UNDERSTANDING YOUR USERS

A Practical Guide to User Requirements Methods, Tools, and Techniques

Catherine Courage and Kathy Baxter

AMSTERDAM . BOSTON • HEIDELBERG • LONDON
NEW YORK . OXFORD • PARIS • SAN DIEGO
SAN FRANCISCO • SINGAPORE • SYDNEY • TOKYO
ELSEVIER Morgan Kaufmann Publishers is an imprint of Elsevier MORGAN KAUFMANN PUBLISHERS

Preface xxiii

Acknowledgments xxvii

PART 1 WHAT YOU NEED TO KNOW BEFORE CHOOSING AN ACTIVITY 1

Introduction 3

User-centered Design 3

Principles of User-centered Design 4

Incorporating User-centered Design Principles into the Product Lifecycle 6

A Variety of Requirements 8

The Product Team's Perspective 9

User Requirements 13

Getting Stakeholder Buy-in for Your Activity 14

Arguments and Counter Arguments 15

Preventing Resistance 18

The Methods 21

2 BEFORE YOU CHOOSE AN ACTIVITY: LEARNING ABOUT YOUR PRODUCT AND USERS 28

Introduction 29

Learn About Your Product 29

Learn About Your Users 41

Step 1: User Profile 43

Step 2: Personas 47

Step 3: Scenarios 52

Pulling It All Together 59

Case Study A: Competitive Intelligence: Mining Design Concepts from Business School Libraries 59

Case Study B: Personas: A Case Study by Microsoft Corporation 75

3 ETHICAL AND LEGAL CONSIDERATIONS 94

Introduction 95

Ethical Considerations 95

The Right To Be Informed 97

Permission to Record 99

Create a Comfortable Experience 99
Appropriate Language 99
Anonymity 100
The Right To Withdraw 100
Appropriate Incentives 100
Valid and Reliable Data 101
Acknowledge Your True Capabilities 101
Data Retention and Documentation 102
Debrief 102

Legal Considerations 103

Pulling It All Together 104

4 SETTING UP FACILITIES FOR YOUR USER REQUIREMENTS ACTIVITY 106

Introduction 107

Using Your Company's Existing Facilities 108

Renting a Marketing or Hotel Facility 110

Building a Permanent Facility 111
Components of a Devoted User Requirements Facility 112
Lab Layout 123

Digital versus Analog Labs 126
Analog Recording 127
Digital Recording 128

Pulling It All Together 129

Case Study: Designing an Innovative Cost-effective Usability Lab 129

PART 2 GET UP AND RUNNING 143

5 PREPARING FOR YOUR USER REQUIREMENTS ACTIVITY 144

Introduction 145

Creating a Proposal 146

Why Create a Proposal? 146

Sections of the Proposal 147

Sample Proposal 149

Getting Commitment 153

Deciding the Duration and Timing of Your Session 155

Recruiting Participants 156

How Many Participants Do I Need? 157

Determining Participant Incentives 159

Developing a Recruiting Screener 161

Sample Screener 166

Creating a Recruitment Advertisement 169

Sample Posting 172

Recruitment Methods 173

Preventing No-shows 182

Recruiting International Participants 184

Recruiting Special Populations 186

Tracking Participants 188
Tax Implications 188
The Professional Participant 189
Create a Watch List 190
Creating a Protocol 191
Piloting Your Activity 193
Pulling It All Together 196
Case Study: Cultural Differences Affecting User Research Methods in China 196

6 DURING YOUR USER REQUIREMENTS ACTIVITY 208
Introduction 209
Welcoming Your Participants 209
Dealing with Late and Absent Participants 211
The Late Participant 211
You Can't Wait Any Longer 212
Including a Late Participant 214
The No-show 215
Warm-up Exercises 215
Inviting Observers 216
Introducing Your Think-aloud Protocol 218
Moderating Your Activity 220
Recording and Note-taking 226

Dealing with Awkward Situations 230
Participant Issues 232
Product Team/Observer Issues 241

Pulling It All Together 244

PART 3 THE METHODS 245

7 INTERVIEWS 246

Introduction 247

When Should You Conduct Interviews? 248

Things To Be Aware of When Conducting Interviews 250
Outcomes Analysis 252

Preparing to Conduct an Interview 256
Identify the Objectives of the Study 258
Select the Type of Interview 258
Decide Now How You Will Analyze the Data 262
Write the Questions 262
Test Your Questions 270
Players in Your Activity 270
Inviting Observers 273
Activity Materials 274

Conducting an Interview 274
The Five Phases of an Interview 275
Your Role as the Interviewer 277
Monitoring the Relationship with the Interviewee 290
Dos and Don'ts 292

Data Analysis and Interpretation 293

Categorizing 294

Affinity Diagram 294

Qualitative Analysis Tools 294

Communicate the Findings 295

Lessons Learned 297

Pulling It All Together 298

Case Study: Preparing and Conducting On-site Interviews 299

8 SURVEYS 312

Introduction 313

When Should You Use a Survey? 314

Things To Be Aware of When Using a Survey 315

Creating and Distributing Your Survey 316

Preparation Timeline 317

Identify the Objectives of Your Study 319

Players in Your Activity 319

Compose Your Questions 320

Determine Now How You Will Analyze Your Data 333

Building the Survey 335

Considerations When Choosing a Survey Distribution Method 338

Distributing Your Survey via the Web, E-mail, or Paper 343

Test Your Survey 346

Data Analysis and Interpretation 348

Initial Assessment 348

Types of Calculation 349

Communicate the Findings 357

Lessons Learned 358

Pulling It All Together 359

Case Study: Using Online Surveys to Quantify Usability Issues 359

9 WANTS AND NEEDS ANALYSIS 370

Introduction 371

When Should You Conduct a Wants and Needs Analysis? 372

Things To Be Aware of When Conducting a Wants and Needs Analysis 372

Preparing for a Wants and Needs Analysis 374

Preparation Timeline 375

Identify the Brainstorming Question 376

Players in Your Activity 378

Inviting Observers 380

Activity Materials 381

Conducting a Wants and Needs Analysis 381

Welcome the Participants 382

Introduce the Activity and Brainstorming Rules 382

Have a Practice Exercise 384

The Brainstorming 385

Prioritization 387

Data Analysis and Interpretation 392

Create Identifiers for Each Booklet 393

Sort Based on Verbatim Content 393

Combine Groups 394

Remove Duplicates from Each Pile 395

Determine the Percentage of Respondents Per Group 396

Combine Data from Multiple Sessions 396

Interpreting the Data 398

Communicate the Findings 399

Modifications 401

Lessons Learned 407

Pulling It All Together 408

Case Study: Understanding Users' Healthcare Wants and Needs 409

10 CARD SORTING 414

Introduction 415

When Should You Conduct a Card Sort? 416

Things To Be Aware of When Conducting a Card Sort 417

Group or Individual Card Sort? 417

Preparing to Conduct a Card Sort 418
Preparation Timeline 419
Identify Objects and Definitions for Sorting 420
Activity Materials 422
Additional Data Collected in a Card Sort 424
Players in Your Activity 426
Inviting Observers 427
Conducting a Card Sort 428
Activity Timeline 428
Welcome the Participants 429
Practice 429
Card Review and Sorting 430
Labeling Groups 432
Data Analysis and Interpretation 432
Analysis with a Card Sorting Program 437
Analysis with a Statistics Package 437
Analysis with a Spreadsheet Package 438
Data that Computer Programs Cannot Handle 438
Interpreting the Results 439
Communicate the Findings 442
Modifications 443
Lessons Learned 447
Pulling It All Together 447
Case Study: How Card Sorting Changed a Website Team's View of How the Site Should Be Organized 447

11 **GROUP TASK ANALYSIS 458**

Introduction 459

Background to Task Analysis 460

Overview of Group Task Analysis 462

When to Use a Group Task Analysis 463

Benefits of the Group Approach 466

Things To Be Aware of When Conducting a GTA 467

Types of Data You Can Collect 469

Preparing to Conduct a Group Task Analysis 472

Preparation Timeline 473

Determine the Task of Interest 475

Identify the Task Steps 475

Players Involved in the Activity 477

Inviting Observers 479

Activity Materials 480

Conducting a Group Task Analysis 482

Activity Timeline 482

Welcome the Participants 483

Train the Participants 484

Moderate the Group 489

Review the Task 493

Debrief 495

Data Analysis and Interpretation 495

Recreate the Flow within 24 Hours 495

Deal with Multiple Flows 497

Analyze the Data 498

Communicate the Findings 501

Modifications 503

Lessons Learned 505

Pulling It All Together 507

Case Study: Capturing Task Information on How People Prepare For and Conduct Online Meetings 507

12 FOCUS GROUPS 514

Introduction 515

When Should You Use a Focus Group? 516

Things To Be Aware of When Conducting a Focus Group 518

Preparing to Conduct a Focus Group 521

- Preparation Timeline 522
- Identify the Questions You Wish to Answer 523
- Players in Your Activity 527
- Inviting Observers 533
- Activity Materials 533

Conducting a Focus Group 535

- Activity Timeline 535
- Welcome the Participants 535
- Introduce the Activity and Discussion Rule 536
- The Focus Group Discussion 536

Data Analysis and Interpretation 538

Debrief 538

Analyzing Quantitative Data 538

Analyzing Qualitative Data 539

Communicate the Findings 540

Modifications 542

Lessons Learned 546

Pulling It All Together 550

Case Study: Engineering Collaborative Tools: a Different Use 551

13 FIELD STUDIES 562

Introduction 563

When Should You Conduct Field Studies? 564

Things To Be Aware of When Conducting Field Research 566

Field Study Methods to Choose From 569

Observation Only 573

Interacting with the User 579

Method Supplements 587

Preparing for a Field Study 591

Identify the Type of Study to Conduct 592

Players in Your Activity 593

Train the Players 598

Develop your Protocol 599
Schedule the Visits 600
Activity Materials 603
Summary 607

Conducting a Field Study 608
Get Organized 609
Meet the Participant 609
Begin Data Collection 611
Wrap-up 612
Organize Your Data 612
Summary 615

Data Analysis and Interpretation 615
Debrief 617
Affinity Diagram 617
Analyzing Deep Hanging-Out Data 617
Analyzing Contextual Inquiry/Design Data 618
Analyzing Data from Discount User Observations 619
Qualitative Analysis Tools 621

Communicate the Findings 621

Lessons Learned 623

Pulling It All Together 625

Case Study: Understanding the Staples Delivery Experience 625

PART 4 WRAPPING UP 635

Introduction 637

Prioritization of Findings 638

First Prioritization: Usability Perspective 639

Second Prioritization: Merging Usability and Product Development Priorities 641

Presenting your Findings 644

Why the Verbal Presentation is Essential 646

Presentation Attendees 647

Ingredients of a Successful Presentation 648

Reporting Your Findings 652

Report Format 652

The Complete Report 654

The Recommendations Report 658

The Executive Summary Report 659

Report Supplements 659

Ensuring the Incorporation of Your Findings 660

Stakeholder Involvement 661

Be a Virtual Member of the Team 662

Obtain a Status for Each Recommendation 663

Ensure the Product Team Documents Your Findings 663 .

Keep a Scorecard 664

Pulling It All Together 666

Case Study: Calico Configuration Modeling Workbench 666

PART 5 APPENDICES 677

A Learn About Usability 678

B Vendors that Offer Training in Usability Activities 688

C Vendors that Consult on Usability Lab Design, Sell or Rent Lab Equipment, or Build Labs 694

D Vendors that Recruit Participants, Conduct Usability Activities for You, and/or Rent Facilities to You 698

E Requirements for Creating a Participant Recruitment Database 704

F Affinity Diagram 714

G Computerized Qualitative Analysis Tools 722

H Report Template 726

I Glossary 738

J References 750

Index 759

Figure and Table Credits 779

About the Authors 781