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## 0.1 Assessment

Participation and Consultation (Weekly from Week 2 to Week 13):

- Group discussions on that week’s topic
- Design activities for website project
- Formative submission of Design Report: Part A
- General participation in practicals/tutorials

During Week 10 Practical:

- Series of tasks to test your knowledge of HTML and CSS
- Everyone will be asked to complete the same type of task

Due Exam Week 1:

- Design Report describing and justifying design of website
- Website Implementation (HTML/CSS/jQuery/JavaScript) according to brief

**Web 4.0:** mobile web

**Web 4.0 & 5.0:** connections and serendipity

# Chapter 1

## Lecture Notes

### 1.1 History of the Web

#### 1.1.1 Origins

- Originated in 1960s – ARPANet
- TCP/IP introduced 1982
- DNS developed in 1984
- Internet was commercialized in 1995  
When NSFNET was decommissioned

#### 1.1.2 WWW

- System of interlinked hypertext documents accessed via Internet
- Created by Tim Berners-Lee in 1990 while with CERN  
HTTP, HTML, web browser, web server  
WorldWideWeb released 1991 publicly
- Mosaic (web browser and Gopher client) 1993
- W3C World Wide Web Consortium founded 1994
- Commercialization of WWW late 90s

#### 1.1.3 WaSP

- “The Web Standards Project” setup in 1998 by a group of professional web devs and designers
- Reforming the W3C recommendations as standards
- Push to standardize approaches and implementations across all browsers

#### 1.1.4 Evolution of WWW

**Web 1.0:** static (information retrieval)

**Web 2.0:** collaborative (sharing and production)

**Web 3.0:** semantic and personal (meaningful web)

### 1.2 Web Design

#### 1.2.1 What Is It?

- Process of creating the ‘front-end’ of a web-site
- What the users sees and interacts with
- Bringing media together into a cohesive whole
- Creating a good user experience

#### 1.2.2 Who’s Involved

- Client
- Users (indirectly)
- Web designer
- Web developer
- Content editor

#### 1.2.3 What’s Involved

##### Pre-planning and planning

- Client goals, feature requests, target audience
- Design documentation
- Content gathering/definition

##### User analysis

- Who are the users?
- What will they want/need to do on the site?
- Why are they there?
- Is your site:
  - Usable
  - Useful
  - Efficient
  - Memorable
  - Enjoyable
  - Aesthetically Pleasing
  - Fun
  - Safe

##### Information architecture

- How will content be structured on the site?
- How will that structure be represented to the user?

## Navigation and interaction design

- How will people move around?
- How will they know where they are?
- What will they be able to do? And how?

## Aesthetic and visual design

- What will it look like?
- Typography, color, layout
- How are elements arranged on the page?
- How does it fit with and extend the clients brand?

## Prototyping

- Low/high fidelity
- Represent aspects of the site
- Technological or design based

## Evaluation

- User testing
- Performance testing
- Improve before going live

## Accessibility design

- Standards to ensure equal access
- Structural, semantic HTML
- Allow for different modes of content access

## Trust, personalization and globalization

- Engender trust in your site
- Build in content personalization/contextualize
- Going global and local at the same time

### Note 1: What makes a good website

- Site purpose and function is clear to the user
- Easy to navigate and use
- Content is credible, original, useful and timely
- Multimedia, where used, is appropriate
- Visual design is consistent, appropriate and well organized
- Loads quickly and is responsive to user interaction

# 1.3 Stakeholders

Customers == users! There are other users too:

- Internal stakeholders  
Customer service, sales, etc
- External stakeholders  
Suppliers, couriers, etc

## 1.3.1 User Centred Design (UCD)

“Users just aren’t that into you. It’s not personal. It’s business. Unless what you’re writing...

- solves their problem
- provides useful information
- entertains them
- makes them feel like they rule

... it’s irrational to expect users to care about it.”

From Users Don’t Care About You by Jeff Atwood

## 1.3.2 Stakeholder Levels

**Primary (key users):** Actively uses the site

**Secondary:** Served by the site

**Auxiliary:** Impacted by the site

## 1.3.3 Understand the User

- Basic demographics
  - Age (elderly, small children, generational styling)
  - Gender (masculine, feminine, gender-neutral)
  - Where they live and work
  - Physical/intellectual impairments
    - Visual/motor impairment
    - Colour-blindness, dyslexia
  - Don’t get caught in the trap of creating user groups solely from demographics
- Social/cultural characteristics
- Relationship to business
- Goals of use
- Context of use
- Tools and preferences

## 1.3.4 How to get Information

- **Interviews**  
One-on-one, clear agenda and questions
- **Focus Groups**  
Moderated group discussion  
Invited actual and/or intended users
- **Observation/Contextual**  
Visit users in situational, especially useful for unique contexts

Watch as they use, think-aloud, recall through video

- **Questionnaires**

User Tasks

Intentions

Impressions (via Likert Scale - strongly agree/disagree)

- **Card Sorting**

For content-based or complex sites

User understanding and grouping of content

- **Usability Testing**

Observation - human and digital

Users perform specific tasks on website/application

- Alphabetical
- Chronological
- Geographical

- **Ambiguous** organisational schemes: Reflects nature of language (imprecise)

- Topical
- Task-oriented
- User-specific
- Metaphor-driven

### Hybrid Schemes

- Combines multiple organisational schemes
- Unless the schemes are physically separated, confusion will result
- They allow for multiple entry points to the content

## 1.3.5 Core of a Persona

Precise description of a *typical user*:

- Distillation of user group characteristics
- Derived of patterns/commonalities in your data
- May have more than one *typical user*

A persona describes:

- What motivates the user
- Why they are really using your website
- What they are really trying to accomplish

### Elements of a Persona

- Name
- Photo
- Tagline
- Background - Demographics, Skill Level
- Narrative
- Attitudes (as related to your site)
- Behaviours and Tasks (as related to your site)
- Goals
- Frustrations and Pain Points
- Scenarios

## 1.4 Planning and CSS

### 1.4.1 Determining Content

- Make a list of necessary content (client)
- Prioritise the information (user)

### 1.4.2 Organisational Schemes

- **Exact** organisational schemes: Great for known item searching

### 1.4.3 Organisational Structures

- Hierarchy
- Hypertext
- Database

### Scheme vs Structure

- A **scheme** groups similar things together
- A **structure** shows how those groups are related

### 1.4.4 Card Sorting

#### Step 1

Analyse documents for:

- Objects (noun)
- Actions (verb)
- To identify content and tasks for users on website

#### Step 2

- Identify the set of keywords/topics to be categorised
- Write each keyword/topic on an index card/post-it note

#### Step 3

Can be done:

- In-person with an observer  
User thinks aloud as they categorise (gives insight into their thought process)

- In-person without an observer  
Participant works along (can interview after if needed)

## Open Card Sort

- Users **organise** cards into piles (that make sense to them)
- Users **name** each group (in a way that accurately describes the content)
- You learn how users group content and what terms/labels they use

## Closed Card Sort

- Provide users with **pre-defined** categories
- Users **place** cards into a category (that makes most sense to them)
- Learn how users relate content to categories

# 1.5 Navigation Systems

## 1.5.1 Wayfinding

“How we navigate through complex physical spaces” - Kevin Lynch: The Image of the City (1960)

### Note 2: 4 Core Components of Wayfinding

- Orientation
- Route decisions
- Mental mapping
- Closure

### Note 3: 5 Common Elements of Wayfinding

- Paths
- Edges
- Districts
- Nodes
- Landmarks

## 1.5.2 Types of Navigation

### Primary Navigation

Main header menu

### Secondary Navigation

Some sub heading under the main menu

## Supplementary Navigation

Navigation on the side (similar to sort by category)

## Local Navigation

Navigation of the headings within the current page

## Breadcrumbs

Provides a hierarchy view of the current page location

## Utility Navigation

Extra menus and systems hidden away but provided commonly through icons

## Footer Navigation

Stuff at the bottom of the page

## Global/Universal Navigation

The whole header banner, included could be:

- Primary Navigation
- Secondary Navigation
- Utility Navigation

### Note 4: What Not To Do!

Mystery Meat Navigation

- A visually attractive but inefficient or confusing user interface
- Obscures navigation
- Forcing user to explore (could be excused)

Surprise Dropdowns

- Unclear when dropdowns are available
- Always indicate that there is more hidden information

### Note 5: Good Practice Standards

- Use familiar names for links
- Clearly distinguish between different types of navigation
- Use common positioning

## 1.6 HTML Sectioning and Layout

### 1.6.1 HTML Sectioning Elements

section:

article:

aside:

nav:

header:

footer:

## 1.7 Visual Organisation

### 1.7.1 Good Design

- About the relationship between elements
- Creating a balance between them
- Is timeless (outlasts the fads)
- Has a lasting impact on user
- Users are pleased by it, but drawn to the content (doesn't get in the way)
- Users are able to move easily via the navigation
- Creates a cohesive whole

### 1.7.2 Anatomy of a Webpage

- Containing block
- Logo/identity/banner
- Navigation – global, secondary
- Content – global, specific to page
- White space

### 1.7.3 Layout Principles

#### Proximity

- People perceive items that are located together as being related
- Related content should be placed closer together
- Unrelated content should be clearly separated
- Separate content with white space (empty/negative space)

#### Alignment and Positioning

- Concerned with where elements are on a page
- Information is easier to digest if in alignment

- Positioning elements on a page implies hierarchy/flow

#### Note 6: Balance

- Elements on the page have “weight”
- Similar to concept of physical balance
- Symmetrical
- Asymmetrical

#### Note 7: Patterns

- Common positions for certain elements
- Branding, different types of navigation, calls to action
- Across websites
- Meet user expectations

### Emphasis and Contrast

#### Emphasis to:

- Draw attention to items on the page
- Reinforce hierarchy
- Use contrast to differentiate elements

#### Contrast is:

- Degree of difference between elements
- Very different == high contrast
- Not very different == low contrast

### Consistency

#### Uniformity and consistency:

- In layout of elements
- In appearance of elements
- Within and across pages
- (Doesn't mean you can't have variety)

Each page should appear to belong to the website

### 1.7.4 Wireframes

- Features visual organisation of page anatomy
- Usually black and white, sketched appearance, generic
- Good for getting feedback from users/clients
- It's a technical document!

## 1.8 Prototyping

### 1.8.1 Evaluation Types

**Formative:** Before the release

**Summative:** After completion/the release

## 1.8.2 When to Evaluate

**Early:** From the very start of the project

**Often:** And as often as is practical

## 1.8.3 What to Evaluate

- User Experience
- Usability
- Content
- Functionality
- Requirements

## 1.8.4 Who Should Evaluate

**Experts:** Domain, usability, design/dev team

**Users:** Experts are not like your users

## 1.8.5 Forms of User Testing

- Moderated vs unmoderated
- Scripted vs unscripted
- Formal vs informal
- And the use of prototypes!

## 1.8.6 What Are Prototypes in Web Design?

**Revolutionary Prototypes:** Prototype used briefly then discarded

**Evolutionary Prototypes:** The prototype eventually becomes the product

## 1.8.7 Prototype Resolution

### Low Fidelity Prototypes

Low level of detail:

- Interactive wireframe
- Paper-based prototypes

Deliberately rough to quickly test out specific ideas

### High Fidelity Prototypes

High level of detail in interface, functionality and task flow. Usually created in final product medium, such as :

- HTML/CSS/JS
- Mobile app
- Final materials

## 1.8.8 Dimensions of Fidelity

- Visual fidelity
- Functional fidelity
- Content fidelity

## 1.8.9 How are Paper Prototypes Used?

**External stakeholders:** Clients and Users

**Internal stakeholders:** Design/dev team, manager, sales

## 1.8.10 Future Design Activities

**Paper Prototyping:** Low fidelity functional prototype

**Aesthetics User Testing:** Low fidelity aesthetic prototype

**Hi-Fi User Testing:** High fidelity aesthetic and functional prototype

## 1.9 Aesthetics

- The sensory contemplation or appreciation of an object or phenomenon
- Involves all of our senses and our emotions
- Our perception of the 'pleasure' of an object/phenomenon

## 1.10 Responsive Design

### 1.10.1 Mobile-First Approach

Makes you think about layout, navigation and content

- What's the minimum to be included?

Define all styles for mobile size and above

- Then, override styles for tablet/desktop sizes

### 1.10.2 Desktop-first Approach

Opposite to mobile-first approach

- Define tablet/desktop size styles, then override styles for mobile
- Produces a less than optimal result for mobile (e.g. too much content, too complex a layout etc)