Index

A	bias, 292–309
	bugs, 301
action plans, 101, 116, 252–253	data analysis/reporting, 299–300
debriefing meeting and, 116	defined, 285
in paper prototyping project, 101	effect direction, 306
tips for, 253	effect magnitude, 306
affinity diagrams, 248–250	examining, 305–309
defined, 248	facilitator, 298-299
illustrated, 248	observer, 300–301
process, 248–250	paper prototype, 302–305
See also debriefing meeting	qualitative analysis, 305–309
alignment, 276	recognizing, 292
"Amelia Bedelia" problem, 65–66	sources, listing, 305
animation/video simulation, 86	task instructions, 295
assumptions	in tasks, 293–295
disagreements based on, 66	test machine, 297–298
mistaken, 25, 77	test methodology, 299
task, 130	test setting, 295–297
audience, this book, 15–17	from users, nonprofile, 292–293
author background, 17–18	bias case study, 306–309
	artificial data, 308
	artificial motivation, 309
В	lack of color, 307
	visual design, 308–309
backgrounds	blind spots, 47
browser, 76–78	blinders, 79, 80
creating, 74–80	defined, 80
defined, 74–75	illustrated, 79
reasons for using, 75	body language, observer, 230, 301
small-screen interface, 78–80	facilitator, 182, 186, 298
software application, 75–76	observers, 230–231
videotaping and, 75	See also observer rules
beeps, simulating, 86	brand, issues pertaining to, 260-261

breadth, 260-261	planned, scope of, 331
in brand, 270	small, 277
in concepts and terminology, 268	between usability tests, 217–218
in content, 269	during usability tests, 52, 215–216
defined, 260	checkboxes, 80
in documentation, 269	checklist (working interface vs. paper prototype),
in navigation, work flow, task flow, 268	332–333
paper prototypes, 265	coding, 54–57
in requirements, functionality, 269	interface behavior, 54
in screen layout, 269–270	zero effort, 55
See also dimensions	co-discovery, 186–189
broadening, user profiles, 109	benefits, 187
browser backgrounds, 76–78	defined, 186
creating, 76–78	dominant personalities and, 188
illustrated, 77	drawbacks, 187-188
several prototype pieces on, 77–78	friends vs. strangers, 188-189
See also backgrounds	scheduling, 187
bugs, bias due to, 301	strangers for, 188–189
buttons, 80	See also usability testing
	collaborative design, 347–349
	See also participatory design
C	communication
	within product team, 64-66
can recycling machine, 90, 91	of usability tests, results, 102
cascading menus, 281	Comparative Usability Evaluation (CUE)
case studies, 25–47	studies, 300
bias, analyzing, 306–309	compatibility, 282
e-commerce, 35–38	comps, 9
NCR: postal mail sorting machine, 46	Computers
small-screen display, 39–42	behavior of, 209–211
software, 27–30	combining with other roles, 214
touch screen, 42–45	Co-processors with, 166
types of problems found, 25	defined, 19
validity, 289–290	interactions with, 207
Web application, 30–34	in internal walkthrough, 163-164
Xerox Stenographic Translator, 46–47	mistakes, 165, 211
See also Centra Symposium, Dictaphone	task practice, 84
Corp., Priceline.com, Pingtel xpressa, The	technical expertise needed, 165–166
MathWorks cpselect	in usability testing, 5, 6
Centra Symposium case study, 30–34	computers, 19
3D functionality, 32, 33	concepts and terminology, 272
avatars, 31, 32, 34	configuration tasks, 329
bandwidth constraints, 33	content
social considerations, 33	breadth issues, 269
stick-figure drawings, 32	control of, 328
See also case studies	data, 146
changes	depth issues, 269, 273
with paper prototyping, 52, 53	greeking for, 156

look issues, 269	defined, 261
contextual inquiry, 296	in DENIM prototypes, 267
contextual interviewing, 340-341	in documentation/help, 269, 274
Control Point Selection Tool (cpselect) case study,	interaction vs., 262
27–30	issues, 272–275
control point states, 29	as key factor, 261
paper prototypes illustration, 28	in navigation, work flow, task flow, 268,
similarity to other tools, 29–30	272–273
success of, 30	in paper prototypes, 265
views, 29	in requirements, functionality, 269, 274
See also case studies	in screen layout, 274–275
controls, size of, 279–280	in slide shows, 264
Co-processors, 166	in working version, 263
core team, 103-104, 147	See also dimensions
correction fluid, 73	The Design of Everyday Things, 13
creative feedback, 58	design reviews, 160–162
creativity	defined, 160–161
not limiting, 150	with paper prototypes, 161
product team, 62	designers
users, 58	defined, 103
cursors, 83	users as, 216–217
	design(s)
	activity, 50–51
D	collaborative, 347–349
	constraints, 50, 51
data, 241-256	existing vs. new, 149–150
analysis/reporting bias, 299–300	good, 63
capturing, 241–247	interface, 16
consistency of, 147	parallel, 148–149
content vs. structure, 146	participatory, 14
realistic, 146, 147	redesigning and, 166–167
sources of, 151	time, 49
types, 242	unfinished, 58
See also note-taking, observations	user-centered, 339–351
debriefing meetings, 106, 116	user preferences for, 25
affinity diagram, 248–250	development
granularity and, 251–252	context, 325–328
as group method, 251	stage of, 330–331
issues prioritization in, 247–253	usability testing vs., 326–327
outputs, 247	development process
problem causes and, 244	defined, 314–315
demographics, 110–111	questions, 314
DENIM, 266–267	resource constraints, effect on, 313-314
See also prototyping methods	development team
depth, 261	composition, 322–323
in brand, 270, 275	core team, 103–104, 147
in concepts and terminology, 268, 272	defined, 19
in content, 269, 273	division of work, 148

development team (continued)	errors
interactions with users, 236–238	anticipating, 158–159
location of, 323–324	oral messages, 211
miscommunication, 65-66	ethical/legal responsibilities, 172–177
multidisciplinary, 63, 104, 322-323	examples, bad situations, 165, 232, 321
openness to change, 60	informed consent form, 173, 174
"opinion wars," 66–67	nondisclosure agreements (NDAs), 174-176
reassuring, 311	payment for users, 176–177
small, 323	risk, 173
technical expertise, 104	See also facilitators
dialog boxes	examples, this book, 23
expandable, 82	See also case studies, interface widgets
tabbed, 80	expandable dialog boxes, 82
Dictaphone Corp., 346–351	expandable lists, 82
collaborative design, 347–349	expert users, in internal walkthroughs,
	163–164
foam models, 350, 351	103-104
Fome-Cor mockups, 349–350	
usage scenarios, 346–347	F
See also user-centered design	•
dimensions of a prototype, 259–272	facilitation 171 105 211 213
breadth, 260–261, 269–270	facilitation, 171–195, 211–213
depth, 261, 267, 268, 269, 272–275	activities, 172
fidelity and, 259–260	checklists, 194
interaction, 262, 267, 278–281	learning, 171
interface questions and, 268–271	progress, 195
look, 261–262, 270, 275–276, 276	self-improvement, 171, 194–195
See also paper prototypes	scripts, 194, 205–208
disabled controls, 82	facilitator roles, 177–186
disagreements, 66–67	defined, 177
divide-and conquer, 147–148	flight attendant, 177, 178–180
documentation, 93, 289	scientist, 177, 185–186
depth issue and prototype dimensions, 274	sportscaster, 177, 180–185
of interface behavior, 256	trade-offs, 189–191
prototyping of, 93–95	facilitators
download time, 281	adjustments, 223
drag & drop simulation, 86	answering questions as, 212–213
drop-down lists, 81	becoming, 171
dropping tasks, 137–138	bias due to, 298–299
	body language, 182, 186, 298
_	in co-discovery, 187
E	combining with other roles, 214
	defined, 7
e-commerce case study. See Priceline.com	duck analogy, 177
efficiency ratio	effectiveness, 224
defined, 315	ending the test, 213
use of, 317	ethical/legal responsibilities, 172–177
elements, separating, 157–158	interactions with users, 181–183
ending tests, 213	in internal walkthrough, 163–164

intervention, 168	functionality
introducing the test, 205–208	breadth of, 260
new, 186	coding vs. paper prototyping, 54–55
objectivity of, 186	depth of, 261
observer observation, 223–224	determining with a paper prototype, 25, 274
practice, 195	vs. user goals, 126
purpose, 171	· ·
reassuring users, 180	
responsibilities, 172	G
seating, 198	G
special situations, handling, 191–194	
tips for, 194–195	granularity of observations, 251–252
See also usability testing	graphic designer, 105
false problems, 302–303	greeking, 154–156
"false top" problem, 278–279	for content, 156
fidelity, 259–260, 288	defined, 154
high, 259	on Web pages, 155
low, 259	overuse of, 156
as misleading, 260	reasons for using, 154–155
prototype aspects and, 260	
final walkthrough, 167–168	
defined, 167	Н
"game plan" creation, 168	
intervention decision, 168	hand-drawing, 84–85, 151–152
observers, familiarizing, 167	decision, 151–152
questions, collecting, 167–168	illustrated example, 152, 153
task timing estimation, 168	monochrome, 85, 152–153
as usability test rehearsal, 167	neatness, 85, 152
See also walkthroughs	readability, 152
flight attendant role, 178–180	size, 153–154
appropriate feedback, 179–180	speed, 151
assisting stuck users, 189–190	tips, 152–154
comfort, 178	vs. screen shots, 84–85, 151
defined, 177	See also screen shots
importance, 178	Handheld Usability, 80
during test, 179	hand-writing notes, 246
reassuring users, 179–180	hardware devices, 90–91
user demeanor and, 178–179	can recycling machine, 349-350
See also facilitator roles	microphone prototype, 347–350
flip chart paper, 74	hardware props, 88–89
foam models, 350	defined, 88
illustrated, 351	illustrated example, 89
See also Dictaphone Corp.	keyboard, 89
Fome-Cor	portable MP3 player, 88
board, 73	tape backup system, 88
mockups, 349–350	touch screen control panel, 88
prototypes, 349	See also paper prototype creation
font size, 276	high-fidelity prototyping, 20, 259–260

highlight tapes	interaction
as results communicator, 255	defined, 262
videotaping for, 200	DENIM, 267
highlighter, 72	depth vs., 262
history of paper prototyping, 3, 13-14	download/response time, 281
"hourglass time," 184	"false top" problem, 278–279
human actors, 92	issues, 277–281
humor	keystroke/mouse errors, 279
in task instructions, 141-142	long documents/lists, 278
in test facilitation, 194	mouse vs. keyboard preference, 280–281
in user instruction, 141–142	paper prototypes, 265
hybrid testing, 334–335	in requirements, functionality, 269
choice, 335	in response time, performance metrics, 271
defined, 334	rollover/cascading menus, 281
illustrated, 334	scrolling, 277–278
	size of controls, 279–280
	in slide shows, 264
	small changes, 277
I	time aspect, 262
	between users and observers, 236-238
IBM, 343-345	in widgets and controls, 270–271
Mid-Fi prototypes, 345	in working version, 263
paper prototypes, 343–344	See also dimensions
PowerPoint presentations, 345	interaction simulation, 85–87
storyboards, 343	animation and video, 86
See also user-centered design	beeps, 86
"The Iceberg Secret," 61	drag & drop, 86
incredibly intelligent help, 90–91	right mouse menus, 86
defined, 90	rollover/pop-up menus, 85–86
purpose, 90	scrolling, 87
See also paper prototype creation	sliders, progress indicators, 86
index cards, 71, 256	tooltips/mouseovers, 85
inferences, 242–243	Web site links, 86
as "argument seeds," 243	See also paper prototype creation
avoiding, 244	interface design, 16, 63
defined, 242–243	interface designers, 63
examples, 243	interface specifications, 255
informed consent, 173	interface widgets, 80–83
informed consent form, 174	buttons/checkboxes, 80
defined, 174	cursors, 83
illustrated, 175	DENIM support for, 266
writing of, 174	disabled controls, 82
See also ethical/legal responsibilities	drop-down lists, 81
in-room observers. See observers	expandable dialog boxes, 82
inspection, 281–282	expandable lists, 82
installation tasks, 329	prototyping, 80–83
integration with other software, 282	selection/bar highlight, 81
miceialion with other sollwale, 404	GOICOMOIT DUL HIGHIIGHI, UL

tabbed dialog boxes, 80	J
text fields, 81	
interfaces	jukebox car radio case study, 42–45
behavior, coding, 64	conceptual sketch, 43
case studies, 25–47	modal touch screen, 42–43
Centra Symposium, 30–34	texture addition, 43–44
coding, 54–57	touch screen layout guidelines, 42–43
creating, 49–50	
defined, 19	K
designing, 50–51	N
feel of, 49	learth and mustaments 200, 201
iceberg analogy, 61	keyboard preference, 280–281
information in, 217	keystroke errors, 279
jukebox car radio, 42–45	kickoff meeting, 105–116
look of, 49–50	activities overview, 105–106
The MathWorks cpselect, 30	activity estimation, 114–116
Pingtel xpressa, 39–42	defined, 100
Priceline.com, 35–39	discussion of risks, 106–107
rendering, 51–54	schedule determination, 112–114
small-screen, 78–80	user profile creation, 108–112
style guidelines, adherence to, 150	See also usability studies
touch screen, 42–45	
tweaking, 218	T
working, 332–333	L
internal walkthroughs, 162–167	
benefits, 162	laminator, 74
Computer in, 165–166	laptop note-taking, 246
defined, 160, 162	links, simulating, 86
performing, 163	lists
redesigning and, 166–167	drop-down, 81
roles, 165	expandable, 82
usability tests vs., 164–165	long, 278
See also walkthroughs	of materials, 71–73
invested effort, 60–62	task, 124–125
change and, 62	long documents, 278
minimizing, 60–62	long-term use, 282
ownership feeling and, 62	look, 261–262
issues	alignment, 276
depth, 272–275	in brand, 270, 276
dividing into "now" and "later" piles, 253	in colors, fonts, graphic elements, 270
found in paper prototype tests, 25-26	in content, 269
interaction, 277–281	defined, 261
look, 275–277	in documentation, 269
prioritizing, 248–252	examples, 275–276
technical, finding, 56	font size, 276
usability, 253	issues, 275–277
iterative usability testing, 118–119	paper prototypes, 265

look (continued) photographs, 276 in requirements, functionality, 269 in screen layout, 269–270 in slide shows, 264 in working version, 263 See also dimensions look and feel (interface), 49–50 low-fidelity prototyping, 14, 20, 259–260	MATLAB 6, 340–341 "Maximum Feedback for Minimum Effort," 12 menus cascading, 281 drop-down, 81 pop-up, 85–86 right mouse, 86 rollover, 281 method of access, 93 methodology reports, 254 miscommunication, 65–66
"magic sentence," 218 markers, 72 materials, 69–74 blank paper, 71	mouse errors, 279 keyboard preference vs., 280–281 multidisciplinary teams, 63, 104, 322–323
carrying, 69 correction fluid, 73 fine-tip pens, 74 Fome-Cor board, 73 highlighter, 72 illustrated, 70 list, 71–73 markers, 72 pens, 72 removable tape, 70, 71, 73 restickable glue, 73 ruler, 74 scissors, 72 sticky notes, 74 transparency, 70, 72 transparency pens, 72 transparent tape, 72 unlined index cards, 71 white poster board, 71 See also paper prototype creation The MathWorks, 339–342 case study, 27–30 contextual interviewing, 340–341	narrowing of user profiles, 109 NCR: postal mail sorting machine, 46 negligence, fear of, 310–311 nondisclosure agreements (NDAs), 174–176 defined, 174 need for, 176 simplified version of, 176 use of, 174 See also ethical/legal responsibilities notes observer, 239 in task creation template, 131 user viewing of, 246 note-taking, 244–247 context in, 247 example, 245 hand-writing, 246 laptop, 246 methods, 244–245 user quotes, 246–247
defined, 339 prioritizing issues, process for, 250 "Usability Nights," 342 usability testing (paper prototypes), 341 usability testing (working software), 341–342 user-centered design, 339–340 See also Control Point Selection Tool (cpselect) case study	observations, 242 defined, 242 examples, 245 granularity, 251–252 pooling, 251

observer rules, 229–234	P
body language, 230	
how to explain, 231–233	paper, 71
purpose, 230, 231	paper prototype bias, 302–305
relaxing, 234	false problems, 302–303
when to explain, 233–234	like/dislike, 304–305
observers, 8, 221–239	slower action, 303-304
attention, 222	See also bias
bad experiences with, 227-228	paper prototype creation, 69-95, 115
benefits of in-room, 221–224	background, 74–80
bias, 300–301	defined, 101
body language, 230, 301	documentation, 93, 95
briefing, 233–234	existing vs. new design, 149–150
combining with other roles, 214	greeking, 154–156
concerns about, 225–229	hand-drawing vs. screen shots, 84–85
disruptive behavior, 225	hardware devices, 90
facilitator observation of, 223–224	hardware props, 88–89
familiarizing with prototype, 167	help, 93
illustrated, 8	human actors, 92
in-room, 221–229	incredibly intelligent help, 90–91
interacting with users, 236–238	interaction simulation, 85–87
not enough, 200	interface widgets, 80–83
notes and note-taking, 239, 241–247	internal walkthroughs, 162–167
number of, 224, 235	list of interface pieces, 145–146
	materials, 69–74
preparing users for, 235–236 remote, 200	organizing, 159–160
seating of, 198	paths/errors, anticipating, 158–159
user stress concern, 226	simplification, 154–156
	paper prototypes, 265–266
working up to, 235 See also observer rules, usability tests	breadth, 265
	changing, between tests, 217–219
office supplies. See materials opinion(s), 243	changing, during tests, 217–217
as argument seeds, 243	compared with software, 291
defined, 243	depth, 265
internal walkthroughs and, 165	design reviews with, 161
questions, 124	dimensions of, 259–272
subjective, user, 305	elements, separating, 157–158
wars, 66–67	fidelity, 259–260, 288
optimal solutions, 251	interaction, 207–208, 265
organization of prototype, 159–160	look, 265
binder for, 159	modifying, 214–219
	organizing, 159–160
by task vs. function, 159–160	
envelopes for, 160	orientation to, 207
"gallery of annoying pieces," 160	product team reaction to, 60–67
ordering and, 159	sample, 317
table for, 159	skepticism about, 285, 317–318
this book, 20–23	users liking/disliking, 304–305
overanalyzing, 244	videotaping, 201–202

paper prototypes (continued)	parallel design, 148–149
working interface vs., 332–333	benefits, 148
writing on, 211	competition and, 148-149
paper prototyping	defined, 148
amount of, 158–159	example, 149
author's questions about, 353	"use-off" temptation, 148, 149
benefits, 12	participatory design, 14, 216
bias, 285, 292-309	paths, anticipating, 158–159
case studies, 25-47	pattern recognition, 251
changes with, 52, 53	payment for users, 176–177
coding effort, 54, 55	pens, 72, 74
comps vs., 9	people/logistics, 322–325
as creative activity, 8	personas, 340
defined, 3–4	photographs, 276
drawbacks, 12	in paper prototypes, 28, 46, 276
in finding technical issues, 56	in tasks, 140
findings from, 25–26	pilot tests, 169
hand-drawn, 151–154	Pingtel xpressa case study, 39–42
historical examples, 45–47	findings, 41–42
history of, 3, 13–14	interface, 39–41
illustrated, 4	phone illustration, 40
importance, 14–15	See also case studies
interface design and, 16	
•	play-by-play, 182–185
introducing, 3–20, 318	politics, 285–318
learning sequence, 20	poster board, 71
materials, 69–74 as "Maximum Feedback for Minimum	pretest briefing, 205–206
Effort," 12	checklist for, 205–206
	script for, 205–206
politics of, 285–318	See also user preparation
process, overview of, 4–5	Priceline.com case study, 35–39
product team, effects on, 60–67	advertising campaign, 37
professionalism, 285, 310–312	binding offer, 36–37
programming and, 16	email address, 36
resources, 285, 312–317	frequently asked questions, 39
storyboards vs., 11	issues, 35–36
time, 314, 315	probability and pricing, 38–39
usability and, 12–13	technical challenges, 37
as usability testing variant, 4	See also case studies
use decision, 257–335	priorities, 26
usefulness, 14–15	of functionality, 26
user reaction to, 57–60, 204–205	of questions to research, 128
users of, 3	of usability issues, 249
validity, 285, 286–291	prioritizing issues
war stories, 322	affinity diagrams for, 248–250
when to use, 319–335	examples, 250
wireframes vs., 10	granularity and, 251–252
See also prototyping methods; usability	as group method, 251
testing	in paper prototyping project, 10

statistics and, 252	Q
problems	_
causes of, 244	questions
false, 302–303	answering, 212–213
finding, with inspection, 281–282	author's, 353
fixing between tests, 217–218	to avoid (observer-user interaction), 236-238
fixing during tests, 215–216	collecting from product team, 167-168
found in walkthroughs, 166–167	design, avoiding, 231
percentage and efficiency ratio,	encouraging from users, 182–183
315	from observers, 222–223
See also issues	opinion, avoiding, 123–124
processing delays, 329-330	survey, in-room observers, 224
product team	in task design, 127–128
communication across disciplines,	questions, listing, 124, 127–128
63-64	brainstorming, 128
creativity, 62–63	defined, 124, 127
defined, 19	examples, 127–128
effects of paper prototyping on,	See also task design
60-67	questions, prioritizing, 124, 128
invested effort minimization,	broad questions and, 128
60–62	specific questions and, 128
mindset, 60	See also task design
in parallel design, 148	
remote, 64	_
0 1 1 1	R
See also development team	11
see also development team products, 19	
products, 19 professionalism, 310–312	reality checks
products, 19 professionalism, 310–312 concerns about, 311–312	reality checks of tasks, 142–143
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285	reality checks of tasks, 142–143 of user profiles, 143
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. <i>See</i> paper	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. <i>See</i> paper prototype creation	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. <i>See</i> internal
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. <i>See</i> internal walkthroughs
products, 19 professionalism, 310–312	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. <i>See</i> internal walkthroughs release, 19
products, 19 professionalism, 310–312	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. <i>See</i> internal walkthroughs release, 19 remote usability testing, 323–324
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. <i>See</i> internal walkthroughs release, 19 remote usability testing, 323–324 removable tape
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. See internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53 See also paper prototyping	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. <i>See</i> internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73 illustrated, 71
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53 See also paper prototyping prototyping methods, 262–267	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. See internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73 illustrated, 71 illustrated use, 70
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53 See also paper prototyping prototyping methods, 262–267 DENIM, 266–267	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. See internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73 illustrated, 71 illustrated use, 70 uses, 73, 147
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53 See also paper prototyping prototyping methods, 262–267 DENIM, 266–267 slide show, 263–265	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. See internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73 illustrated, 71 illustrated use, 70 uses, 73, 147 See also materials
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53 See also paper prototyping prototyping methods, 262–267 DENIM, 266–267 slide show, 263–265 working version, 263	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. See internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73 illustrated, 71 illustrated use, 70 uses, 73, 147 See also materials rendering of prototype, 49, 51–54
products, 19 professionalism, 310–312 concerns about, 311–312 defined, 285 programmers, 63 programming, 16 progress indicator simulation, 86 prototype preparation. See paper prototype creation prototyping activities, 50 coding and, 54–57 designing and, 50–51 GUI, 45 rendering and, 51–54 tools, 52, 53 See also paper prototyping prototyping methods, 262–267 DENIM, 266–267 slide show, 263–265	reality checks of tasks, 142–143 of user profiles, 143 real-life context, 282 redesigning, 166–167 in internal walkthroughs, 166–167 between usability tests, 217–218 during usability tests, 215–216 "red-herring" tasks, 123 rehearsal, usability test. See internal walkthroughs release, 19 remote usability testing, 323–324 removable tape defined, 73 illustrated, 71 illustrated use, 70 uses, 73, 147 See also materials

research, 286-289	using, 156–157
abstracts, 287, 288-289	vs. hand drawing, 84–85, 151
See also validity	Web-specific, 157
resource constraints, 312–317	See also hand-drawing
defined, 285	screeners, 117
development process effect, 313-314	screens, definitions, 19
workload, 313	scribe, in internal walkthrough, 163-164
restickable glue, 73	scrolling
results, communication of	on Web pages, 277–278
documentation, 256	simulating, 87
highlight tapes, 255	seating diagrams, 198
interface specification, 255	selection bar/highlight, 81
methodology report, 254	serendipitous discovery, 303–304
top-10 list, 254	simplification, 154–155
walkthrough video, 255	skeptics, dealing with, 317–318
risk management	slide shows, 263–265
defined, 106	See also prototyping methods
paper prototyping for, 107	small-screen display case study, 39–42
risks/rewards, 229	defined, 39
rollovers	findings, 41–42
menus, 281	interface, 39
simulating, 85–86	paper prototype screen, 41
rough prototypes, 59	paper prototype tests, 40
rulers, 74	phone illustration, 40
	questions, 40
	See also case studies
S	small-screen interfaces, 78–80
	blinders for, 79, 80
scientist role, 185–186	prototyping, 78
defined, 177, 185–186	screen real estate importance, 78
new facilitators and, 186	size constraints, 78–79
objectivity, 186	software application backgrounds, 75–76
See also facilitator roles	creating, 75
scissors, 72	illustrated, 76
scope	several prototype pieces on, 77–78
of planned changes, 331	See also backgrounds
task, 122	software case study, 27–30. See The MathWorks
timing and, 330–331	cpselect case study
screen layout, 274–275	customer feedback, 30
screen shots, 84–85, 151–152	defined, 27–28
capture, 157	paper prototype illustration, 28
defaults, removing, 156–157	paper prototyping answers, 29–30
enlarging, 156	team questions, 28–29
hand-drawn corrections to, 152	See also case studies
illustrated example, 152	spec reviews, 314
link history and, 157	sportscaster role, 180–185
readability, 152	defined, 177, 180
speed, 151, 157	in observation vs. inference 244

	to-latered 120, 120
play-by-play, 182–185	task templates, 129, 136
in special situations, 189–191	blank form, 129
think-aloud protocol, 181	examples of completed, 131–136
tips for, 182–185	illustrated, 129
See also facilitator roles	use of, 129–130
statistics, 252	tasks
sticky notes, 74	assumptions, 130
storyboards	bias in, 293–295
defined, 11	completion, 123
IBM, 343	completion steps, 130
illustrated, 11	completion time, 130
as paper prototype, 11	configuration, 329
success rates, 252	dropping, 137–138
supplies. See materials	end point, 123
Symposium. See Centra Symposium case study	ending, early, 184–185
	good, characteristics of, 121–124
	inputs, 129–130
	installation, 329
T	instructions, 138–141
•	length, 137
tabbed dialog boxes, 80	from list intersection, 124
task creation, 125, 129–136	listing pieces for, 145–146
	name, 129
assumptions, 130	
goals/output, 129	number, 129
inputs, 129–130	output, 129
steps, 130	per page, 140–141
template, 129	reality-checking, 142–143
template, examples, 131–136	"red herring," 123
time estimates, 130	reordering, 137–138
user instructions, 130–131, 138–139	scope, 122
See also task design	short, 137
task design, 115, 121–143	solutions, 122–123
defined, 101	suboptimizing, 219
as group activity, 131	time expansion factor, 136–137
importance, 293–294	times, estimating, 136, 168
instructions for users step, 125, 138–142	unrealistic, 138
listing goals step, 124, 125–127	user interaction and, 123–124
listing questions step, 124, 127–128	user-defined, 330
ordering tasks step, 125, 136–138	technical expertise, 104
overview of steps, 124–125	technical writers, 63
prioritizing questions step, 124, 128	technology
reality-check step, 125, 142–143	dependence on, 325–326
task creation step, 125, 129–136	user familiarity with, 293
See also task creation	terminology, this book, 18–19
task ordering, 125, 136–138	test environment
reordering and, 137–138	accounts and databases, 327–328
time expansion factor, 136–137	hardware and facility, 327
See also task design	test facility, 197
ole moe task design	test facility, 157

test machine bias, 297–298	defined, 19, 100
test methodology bias, 299	frequency of, 117
test setting	graphic designer's role, 105
contextual inquiry and, 296	kickoff meeting, 100, 105–116
unrealistic bias, 295–297	number of, 118
text fields, 81	number of users, 113–114
texture, simulating, 43–44	overview, 100–102
think-aloud protocol, 181	planning, 99–119
time	process, 100
computer-based prototyping, 52, 54–55,	technical expertise, 104
315, 328	test length, 112–113
•	=
to create prototype, 101, 145, 150, 315	test spacing, 114
design, 49	user recruitment, 101, 116–117
download, 281	usability testing, 16–17, 101, 197–219
estimates, 130	attendance at, 106
expansion factor in tasks, 136–137	challenges, 191–194
hourglass, 184	changes during, 52
in interaction dimension, 262	co-discovery, 186–189
limiting, 150	Computer behavior, 209–211
paper prototyping, 52, 314, 315, 328	Computer role, 5, 6
rendering, 49	defined, 19
response, 281	in finding blind spots, 47
user profile creation, 111–112	first, 119
user recruitment and, 116	goals of, 172
timing of paper prototyping, 330–331	hybrid, 334–335
tooltips simulation, 85	informed consent, 173
top-10 lists, 254	internal walkthroughs and, 164–165
touch screen case study. See jukebox car radio	iterative, 118–119
case study	learning experience of, 47
transparency	length of, 112–113
illustrated use of, 70	limitations of, 282–283
pens, 72	mistakes, learning from, 354
to simulate texture, 43–44	number of users, 113–114
uses, 72	paper prototyping as variant, 4
transparent tape, 72	paper prototyping vs., 13
	preparing material for, 94–95
	purpose, 138
U	rehearsal, 167
	remote, 323–324
unspoken assumptions, 66	risk. 173
	,
usability	seating, 198
issues found with paper prototype, 25	slide shows, 265
perspectives on, 12–13	as social setting, 298
self-educating in, 171	spacing of, 114
specialists, 16, 17	test facility, 197
"Usability Nights," 342	as unnatural activity, 292, 296
usability studies	user preparation, 203–209
core team, 103–104	videotaping, 199–202

watching users during, 124	examples, 109–110
See also facilitators; observers; users	expertise, subject matter, 292–293
usability tests	expertise, technology, 293
changing prototype between, 217–219	narrowing, 109
changing prototype during, 215–217	reality checking, 111
introducing, 207–208	user recruitment, 116–118
methodology bias, 299	customers and, 117
as nerve-wracking, 233	defined, 101
reset procedures, 328	frequency and, 117
test environment, 327–328	internal, 116, 117
think-aloud protocol, 181	money and, 116
war stories, 319–322	outsourced, 116
See also facilitation, facilitators	screeners, 117
usage scenarios, 346–347	time and, 116
user error, 158–159, 211, 279	user preparation during, 203
user goals, 124, 125–127	user sources and, 117
accomplishments, 126	user-centered design examples, 339-351
defined, 124, 125	Dictaphone, 346–351
functionality vs., 126-127	IBM, 343–345
guesses, 126	The MathWorks, 339-342
list, 124, 125–127	user-defined tasks, 330
types of, 125–126	users
See also task design	actions, handling, 211–212
user instructions, 138–142	with agendas, 192–193
bias in, 293-295	challenges, 191–193
example, 139	characteristics, 108
goal description, 139	co-discovery, 187
humor, 141–142	comments, 124
one task per page, 140–141	confused, 242
in task creation template, 130–131	co-workers and, 164
unintended clues and, 139	crying, 232
visual aids, 139-140	customers as, 117
written format, 140	designers and, 216–217
See also task design	expectations, setting, 311
user preparation, 203-209	expert, 163
during recruitment, 203	expertise, subject matter, 292-293
for observers, 235-236	expertise, technology, 293
pretest briefing, 205–206	introducing, 204
test introduction, 207-208	location of, 323-324
in test room, 204	mismatched, 193
upon arrival, 204	mock, 317
user profiles	nervous, 193–194
bias, nonprofile users, 292–293	nonprofile, 292–293
broadening, 109	nonspecific utterances, 183-184
characteristics, 108, 110–111	number of, 113–114
creating, 108–112	observer interaction, 236-238
creation time, 111–112	payment for, 176–177
demographics, 110–111	psychological benefits for, 57–60

users (continued)	reasons against, 199–200
quotes, capturing, 246–247	reasons for, 200–201
reaction to paper prototyping, 57–60, 204–209	walkthrough, 255
rescheduling, 324–325	wiring, 202
respecting, 179–180, 222	See also usability testing
seating, 198	visual aids, 139–140
source of, 117	
stress, 226	
stuck, getting unstuck, 191–192	W
subject matter expertise, 292–293	
subjective opinions, 305	walkthrough videos, 255
talking with, 181, 209	walkthroughs, 101, 115
uncomfortable, 235–236	attendance at, 106
viewing notes, 246	final, 167–168
vocabulary, 183	internal, 160, 162–167
waiting for, 210	war stories, 319–322
watching, 124	paper prototype, 322
0,	usability test, 319–322
	Web application case study. See Centra
V	Symposium
-	Web site case study. See Priceline.com
validity, 286–291	widgets. See interface widgets
case studies, 289–290	wireframes, 10
concern, 286	Wizard of Oz testing, 92–93
defined, 285	defined, 92
evidence, 290	for paper prototyping, 92–93
research, 286-289	working interface vs. paper prototype, 332–333
summary, 290	written instructions, 140
videotaping, 199–202	
backgrounds and, 75	_
consent form, 174–175	X
for documentation tape, 200–201	
for highlight tape, 200	Xerox Stenographic Translator, 46–47
how to, 201	xpressa. See Pingtel xpressa case study