

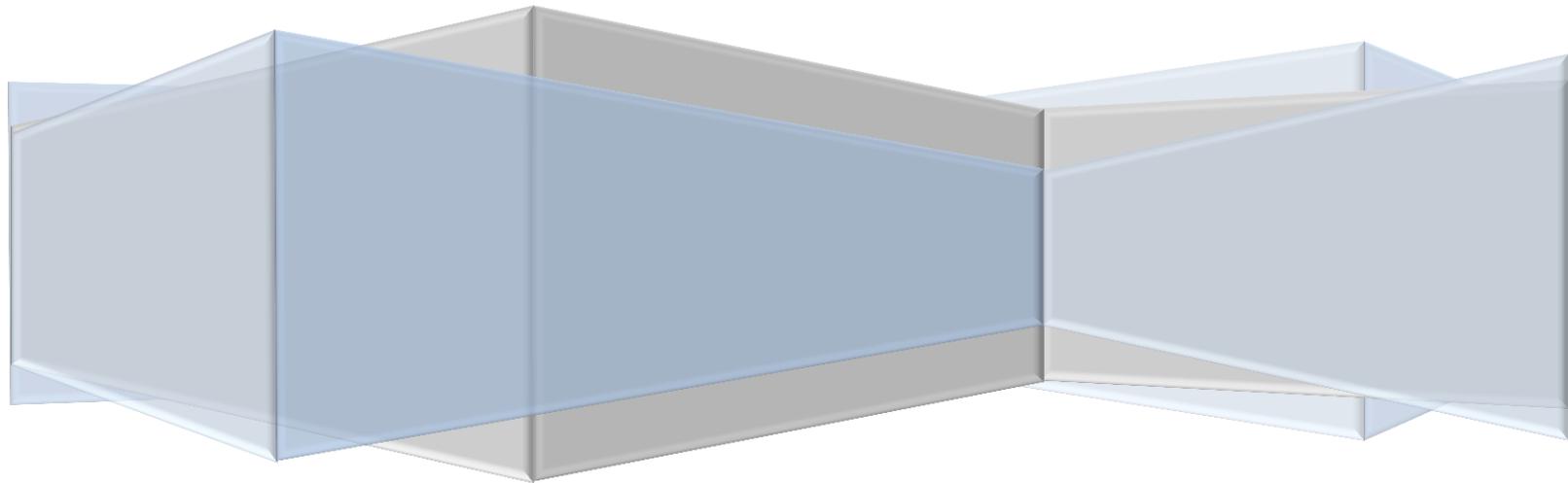


Persona-Heuristic-Testing Solutions

# Usability Test Plan

**Prepared for: Better World Books**

**Prepared by: Andrew Dubois, Karen Purcell, & Monique Horton**



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## EXECUTIVE SUMMARY

The purpose of this test is to evaluate the usability of the Better World Books website ([www.betterworldbooks.com](http://www.betterworldbooks.com)) from the perspective of a college student. The specific goals include:

- Search for and purchase book by ISBN, Author and Title
- Sell textbook through "Buyback" program
- Search for, purchase, and download an eBook

The usability test will evaluate the website using 6 preferred and 3 optional scenarios completed by 6 college students. Users will be screened to ensure that they are between 18 and 29 years old, have previously purchased textbooks and shopped online, and have not used the BetterWorldBooks.com website in the past. The tests will be conducted in the usability lab at Southern Polytechnic State University. The test evaluation will include pre-test, post-task, and post-test questionnaires, post-test interviews, eye-tracking, and product reaction cards.

This test plan details:

- Problem statement and test objectives
- User profile
- Methodology
- Scenarios
- Evaluation methods
- Test environment and equipment
- Test Artifacts
  - Screener
  - Moderator script
  - Pre-test questionnaire
  - Post-task questionnaire
  - Post-test questionnaire
  - Product reaction card results
  - Eye-tracking results
- Project timeline

The deliverables for this project include:

- Oral presentation
- Written report
- DVD of session recording
- Logs from usability tests

## PROBLEM STATEMENT AND TEST OBJECTIVES

A heuristic evaluation was used to assess the BetterWorldBooks.com website using Quesenbery's 5Es. The study's conclusions to be confirmed or disproved by this usability test are:

- The search (ISBN, title, and author) and the compare prices tasks are effective
- Search by other keyword types (publisher, publication date) is not available or consistent
- The textbook buyback process works as expected but has extra steps that impact usability
- The eBook purchase task has a high severity rating due to the large number of steps required, number of accounts required, limited devices (no Nook or Kindle), and "no return" policy

Based on the findings from the heuristic evaluation, team discussions, and input from the project sponsor and Dr. Barnum, the test objectives for the usability study are to evaluate the website relative to the user's ability to:

- Search for books by ISBN, genre, and author
- Select copy of book based on hardcover vs. paperback and/or price
- Search for and purchase a \$3.00 or less book of the user's choice (gift certificate provided)
- Review a book
- Find a location to donate a book (optional)
- Sell a textbook using the "buyback" program (optional)
- Search for and purchase an eBook (optional)

The study will gather additional information on user perception of the website and plan to use website again.

## USER PROFILE

PHT Solutions used the persona of Alex Parker to develop the test plan and the user profile. Alex is described as

- 20 years old
- Full time college student
- Part time Target employee
- Technical Communications major (probably)
- Dating his girlfriend of the past year
- Middle-class - Paying his tuition and expenses with help from parents and loans

Based on the persona of Alex, we will be recruiting participants with the following characteristics:

- Age – 18-29 years old (typical college student age)
- Education – Undergraduate college student
- Gender – Even mix of male and female
- Use computer daily for activities (shopping, research...) in addition to email and social media
- Shop on-line
- Have purchased textbooks
- Have not used BetterWorldBooks.com
- Have purchased eBooks or are interested in learning about eBooks

## METHODOLOGY

The test plan is designed to evaluate the BetterWorldBooks.com website relative to Quesenbery's 5Es from the Alex Parker persona's perspective:

- Effective – Can I complete my goal?
- Efficient – Can I do it quickly?
- Error Tolerant – Can I do it correctly or can I easily get the help I need?
- Engaging – Do I like it?
- Easy to Learn – Can I do it correctly the first time?

## NUMBER OF PARTICIPANTS

We plan to test the website with six college students. Two additional students will be recruited, one as a tolerant user and one as a back-up. Students will be selected using the screener in Appendix B.

## LENGTH OF SESSION

Each session will be one hour. The test will include:

- Welcome and pre-test questionnaire: 10 minutes
- Task scenarios: 40 minutes (moderator will ask post-task questions after each scenario)
- Post-test questionnaire and product reaction cards: 10 minutes

## ROLES AND RESPONSIBILITIES

Role	Team Member	Responsibilities
Moderator	Andrew Dubois	Greets user, follows moderator script through test, escorts user out and presents gift card at end of session
Logger	Karen Purcell	Uses Morae software (TechSmith) to log time, task start, user comments, task end
Technician/Observer	Monique Horton	Operates control room equipment, eye-tracking equipment, and observes

## TEST ARTIFACTS

- Screener
- Moderator script
- Pre-test questionnaire
- Post-task questionnaire
- Post-test questionnaire
- Product reaction card comments
- Eye-guide gaze plots, heat maps, bee swarm, and cluster diagrams

## PARTICIPANT INCENTIVE

The sponsor will provide \$25 cash for each of the six test users. The \$25 will be given to the user by the moderator at the end of the user's test.

## SCENARIOS

The following scenarios are designed to evaluate the BetterWorldBooks.com website relative to the test objectives. The scenarios were reviewed with the sponsor and adjusted to best fit the objectives. Optional scenarios are included for users that finish the preferred scenarios before the end of the allotted time.

Preferred Scenario	Tasks	Estimated Time (min)
A friend suggests you try <a href="http://www.BetterWorldBooks.com">www.BetterWorldBooks.com</a> the next time you want to purchase a book. You decide to give it a look.	Review home page	5
You are required to purchase the book "Grammar Girl" by Mignon Fogarty for class. You want to find the cheapest copy available.	Search by ISBN (978080508831/1) Place book in cart	5
You have a friend who, thanks to the HBO show "Game of Thrones", has developed an interest in fantasy literature. He was told if he likes "Game of Thrones", he should check out a new series from Brandon Sanderson called "The Stormlight Archive." The first book in the series is called "The Way of Kings". You decided you will look up this book, and that you will also buy a copy for your father because he reads a lot of fantasy. He is a collector of books, so he would prefer a hardcover copy of the book.	Find a copy of "The Way of Kings" through its genre (fantasy) Find a paperback copy of "The Way of Kings" for yourself Find a hardcover copy of "The Way of Kings" for your father Add both books to your cart for purchase	5
You want to find a book written by your professor - Dr. Carol Barnum	Search by author (Carol Barnum) Add copy to cart for purchase	5

You decide to purchase another book with a \$5 gift certificate.	Search for books less than \$3.00 (to allow for tax and additional purchase later in test)  Find one that interests you and add to cart  Use gift certificate to purchase book (if participant is willing to enter purchase info and have book mailed to them) OR Put book in cart and stop prior to actual purchase	10
You decide you want to review a book that you have previously read. Find book and then write a short review	Think of book you have read.  Find book.  Write review of book.	10
OPTIONAL SCENARIOS		
You need to clean-out your bookcase so you want to donate your books rather than throw them away. Find the closest Better World Books donation bin.	Find closest Better World Books donation bin.	5
You want to try an eBook so you look for an inexpensive eBook. Your friend recommended "The Art of War" by Sun Tzu for \$1.38.	Search for eBook  Place eBook in cart  Purchase eBook with gift certificate	5
You want to sell a copy of your textbook "Usability Testing Essentials" ISBN 978-0-12-375092-1	Find page for textbook buyback  Find buyback information for this book  Compare price to cost of purchasing book  Complete process to the point where you need to register (you should click "sell my books")	10

## EVALUATION METHODS

The test evaluation will include pre-test, post-task, and post-test questionnaires, post-test interviews, eye-tracking results, and product reaction card responses. The combination of quantitative and qualitative data will be compiled and analyzed and then used to develop conclusions for the Final Report.

### Quantitative

- Time to complete task
- Number of users able to complete task
- Number of attempts required to complete task
- Pre-test, Post-task, and Post-test questionnaires

The post-test evaluation will include the System Usability Scale (SUS) questionnaire scored through Morae.

## Qualitative

- User's comments and questions
- User's body language and facial expressions
- User responses to product reaction cards
- Eye-guide gaze plots, heat maps, bee swarm, and cluster diagrams

Each user's comments, questions, body language and facial expressions will be captured by the logger in Morae. The results will be evaluated and reported.

The Eye-guide diagrams will be evaluated individually and as a group. Selected diagrams will be presented in the final reports and presentation.

The pre-test, post-task, and post-test questionnaires are included in the Appendices of this document.

## TEST ENVIRONMENT AND EQUIPMENT

The tests will be conducted in the student usability lab in the Atrium Building of the Southern Polytechnic State University campus in Marietta. A one-way mirror between the participant and control rooms allows the team in the control room to observe the users while they perform tasks.

### Participant Room

The participant will sit at a desk in an office equipped with the following:

- Lenovo Think Centre running Windows 7 and Internet Explorer 8.0
- 19" standard monitor
- 3 wall-mounted cameras and a digital desktop camera
- Microphone
- Telephone/intercom to control room
- Grinbath EyeGuide® eye-tracking device - lightweight, wireless device designed to fit around a user's head

### Control Room

PHT Solutions team members will operate the following equipment in the control room:

- A logging computer with Morae logging software
- Panasonic TVs that display feeds from the participant room cameras
- Telephone/intercom to participant room
- DVD recording unit
- Panasonic digital video mixer

## PROJECT TIMELINE

Pilot Testing date: March 25 <sup>th</sup> , 2013	
6PM-7PM (subject to change)	Pilot User
Testing date: March 30 <sup>th</sup> , 2013	
8AM – 9AM	Setup testing area/preparation
9AM – 10AM	Participant #1
10:15AM – 11:15AM	Participant #2
11:15AM – 12:30PM	Lunch brought in
12:30PM – 1:30PM	Participant #3
1:45PM – 2:45PM	Participant #4
3:00PM – 4:00PM	Participant #5
4:15PM – 5:15PM	Debriefing and wrap-up
Presentation Date: April 24th	
6:00PM-8:00PM	Presentation to Better World Books
Formal Report Submitted: April 28th	

## DELIVERABLES

The findings from the study will be documented in the following and given to the sponsor.

- Oral presentation of the study findings including audio, screen and/or video clips
- Formal report of the study findings
- DVDs of session recordings
- Logs from usability tests

## REFERENCES

- Benedek, J. & Miner, T. (2002). Product Reaction Cards. Microsoft Corp. Retrieved from <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDIQFjAA&url=http%3A%2F%2Fwww.microsoft.com%2Fusability%2Fuepostings%2FProductReactionCards.doc&ei=9SQyUaH-F4i69gTytYGgDg&usg=AFQjCNEBGMU6yXU X4dIA9QS0XN8NpfhZQ&bvm=bv.43148975,d.eWU>
- Quesenbery, W. (2011). Using the 5Es to understand users. Retrieved from <http://wqusability.com/articles/getting-started.html>
- Usability.gov (n.d.). Templates. Retrieved from <http://usability.gov/templates/index.html>

## APPENDIX A – PERSONA OF ALEX PARKER



**Name:** Alex Parker

**Demographic information:** 20 years old, currently an undergrad in college attending sophomore year, Caucasian, currently dating girlfriend for 1+ years

**Job:** Full-time student while school is in session. Works at Target during winter/summer breaks

**Goals:** Deciding on a major; interested in pursuing a career in technical communications

**Environment:** Middle-class family. Father works full-time making \$55,000 a year while mother works part-time making \$12 per hour doing temp work

**Technical expertise:** Grew up with Internet, quick to gain interest in “the next big thing”. Enjoys online gaming, chatting with friends with Skype, has a Facebook profile.

**Hobbies:** Watching/attending baseball games, playing Uncharted online with his Playstation 3, watching movies, spending time with his girlfriend.

**Quote:** “I may not know where I’m going, but I’ll know soon enough.”

**History:** Alex grew up in a suburb of Charlotte, North Carolina. The older of two children, his parents believed in the mantra, “Live within your means, but don’t cut everything out completely.” Alex was always a solid B+ student, but subjects like English came easier to him than subjects like math or science. He got a job at the local Target while he was a junior in high school. The summer before he left for college, he saved as much money as he could so he would have a slush fund he could use throughout the semester. Paying for school comes from a mix of both his father and student loans. He does not currently have a credit card, so he purchases material online with his debit card. When he goes online, he knows what he is looking for and does not deviate often from his intentions.

**What matters to Alex when he buys books:** Alex’s school schedule does not permit him much time to read for leisure, so when he goes online it is usually to find a textbook/e-book for class. He knows the exact book he needs and wants to find them for the lowest price possible. As long as the condition of the book is fair and is not falling apart, he is fine with purchasing it. He wants his book as fast as possible with minimal steps required for ordering.

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## APPENDIX B – SCREENER

Hi. We are conducting a usability test of a website as part of an SPSU usability testing class. We are seeking college students who purchase their own textbooks and are willing to be videotaped while they complete a usability test. We are offering \$25 cash for participants that complete the one hour study on Wednesday, March 27 or Saturday March 30. Would you be interested?

**Yes      No – Terminate**

Don't ask, but is their English understandable enough for the "Think Aloud" protocol? **Yes No-Terminate**

Great. I need to ask you some more questions to determine if you meet our user profile.

What is your current status? (OK to select more than one but must be college student)

**College Student (Full time or Part Time), Employed (Full Time), Employed (Part Time),**

**Retired - Terminate, Homemaker – Terminate**

Degree?

**Undergrad, Graduate, Certificate**

Major? \_\_\_\_\_ (Need variety)

Age?

**0-17 – Terminate      18-29      30+ - Terminate**

Sex? Don't need to ask, just circle **(need mix)**

**Male      Female**

Are you available for a 1 hour usability test at SPSU on:

**Wednesday, March 27 6-8PM?**

**Saturday, March 30<sup>th</sup> between 10AM and 4PM?**

**Best times (pick 2) 9:00AM      10:15AM      12:30PM      1:45PM      3PM**

Now a few questions about your computer usage.

How often are you on-line?

**Multiple times per day      Once per day      Couple times per week      Never - Terminate**

What is your primary device for accessing the internet?

**Computer      Laptop      Tablet      Smartphone - Terminate**

What are the top 3 activities you do on-line other than e-mail and social media such as Facebook?

Gaming (where) \_\_\_\_\_

Shopping (where) \_\_\_\_\_

Other (where) \_\_\_\_\_

Other (where) \_\_\_\_\_

Where have you purchased books? Campus book store    Local book store    Religious Book Store

Amazon.com    BetterWorldBooks.com    Chegg.com

Have you sold a textbook? (need variety)

**Yes**

**No**

If yes, how? \_\_\_\_\_

And finally just a couple of questions about you.

Do you recycle?

**At home**

**At work**

**At school**

**Other locations**

Do you donate to charitable causes?

**Time (Volunteer), Money, Used goods**

How do you usually pay for textbooks?

**Credit card**

**Cash**

**Check**

**Financial aid**

**Employer pays for expenses**

Thank you for talking with me. We need to review our candidates for the test and determine if you meet our criteria. Can you give me the following so that we can contact you?

**Name** \_\_\_\_\_

**Email** \_\_\_\_\_

**Cell Phone** \_\_\_\_\_

**APPENDIX C – MODERATOR SCRIPT****TEST DAY MODERATOR SCRIPT*****Welcome the participant.***

Hello/Hey/Hi \_\_\_\_\_. My name is Andrew, and I am a part of PHT Solutions. How is your day going? Did you find the lab OK? (work on making the user feel comfortable... give the user a moment to talk)

***State the purpose of the study.***

First of all, I want to thank you for participating in this study. I understand your time is valuable, but hopefully you find this experience enjoyable.

We are performing usability testing on a website for an online book seller called Better World Books. For the next hour we are going to spend time together to get your impressions of this website. We are going to ask you to complete a series of tasks that match goals typical uses like yourself might have when using this website. We are interested in knowing how you do things, where you look, things like that. More than what you're *doing*, though, we're interested in knowing what you're *thinking*, how you react to things on the website.

***Describe thinking out loud.***

One important thing we need you to keep in mind while you are testing is that we need you to "think out loud." You know when you are using something, and you may get frustrated or confused, and you think in your head, "Why is this so hard?" "What am I looking for?" "I think this is what I need to do." We want you to do the same thing, but instead of just *thinking* it, we want you to *say* it out loud.

I know that sound a little bizarre, but you'll get used to it quickly. This really helps us understand what is going through your mind while you are using the website. If you like it, we want to know that. If you get frustrated or are confused, we want to know that too. We don't know anything you are not willing to tell us, so please speak up and say what's on your mind. We want to know what you think of your experience with it, whether positive or negative. I want to let you know that there are no wrong answers in this study. We're looking for your genuine impressions.

We're going to watch you complete these tasks, take notes, and with these notes we will report our findings to our sponsors. They will use our findings to improve their website in the future.

***Provide the forms required for participation.***

Before we proceed with any testing, we do have a few forms we need you to complete. The first one is a video release form. As we said when we recruited you for this study, we are going to be videotaping this session. Here's the release form; go ahead and read it, and sign at the bottom if you agree. (hand the form to the user)

This second form is a pre-test questionnaire. We're just trying to get your input, know what your expectations are, previous experience, and so on. Like I said earlier, we just need to get your honest input. I'll read the questions aloud to you, and you just answer honestly. We have someone logging these answers. (read the pre-test questionnaire to the user and record answers)

***Describe the room.***

I want to take a moment to describe the room to you. This is the computer that you will be using to test BetterWorldBooks.com. It's already configured for use, and you can use either Internet Explorer or Firefox. The choice is up to you. We have several cameras recording this session as well. Up here on the ceiling in each corner is a camera, and there are two on the desk. This small, white camera you may notice move on its own slightly while you are testing; if it does, don't be alarmed. It's just us trying to get a better angle of you for recording purposes. The other camera is this black Logitech camera by the monitor. This is what is tracking your head and eye movement. This thing that looks like a lamp arm that you can adjust is also a camera, but we're not going to be using it for this study. Finally, this small, black, square-looking device next to the keyboard is a microphone. Don't move it, and you don't need to speak too loud to have it picked up. Just talk in your normal voice and it will hear what you say.

***Explain the testing process.***

The way this testing is going to work is that we are going to give you a number of tasks to complete. Each task will have a specific goal, and we want you to explore the website and complete each task. We will tell you if you need to use certain login credentials and such, but most of the time you will be accomplishing each goal as you feel is the most effective way to do it.

While you're using the website, we will be watching you behind the mirror. Your eye movement will be tracked so we can see how you are looking through the website. Let's get the eye tracking equipment set up and configured for you now. (configure the equipment with the user; while setting it up, explain to the user how the eye tracking equipment works)

I will be with you for the first couple of tasks. After each one, we will talk about your experience with it, how you felt during the task, and so on. After a couple of these, I will leave the room and monitor you from the other room. Go through all of the tasks and complete each the best way you can. I'll explain more about that in a moment. When we are done, we will provide you with a closing questionnaire. We will compensate you \$25 for your time.

***Ask the participant to share any questions or concerns.***

So before we get started, do you have any questions or concerns?

***Start the study.***

OK, then we can begin. Here is task #1. As I said earlier, I am going to stay here in the room with you during the first couple of tasks. I won't be saying anything, I'm just going to be observing. I will be stepping out after that to observe from the other room Do not hesitate to ask if you have any questions.

APPENDIX D – VIDEO RELEASE



## USABILITY CENTER VIDEO PERMISSION FORM

I hereby grant permission to be videotaped as part of my participation in the BetterWorldBooks.com usability test conducted on \_\_\_\_\_ [date] at the Usability Center at Southern Polytechnic State University. Only my first name may be reported in association with the session results.

I understand and consent to the use and release of the video recording in the Usability Center and to the client (Better World Books). I understand the video recording and any highlights extracted from it may be used for any of the following purposes:

- conference presentations
- educational presentations or courses
- informational presentations
- on-line educational courses
- as part of research

I give up any rights to the video recording and to understand that the recording may be used for the purposes described in this release form without further permission.

I understand that if for any reason I do not want to continue, I can leave at any time during this recording session. I can also deny consent at any time.

By signing this form I acknowledge that I have completely read and fully understand the above release and agree to be bound thereby. I hereby release any and all claims against any person or organization utilizing this material for educational purposes.

Full Printed Name \_\_\_\_\_

Street Address/P.O. Box \_\_\_\_\_

City \_\_\_\_\_

Prov/Postal Code/Zip Code \_\_\_\_\_

Phone \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX E – PRE-TEST QUESTIONNAIRE**

How do you usually purchase your textbooks? \_\_\_\_\_

How many textbooks have you purchased on-line? 0, 1-3, 4+

How many total textbooks have you sold (on-line, bookstore, or flyer)? 0, 1-3, 4+

How many textbooks have you sold on-line? 0, 1-3, 4+

How many books have you read in the last 6 months for pleasure? 0, 1-3, 4+

Where do you usually purchase non-required or pleasure reading books? \_\_\_\_\_

Does the ability to support a social cause (environmental, literacy, hunger...) while making a purchase impact your purchase decisions? Yes No

What social causes do you support and how? \_\_\_\_\_

## APPENDIX F – POST-TASK QUESTIONNAIRE

### Post-Task Questionnaire

1. I thought this task was...

- 1 - Very difficult
- 2 - Somewhat difficult
- 3 - Neither difficult nor easy
- 4 - Somewhat easy
- 5 - Very easy

2. The task could be made easier by...

## APPENDIX G – POST-TEST QUESTIONNAIRE

### ***System Usability Scale***

© Digital Equipment Corporation, 1986.

	Strongly disagree				Strongly agree
1. I think that I would like to use this system frequently	1	2	3	4	5
2. I found the system unnecessarily complex	1	2	3	4	5
3. I thought the system was easy to use	1	2	3	4	5
4. I think that I would need the support of a technical person to be able to use this system	1	2	3	4	5
5. I found the various functions in this system were well integrated	1	2	3	4	5
6. I thought there was too much inconsistency in this system	1	2	3	4	5
7. I would imagine that most people would learn to use this system very quickly	1	2	3	4	5
8. I found the system very cumbersome to use	1	2	3	4	5
9. I felt very confident using the system	1	2	3	4	5
10. I needed to learn a lot of things before I could get going with this system	1	2	3	4	5

## APPENDIX H– POST-TEST PRODUCT REACTION CARD WORDS

The complete set of 118 Product Reaction Cards				
Accessible	Creative	Fast	Meaningful	Slow
Advanced	Customizable	Flexible	Motivating	Sophisticated
Annoying	Cutting edge	Fragile	Not Secure	Stable
Appealing	Dated	Fresh	Not Valuable	Sterile
Approachable	Desirable	Friendly	Novel	Stimulating
Attractive	Difficult	Frustrating	Old	Straight Forward
Boring	Disconnected	Fun	Optimistic	Stressful
Business-like	Disruptive	Gets in the way	Ordinary	Time-consuming
Busy	Distracting	Hard to Use	Organized	Time-Saving
Calm	Dull	Helpful	Overbearing	Too Technical
Clean	Easy to use	High quality	Overwhelming	Trustworthy
Clear	Effective	Impersonal	Patronizing	Unapproachable
Collaborative	Efficient	Impressive	Personal	Unattractive
Comfortable	Effortless	Incomprehensible	Poor quality	Uncontrollable
Compatible	Empowering	Inconsistent	Powerful	Unconventional
Compelling	Energetic	Ineffective	Predictable	Understandable
Complex	Engaging	Innovative	Professional	Undesirable
Comprehensive	Entertaining	Inspiring	Relevant	Unpredictable
Confident	Enthusiastic	Integrated	Reliable	Unrefined
Confusing	Essential	Intimidating	Responsive	Usable
Connected	Exceptional	Intuitive	Rigid	Useful
Consistent	Exciting	Inviting	Satisfying	Valuable
Controllable	Expected	Irrelevant	Secure	
Convenient	Familiar	Low Maintenance	Simplistic	

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