed

Google's "Feeling lucky?"

Greetings Cards:

Just because

Wishes and thoughts

Keep in touch

Just a note

May take a lot of thinking to get effortless feel

# Not good

- Liquid lunches
- Mediterranean choice
- Salads
- For carnivores
- Vegetable dishes
- Salades tièdes

# Another “not good” example

- banana
- oranges
- apple sauce
- exotic fruit
- citrus fruit
- canned
- cider

(from a supermarket website)

What would be a good  
taxonomy for the restaurant?

Why?

# Not bad

- soups
- cold salads
- warm salads
- pasta dishes
- fish dishes
- meat dishes
- (ratatouille?)

# Content may be in two places at once

Use facets (characteristics) to provide multiple categorisations, e.g. films with Gérard Depardieu, French films, adaptations of Balzac, films of the 1980's, films set in Middle Ages, historical romances...

But can be complex and confusing



# Labelling Systems

Evaluate:

- with Subject Experts if appropriate
- with focus groups, query analysis, user testing.

# Learning outcomes

Given a description of a system

You should be able to

- Explain how different information organization structures and schemes can be used
- Decide on content organization and labels, for example using card sorting
- Critique an information architecture