Information Architecture (IA) and User Experience (UX) design
信息架构与用户体验设计

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This presentation contains material taken from a Master's level module, Internet Technologies, taught at the Department of Information Studies, University College London and several workshops run in Chinese Universities. For more details and the rest of the collection see the cover sheet at: http://ucloer.eprints-hosting.org/54/

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Also with thanks to Ning Ma (UCL DH Master's student)

User Experience design
用户体验设计

- Not only digital – principles apply everywhere
  不仅仅是数字产品-原则适用于每一处
  - Everyday objects 日常物品
  - Websites 网站
  - Mobile apps 移动应用
- Web empowers and frustrates
  网络成就人们，也会阻碍人们
- Design to make lives easier
  设计为了使生活更简单
  - Often complicates things 可通常使之复杂

Temptations
引诱陷阱

- Publish product = success
  发布产品=成功
- Then add more and more functions
  加入更多的功能
- Users need quality experience
  用户需要有质量的体验
- Effective communication 有效沟通
  - Hotels / Banking / Airlines 酒店/银行/航空公司
- Features and functions matter but 特征与功能重要
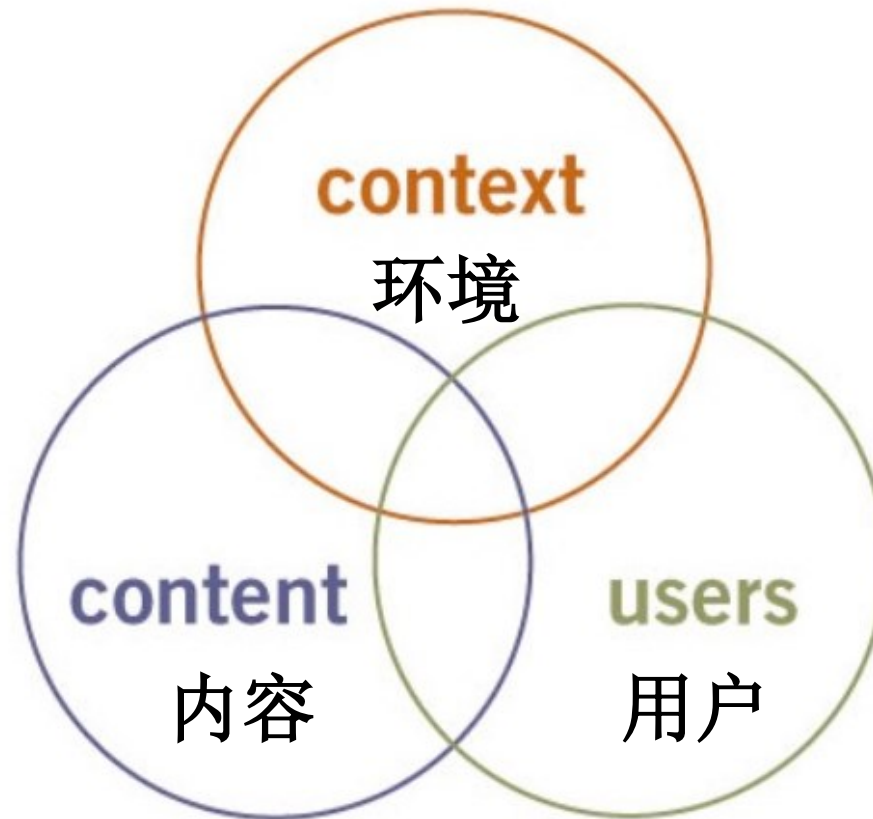 - Positive experience is KEY 但是积极的体验是关键

How do we measure success?
如何衡量成功?

- Income?
  收入?
- New users?
  新用户?
- Returners vs unique users?
  回头客 vs 独特的用户?
- Log analytics?
  日志分析?

- Improve efficiency
  提高效率

Three circles of Information Architecture
信息架构的三个循环

context
环境

content
内容

users
用户

User Experience Design (Morville 2004) http://semanticstudios.com/user_experience_design
[used with permission – Chinese text added here]

Moving onto: Goals of User Experience
用户体验的目标

User Experience focuses on understanding users, what they need, what they value, their abilities, and also their limitations.
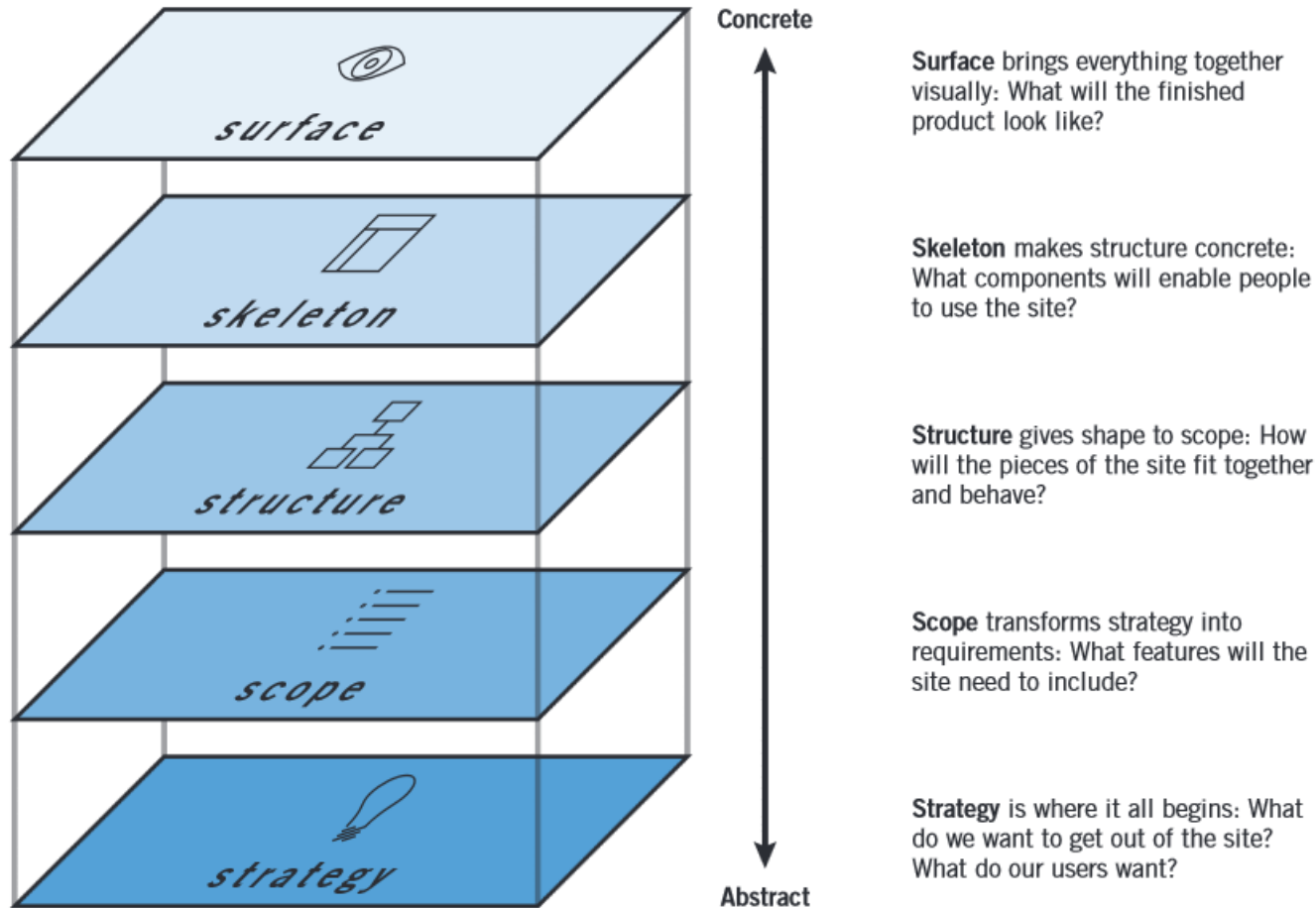用户体验专注于理解用户需求，价值，能力以及他们的局限性。

The User Experience Honeycomb (Morville, 2004) [used with permission]

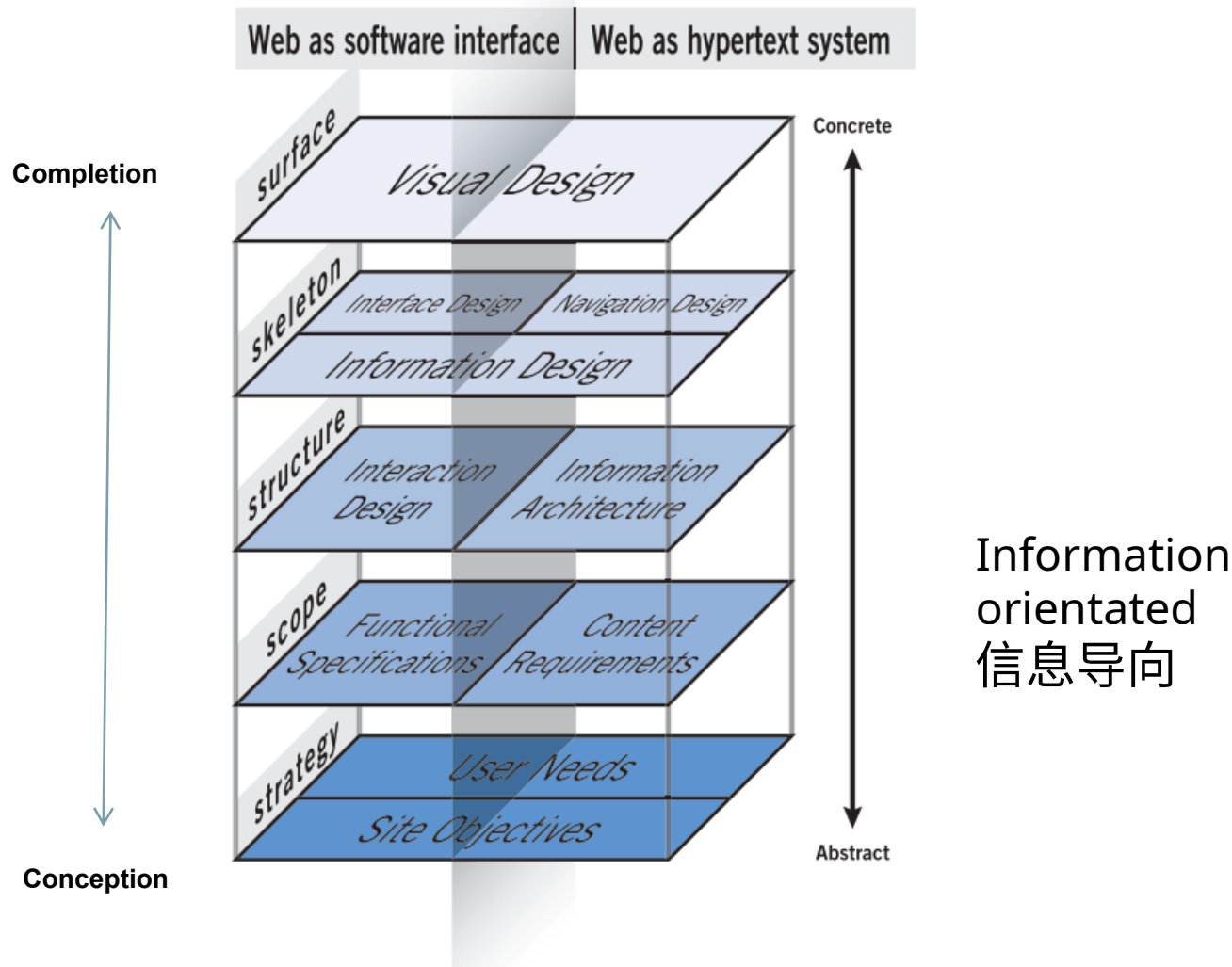# Deconstruct elements of web design
解构网页设计的元素

The Elements of User Experience, J.J. Garrett
http://jjg.net/elements/pdf/elements_simpleplanes.pdf [used with permission]

Deconstruct elements of web design

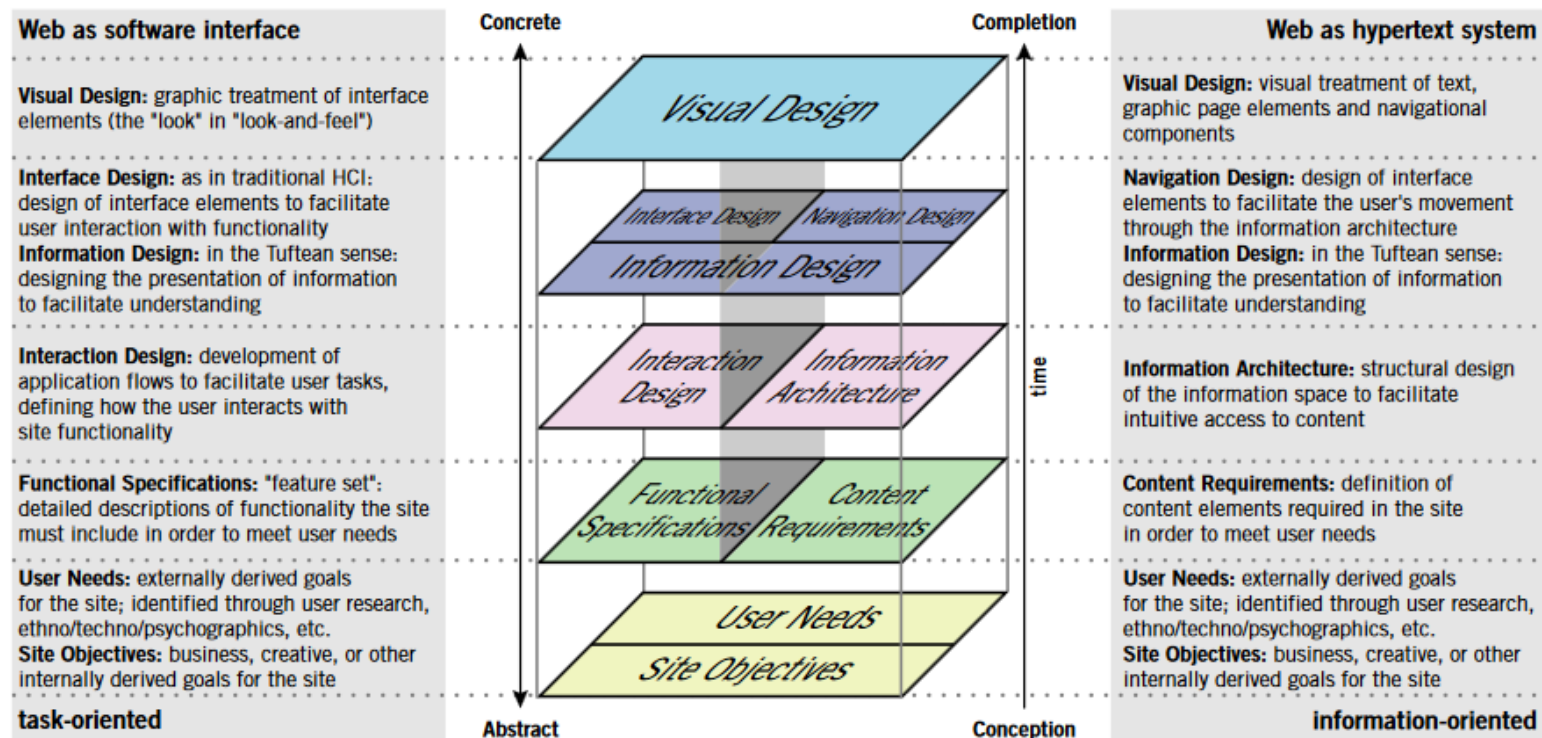The Elements of User Experience (Garrett, 2011) [used with permission]

http://www.jjg.net/elements/pdf/elements.pdf [used with permission]

Five Planes Model 五层模型

- Surface: visual design 视觉设计
  - Web pages / images etc. 网页/图片等
- Skeleton: interface, navigation, information design 界面，导航，信息设计
  - Buttons / controls / blocks of text 图标/控制键/文字区块
- Structure: interaction design 交互设计
  - Placement of elements / user journey 元素的代替/用户路线
- Scope: design the functions   设计功能
  - How all fits together / saved features 如何协调/保留的特征
- Strategy: design overall goals   设计总体目标
  - Owners and users / what want from the site 设计者和用用户/他们从网站上获得什么
  - Alibaba / CAA 阿里巴巴/中央美术学院
  - Information or purchase 获得信息还是购物

Structure of Planes
平面结构

- Each plane dependant on the others
   每个平面互相依存

- Choices lower affect those above
   低层的选择影响上层

- Iterative process 迭代过程
   –Re-think lower planes 重新思考低层
   –Decisions on upper planes may force changes lower down
      上个层面的决策可能会促使下层的改变

Design problems
设计问题

- Point of view 观点
  - Application design
    应用设计
  - Publishing design
    发行设计

- Product as functionality (Alibaba) 功能产品
  - Tasks (the steps needed to make a purchase)
    任务（购物所需要的步骤）
- Product as information (CAA, SID, WHU) 信息产品
  - Deliver information 传送信息

Break down and invert the model
分解与转换模型

- Strategy: design overall goals 策略：设计总体目标
  - User needs / product objectives 用户需求/产品特征
- Scope: design the functions 范围：设计功能
  - Function specifications / content requirements 功能说明/内容需求
- Structure: interaction design 结构：交互设计
  - Interaction design / information architecture 交互设计/信息架构
- Skeleton: interface, navigation, information design
  骨架：界面，导航，信息设计
  - Information design / interface (navigation design) 信息设计/界面（导航设计）
- Surface: visual design 外观：视觉设计
  - Sensory experience 感官体验

Remember 记住

- This is a simplified view 这是一个简化的观点
- Convenient way to think about digital design
  思考数字化设计的便捷途径

- Foreground content supported by technology
  由科技支持的前端内容
- Deliverables 可传递的
- Nature of experience 经验的本质

- BUT not only driver 但不仅仅是驱动因素
  - Think about shopping sites 思考购物网站
  - PRICE competition 价格竞争

Branding
商标

- Consider any major corporation 思考任何一个大型公司
  - What makes them memorable?
    什么使之容易被记住?
  - Why do we remember certain ones?
    为什么我们会记住某些公司?

- CAA / SID / WHU – how are they branded?
  CAA/SID-他们是如何品牌化的?
- Why are they branded?
  他们为何品牌化?

Information Architecture
信息架构

- How we fit all the pieces together
  如何结合不同部分

- Interaction Design
  交互设计
  - Possible user behaviour
    可能的用户行为
  - Accommodate and respond to that behaviour
    容纳与回应用户行为

- Information Architecture 信息架构
  - How we convey information　如何传递信息
  - How we structure information 如何构造信息
  - How we understand information　如何理解信息
  - Allows us to make sense of something 使得我们理解

Structured content
结构化的内容

- Organisation and navigation schemes 组织与导航体系
  - Move through content efficiently and effectively
    有效及高效地浏览内容
  - User Journey 用户旅程

- Top down approach 自上而下的方法
  - Understand Strategy Plane: objectives / user needs
    理解战略层次：客观/用户需求
  - Starts with broadest categories
    从最广的类别开始

- Bottom up approach 自下而上的方法
  - Analysis of content and function requirements 分析内容和功能需求
  - Starts with source material 从源头内容开始

Think about future development
思考未来发展

- Web sites and digital products grow over time
  网站与数字化产品
  - Changes > design imperatives > updates
    变化>设计指令>更新

- Effective structure
  有效的结构
  - Accommodate growth and development
    适应增长和发展

- User Experience – including the structure
  用户体验—包括结构
  - Based on understanding of objectives and users needs
    基于对目地和用户需求的理解上

Adaptive architecture
适应性架构

- Adaptive Architecture
  适应性架构
  - Accommodate new content AND new sections
    容纳新内容和新部分

- Basic units
  基础单元
  - Node = any piece of information (single book or whole library)
    节点=任何一块信息（单本图书或整个个图书馆）

- Tree structure (of nodes)
  树状结构 （节点）
  - Hierarchical structure 等级结构
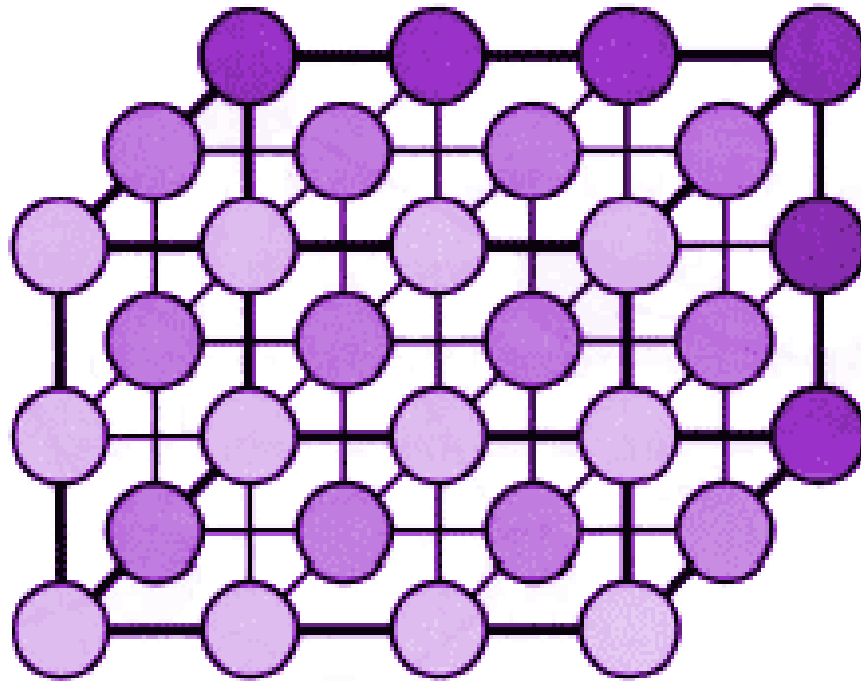 - Parent / child relationship 母子关系

Flow of structured information (IA)
结构化信息流

- Matrix structure （矩阵结构）
  - Move node to node
    节点到节点移动

- Organic 有机结构
  - Allows growth of site (no pattern)
    允许站点的增长

- Sequential 时序结构
  - Sequential flow
    有次序的信息流
  - Reading a book / audio / video
    读一本书/一段音频/一段视频

Matrix structure 矩阵结构
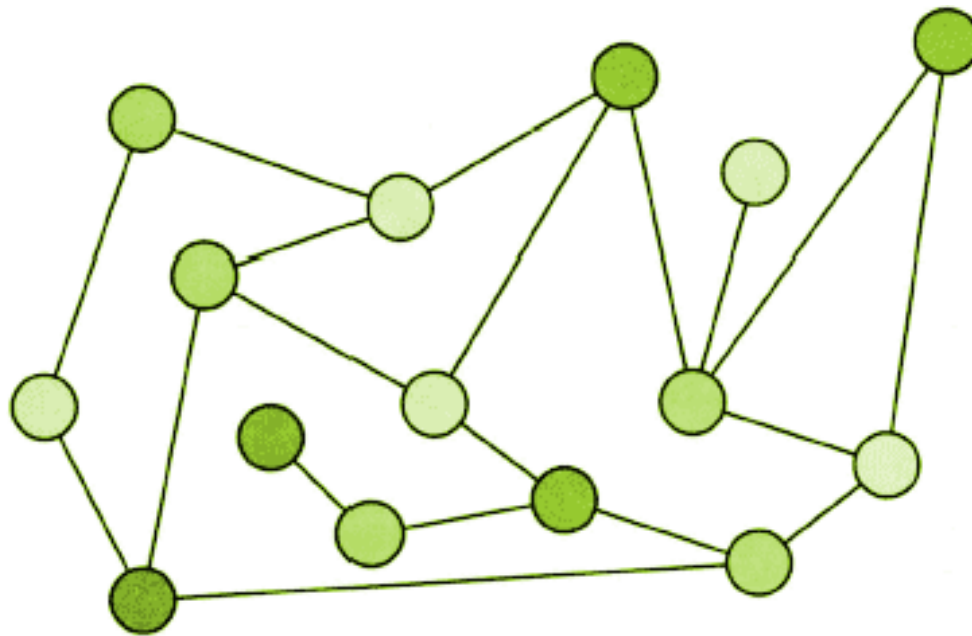## Move node to node 节点到节点移动

Organic structure 有机结构

Allows growth of site (no pattern)
允许站点的增长

Sequential structure 时序结构
  Sequential flow 有次序的信息流
      (reading a book / audio / video)
        （浏览一本书/音频/视频）

Organising principles
组织原则

- Grouping of nodes 节点集群
- Top level categories 顶层分类
  - Depends on site / product objectives (SID/ commerce/ airline)
  - 依赖于站点/产品目标
- Lower levels 低层分类
  - Content / functions 内容/功能
- Think about 思考
  - News / chronology / importance 新闻/年代顺序/重要程度
  - Categories: home/international/business/sport
    分类：本地/国际/商业/运动
- Facets 方面
  - Organising principles > classification 组织原则>分类

Language / metadata 语言/元数据

- Language 语言
  - Descriptions / labels / language of user community
    描述/标签/用户社区语言

- Consistency 一致性
  - Controlled vocabulary: structured terms throughout site 控制性词汇
  - Thesaurus: alternatives – commonly used words 叙词表

- Metadata 元数据
  - Structured approach 结构化方式
  - Standards ([Dublin Core](#) / [METS](#) (CN) - LoC) 标准(都柏林/METS)
  - Detailed information about content > DISCOVERY
    内容的详细信息>检索
  - Search function (natural language = dumb)
    搜索功能（自然语言=无言）
  - Allows effective faceted searching
    允许高效的面式搜索

Architectural design and interface
建筑设计与界面

- Site map / architecture diagram
  站点地图/建筑图表
  - Conceptual relationships 概念上的关系
- Skeleton 骨架
  - Interface 界面
  - Navigation 导航
  - Information 信息

Interface 界面
  - Consider most user actions rather than extreme edges
    考虑大多数用户的行为而非极端情况
  - Designers vs programmers
    设计师 vs 程序员

Standard interface elements
标准的界面元素

- Checkboxes – select series of options 检查框
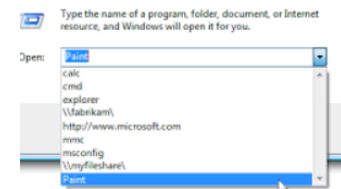- Radio buttons – one option only 音频按钮
- Text field – enter text 文本输入框

- Action buttons – 'Click Here' 动作键

- List boxes – cf checkboxes 序列框

- Drop down list – controlled vocabulary下拉菜单

Navigation elements 导航元素

- Global navigation - Entire site
  总体导航-整个站点
- Local navigation - What is nearby
  局部导航-附近内容
- Supplementary navigation - Shortcuts etc.
  补充导航-捷径等
- Context navigation – Hyperlink
  内容导航-超链接
- Courtesy navigation - Not needed regularly
  友好导航-无需一直出现
- Index – list of topics
  索引-标题列表
- Site map – architecture map
  站点地图-架构地图

Information Design 信息设计

- Simplify delivery of content 简化信息传递
  - Structure / sub-sections 结构/小节
  - Group information elements > how users think
    聚集信息元素>用户如何思考

- Wayfinding 路径查找
  - User Journey > understand where you are
    用户旅行路径>理解你所在位置
- Wireframes (Axure RP) 线框图
  - Page layout / structure of pages 页面布局/页面的结构
  - First step in visual design 视觉设计的第一步
  - Information Architecture and Visual Design meet 信息架构与视觉设计相符合
  - Integrate all elements of structure 融合结构中所有元素
  - Single document 单独文件
  - Point to Surface design 指向平面设计

Iterative design process
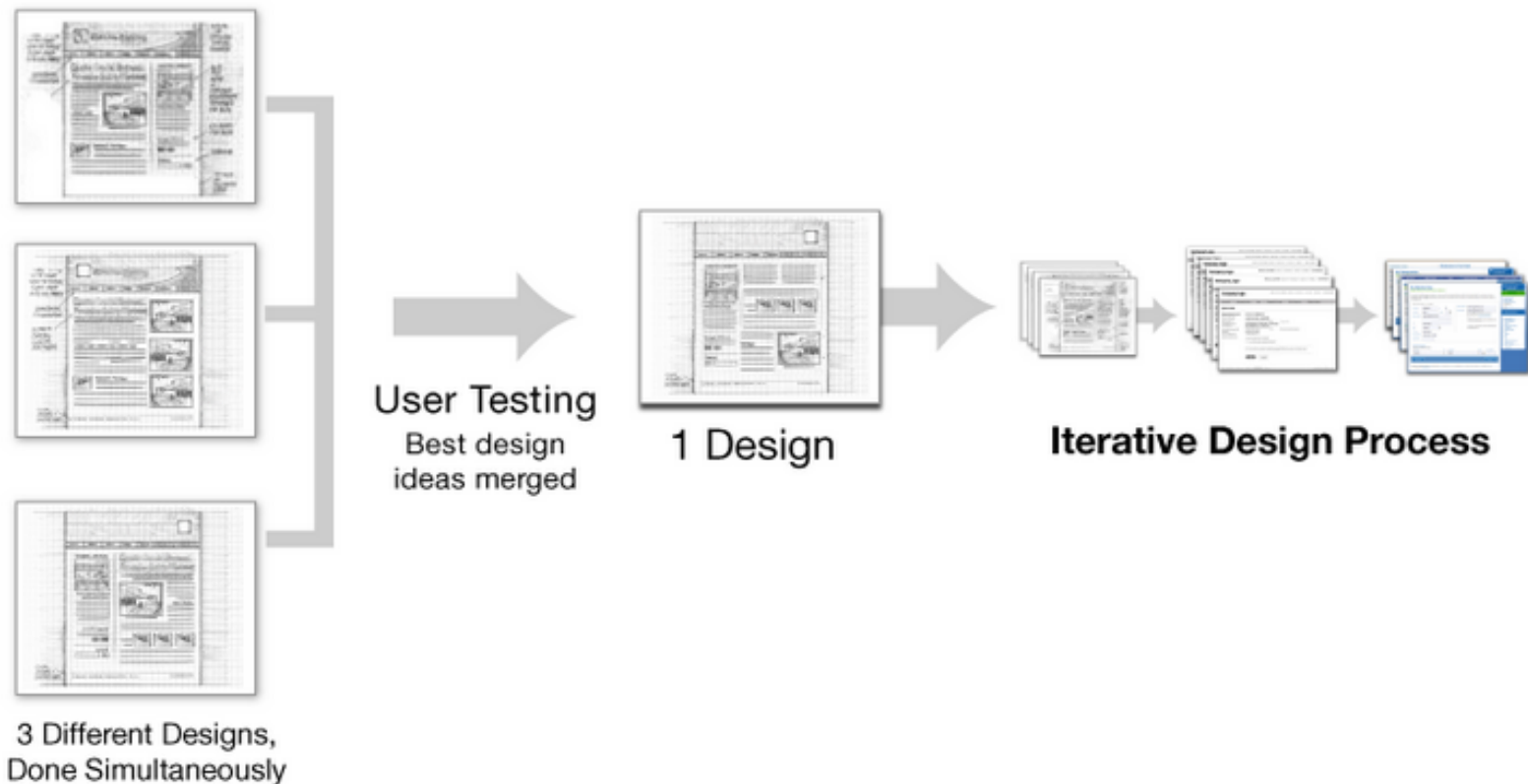# 迭代设计过程

"Parallel & Iterative Design + Competitive Testing = High Usability" by Jakob Nielsen (January 18, 2011; https://www.nngroup.com/articles/parallel-and-iterative-design). [used with permission]

Parallel Design: 'multiple alternative designs'
平行设计："多种供选择的设计"

"Parallel & Iterative Design + Competitive Testing = High Usability" by Jakob Nielsen (January 18, 2011; https://www.nngroup.com/articles/parallel-and-iterative-design). [used with permission]

Putting everything together
整合所有
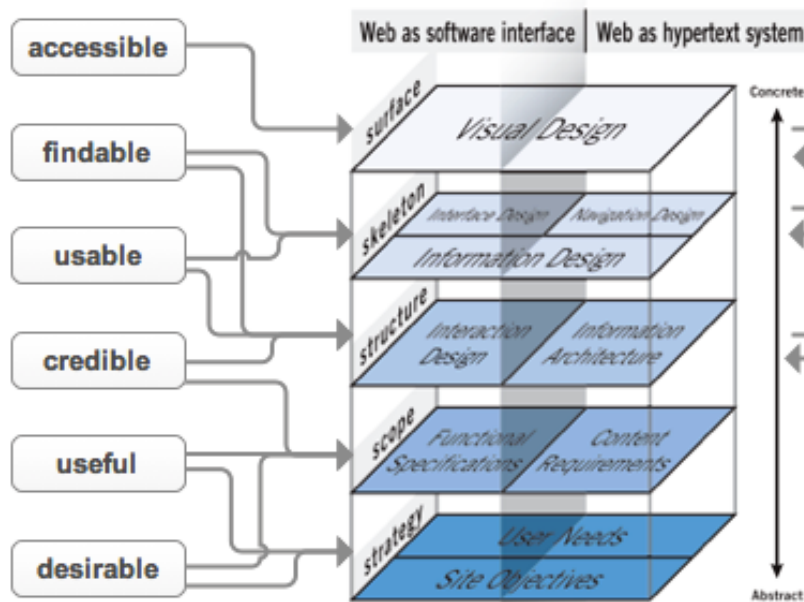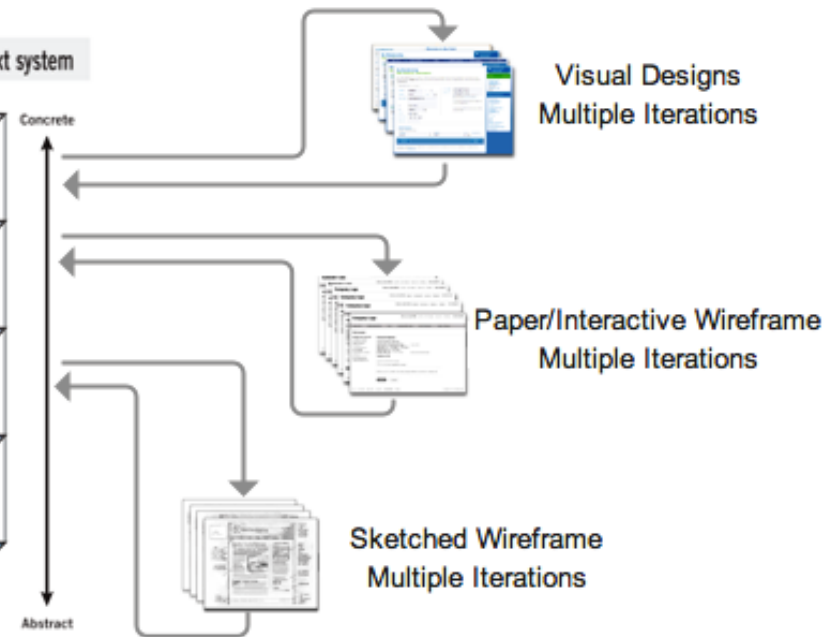
The User Experience Honeycomb (Morville, 2004), *The Elements of User Experience* (Garrett, 2011, p. 29),
Iterative Design Process (Nielsen, 2011).
[Image with thanks and acknowledgement to Wei Zhang used with permission]

Surface Plane (sensory design)（感官设计）

- Final delivery of experience to the user
  最后传达给用户的体验

- Visual design 视觉设计
  - Aesthetically pleasing vs how well they work! 美观 vs 实用
  - Does 'look' make distinctions and intentions clear?
    "外观"使其特质和意图更明确了吗?

- What draws the user's eye?
  什么能吸引用户的眼球?
  - Eye tracking software / observation / think aloud
    人眼追踪软件/观察/出声思考
- Recognition? 认同?
- Branding? 品牌化?
  - UCL, CAA, SID, WHU

Surface Plane
感官设计

- Smooth flow?
  顺畅之流?
  - –Design leads user? Guide to options and possibilities
    设计带领用户？选择和可能性的引导
  - –Without overwhelming detail (Alibaba) 去除压倒性的细节

- Contrast in design and colour
  设计与色彩对比
  - –Draws user's attention to key elements
    用户的注意力集中到关键元素

Surface Plane
感官设计

- Uniformity
  统一性
  - Communicate effectively
    高效地交流
  - Uniform size and position of key elements
    关键元素统一大小和位置
  - Grid based layout – design template
    基于网格的布局-设计模板

- Remember
  切记
  - Screen sizes vary / mobile devices / App
    屏幕大小不同/移动设备/应用

Example of University website 大学网站示例

- What elements are there? 都有哪些元素?

- What pulls your eye? 什么吸引了你的眼球?

Balance in all things 平衡

- Avoid too rigid a structure
  避免过于僵化的结构
- Think about colour 色彩
- Think about typefonts 字体
  –Special fonts for special things 特殊字体用于特殊事物
  –Different styles – different information type 不同风格-不同信息类型
  –Contrast style draws attention 对比吸引关注
- Documentation is important – staff move on
  文件记录十分重要-员工的变化
  –Keeps a record of decision making 对决策进行记录
  –Helps consistency and future development 帮助连贯性和未来发展

UX elements applied
用户体验元素应用

- User evaluation – part of process
  用户评估-部分过程
  - Not at end but evaluate user needs at start
    在一开始评估用户需求
  - Users do not know what they want
    用户尚未知道其所需

- Exclude UX and you risk failure
  排除用户体验和失败风险
  - Focus on visual design & aesthetics only > FAIL
    仅仅关注于视觉设计和审美>失败

UX elements applied
用户体验元素应用

- Keep complete UX in mind during design
  设计中牢记完整的用户体验
  - Design to implement experiences
    设计来实施体验
  - Conscious explicit decisions
    有意识的明确决定

- Strategic goals PLUS user needs
  策略性目标加上用户需求