The Design of Everyday Things

Byron Li
It's Not Your Fault
Donald A. Norman & His Book

The Design of Everyday Things

"Design may be the most neglected of all the arts." — Tom Peters

"The book is a must-read for anyone interested in good design." — Edward Tufte

"A must-read for anyone interested in the design of everyday things." — Businessweek
Norman Door
Why

• Learn to think from different aspects
• Contribute to our product design
• Improve our customer insight
• It's interesting
Conceptual Model
正常状态
调低冷藏室温度
把冷藏室温度调至最低点
调低冷冻室温度
调高冷藏室温度
关闭状态

C 和 5
C 和 6-7
B 和 8-9
D 和 7-8
C 和 4-1
0

1. 需要调节两个控制钮
2. 需24小时，电冰箱的工作状态才能稳定下来

冷冻
冷藏
Seven Stages of Action

• Forming the goal
• Forming the intention

--- Gulf of execution ---

• Specifying an action
• Executing the action
• Perceiving the state of the world
• Interpreting the state of the world

--- Gulf of evaluation ---

• Evaluating the outcome
Feedback & Visibility

• Telephone vs. car
• Control panel of a VCR
• Shutter release button of a digital camera

• Important for solving the gap between evaluation and execution
<table>
<thead>
<tr>
<th>Item</th>
<th>功能</th>
<th>操作步骤</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>拨总机</td>
<td>拨 101</td>
</tr>
<tr>
<td>2</td>
<td>拨外线</td>
<td>拨 0 – 外线号码</td>
</tr>
<tr>
<td>3</td>
<td>拨分机</td>
<td>拨 分机号</td>
</tr>
</tbody>
</table>
| 4 | 预约外线 取消预约 | 拨 0 – 忙音– 转接键 – *0 – 挂机  
拨 #0 – 挂机 |
| 5 | 预约内线 取消预约 | 拨 分机号 – 忙音 – 转接键 – *0 – 挂机  
拨 #0 – 挂机 |
| 6 | 代接电话 | 听到铃声 – 拨 *7 |
| 7 | 电话转接 | 通话中– 转接键– 转接分机号  
a. 听到回铃音– 挂机  
b. 听到忙音– 转接键接回来 |
| 8 | 三方通话 | 通话中– 转接键 – 拨 第三人号码 – 通话后 – 转接键 |
| 9 | 录制个人问候语方法 | 拨号“7003” |
| 10 | 收听电话留言 | 拨7000 |
Human Being & Knowledge

• Information exists in the world
  – Declarative knowledge
  – Procedural Knowledge

• Human does not recognize information exactly

• Memory is the knowledge stored in the head
  – Arbitrary information
  – Associated information
  – Memory by understanding
Mapping
Mapping
Affordance

- **Perceived** and **actual properties** of a thing, primarily those fundamental properties that determine just how the thing could possibly be used

- Affordances provide strong clues to the operation of a thing
  - Knobs are for turning
  - Slots are for inserting things into

- Provide a good conceptual model and make things visible
我非常讨厌冷热水分开设计的龙头，刚才洗完澡又先关了冷水龙头，然后，他妈的被烫熟了！
Errors

- Capture errors – end up doing something quite different from what you initially intended
- Description errors – The intended action has much in common with other possible actions
- Data-driven errors
- Associative activation errors
- Loss-of-activation errors
- Mode errors
- Error in finding the error
Design for the Error

• Avoid errors
  – The emergency button in the elevator in the hotel in Maanshan
  – Forcing functions
    – Car keys, ATM, shelf in the rest room

• Undo the error
  – Recycle Bin
Challenges in Design

• Beauty and usability
• Designer and user
• Complexity in design
  – Cost
  – Special user
  – Selective attention
  – Standardization
  – Culture
• Temptation
  – Functionalism
  – The worship of appearance
Ways of Making Mistakes

- No enough prompt
- Unclear instructions or operations
- Inconsistency
- Messages are difficult to understand
- Impolite to the end user
- Pitfalls in operation
User Centered Design

- Use knowledge inside and outside
- Make the task structure easier
- Pay attention to visibility
- Create correct matches
- Make use of natural and human limitations
- Consider the possibility of making errors
- Consider to use standardized solution
Usability Testing

• 用户根本不看文档，看文档的用户很难找到文档中的重点。

• 用户不看屏幕的提示，看提示的用户记不住自己做过的事情和屏幕上的信息。

• 当用户第一次失败时，他会认为是自己的错误，如果连续两次失败，他会对产品失去信心。

• 如果用户的相关经验可以指导他直接完成任务，事情会很顺利。如果他的经验无法让他直接得到正确的结果，他完成任务的效率会比没有经验的更差。

• ……
Everyday Things vs. Enterprise Product

• Everyday Things
  – Used by ordinary people
  – Use it day to day
  – Should be easy to use
  – A lot of design patterns

• Enterprise Product
  – Used by skilled professionals
  – Configuration features are seldom used
  – “Should” not be too easy to use
  – Need to design out of box

• Don't use these “differences” as excuses for your bad design.
What we have learnt from this book?

• Design Principles
  – Visibility
  – Good conceptual model
  – Good mapping
  – Feedback

• Insight
  – How human being learn and understand knowledge of the world
  – The way of making & avoid mistakes
  – Common problems in design
UCD China

• A community about User Centered Design in China. Focus on user experiences research and product design, especially for the web.

• Offline salon – 14:30 on the third Sunday of each month, no registration required.
  – Nanjing: 3rd Floor, Building 6, No. 6, Changjiang Houjie. Tuniu.com
References

• 设计心理学 ISBN 9787508619156
• 情感化设计 ISBN 9787121009402
• 怪诞行为学 ISBN 9787508622187
• http://ucdchina.org
• http://www.baddesigns.com
THANK YOU!