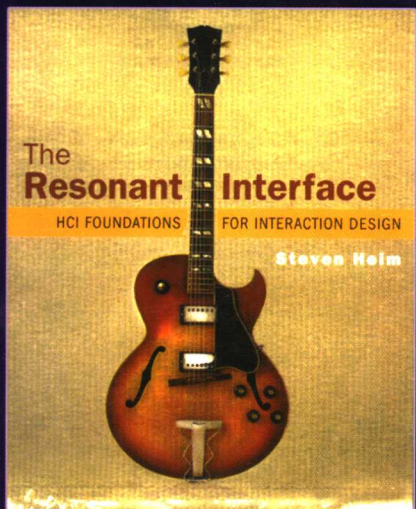


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和谐界面 ——交互设计基础 (英文版)



The Resonant Interface

HCI Foundations for Interaction Design

[美] Steven Heim 著



电子工业出版社
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北京·BEIJING

内 容 简 介

在普适计算时代,交互设计过程以人机交互的研究和理论为基础是至关重要的。本书阐述了如何将人机交互的研究和理论应用到交互设计过程中,内容涵盖并超越了传统的人机交互范围。每一章首先对一个HCI主题或概念进行讨论,然后对这一主题或概念从交互设计的视角进行探究,同时书中使用了具体的设计场景来讲述各个HCI主题中相应的界面问题和解决方案。此外,作者从实际应用的角度出发介绍了HCI的研究成果,并向读者阐述了构建软件和Web网站可用性界面的过程。

本书主要包括使用计算机、交互设计和交互的因素这三部分,可作为高等院校相关专业学生的教材,也可供程序设计人员及其他相关人员参考。

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版权贸易合同登记号 图字:01-2007-4576

图书在版编目(CIP)数据

和谐界面:交互设计基础=The Resonant Interface:HCI Foundations for Interaction Design:英文/(美)海姆(Heim,S.)著;-北京:电子工业出版社,2007.10

(国外计算机科学教材系列)

ISBN 978-7-121-05122-7

I.和... II.海... III.人-机系统-高等学校-教材-英文 IV.TP11

中国版本图书馆CIP数据核字(2007)第150871号

责任编辑:谭海平

印 刷:北京市顺义兴华印刷厂

装 订:三河市皇庄路通装订厂

出版发行:电子工业出版社

北京市海淀区万寿路173信箱 邮编:100036

开 本:787×980 1/16 印张:43 字数:860千字 彩插:8页

印 次:2007年10月第1次印刷

定 价:69.50元

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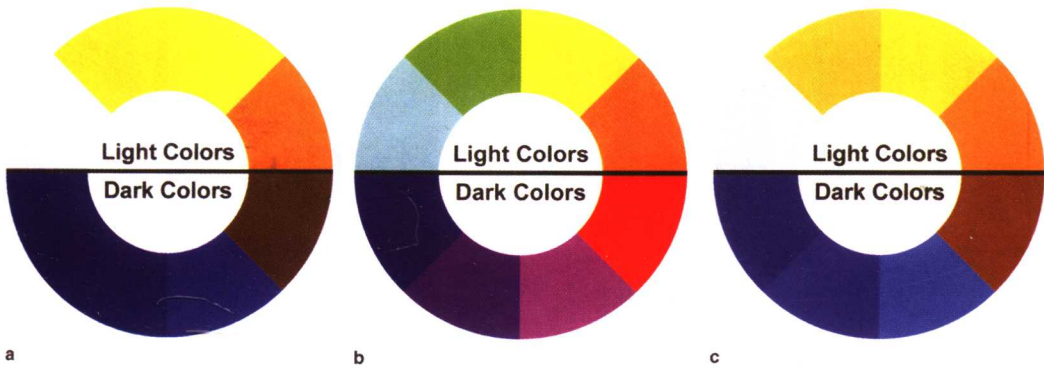


Figure 9.2 (a) Protanopic color vision. (b) Normal trichromatic color vision. (c) Deuteranopic color vision.

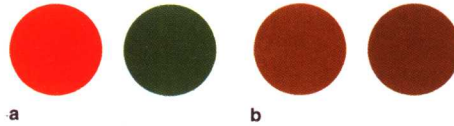


Figure 9.3 (a) Normal color vision; (b) Deuteranopic color vision.



Figure 9.4 Inappropriate colors.



a

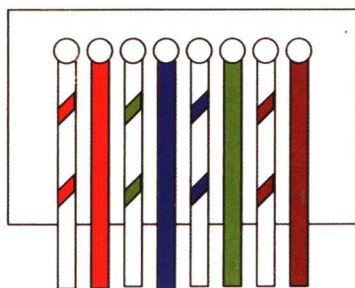


b

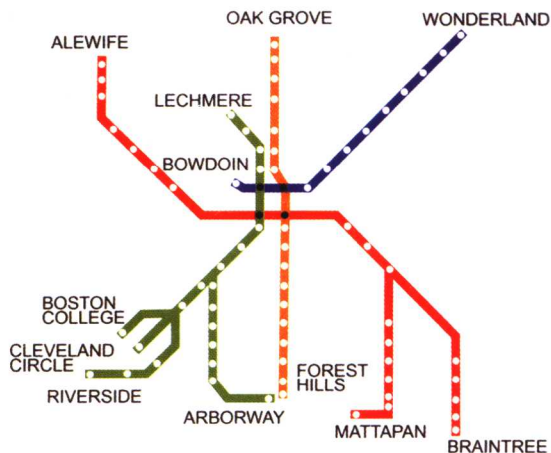
Figure 9.5 (a) Mexico | #282. (b) Mexico | #268.

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a



b

Figure 9.6 (a) Ethernet wires. (b) Map of the Boston subway system.

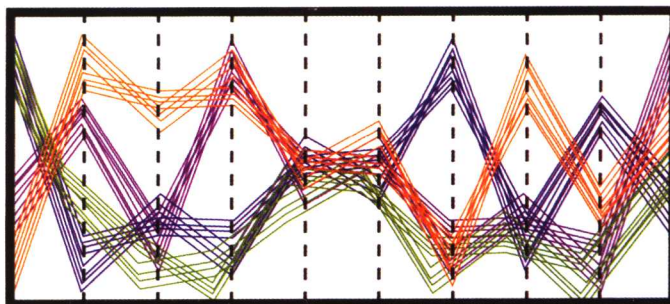
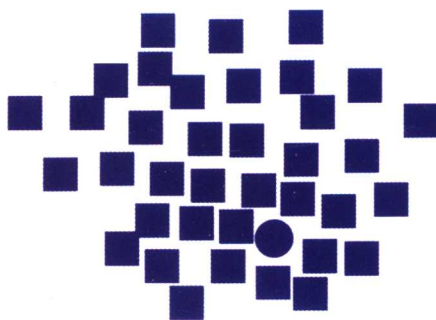
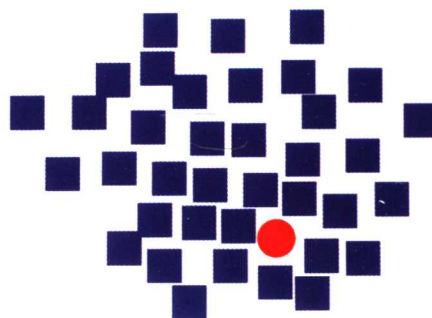


Figure 9.7 Parallel coordinate plot.



a



b

Figure 9.8 (a) Blue squares and a blue circle. (b) Blue squares and a red circle.



Table 9.1 Color Combinations to Avoid: Problematic Color Combinations

Saturated yellow and green	Saturated yellow on green
Yellow on white	Yellow on white
Blue on black	Blue on black
Green on white	Green on white
Saturated red on blue	Saturated red on blue
Saturated red on green	Saturated red on green
Magenta on green	Magenta on green
Saturated blue on green	Saturated blue on green
Yellow on purple	Yellow on purple
Red on black	Red on black
Magenta on black	Magenta on black



Figure 9.16 Additive color process.



Light Blue Dark Blue

Figure 9.18



Green Dark Sea Green

Figure 9.19

Table 9.2 Changing Hue



Name	RGB levels (in decimals)	Swatch
Dark sea green	143, 188, 143	
Teal	62, 189, 144	



Table 9.3 Grayscale Chart

H: 0° S: 0% B: 90%		High key
H: 0° S: 0% B: 80%		
H: 0° S: 0% B: 70%		
H: 0° S: 0% B: 60%		Intermediate key
H: 0° S: 0% B: 50%		
H: 0° S: 0% B: 40%		
H: 0° S: 0% B: 30%		Low key
H: 0° S: 0% B: 20%		
H: 0° S: 0% B: 10%		
H: 0° S: 0% B: 0%		

H, hue; S, saturation; B, brightness.

Table 9.4 Brightness Levels

H: 120° S: 100% B: 90%	
H: 120° S: 100% B: 80%	
H: 120° S: 100% B: 70%	
H: 120° S: 100% B: 60%	
H: 120° S: 100% B: 50%	
H: 120° S: 100% B: 40%	
H: 120° S: 100% B: 30%	
H: 120° S: 100% B: 20%	
H: 120° S: 100% B: 10%	
H: 120° S: 100% B: 0%	

H, hue; S, saturation; B, brightness.



Table 9.5 Saturation Levels

H:120° S:90% B:50%		
H:120° S:80% B:50%		
H:120° S:70% B:50%		
H:120° S:60% B:50%		
H:120° S:50% B:50%		
H:120° S:40% B:50%		
H:120° S:30% B:50%		
H:120° S:20% B:50%		
H:120° S:10% B:50%		

H, hue; S, saturation; B, brightness.

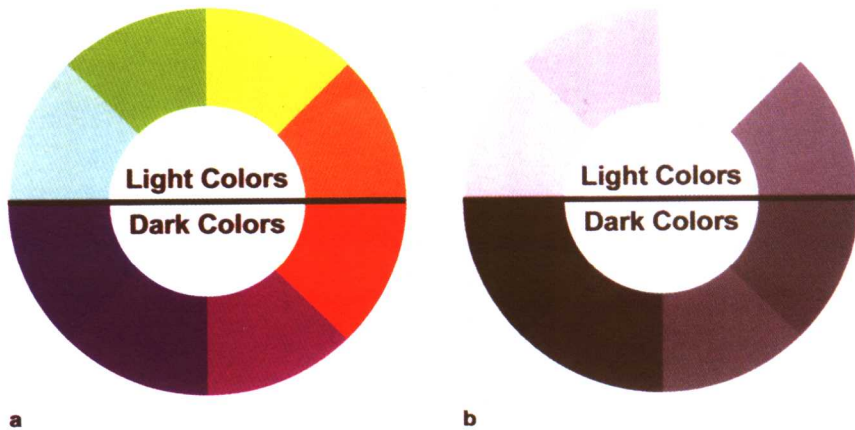
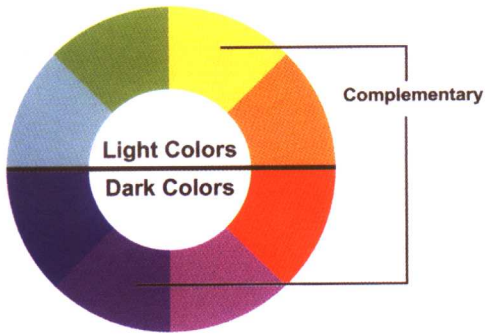


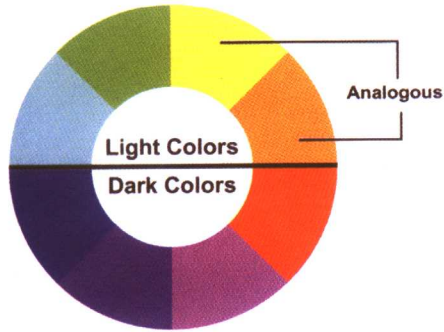
Figure 9.20 (a) Light and dark colors. (b) Light and dark colors—grayscale.



a



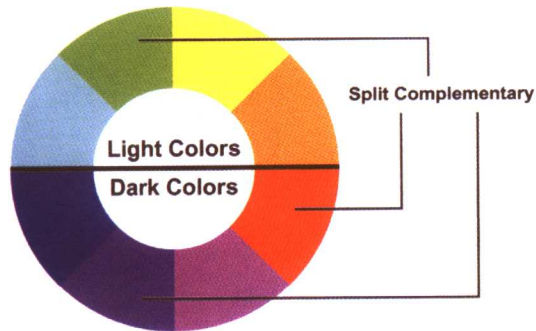
b



c



d



e



f

Figure 9.21 (a) Complementary colors. (b) An example from nature of complementary colors. (c) Analogous colors. (d) An example from nature of analogous colors. (e) Split complementary colors. (f) An example from nature of split complementary colors.

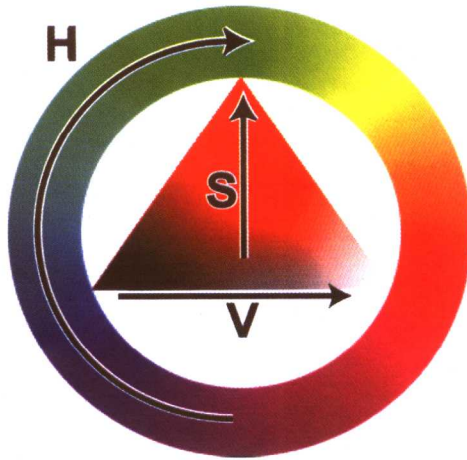


Figure 9.22 The hue, saturation, and value (HSV) color space.

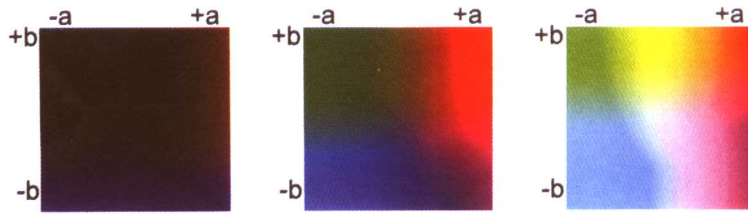


Figure 9.23 The International Commission on Illumination (CIE) L*a*b* color space.

330000	
660000	
990000	
CC0000	
FF0000	

Figure 9.24 Shades of red that are browser safe—manipulating only the red light.

FFCCCC	
--------	--

Figure 9.25 Increasing levels of blue and green.

0	1	2
3	4	5
6	7	8

Figure 9.26 Color look-up table.

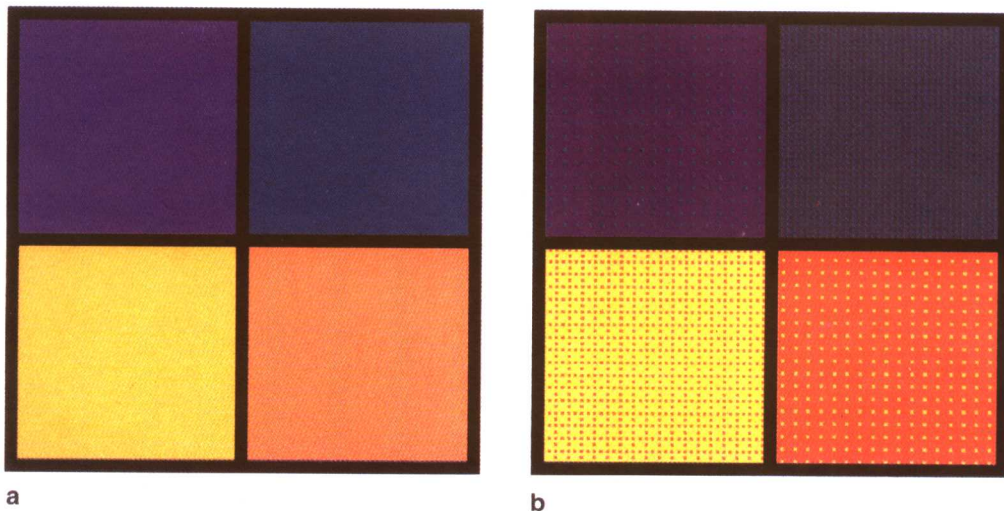


Figure 9.27 (a) Normal version. (b) Dithered version.

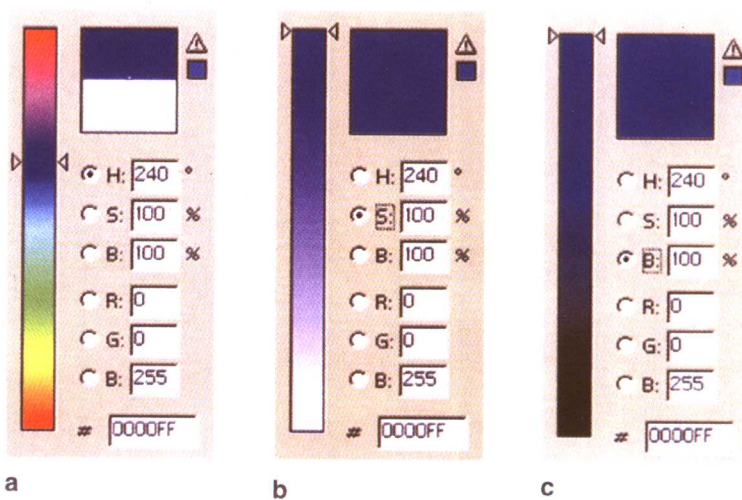


Figure 9.28 Color picker. (a) Hue, (b) saturation, (c) brightness.

Table 9.6 Issue Cover Color Swatches

Red	R: 250	H: 1°	Blue	R: 168	H: 215°
	G: 37	S: 86%		G: 183	S: 19%
	B: 35	B: 98%		B: 205	B: 80%
	Hex: fa2523			Hex: a7b7cd	
Dark Teal	R: 6	H: 162°	Yellow	R: 208	H: 42°
	G: 148	S: 99%		G: 188	S: 89%
	B: 92	B: 62%		B: 23	B: 99%
	Hex: 019d6d			Hex: febc1d	



Figure 9.30 Published issues of the journal.

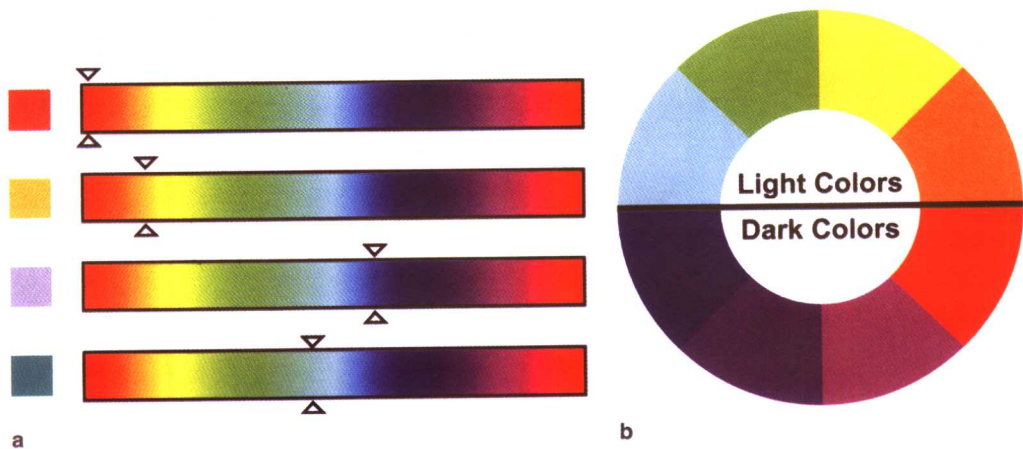


Figure 9.31 (a) Color Picker showing all cover colors. (b) Color wheel.



Table 9.7

	R: 250	H: 1°		R: 133	H: 1°
	G: 37	S: 86%		G: 72	S: 60%
	B: 35	B: 98%		B: 70	B: 52%
	fa2523			853735	
Issue 1 cover			Altered version of Issue 1 cover		
	R: 254	H: 42°		R: 252	H: 42°
	G: 188	S: 89%		G: 234	S: 24%
	B: 29	B: 99%		B: 192	B: 99%
	febc1d			fceac0	
Issue 4 cover			Altered version of Issue 4 cover		

Table 9.8

	R: 168	H: 215°		R: 0	H: 213°
	G: 183	S: 19%		G: 31	S: 100%
	B: 205	B: 80%		B: 68	B: 27%
	a7b7cd			001f44	
Issue 3 cover			Altered version of Issue 3 cover		
	R: 6	H: 162°		R: 57	H: 152°
	G: 148	S: 99%		G: 96	S: 41%
	B: 92	B: 62%		B: 78	B: 38%
	019d6d			39604E	
Issue 2 cover			Altered version of Issue 2 cover		



Figure 9.32 *Circumference* logo for the splash screen.

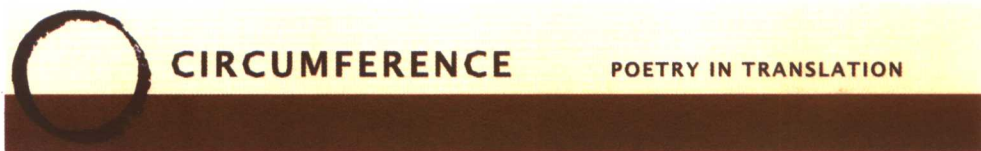


Figure 9.33 Top banner with logo and tag line.

Table 9.9

Issue Covers	Original Colors	Darker Colors
	①	①
	②	②
	③	③
	④	④



Figure 9.34 Deuteranopic color icons.



Figure 9.35 Deuteranopic versions of the issue covers.



Figure 11.40 (a) Subscription icon. (b) Contact icon. (c) About icon.



Figure 11.41 Supporters icon.



Figure 11.42 (a) Issues icon. (b) Events icon. (c) Submissions icon.



Figure 11.43 (a) Video icon. (b) Photo icon.



Chapter 11 Flags.

useit.com: Jakob Nielsen's Website

Permanent Content

Alertbox

Jakob's column on Web usability

[Users Interleave Sites and Genres](#) (February 6)

When working on business problems, users flitter among sites, alternating visits to different service genres. No single website defines the user experience on its own.

[Year's Best Intranets](#) (January 23)

[Search Engines](#) (January 9)

[Internet Growth](#) (December 19)

All [Alertbox](#) columns from 1995 to 2006

News

Usability Week

- › New York, May 2
- › London, May 2
- › San Francisco, May 2
- › Sydney, July 1

In-depth training

- › 3-day Intensive
- › 3-day Immersion

New research on

- › [Eye-tracking](#)
- › [B2B usability](#)

Figure 12.11 Hypertext links at Useit.com.

The screenshot shows the W3C website with the following elements:

- W3C® WORLD WIDE WEB consortium** logo at the top.
- Slogan: *Leading the Web to Its Full Potential...*
- Navigation bar: [Activities](#) | [Technical Reports](#) | [Site Index](#) | [New Visitors](#) | [About W3C](#) | [Join W3C](#) | [Contact W3C](#)
- A mouse cursor is hovering over the [New Visitors](#) link, which has a tooltip that says "Help for new visitors".
- Below the navigation bar, the text "a" is visible.
- A second navigation bar: [W3C® Activities](#) | [Technical Reports](#) | [Site Index](#) | [New Visitors](#)
- A dark header for "W3C Technical Reports and Publications".
- Below this header, the text "b" is visible.
- A box titled "Mobile Web Initiative" containing the text: "W3C has launched the [Mobile Web Initiative \(MWI\)](#) to make Web access from a mobile device as simple, easy, and convenient as Web access from a desktop device. Read [about MWI](#) and [MWI sponsors](#) and learn [how to become one of them](#)."
- Below the MWI box, the text "c" is visible.
- A box titled "W3C A to Z" containing a list of links:
 - [Accessibility](#)
 - [Amaya](#)
 - [Annotea](#)
 - [CC/PP](#)
 - [Compound Document Formats](#)
 - [CSS](#)
 - [CSS Validator](#)
- On the right side of the page, there are sections for "Note:" and "Work:" with dates and titles like "2006-02-11 Group has as a Worki data repre: represente guidelines Visit the S" and "2006-02-11 Public Wor Device De various opt".

Figure 12.12 (a) Hypertext links at the W3.org Web site. (b) Nonfunctional hyperlink. (c) Visited link.