



DESIGN <for> HACKERS

/* reverse-engineering beauty */

DAVID KADAVY

{@kadavy}

Contents

Introduction	1
Design as Literacy	2
The Hacker Attitude	3
The Gap in Design Knowledge	5

Part I: Understanding Design

CHAPTER 1

Why Design Matters.	9
What Design Really Is	11
What Design Is Not.	13
The Layers of Design	15
Purpose	17
Medium and technology	17
Aesthetic decisions.	18
Conclusion	18

CHAPTER 2

The Purpose of Design	19
Visual Design and Its Relation to User Experience Design.	21
The basics of user experience design.	22
The visual design of one product versus another	24
Sometimes a Visual Design Is Just Good Enough	25
Sometimes Visual Design Is Your Advantage	26
Reverse-Engineering the Twitter User Experience	28
User personas	29
Use cases	30
Wireframes	32
Knowledge Applied	33

Part II: Medium and Form

CHAPTER 3

Medium and Form in Typography	37
The Tragedy of Misuse: Why You Hate Comic Sans	38
The Shackles of the Typographer: The Unalterable Word	45
The Formation of Our Alphabet	47

The Birth of Our Letters	50
The Twitter of the Roman Empire	51
The height of Roman typography	52
The Type That Has Lived On	62
The invention and spread of printing.	63
Punchcutting: The cradle of the unalterable word	64
Venice and the Renaissance	65
France and Garamond	66
Garamond Today: Why You Don't Use Garamond on the Web	66
The birth of the "web font"	67
A great leap	68
Bridging the gap	69
Limitations can be embraced – even parodied	72
Knowledge Applied	73

CHAPTER 4

Technology and Culture	75
How Trends Are Created	76
The birth of Impressionism	76
Impressionism and the middle class	78
Impressionism and photography	79
Impressionism and modern art	81
Web 2.0 graphics	82
How Apple started the Web 2.0 style	83
How Aqua influenced the web	85
How Aqua met Web 2.0	86
Form shapes technology, this time	90
SEO Is Design	90
Understanding why SEO is important	93
Choosing the right keywords	94
Considering content and coding	96
URL	97
Title tag	97
Meta tags	98
Headers	98
Content: em, strong, img	98
Authority of linking pages	99

TABLE OF CONTENTS

Content of linking pages and of anchor text of links	100
Everything in moderation	100
Getting the content, getting the links	101
Knowledge Applied	102

Part III: Composition

CHAPTER 5

Fool's Golden Ratio: Understanding Proportions	105
What Is Proportion?	107
Proportion and Design	109
The Broken Promise of the Golden Ratio	110
The golden ratio and the Fibonacci sequence:	
Similar, but different.	112
The golden ratio in the human form	113
Misconceptions about the golden ratio	115
The golden ratio in ancient Greece	115
The golden ratio in fine art	117
The golden ratio in nature.	118
The golden ratio in psychology	118
Other Pleasing Proportions	119
The root 2 rectangle.	119
The 2:3 rectangle.	120
The 3:4 rectangle.	121
Proportions in Our World.	121
Music and dance	122
Nature.	123
Computers and mobile devices	125
Proportions at Work	126
Knowledge Applied	132

CHAPTER 6

Holding the Eye: Composition and Design Principles	133
Compositional Relationships	134
Reading direction	135
Guiding the eye with composition.	136
Renaissance sculpture	137
Impressionist paintings	139
Web design.	140

Foreground/background relationships	141
In Seurat's painting	142
In interface and web design	143
Design Principles	144
Dominance	144
Similarity	146
Rhythm	148
Texture	150
Direction	151
Contrast	156
Why the MailChimp Logo Is Beautiful: Use of Composition and Design Principles	157
Foreground/background relationships	159
Dominance	160
Similarity	160
Rhythm	162
Texture	163
Direction	163
Contrast	163
Knowledge Applied	165

CHAPTER 7

Enlivening Information: Establishing a Visual Hierarchy	167
What I Mean by "Hierarchy"	168
Hierarchy is expressive	170
Many visual factors can affect hierarchy	170
Hierarchical Factors in Isolation	171
White space	172
Using a grid to manage white space	172
Establishing a hierarchy with white space	173
Knowing how much white space to use	175
Considering white space and italic font style	175
Using a four-column grid	176
Type weight and size	177
Type weight	177
Type size	179
Combining weight and size	181

TABLE OF CONTENTS

Color	181
Visual ornamentation	182
Hierarchy at Work	187
Knowledge Applied	190

Part IV: Color

CHAPTER 8

Color Science	195
What Is Color?	197
The Tricks Your Eyes Play	198
Metamerism	199
Color constancy	199
Afterimages	200
How the Visual System Works	201
Cones	201
Trichromatic theory and color opponent theory	202
Mixing of dominant wavelengths and the color wheel	204
Colorblindness	205
Defining Color	207
Munsell	208
Hue, saturation, and brightness	209
Lab color model	210
Color Models and Data-Driven Graphics	211
Color and qualitative data	211
Color and quantitative data	212
Sequential versus diverging color palettes	216
Thinking in Hexadecimal Color: Understanding the Colors of the Web	217
Understanding RGB	218
How hexadecimal represents RGB	220
Mentally navigating the hexadecimal “cube”	221
The future: HSL	224
Color Models in Action: Why Your Business Card Doesn’t (and Never Will) Match Your Website	225
RGB displays versus CMYK color printing	226
Color gamuts	227
Working across media and managing color	229

Adobe RGB versus sRGB	230
“Proofing” and previewing color shifts	231
Printing with spot colors	232
Knowledge Applied	233

CHAPTER 9

Color Theory	235
Color Response throughout Human History	237
Color Response and Human Biology	237
The Power of Red: Why You Don’t Stand a Chance in the “Target Challenge”	238
The effect of red on your brain	239
The prefrontal cortex and rational thought	239
The attack on your prefrontal cortex	240
The prefrontal cortex and decision-making	241
Color and context	243
What this means to you	244
Research on Other Colors	245
Color and Culture	246
Color Schemes and the Color Wheel	247
Color Choices and Web Conventions	249
Backgrounds	249
White	249
Off-white	250
Dark	250
Bright	250
Graphics and text	251
Green	252
Yellow	252
Red	253
Blue	254
Accent colors	254
The Interaction of Colors: Why Monet Never Used Black	255
The Impressionists: Masters of color	256
Color theory: What the Impressionists discovered	256
Warm colors pop, cool colors recede	257
Tints pop, shades recede	257

TABLE OF CONTENTS

The importance of context	258
Temperature versus tint	258
How Monet used color	260
Using color like Monet	262
Enriching your typography	262
Adding life to your graphics	263
Color Schemes	264
Monochromatic	265
Analogous	267
Complementary	269
Split-complementary	271
Triadic	274
Tetradic	276
Variations	276
Creating a Mood with Color	280
Mysterious or exclusive	280
Active	280
Muted	283
Natural	284
Tools for Creating Color Palettes and Schemes	285
Knowledge Applied	287

Part V: Appendixes

APPENDIX A

Choosing and Pairing Fonts.	291
Classifying Typefaces	293
Serif typefaces	294
Old style	294
Transitional	294
Modern	295
Slab-serif	295
Sans-serif typefaces	296
Display typefaces	296
Looking At Letter Structure: The Form of the Skeleton	297
Humanist typefaces	297
Geometric typefaces	298
Realist typefaces	298

DESIGN FOR HACKERS

Pairing Fonts	298
The rule	299
The exception to the rule	299
Why certain fonts pair well	301
Texture	301
Character width	304
The ultimate cheat: Staying faithful to a typographer	306
All the Fonts You'll Ever Need	307

APPENDIX B

Typographic Etiquette	311
Distorting Type: What Not to Do	313
Fake bold	313
Fake italic	314
Fake small caps	314
Stretching type	317
Outlining type	317
Type and images or textures	318
Setting Body Copy	319
Indicating a change in paragraphs	319
Avoiding justified type	321
Avoiding widows and orphans	322
Tending to Typographic Details	323
Not all quotes are created equal	323
Using dashes dashingly	324
One space after a period, not two	324
Ligatures bring letters together	325
Index	329