



软件工程

UI及用户体验

Spring 2022, SWUFE

复习





KISS

Keep. It. Simple. Stupid.



1. 从遥控器说起





1.1 AppleTV



1.2 Nielsen的启发式十条原则

1995年，由雅各布·尼尔森 (Jakob Nielsen) 及其同事创造，启发式评估的目标是找出设计中的可用性问题。

一共10条，也被称为尼尔森法则、尼尔森十大可用性原则，是最经典也是最常用的设计评估法则。

很多年前的一个圣诞节，我收到一份圣诞礼物，是一本关于如何认识各种树的书。当时我住在父母家，所有礼物都打开后，我决定出去走走，认一认邻居家的树。出去之前我读了书的一部分。其中提到的第一种树是约书亚树，只需要两个线索就能认出它。由于约书亚树相当怪异，所以看到书中它的照片时，我对自己说：“哦，北加利福尼亚绝对没有这种树。这种树太怪异了。如果我见过，肯定应该有印象，可我以前从来没有见过。”

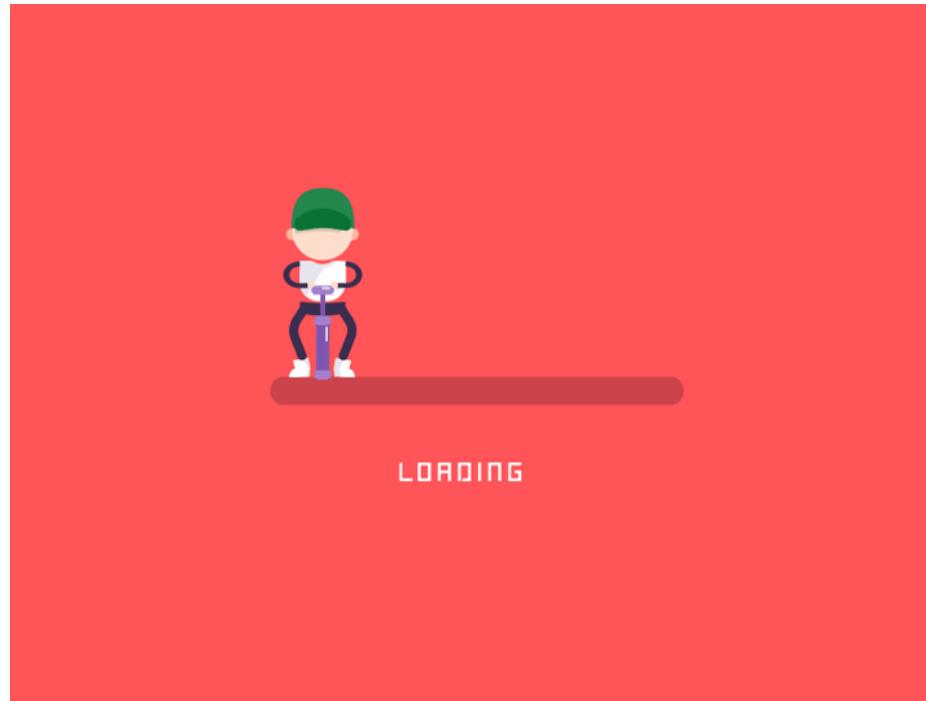
之后我拿着这本书走出家门。我的父母住在一个小巷子里，这里共有 6 家住户。其中 4 家的前院里都赫然立着约书亚树。我住在那里已经有 13 年了，此前居然从未注意过约书亚树。我在这个街区转了转，发现似乎每一家布置新居时都会到苗圃买约书亚树，至少 80% 的住家前院都种有约书亚树。而我在此之前居然从来没有注意过！在我知道了这种树之后，我是说在我能够说出它的名字后，它就无处不在了。这正是我要强调的：一旦能够说出什么东西的名字，就会很容易注意到它。你就会掌握它，拥有它，让它受你所控。



SORENSON CO.

1. Visibility of system status 系统状态可见

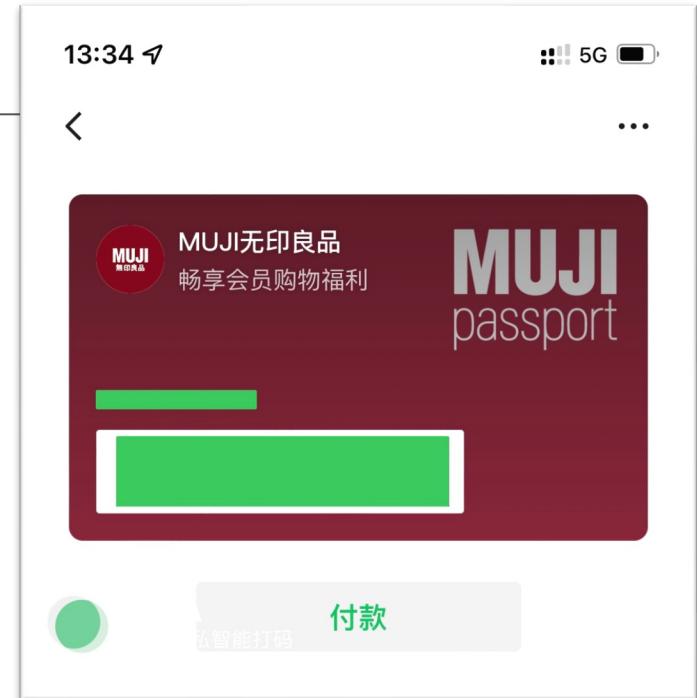
系统状态有反馈，等待时间要合适



2. Match between system and the real world 系统与现实世界的匹配

使用用户语言而不是开发者语言，贴近生活实际而不是学术概念或开发者的概念

小任务：打开支付宝或者微信的卡包。



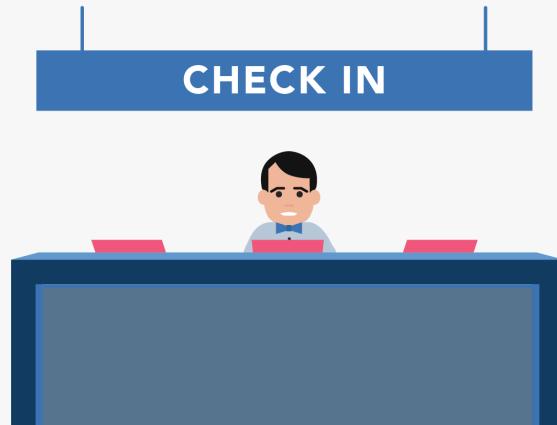
3. User Control and Freedom 用户可控性/用户自由

操作失误可回退

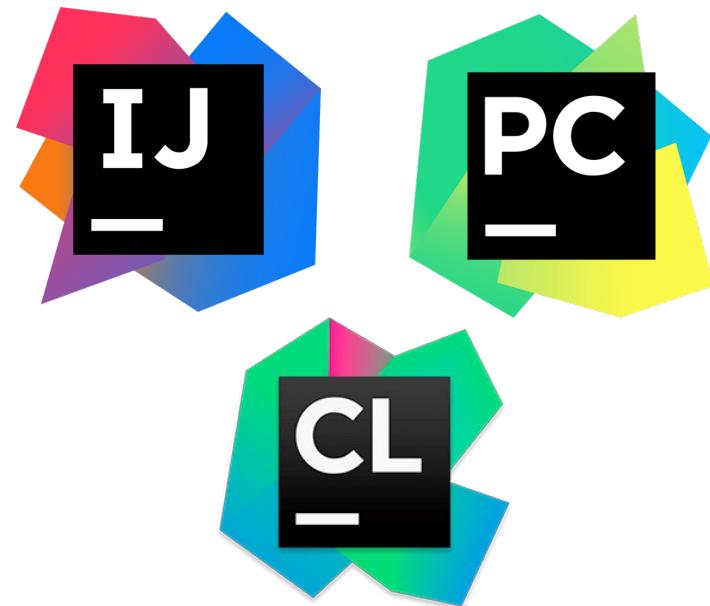


4. Consistency and standards 统一和标准

同一事物和同类操作的表示用语要各处保持一致

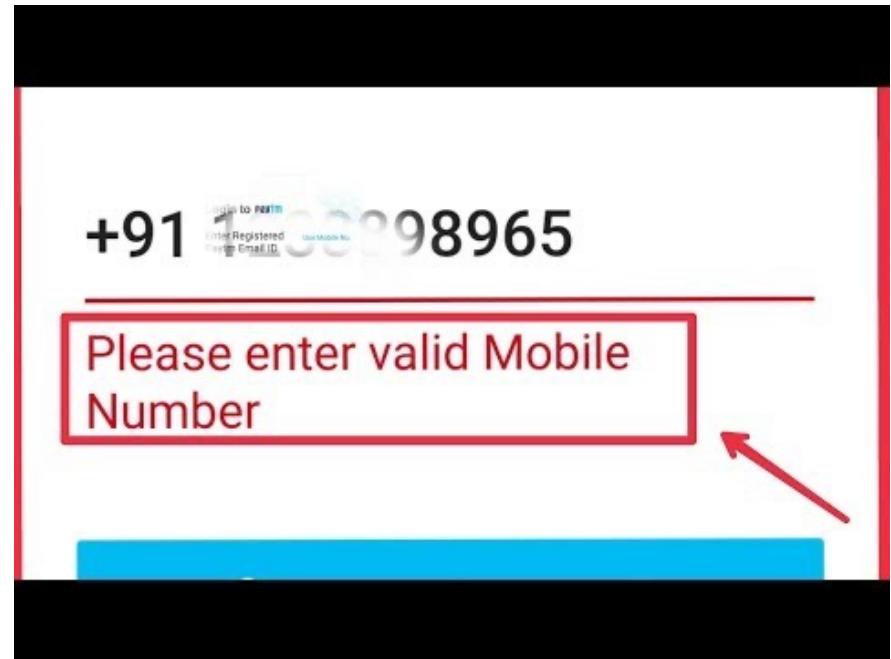
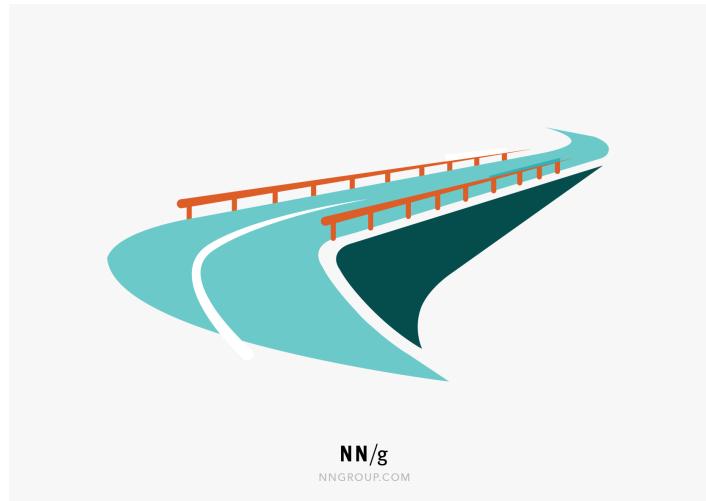


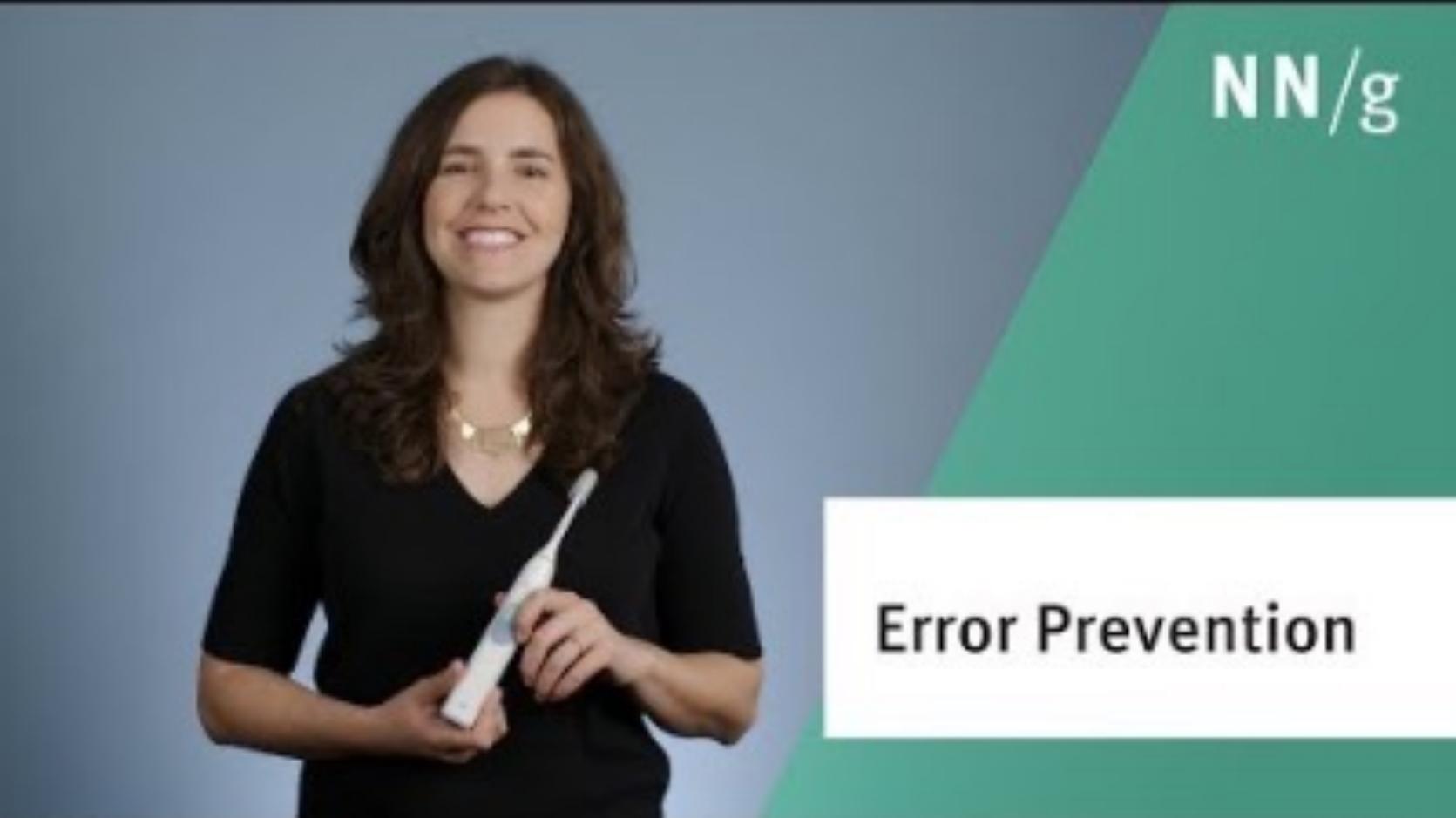
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5. Error prevention 防错性

关键操作有确认提示，及早消除误操作



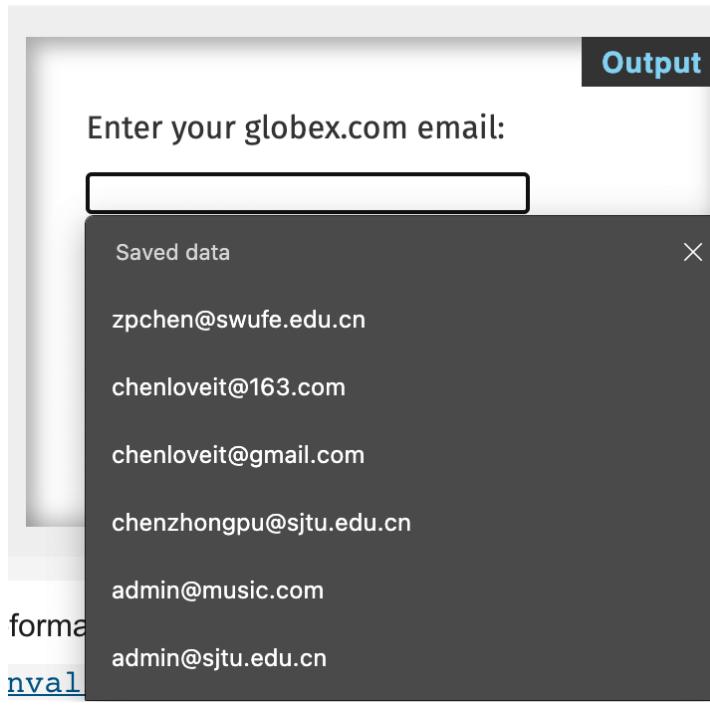


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Error Prevention

6. Recognition rather than recall 识别胜于回忆

提供必要的信息提示（可视&易取），减少记忆负担



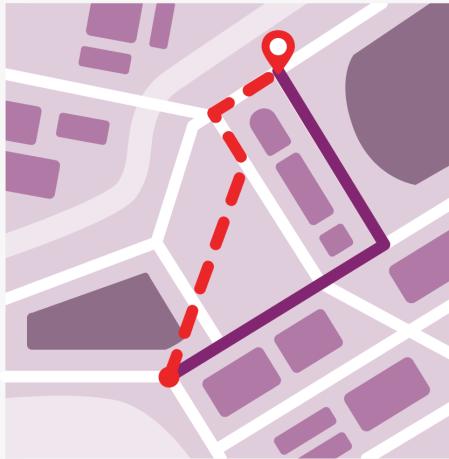


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Recognition vs.
Recall

7. Flexibility and efficiency of use 使用起来灵活高效

为新手和专家设计定制化的操作方式，快捷操作可调整。



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Keyboard | Text | Shortcuts **Shortcuts** | Input Sources | Dictation

To change a shortcut, select it, click the key combination, and then type the new keys.

Launchpad...	<input checked="" type="checkbox"/> Mission Control	^↑
Mission Co...	<input type="checkbox"/> Show Notification Center	none
Keyboard	<input checked="" type="checkbox"/> Turn Do Not Disturb On/Off	none
Input Sour...	<input checked="" type="checkbox"/> Application windows	^↓
Screenshots	<input checked="" type="checkbox"/> Show Desktop	F11
Services	<input checked="" type="checkbox"/> ▾ Mission Control	
Spotlight	<input checked="" type="checkbox"/> Move left a space	^←
Accessibility	<input checked="" type="checkbox"/> Move right a space	^→
App Shortc...	<input type="checkbox"/> Switch to Desktop 1	^1

8. Aesthetic and minimalist design 美观简洁

减少无关信息，体现简洁美感



9. Help users recognize, diagnose, and recover from errors

帮助用户识别、诊断和从错误中恢复

The screenshot shows a standard Apache Tomcat 8.5.57 error page. At the top, it displays "HTTP Status 500 ? Internal Server Error". Below this, there are several sections with headings in bold:

- Type** Exception Report
- Message** Servlet execution threw an exception
- Description** The server encountered an unexpected condition that prevented it from fulfilling the request.
- Exception**

```
javax.servlet.ServletException: Servlet execution threw an exception
        org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:52)
```
- Root Cause**

```
java.lang.NoClassDefFoundError: Could not initialize class CSPCookie
        NETLogin doGet(NETLogin.java:274)
        javax.servlet.http.HttpServlet.service(HttpServlet.java:626)
        javax.servlet.http.HttpServlet.service(HttpServlet.java:733)
        org.apache.tomcat.websocket.server.WsFilter.doFilter(WsFilter.java:52)
```

Note The full stack trace of the root cause is available in the server logs.

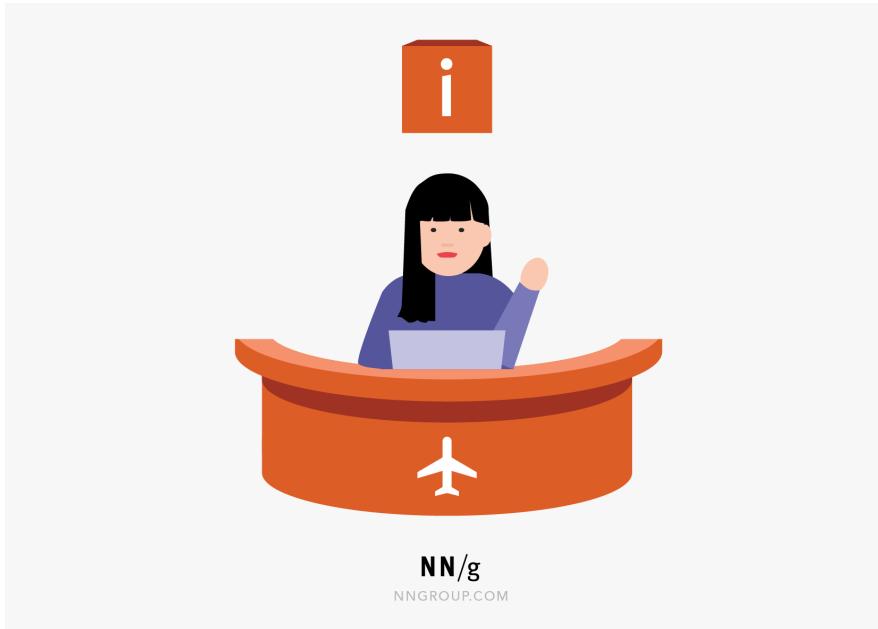
At the bottom, it says "Apache Tomcat/8.5.57".

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User Errors



10. Help and documentation 帮助和文档



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Heuristic Evaluation



2. 谈「设计」



优秀的设计就这么容易 只要知道 1-2-3

1. 学习 4 大基本原则。
它们比你想象的要简单。
2. 认识到自己没有运用这些原则。
形诸文字——陈述问题。
3. 应用基本原则。
结果将使你大吃一惊。

字体
方正书宋简体常规字体
与粗体

优秀的设计 就这么容易……

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字体
华文细黑黑体
华文细黑粗体
汉仪楷体
Potrzebie (数字)



四大原则

对比 Contrast

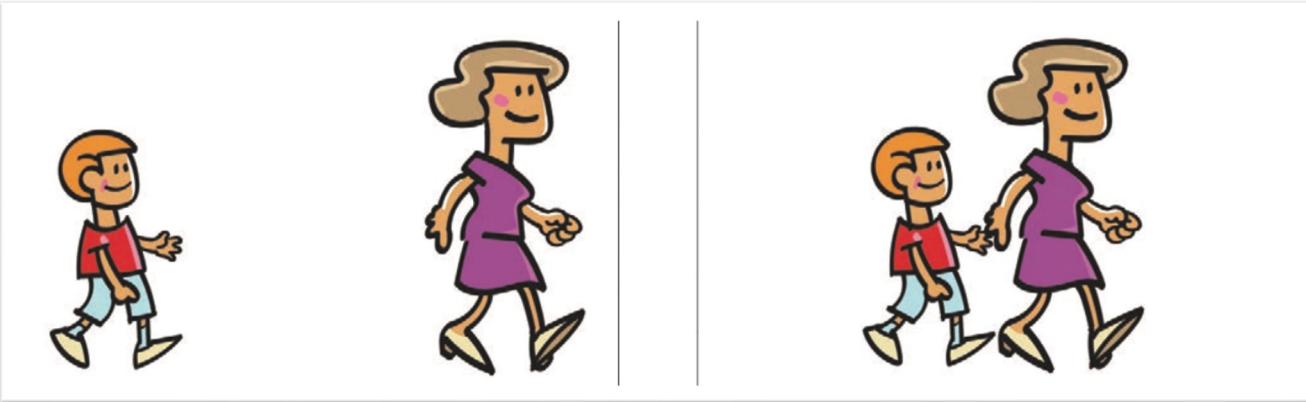
对齐 Alignment

重复 Repetition

亲密性 Proximity

2.1 亲密性

亲密性：将相关的项组织在一起，移动这些项，使它们的物理位置相互靠近。



Ambrosia Sidney

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Sock and Buskin

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Penshurst, NM

Ambrosia Sidney

(505) 555-1212

Sock and Buskin

109 Friday Street

Penshurst, NM

Sock and Buskin

Ambrosia Sidney

109 Friday Street
Penshurst, NM
(505) 555-1212

把相关的元素分在
一组，使它们建立
更近的亲密性

练习

Sally's Psychic Services

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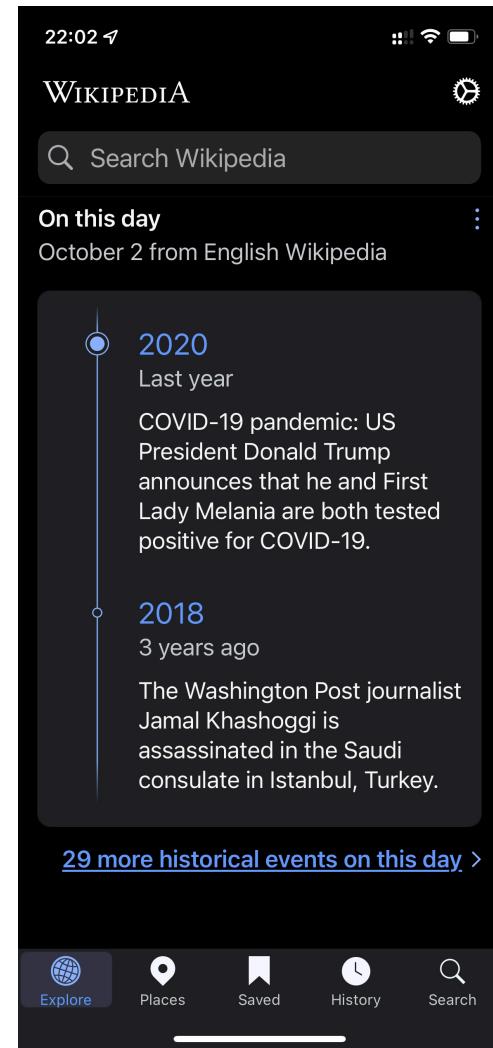
练习

Marigold
Pansy
Rue
Woodbine
Daisy
Cowslip
Carnation
Primrose
Violet
Pink

Marigold
Pansy
Rue
Woodbine
Daisy
Cowslip
Carnation
Primrose
Violet
Pink

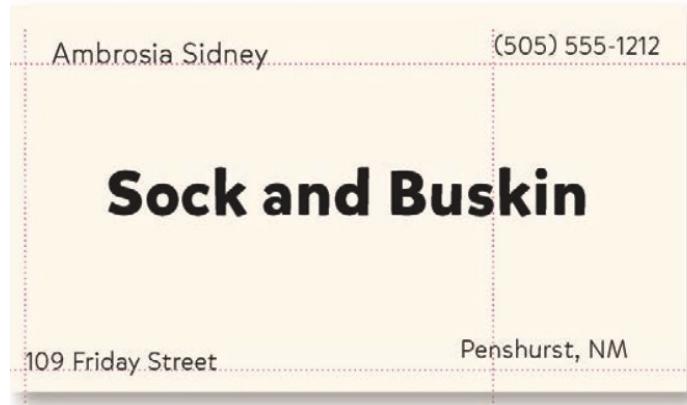
字体

Chanson d'Amour



2.2 对齐

对齐：任何元素都不能在页面上随意安放。每一项都应当与页面上的某个内容存在某种视觉联系。



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试着抛弃居中对齐，充分利用亲密性，并结合明确的左对齐或右对齐。

**A Return to the
Great Variety of Readers**
The History and Future
of Reading Shakespeare

by
Patricia May Williams

February 26

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Great Variety of Readers**
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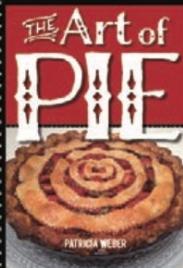


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练习

6 Steps to Pie as Art

- 1 Preparation for creating
- 2 Building the pie
- 3 Beautifying the pie as art
- 4 Cooking to perfection
- 5 Presenting your creation
- 6 Eating pie art with joy



Six Steps to Pie as Art

- 1 Preparation for creating
- 2 Building the pie
- 3 Beautifying the pie as art
- 4 Cooking to perfection
- 5 Presenting your creation
- 6 Eating pie art with friends

推荐书籍

写给大家看的设计书（第4版）

作者: [美] Robin Williams

全球热销超过1 000 000册
适用于各行业和文字打交道的人
全彩铜版纸印刷

出版社: 人民邮电出版社

原作名: The Non-Designer's Design Book(4th Edition)

写给大家看的设计书

[美] Robin Williams 著
苏金国 李盼 等译

译者: 苏金国 / 李盼等

出版年: 2015-11

页数: 252

定价: 79.00元

装帧: 精装

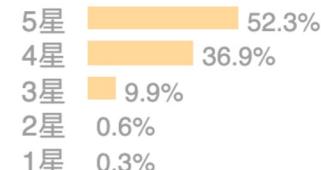
ISBN: 9787115395986

豆瓣评分

8.9



352人评价



The Non-Designer's
Design Book
4th Edition

中国工信出版集团 人民邮电出版社



POSTS & TELECOM PRESS



PROFILE:

I am a hard-working, dependable, cheerful person of many talents. My ideal position is with a company that values my combination of creativity and effort and one in which I can continue to learn.

ACCOMPLISHMENTS:

- 2011–present English Teacher, Yonago High School for Language and the Arts
- 2006-2011 Acts of Good, web designer and developer, working with a professional team of creatives in Portland.
- 2000-2006 Pocket Full of Posies Day Care Center. Changed diapers, taught magic and painting, wiped noses, read books to and danced with babies and toddlers. Also coordinated schedules, hired other teachers, and developed programs for children.
- 1997-2000 Developed and led a ska band called Lead Veins. Designed the web site and coordinated a national tour.

EDUCATION:

Pacific Northwest College of Art, Portland, Oregon: B.A. in Printmaking, 2002-2005

Santa Rosa Junior College, Santa Rosa, California: focus on graphic design and drafting, 1999-2001

PROFESSIONAL AFFILIATIONS:

- 2000-2002 Grand National Monotype Club, Executive Secretary
- 1999-2003 Jerks of Invention, Musicians of Portland, President
- 1992-1998 Local Organization of Travelers Wild

LANGUAGES:

English, native
Japanese, fluent

HOBBIES:

Music (guitar, bass, trumpet, keyboard, vocals), photography, drawing, dancing, rowing, reading, magic.

REFERENCES:

Sally Psychic 505.818.0419

Foghorn J. Leghorn 415.808.1009



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