User Centred Design
以用户为中心的设计
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Opening images 首页图片

For an explanation of the images, particularly the door, on the opening page see:

关于首页上图片的信息，尤其是门的信息，请参见：

Donald Norman (2013) *The Design of Everyday Things,* MIT Press; chapter 1.

Poorly designed systems are everywhere
设计粗劣的系统随处可见

- Users are people
  使用者：人
- If the user can't use it, then it doesn't work
  如果用户无法使用，就是无用功
- If the user doesn't need it, then it doesn't work
  如果用户不需要，也是无用功

Features of a well designed system
设计良好的系统所应具备的特点

- Efficiency 高效性
- Effectiveness 有效性
- Easy to learn 易学性
- Easy to use 易用性
- Easy not to make errors 不易出错

User testing
用户测试

- Testing of systems 系统测试
- Approaches include: 方法：
  - User feedback 用户反馈
  - Observations / interviews of practice 观察／访谈实践
- Users don't know possibilities 对用户而言的未知性
  - What information is needed 需要什么样的信息
  - What is the task 要实现什么样的目标

New designs create new opportunities for use
新的设计为使用创造新的机会

- Design and use evolve together
  设计与使用是协同发展的
  - Some new uses may be positive 一些新的用途可能是积极的
  - Others expose design limitations 而其他的可以显露出设计的不足
- Methods for understanding evolved practices:
  有助于理解的实践方法
  - Interviews 访谈
  - Observations 观察
  - Contextual Inquiry (in the workplace) 情景探究 (基于工作场所)

Understand your users
了解你的用户

- Who will the users be?
  谁将会成为你的用户？
- User testing - working with users to identify difficulties
  用户测试 – 和用户一起工作来识别问题
  - Usually late in the development process 通常在开发流程的后期
  - Tasks may be defined by analyst or user 目标可能被分析者或用户定义
  - Setting may be more or less realistic 初期设定可能过于或者不够现实化
  - Measures may be quantitative 测量方式可以被量化
    - time to complete task; number of errors 完成任务所需时间；错误的数量
  - or qualitative 或者质量
    - user difficulties or perceptions 用户的困难或者其认知理解

Gathering data on your users
从用户处进行数据采集

- Interviews 采访
  - Unstructured – simple discussion
    非结构式 – 简单的讨论
  - Structured – tight script for the questions
    结构式 – 紧密有规划的问题
  - Semi-structured – more flexible with a guide
    半结构式 – 基于大纲的灵活访谈
- Questionnaires 调查问卷
  - Fill out a form with questions 完成问卷
- Observation 观察
  - Direct observation (workplace) 直接观察 (工作场所)
  - Indirect observation – tracking activity / diary etc. 间接观察 – 追踪活动／记录等

Key approaches
主要的方式

- Triangulation 多角度方法
  - use more than one method 多种方法
- Pilot study 实验研究
  - Small trial of main study 先遣性尝试
- Always an iterative process 不断迭代的过程

Design problems
设计问题

- Prioritise them 优先考虑
  - How easy to fix 解决问题的简易性
  - How critical 辩证性
  - Now or later? 现在或者未来?
- Need to understand user requirements
  理解用户需求
- To design the future, you need to understand the present
  为未来而设计，你需要理解当下
- Need to understand users' needs and practices
  理解用户的需求与操作

Example of a well designed object. No instructions needed!
优秀的设计产品示例：无需操作指南！