

# Web Design and Databases WD: Class 1: Welcome

Dr Jamie Gabbay
(Based on slides by Dr Helen Hastie)
Dept of Computer Science
Heriot-Watt University



# Classes (not lectures!)

- Monday: 12.15-13.15 LT2
- Monday 13.15-14.15 in Linux Lab EM 2.50 (Jamie/Albert & Lab helpers)
- Wednesday 12.15-13.15 in EM 336
- Jamie's office hour: Tuesdays @ 12.15pm
   Albert's office hour: Wednesdays @ 1.15pm

## Schedule



- Schedule on web/vision
- http://www.macs.hw.ac.uk/~gabbay/F27WD
- http://www.macs.hw.ac.uk/~hh117/modules/F27WD/



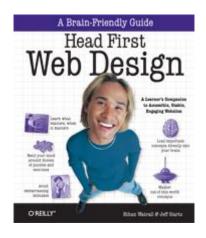
# Attendance is key.

# Most learning done through activities.

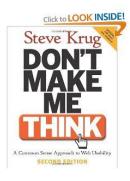
Not everything is on the slides.

# Reading for Web Design





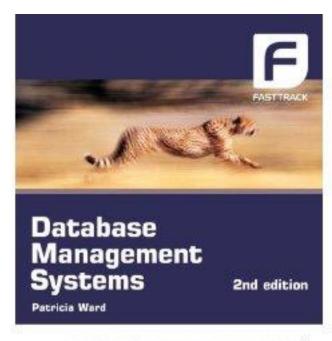
Head First Web Design by Watrall and Siarto. O'Reilly. http://headfirstlabs.com/books/hfwd/



Don't make me think: A common sense approach to Web Usability by Steve Krug. 2<sup>nd</sup> Edition http://www.sensible.com/



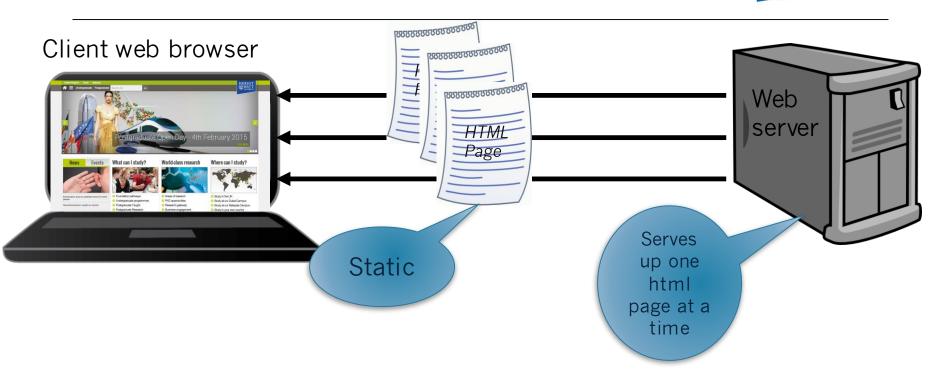
## Reading for Database classes



- With Oracle 10g and new material on web technologies of
  - Web-supported course and exam proparation of
    - 20 self-study hours of activity E
- Which have well code and manuscropage boarding are addressed and

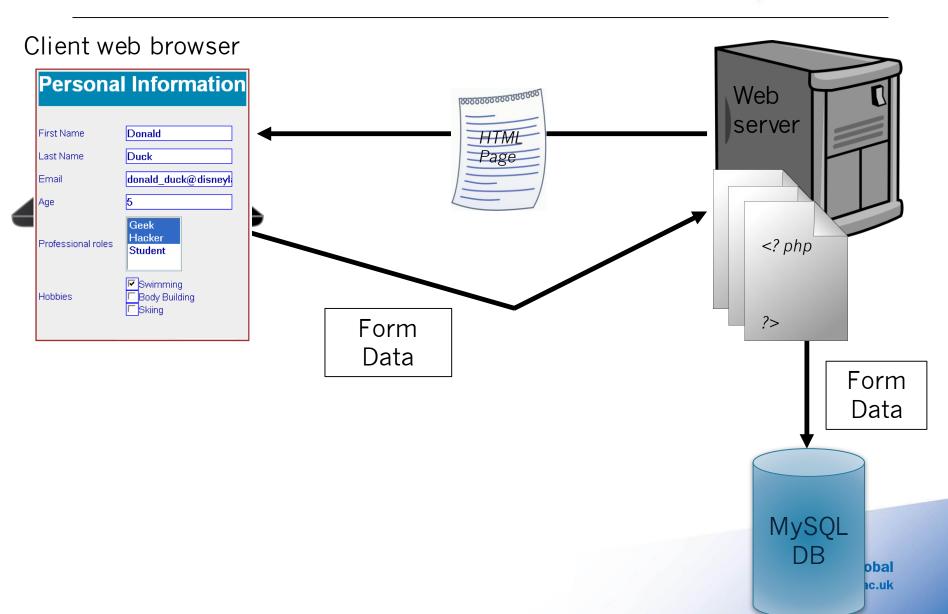


#### Static HTML



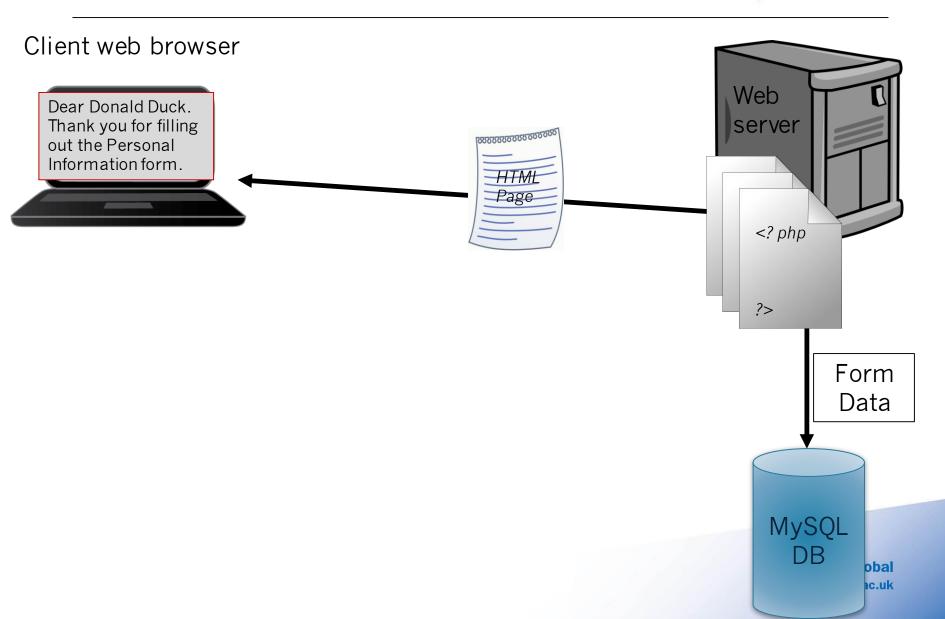


### PHP brings web pages to life



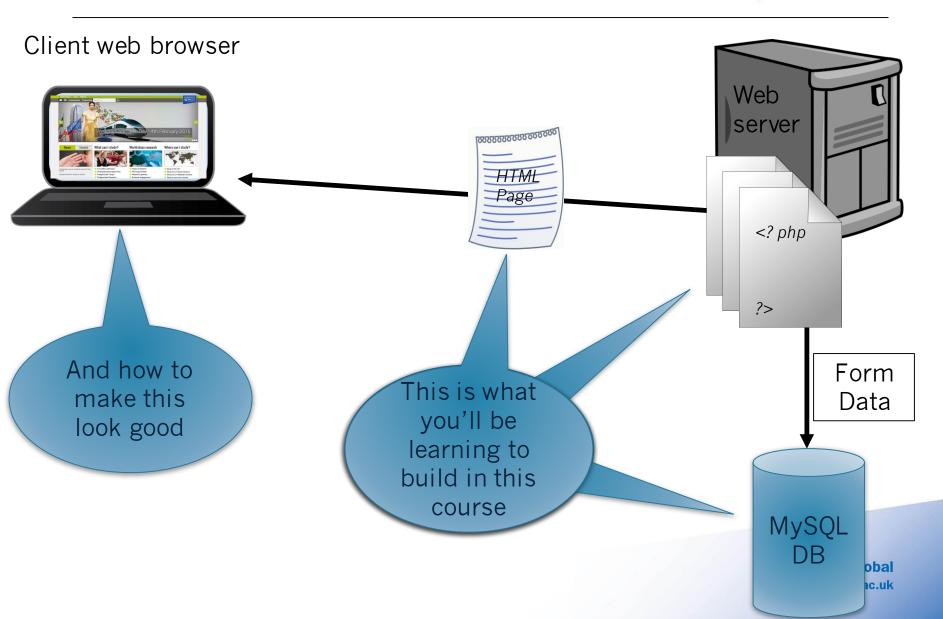


### PHP brings web pages to life





#### PHP brings web pages to life



# Learning outcomes



- 1. Explain fundamental web design concepts including usability.
- 2. Implement a simple website which satisfies current standards and uses a database with PHP.
- 3. CSS and HTML mark-up
- 4. Understand data analysis and structuring techniques.
- 5. Design database structures as a relational data model.
- **6. Implement and query** a database structure through a web site.

Not covering: dynamic websites (e.g. javascript) or Flash.

## Assessment



- Coursework 40%, Exam 60%
- Coursework: in groups of 2
  - Part 1 5%: Website Design
    - Due Fri 23rd Jan midnight Week 2 through Turnltln
  - Part 2 15%: Database design and implement with simple queries.
    - Due Fri 27th March midnight Week 11 through Turnltln
  - Part 3 20%: Process loyalty point vouchers and provide sample queries and implement part of website using HTML/CSS and PHP
    - Assessed through a demo in the Lab week 12 Mon 30<sup>th</sup> March
- See Assessment folder on Vision for details

Everyone must submit through TurnItIn- put the name of your group (e.g. jones\_evans) and the name of your partner



# Web Design

# Previous assignments





Home Menus Wine List BOOK ONLINE Contact us

#### Newsletter Opening Hours

Wednesday-Friday 12 noon- last orders 9pm

Saturday 10.00am - last orders 9pm

Sunday 10.00am- last orders 4.30pm

Mondays and Tuesdays closed
Private dining available 7 days a
week



#### Find us at

286 Stonelaw Road
Burnside
Glasgow
G73 3RP
Tel: 0141 647 5892

info@trioburnside.com





#### Trio Private Dining

For your special occasion, be it a birthday, christening or a gathering, the Trio team will design a bespoke menu reflecting your wishes within your budget

#### Any Night is Steak Night

Choose from a range of specially selected steaks, cooked to your liking. Includes French fries, button mushrooms, tomatoes and add a freshly prepared sauce

#### Sunday is Brunch Day

Have a day off cooking and let us do the work instead! Enjoy brunch until noon with Specials - see chalkboard for details



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#### "5\* cooking in Glasow"

@@@@ Reviewed 1 April 2013 NEW

I was recently over in Burnside in Rutherglen on business and had an hour before I had to go elsewhere, I was hungry and I spotted a little restaurant in Stonelaw road Burnside so I thought I would give it a try and I was delighted I did. The food was absolutely lovely I had a steak cooked with prunes...

....more



# Previous Assignments



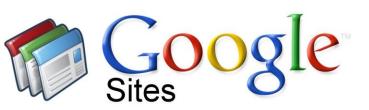


# Why do I need to learn HTML?



## Why can't we just use WYSIWYGs?

#### What You See Is What You Get







## **WISIWIGs**



- Good if you lack experience with posting stuff on the web.
- Good if you are used to editors like MS Word.
- Consistent with Cloud Computing. (I'm typing these slides using a cloud computing editor.)

## But....



It's a Faustian pact - feels good at first but you end up in hell later.

It scales poorly to large websites.

Brings out the worst in people - they overestimate what they can create.

. . .

### But....



- Often: What You See Isn't What You Get
- 'WYSI-NOT-WYG'
- What You See is mostly what you get, provided you're using the same version of PowerPoint/Word/whatever, saved in the same format. Probably. Usually.
- Adds a layer of complexity.
- May still be frustrating.
- I hate WYSIWYG.





Learning how to write HTML is a fun, useful, life skill.

(A good personal webpage is an advantage in the competition for food, jobs, and mates.)

Also useful if you want to learn about web programming (e.g. PHP, javascript).

## Weeks 1-5



- Principles of Web design
- Usability
- HTML5
- CSS3
- Designing for mobile
- Accessibility
- Social media



## Today's Class: Web Design Basics

- Pre-production
- Navigation
- Layout
- Writing



# Pre-production

## Number 1 Rule



# Think before you code

## Number 2 Rule



# Don't design for yourself.

Design for the customer and the end user.



# Site Theme: Reflects the site's purpose and content





#### In Cold Political Terms, French President and Far Right Gain

By STEVEN ERLANGER
After the terrorist attack in
France, President François
Hollande and the far-right
leader Marine Le Pen have
seen a boost in popularity, but
no one expects the praise to
last very long.

#### ■ 80 Comments

 Kerry to Fly to France to Show U.S. Solidarity 2:26 AM

#### Jihadism Born in a Park and Fueled in the Prison Yard

By JIM YARDLEY
Members of the group behind
last week's deadly terror
attacks became known by the
name of a park where they
used to work out in a
neighborhood that has
produced some of Europe's
most milltant jihadists.

· In Video, Paris Terror Suspect Declares His Loyalty to ISIS

#### France to Deploy Forces to Protect Jewish Schools

By ALAN COWELL 4:22 AM ET
Thousands of police officers



The director Richard Linklater, center, and the cast of "Boyhood" after the film won best picture, drama.

Frederic J. Brown/Agence France-Presse — Getty Images

#### 'Boyhood' and 'The Affair' Among Winners

By MICHAEL CIEPLY and BROOKS BARNES 12:26 AM ET "Boyhood" and "The Grand Budapest Hotel" won the awards for

"Boyhood" and "The Grand Budapest Hotel" won the awards for best film drama and comedy, respectively. On the television side, "Transparent" and "The Affair" were named the top series.

#### THE TV WATCH

#### Skewers, Serious and Silly

By ALESSANDRA STANLEY 12:13 AM ET

The Golden Globes ceremony is usually a fun alternative to the

The Golden Globes ceremony is usually a fun alternative to the Academy Awards, but on Sunday, the mood was different.

#### **PHOTOGRAPHS**

#### Red Carpet Watch

What the stars wore at the Golden Globe Awards.

· Fashion Review: Goddesses in Gowns, With Earthly Concerns



#### The Opinion Pages

United in Outrage By THE EDITORIAL

By turning out in vast numbers, the marchers in Paris made an eloquent statement in support of the fundamental right of free expression.

Op-Ed: Don't Look to States for New Ideas

#### OP-ED CONTRIBUTOR

patriotism.

Why I Won't Serve Israel

By MORIEL ROTHMAN-ZECHER Refusing to take part in an army of occupation is an act of

- · Blow: Tamir Rice and the Value of Life
- · Krugman: For the Love of
- · The Stone: Why Life Is Absurd

#### Watching

1 of 19 4 >

This is Watching, a feature that highlights developing news from around the web. Send your feedback.

12m Twenty six men arrested at a public bathhouse in Cairo after a raid have been acquitted of charges including debauchery and performing indecent public acts.

The Associated Press #

- h Britain's armed forces will ask recruits whether they are gay in a move intended to improve diversity in the military, although they have the option to "prefer not to say." The Independent >>
- An American terrorism commentator on Fox News apologized for describing Birmingham, England, as a "Muslim only" place where non-Muslims "don't go in." BBC News 2

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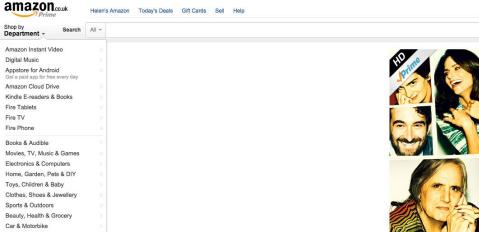




Mini Manifesto

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#### Full Shop Directory New for You



Sheet music \*\*\*\*\*\* (2)

Fix this recommendation

Juice: The Ultimate Guide to Juicing... > Liz Earle Paperback \*\*\*\*\*\*\* (1) £14.99 £10.49 Prime Fix this recommendation

Enchanted Forest: An Inky Quest... Johanna Basford £10.07 Prime Fix this recommendation



The House of Susan Lulham Phil Rickman Kindle Edition क्रेक्केक्के (41) £2.32 Fix this recommendation



Mightier than the Sword > Jeffrey Archer £20.00 £16.00 Prime Fix this recommendation



Fix this recommendation

ABRSM: Scales and Broken Chords for... ABRSM Paperback क्रिकेटिकेटि (3)

Super Heroes LEGO Green Lantern vs... \*\*\*\* (2) £19.99 /Prime Fix this recommendation

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For a Night In















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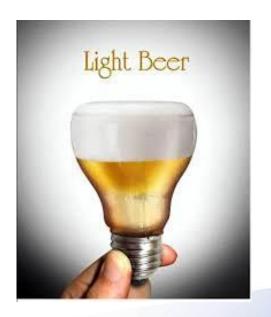
## But how do we build a theme?





 Visual Metaphor: "The representation of a person, place, thing, or idea by way of a visual image that suggests a particular association or point of similarity."







## Visual Metaphors on websites

- Visual Metaphors can be established using images...
- ...but also other design elements to reinforce the site's theme
- Design elements can be:
  - Images, icons, colours, fonts, site layout
  - Interface elements e.g. header with large image, map, navigation bar, sidebar, tabs

# Visual Metaphors?

Thousands of police officers





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# Visual Metaphors?



Colours and icons enforce the environment theme



What We Stand For News Take Action Get In Touch Search here... ude the Green Party in the TV Leaders' Debates Sign the petition today **VOLUNTEER \( \frac{1}{2} \) DONATE** JOIN > Join a growing party > Support our campaigns Get e-newsletters Latest news PM David Cameron' Leaders' Debates First name comments - Natalie Bennett responds Read more Last name Email 08 JANUARY 2015 Postcode Green Party: Ofcom's initial view on major parties fails the electorate and democracy Sign up 07 JANUARY 2015 Bognor Regis gets its first Green councillor as former Lib Dem joins Greens

Mini Manifesto

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#### Visual Metaphors?







\*\*\*\*\* (2)

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layout



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Bright bold colours help enforce the playful theme



Cartoons and comic type: geared to younger audience

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#### Colours as a design element

- Colour palates
- Useful resources

http://www.colourlovers.com/

http://colorschemedesigner.com/









# So we've talked about design elements.

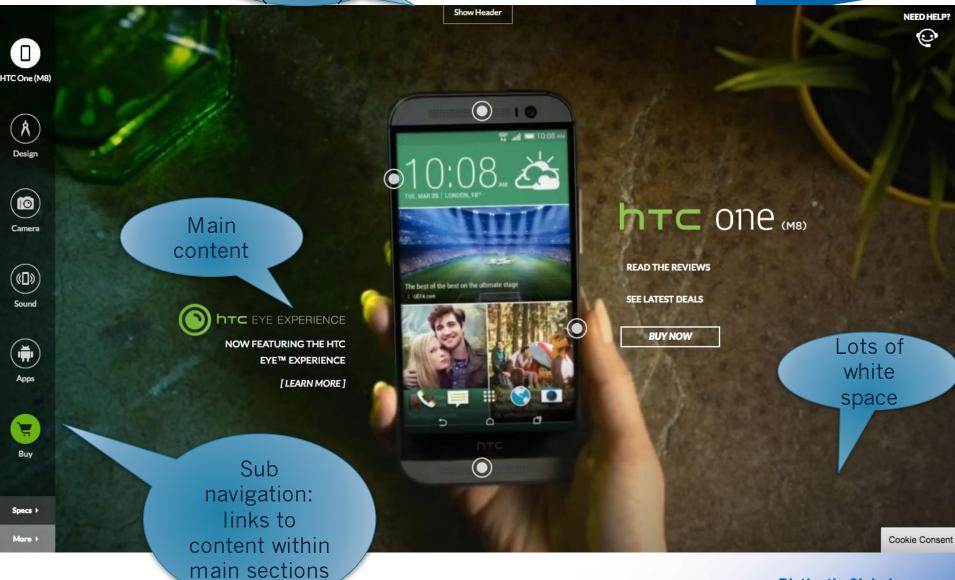
How are websites structured?



#### ...with interface elements...

Main navigation (hidden)





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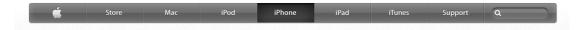
#### Footer:

©, legal stuff, contact, twitter feeds, mark-up validation

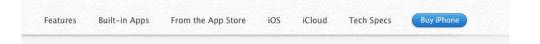




**Navigation**: essential to get around site. Design and placement can reinforce theme



**Sub Navigation**: displays content that lies under main heading



#### Interface Elements



#### **Body of content:**

what are people coming to see? Put it here.



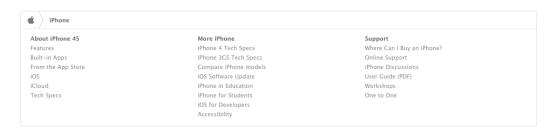
#### Whitespace (negative space):

helps break up blocks of content, rest the user's eyes, and focus towards content

#### Interface Elements



Footer: legal stuff, legal stuff, contact, twitter feeds, mark-up validation



Sidebars: can hold a variety of things, e.g. links to extra body content, archive links to blogs,

ancillary navigation.





#### Today's Class: Web Design Basics

- Pre-production
- Navigation
- Layout
- Writing



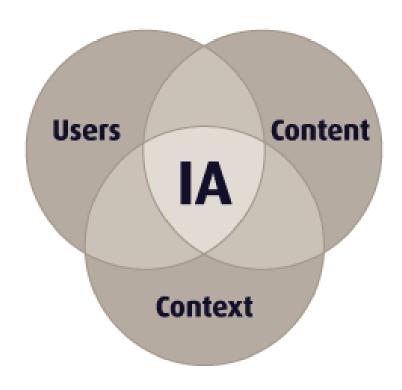
## Navigation



# Before we think about navigation we need to think through how our **Information** is organised



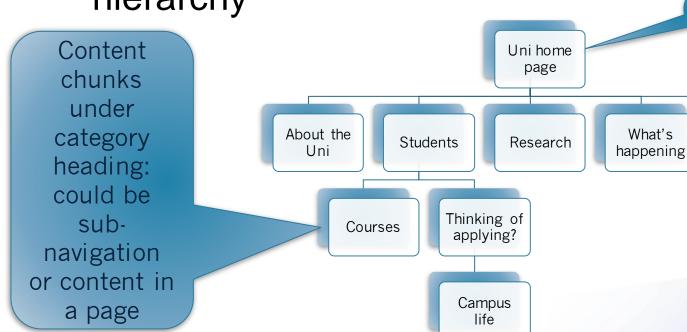
## Information architecture (IA)



#### Information Architecture

- Analogous to a blue print for a house
- Breakdown website into chunks

 Order the chunks into a hierarchy





Site

title

Contact

the School

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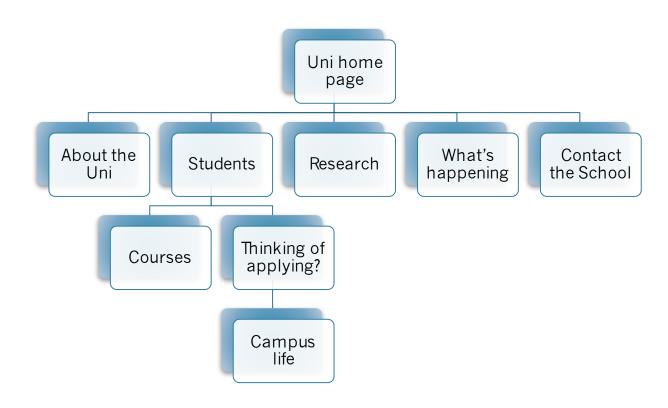
## Navigation



- Website must communicate its content
- Organising website results in good navigation
- Think carefully about the names of categories
  - ambiguous navigation confuses users
- (Example: Circuit laundry system PIN/Code.)

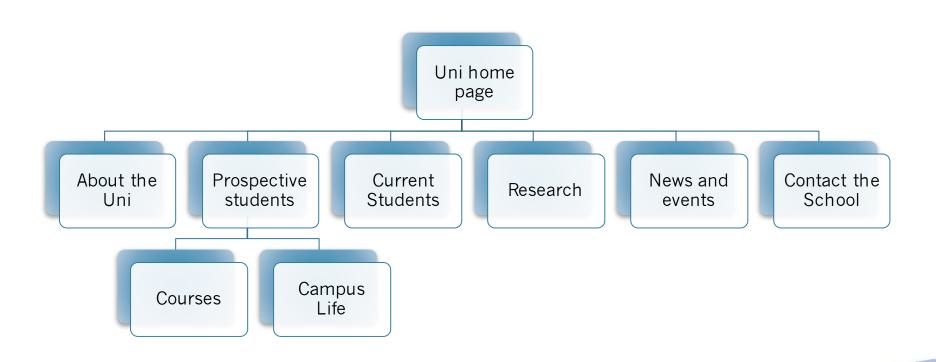








#### Navigation example ...better



#### Activity 1

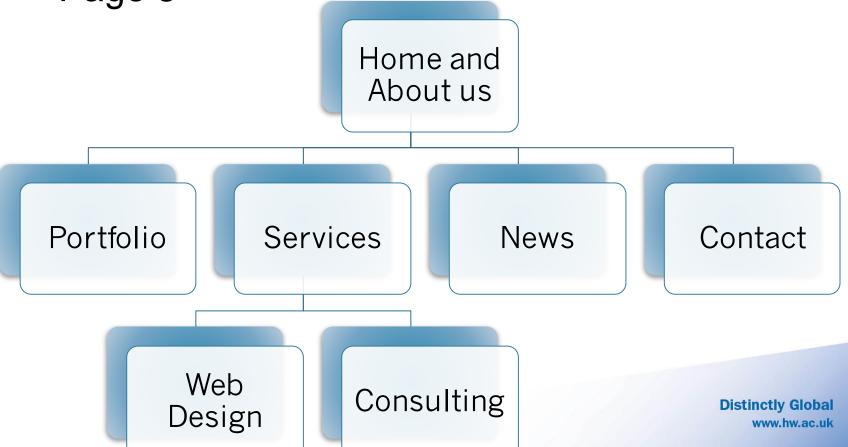


 Create an Information Architecture from a memo in hand-out taken from Head First Page 8.

#### Activity 1



 Create an Information Architecture from a memo in hand-out taken from Head First Page 8







 Simple technique to learn how people perceive content groups (Nielson recommends 5)



Web Directions South Information architecture: A 'how-to'

#### **Card Sorting**



- Content items are written on index cards
  - Too granular and you may end up with too many cards
  - Too broad and you may lead the exercise too much
  - You do not have to do the whole site at once
- People group the cards in a way that makes sense for them



#### Card sorting isn't everything

- Business requirements
- Strategic directions
- Technical goals and limitations
- Usability guidelines
- Card sorting isn't an evaluation technique



## Card sorting: Advantages

- Simple
- Cheap
- Quick to execute
- Established (the technique has been used for over 10 years, by many designers)
- Involves users
- Provides a good foundation



#### Card sorting: Disadvantages

- Does not consider users' tasks
- Results may vary
- Analysis can be time consuming
- May capture "surface" characteristics only

## Card sorting: Advantages



- Simple: Card sorts are easy for the organizer and the participants.
- Cheap: Typically the cost is a stack of 3x5 index cards, sticky notes, a pen or printing labels, and your time.
- Quick to execute: You can perform several sorts in a short period of time, which provides you with a significant amount of data.
- Established: The technique has been used for over 10 years, by many designers
- Involves users: Because the information structure suggested by a card sort is based on real user input, not the gut feeling or strong opinions of a designer, information architect, or key stakeholder, it should be easier to use.
- Provides a good foundation It's not a silver bullet, but it does
  provide a good foundation for the structure of a site or product.



#### Card sorting: Disadvantages

- Does not consider users' tasks: Card sorting is an inherently content-centric technique. If used without considering users' tasks, it may lead to an information structure that is not usable when users are attempting real tasks. An information needs analysis or task analysis is necessary to ensure that the content being sorted meets user needs and that the resulting information structure allows users to achieve tasks.
- Results may vary: The card sort may provide fairly consistent results between participants, or may vary widely.
- Analysis can be time consuming: The sorting is quick, but the analysis of the data can be difficult and time consuming, particularly if there is little consistency between participants.
- May capture "surface" characteristics only: Participants may not consider what the content is about or how they would use it to complete a task and may just sort it by surface characteristics such as document types.

## Activity 2: using card sorting create an IA



Starting the application

Picking up the phone

Navigating

Finding a talking points location

team

blog

Get involved

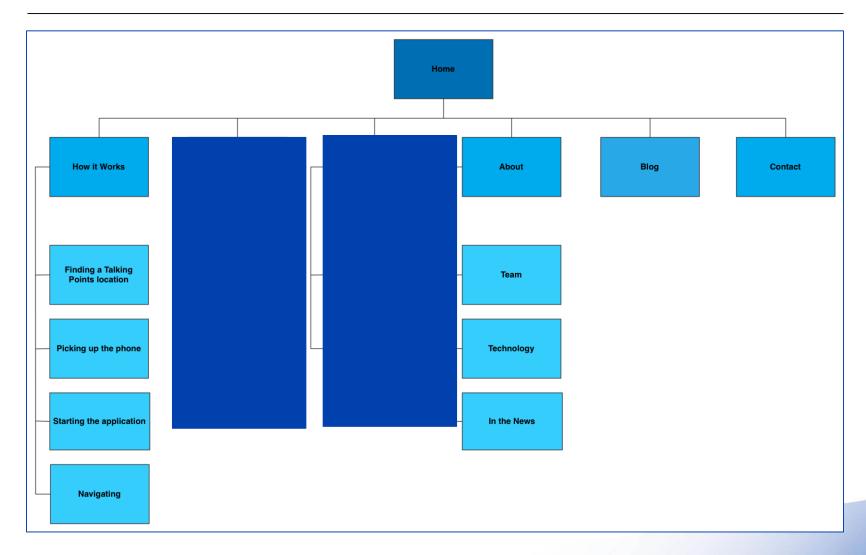
contact

technology

In the news

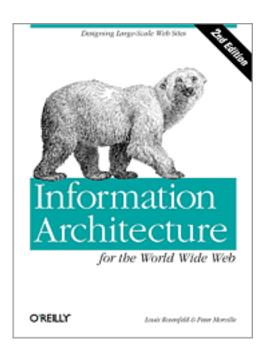
#### One Solution





#### Further reading







A Practical Guide to Information Architecture. A book by Donna Spencer, published by <u>Five Simple Steps</u>, available in PDF, ePub and Paperback from £12.



If you're a website designer, intranet manager or someone without much Information Architecture experience, this book answers all those questions you were afraid to ask.

Drawing on her many years experience of practising and teaching information Architecture, Donna Spencer guides you through some simple steps to better IA and leaves you feeling empowered and able to run your own IA projects. Whether it's organising content, providing clear descriptions or ways for people to get to them, this book is armed with practical advice and examples.



Latest blog posts About Donna?

#### Homework



- Find 2-3 websites with clear themes/metaphors
- Discuss these themes, metaphors and use of colour.
- Put links to them on the vision discussion board by Sunday 8pm

#### This Week



- 1. Balsamiq: activate account by clicking on link in email.
- 2. Watch the 3 minute video <a href="http://www.balsamiq.com/">http://www.balsamiq.com/</a>
- 3. Make sure you have a MySQL account
  - mysql -u username -D username -h mysql-server-1 -p
  - mysql -u mf41 -D mf41 -h mysql-server-1 –p
  - If unsure email <a href="mailto:help@macs.hw.ac.uk">help@macs.hw.ac.uk</a> or go to EM1.33
- 4. Reading for this week: Head First Chapters 1-2
- 5. Start working on your Part 1 Assignment it's due soon!

#### Today's lab



- Have a go at using a WYSIWYG
- Start on Part 1 of your assignment
  - 1. Work in groups of 2. Give your group a name
  - 2. Decide on a Theme for the Game Lab website.
  - 3. Sketch on paper the IA from the memo in the handout. Use cards if you wish
  - 4. Decide on types of visual elements.
- Take inspiration from other websites- but come up with something original
- Look at http://colorschemedesigner.com/

#### **Next Time**



- Work on your IA during the week for the Part 1 assignment and bring it to the lab for next week.
- IA and a good theme aren't enough.
  - Need to look at layout.
  - Writing for websites.