

Interaction Design Project: Final Report

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Website Name	Tattered Cover
Website URL	https://www.tatteredcover.com/
Prototype Site URL	https://9st7mj.axshare.com

Executive Summary

For this study, we asked 12 participants to volunteer out of which 6 participants were required to buy a newly released book called “Gathering Blossoms Under Fire” from the original website while the other 6 participants were required to buy the same book from the prototyped website. As a part of the buying process participants were required to first check the ratings and reviews of the book and then add two quantities of the book to the cart before proceeding to checkout. As observed, it was very cumbersome and time consuming for the participants working on the original website to find ratings and reviews of the book thus slowing them down. Besides this, the participants tasked with working on the original website reported that adding/removing books from the cart was confusing along with the checkout process being overwhelming to them as it asked for a lot of unnecessary details. Findings from the participants who worked on the prototyped website show that they found it convenient to look at the ratings and reviews of the book. Add/remove/updating the books from the cart was very convenient and simple. Also, they reported that since the whole checkout process was divided into several sections they found it very convenient and easy to use with easy recovery from error. The overall findings also suggest that the average time to complete the whole checkout process was almost reduced by about 38% because of navigational ease and complex task breakdown into multiple simple and smaller ones.

Method

Who we tested

For this study a total of 12 participants were tested, 6 out of which were tasked to test the original website while the other 6 tested the redesigned prototyped website. All the included participants are the graduate students of Arizona State University in the domains of Computer Science, Computer Engineering, Information Technology and Environmental Engineering. 5 out of the 12 participants were in the age range of 20-24 inclusive while the remaining 7 participants were of the age group 25-29 inclusive. All the participants possessed a good understanding of how ecommerce websites worked and were well versed with ordering and buying things online.

Audience Type	
New Tattered Cover Users	11
Existing Tattered Cover Users	1
TOTAL (participants)	12

Audience Type	
Computer Science	5
Computer Engineering	4
Information Technology	1
Environmental Engineering	2
TOTAL (participants)	12

Age	
20-24	5
25-29	7
TOTAL (participants)	12

Gender	
Women	4
Men	8
TOTAL (participants)	12

Computer Usage	
0 to 10 hrs. wk.	2
11 to 25 hrs. wk.	5
26+ hrs. wk.	5
TOTAL (participants)	12

What participants did

All of the 12 participants worked on the same 4 tasks mentioned below. The whole flow of the 4 tasks combined was such that the participants will be interacting with the website for around 5 minutes. Post successful completion of tasks the participants were asked to rate the Easy of Use, Information Discovery, Time taken, Completeness, Overall Satisfaction on a scale of 5.

Task 1 - Checking the ratings of the specified book

This task for the participants included finding the ratings of the book titled: "Gathering Blossoms Under Fire" before purchasing it.

Task 2 – Reading reviews of the specified book

This task for the participants included finding and reading the reviews of the book titled: “Gathering Blossoms Under Fire” before purchasing it.

Task 3 – Adding two quantities of the specified book in the cart

This task for the participants included adding two quantities of the book titled: “Gathering Blossoms Under Fire” to the cart before proceeding to the checkout.

Task 4 – Checking out the cart using the provided details

This task for the participants included checking out the books which are added to cart in the Task 3. While checking out the participants were asked to enter the details which were provided to them. The participants testing the original website were asked to stop when they reached “Review Order” section on the original website while the participants testing the prototyped website were asked to stop when they reached the end of “Payment Details” page.

What metrics we collected

The metrics collected are as below:

Time on Task

This metric is also called “task completion time” or “task time” and provides a measure of the time it takes to complete a specific task. Using this metric we can estimate the efficiency of the website. Although sometimes a high value of Time on Task is desired, in our case we want to minimize this time by making appropriate changes in our prototyped website. Also, in our particular case Time on Task is the time from finding the ratings of the specified book on home page to checking out the required quantities of the book using the dummy details.

Errors

This is one of the most basic usability test measures. It is a self-explanatory statistic that measures user errors during task completion, such as incorrect data entry, incorrect choices or actions, failure to follow the correct sequence of steps etc. In our case we observed that the participants made several errors on Original website during the course of the task such as providing card number in place of card holder name, searching for the reviews under the wrong header and choosing wrong menu to update the cart. We have documented the reasons for these errors in subsequent sections and our approach to fix them with our redesigned prototype.

Lostness

The lostness statistics reveal your consumers' level of dissatisfaction with your offering. The measure itself is simple, with a range of zero to one. Users with a high level of lostness are having trouble locating/finding what they're looking for. A low score suggests that they will have little difficulty finding what they are looking for. In our case low values of the lostness metric are desired. Using the original website the participants were lost as they tried to find out the ratings and reviews of the book, this was rectified in the prototyped website.

What improvements were made to site

1. Modularity: Checkout process

As per the UI/UX law of “Modularity” a good design should break down large and complex tasks into many, smaller subtasks in order to manage the overall task complexity. In the original website design, the whole checkout process is one single task which often overwhelms the user. If a user makes a mistake and page is reloaded, all forms fields become empty and users has to start from beginning. For the redesigned prototype, we have broken down the whole checkout process into 5 smaller subtasks with status bar for showing progress. Its easy for the user to understand and perform checkout with lesser chances of error and ability to recover easily in wrong input cases. Our redesigned prototype keeps in mind the Modularity principle to not only decrease the information overload for the user but also prevent the user from getting confused and making mistakes.

Original Website Design

Checkout

All in-store pick up orders require a minimum of 24 hours to process. If we have a book on our shelves that you'd like to pick up immediately, please call us and we'll put the item on hold for you.

Cart contents		Price
Qty	Products	
1 ×	Little Souls: A Novel On Our Shelves Now	\$27.99
		Subtotal: \$27.99
Customer information		
Enter a valid email address for this order or click here to login with an existing account and return to checkout.		
E-mail address *		
<input type="text"/>		
TATTERED COVER GIFT CARD		
Select here if you are using a Tattered Cover Gift Card. You will also need to provide a second form of payment that will be used ONLY if the gift card balance is inadequate. Please note, the hold on your card will be for the order total, until the payment is processed.		
<input type="checkbox"/> I would like to apply a Tattered Cover Gift Card		
Coupon discount		
Enter a coupon code for this order.		
Coupon Code		
<input type="text"/>		
Enter a coupon code and click "Apply to order" below.		
APPLY TO ORDER		
Tax-exempt information		
If you qualify for sales tax exemption, please provide your organization information. Organization name and tax-exempt number are required to be considered for tax exemption.		
<input type="checkbox"/> This is a tax exempt order.		
In-Store Pick Up Options		
<input type="checkbox"/> I would like to pick up my order at the store. <small>In-store pick up available during each store's open hours</small>		
Delivery information		
Enter your delivery address and information here.		
<small>* First name:</small> <input type="text"/>		
Preferred Name: <input type="text"/>		
<small>Please enter your preferred name (e.g., Len vs. Leonard. If you do not have one, please re-enter your first name.)</small>		
<small>* Last name:</small> <input type="text"/>		

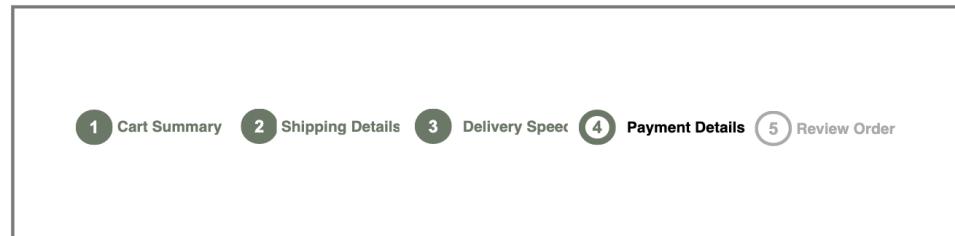
Redesigned Prototype

2. Shipping Details

First Name*	Last Name
United States	Company Name (optional)
Street Address*	
Apt/Suite/Unit (optional)	
City*	Arizona
Zip Code*	Phone Number*

Address can't be serviced by UPS(P.O. Box, APO or FPO)

Continue



4. Payment Details

AMERICAN EXPRESS  MASTERCARD  VISA  DISCOVER  DINERS CLUB 

Card Number*	
Name on Card*	
01	2022
Security Code*	

Email (for order updates)

Apply Coupon Code

Coupon Code **Apply**

2. Performance Load: Clearly visible and perceptible books' ratings and reviews

According to the UI/UX law of “Performance Load”, the more the effort required to complete a task, the less likely it will be completed successfully. This is the issue with finding the ratings and reviews of a particular book on the original website, to access the reviews for a particular book the user has to scroll down all the way to the bottom of the website only to get confused as to where he/she will find it. The review are hidden in the review section at the bottom which is very difficult to discover. This is often very time consuming and irritating for the user. In the redesigned prototype, we have provided the ratings of the books on the homepage itself and the user can look at the reviews of a book are clearly displayed on the product page discoverable through a single scroll on it which is in accordance with the Performance Load principle.

Original Website Design

New Releases



Bookseller Picks



[DESCRIPTION](#) | [ABOUT THE AUTHOR](#) | [DETAILS](#) | [REVIEWS & MEDIA](#)

Sandra Dallas's Little Souls is a gripping tale of sisterhood, loyalty, and secrets set in Denver amid America's last deadly flu pandemic.

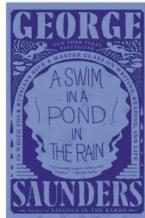
Colorado, 1918. World War I is raging overseas, but it's the home front battling for survival. With the Spanish Flu rampant, Denver's schools are converted into hospitals, churches and funeral homes are closed, and horse-drawn wagons collect corpses left in the street. Sisters Helen and Lutie have moved to Denver from Iowa after their parents' deaths. Helen, a nurse, and Lutie, a carefree advertising designer at a fashionable women's store share a small, neat house, and each finds a local beau—for Helen a doctor, for Lutie a young student who soon enlists. They make a modest income from a rental apartment in the basement. When their tenant dies from the flu, the sisters are thrust into caring for the woman's small daughter, Dorothy. Soon after, Lutie comes home from work and discovers a dead man on their kitchen floor and Helen standing above the body, an icepick in hand. She has no doubt Helen killed the man—Dorothy's father—in self-defense, but she knows that will be hard to prove. They decide to leave the body in the street, hoping to disguise it as a flu victim.

Meanwhile Lutie also worries about her fiancé "over there." As it happens, his wealthy mother harbors a secret of her own and helps the sisters as the danger deepens, from both the murder investigation and the outbreak.

Set against the backdrop of an epidemic that feels all too familiar, Little Souls is a compelling tale of sisterhood and of the sacrifices people make to protect those they love most.

Redesigned Prototype

New Releases



A Swim in a Pond in the Rain

★★★★★



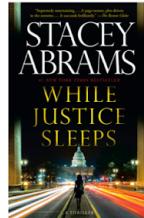
Broken Horse

★★★★★



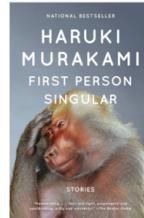
Gathering Blossoms Underfire

★★★★★



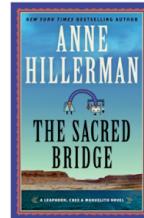
White Justice Sleeps

★★★★★



First Person Singular

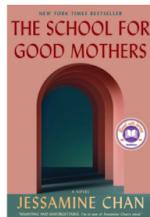
★★★★★



The Sacred Bridge

★★★★★

Books We're Most Excited About in 2022



The School For Good Mother

★★★★★



Olga Dies Dreaming

★★★★★



How High We Go In The Dark

★★★★★



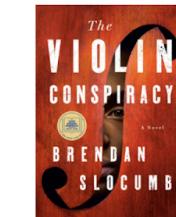
Violeta - Isabel Allende

★★★★★



Black Cake

★★★★★



Violin Conspiracy

★★★★★

Review by - Honorée Fanonne Jeffers

★★★★★ 5 out of 5 star

Those who know Alice Walker's body of work know that she inspired a generation of Black women writers who continue to impact America's literary landscape. And didn't so many of us read Walker to understand how to survive this place, to fight to become whole, to pull self-love to our fleshy, dark selves? And now, to read Walker's journals—decades of unfiltered musings showing us a complex person with sorrows, triumphs, flaws, and beauties—feels like witnessing a medicine moment, a griotte's testimony

Review by - Tayari Jones

★★★★★ 5 out of 5 star

Alice Walker contains multitudes. She is a truth-telling, word-working, change-conjuring, culture-shifting, revolutionary artist and citizen of the world. These journals are a revelation, a road map, and a gift to us all.

Review by - W. E. B. Du Bois

★★★★★ 5 out of 5 star

Those who know Alice Walker's body of work know that she inspired a generation of Black women writers who continue to impact America's literary landscape. And didn't so many of us read Walker to understand how to survive this place, to fight to become whole, to pull self-love to our fleshy, dark selves? And now, to read Walker's journals—decades of unfiltered musings showing us a complex person with sorrows, triumphs, flaws, and beauties—feels like witnessing a medicine moment, a griotte's testimony

3. Proximity: Cart summary page with well defined menu options to add/remove books

As per the UI/UX law of “Proximity”, similar components should be placed together to ensure a better website design. Cart menu in the original website has several elements which are related to each other but still placed far apart which makes it difficult for the user to navigate through the menu. In the original website the option to remove a book is placed far away from the Qty and Update Cart options. Also, the View Cart option after selecting the particular book is placed very far from the related menu options like “Proceed To Checkout” and “Continue Shopping”. In our redesigned prototype, we have provided the option to dynamically add/remove books through “+” and “-” menu options which are placed close to the Checkout menu option. This design implementation adheres to the Proximity principle and decreases the complexity of website designs while reinforcing the pieces' relatedness to each other.

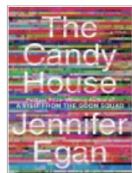
Original Website Design

Cart

Remove	Products	Product Descriptions	Qty.	Total
<button>REMOVE</button>		Little Souls: A Novel On Our Shelves Now	<input type="text" value="2"/>	\$55.98
<button>REMOVE</button>		The Candy House: A Novel On Our Shelves Now	<input type="text" value="1"/>	\$28.00
Subtotal: \$83.98				
Continue shopping		<button>EMPTY CART</button> <button>UPDATE CART</button> <button>CHECKOUT</button>		



Items Added to Cart



The Candy House: A Novel

On Our Shelves Now
By Egan, Jennifer

ISBN:9781476716763

Your cart summary

(4) items in cart

[View Cart](#)

Subtotal: **\$111.98**

[CONTINUE SHOPPING](#)

[PROCEED TO CHECKOUT](#)

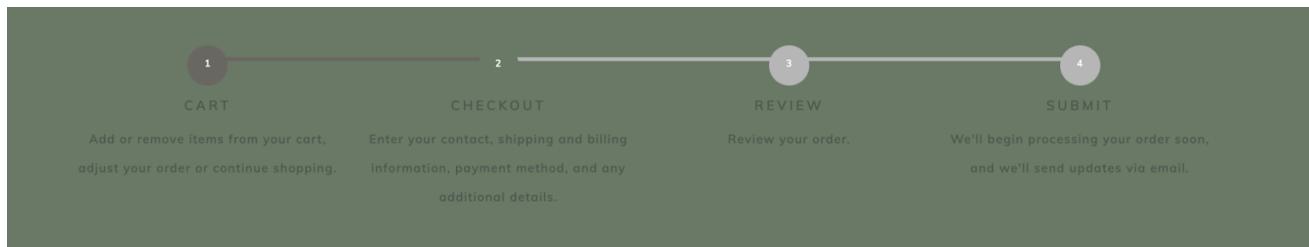
Redesigned Prototype

Products	Description	Qty	
<input type="checkbox"/>	 Gathering Blossoms Under Fire: The Journals of Alice Walker, 1965–2000	<input type="button" value="-"/> <input type="text" value="2"/> <input type="button" value="+"/>	Remove \$32.50
Subtotal: \$32.50			
Continue shopping		Checkout	

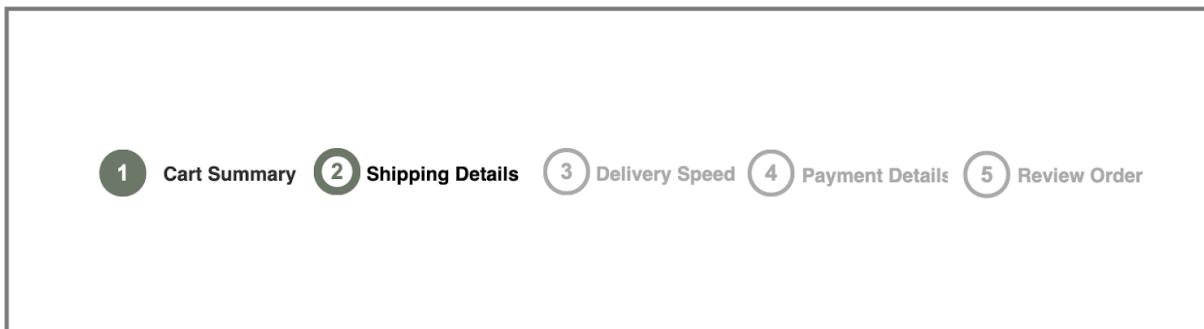
4. Legibility: Clear demarcation of the users' progress during the checkout process

According to the UI/UX law of “Legibility”, the content on the website should be clear enough to read. It refers to the visual clarity of text based on color, size, contrast, typeface, spacing of characters used etc. In the original website design on checkout Page, the progress tracker fails the purpose as its text is hardly readable. The Text under the bar is also not clear. They have used a grayish text color on a green background which makes it nearly indistinguishable. Also On product Details page, the content Headings are not highlighted so the user is unable to decide which section she is currently on. In our redesigned prototype we have given a different color/ bolder look to the currently selected sub-section to let the user know the section she is on. This satisfies the Legibility principle and makes it easy for the user to identify the section she is currently on.

Original Website Design



Redesigned Prototype



Overall Findings & Recommendations

- Screenshots with callouts to illustrate the finding

1.1 Original Website Design

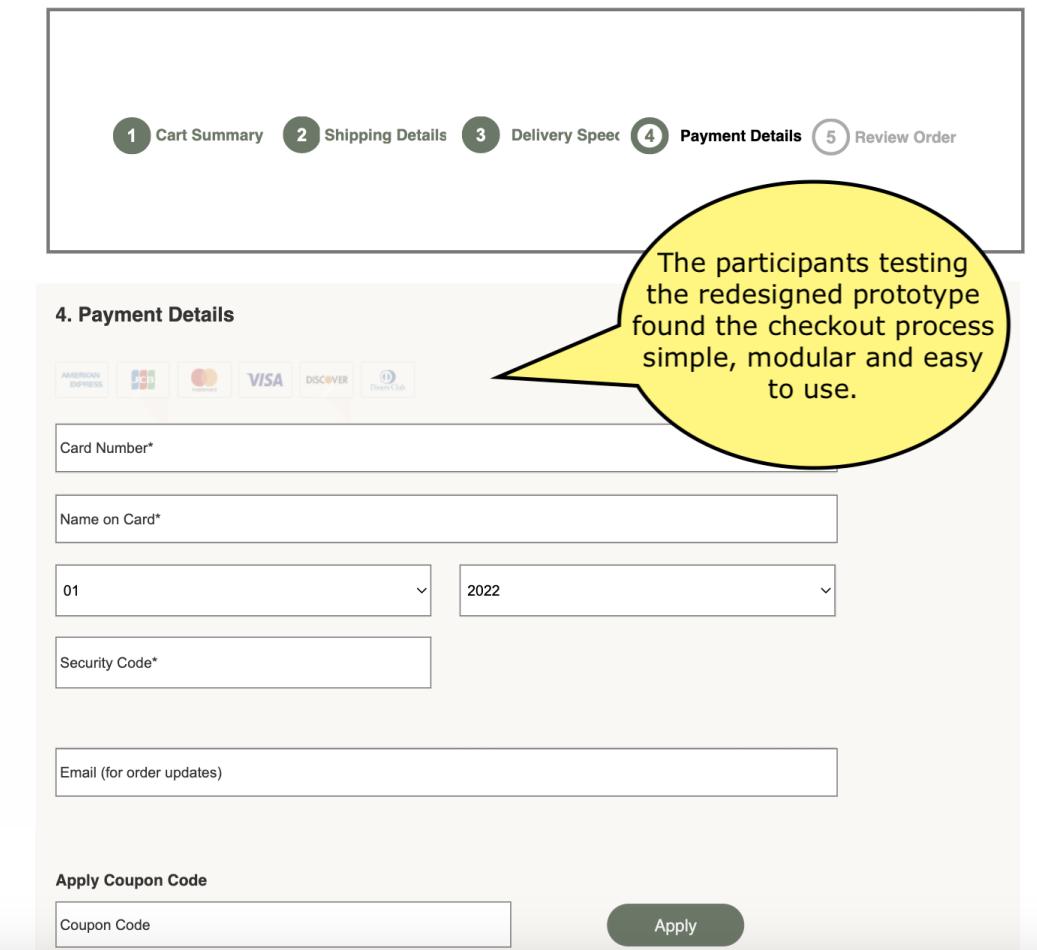
Checkout

All in-store pick up orders require a minimum of 24 hours to process. If we have a book on our shelves that you'd like to pick up immediately, please call us and we'll put the item on hold for you.

Cart contents		Price
Qty	Products	
1 x	Little Souls: A Novel On Our Shelves Now	\$27.99
Subtotal: \$27.99		
Customer information		
Enter a valid email address for this order or click here to login with an existing account and return to checkout.		
E-mail address *		
<input type="text"/>		
TATTERED COVER GIFT CARD		
Select here if you are using a Tattered Cover Gift Card. You will also need to provide a second form of payment that will be used ONLY if the gift card balance is inadequate. Please note, the hold on your card will be for the order total, until the payment is processed.		
<input type="checkbox"/> I would like to apply a Tattered Cover Gift Card		
Coupon discount		
Enter a coupon code for this order.		
Coupon Code		
<input type="text"/> Enter a coupon code and click "Apply to order" below.		
<input type="button" value="APPLY TO ORDER"/>		
Tax-exempt information		
If you qualify for sales tax exemption, please provide your organization information. Organization name and tax-exempt number are required to be considered for tax exemption.		
<input type="checkbox"/> This is a tax exempt order.		
In-Store Pick Up Options		
<input type="checkbox"/> I would like to pick up my order at the store. In-store pick up available during each store's open hours		
Delivery information		
Enter your delivery address and information here.		
* First name: <input type="text"/>		
Preferred Name: <input type="text"/> Please enter your preferred name (e.g., Len vs. Leonard. If you do not have one, please re-enter your first name.)		
* Last name: <input type="text"/>		

The participants testing the original website got overwhelmed because of the lengthy and complex checkout process.

1.2 Redesigned Prototype



The participants testing the redesigned prototype found the checkout process simple, modular and easy to use.

4. Payment Details

AMERICAN EXPRESS MASTERCARD VISA DISCOVER Diners Club

Card Number*

Name on Card*

01 2022

Security Code*

Email (for order updates)

Apply Coupon Code

Coupon Code Apply

2.1 Original Website Design

New Releases



Bookseller Picks



DESCRIPTION | ABOUT THE AUTHOR | DETAILS | REVIEWS & MEDIA

Sandra Dallas's Little Souls is a gripping tale of sisterhood, loyalty, and secrets set in Denver during World War I.

Colorado, 1918. World War I is raging overseas, but it's the home front battling for survival. With the men away, homes converted into hospitals, churches and funeral homes are closed, and horse-drawn wagons collect corpses. The sisters have moved to Denver from Iowa after their parents' deaths. Helen, a nurse, and Lutie, a career advertising executive, share a small, neat house, and each finds a local beau—for Helen a doctor, for Lutie a young student who soon enlists. They make a modest income from a rental apartment in the basement. When their tenant dies from the flu, the sisters are thrust into caring for the woman's small daughter, Dorothy. Soon after, Lutie comes home from work and discovers a dead man on their kitchen floor and Helen standing above the body, an icepick in hand. She has no doubt Helen killed the man—Dorothy's father—in self-defense, but she knows that will be hard to prove. They decide to leave the body in the street, hoping to disguise it as a flu victim.

Meanwhile Lutie also worries about her fiancé "over there." As it happens, his wealthy mother harbors a secret of her own and helps the sisters as the danger deepens, from both the murder investigation and the outbreak.

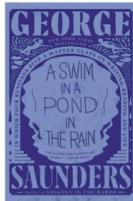
Set against the backdrop of an epidemic that feels all too familiar, Little Souls is a compelling tale of sisterhood and of the sacrifices people make to protect those they love most.

The participants testing the original website couldn't find the reviews of the specified book with ease as the reviews section is not discoverable.

Participants found the reviews section more discoverable.

2.2 Redesigned Prototype

New Releases



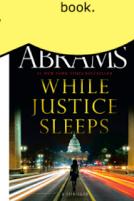
A Swim in a Pond in the Rain
★★★★★



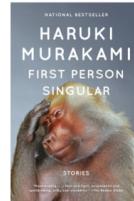
Broken Horse
★★★★★



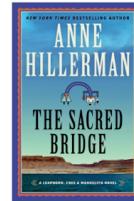
Gathering Blossoms Under Fire
★★★★★



White Justice Sleeps
★★★★★



First Person Singular
★★★★★



The Sacred Bridge
★★★★★

The participants testing the redesigned prototype were able to quickly identify the ratings of the specified book.

Review by - Honorée Fanonne Jeffers

★★★★★ 5 out of 5 star

Those who know Alice Walker's body of work know that she inspired a generation of Black women writers who continue to impact America's literary landscape. And didn't so many of us read Walker to understand our place, to fight to become whole, to pull self-love to our fleshy, dark selves? And now, to read Walker's unvarnished, uncentered musings showing us a complex person with sorrows, triumphs, flaws, and beauties—feels like a gift.

The participants testing the redesigned prototype were able to discover the reviews as it was intuitive and consistent with the design.

Review by - Tayari Jones

★★★★★ 5 out of 5 star

Alice Walker contains multitudes. She is a truth-telling, word-working, change-conjuring, culture-shifting, revolutionary artist and citizen of the world. These journals are a revelation, a road map, and a gift to us all.

3.1 Original Website Design

Cart

Remove	Products	Product Descriptions	Qty.	Total
<button>REMOVE</button>		Little Souls: A Novel On Our Shelves Now	<input type="text" value="2"/>	\$55.98
<button>REMOVE</button>		The Candy House: A Novel On Our Shelves Now	<input type="text" value="1"/>	\$28.00
Subtotal: \$83.98				

Continue shopping

EMPTY CART

UPDATE CART

CHECKOUT

The participants testing the original website found it difficult to update the quantity in absence of usual call to action buttons.

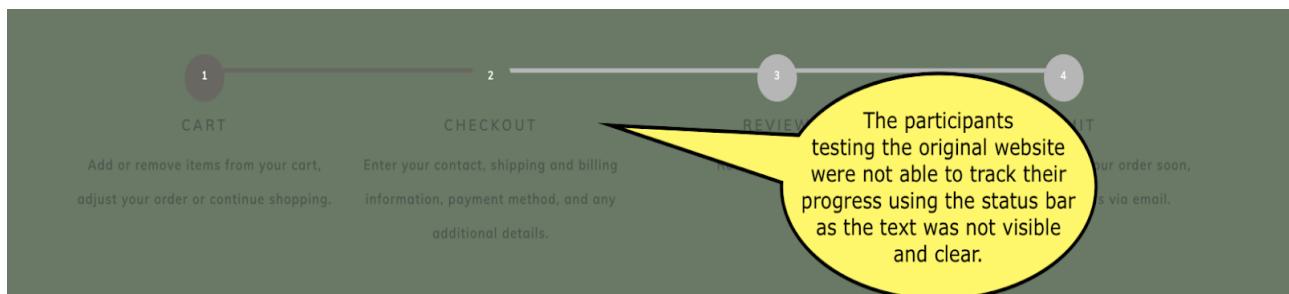
3.2 Redesigned Prototype

Products	Description	Qty	
<input type="checkbox"/>		<input type="text" value="2"/> - +	<button>Remove</button> \$32.50
Subtotal: \$32.50			

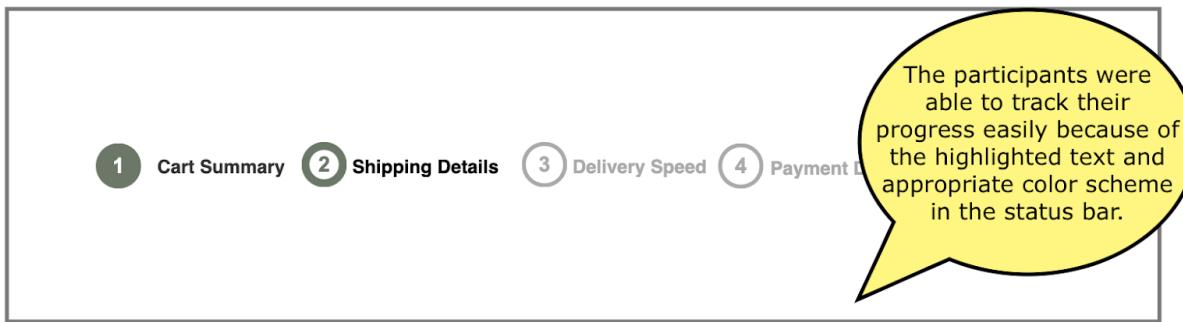
Continue shopping

Checkout

4.1 Original Website Design



4.2 Redesigned Prototype



Task 1 - Checking the ratings of the specified book

Original	Redesigned
Total participants = 6	Total participants = 6
Total successful = 5	Total successful = 6
% Successful = 83.34%	% Successful = 100%

Metric	Mean	Standard Deviation	t-value	p-value	Significance
Time to Task	Original 84.67 Redesigned 21.4	Original 17.34 Redesigned 3.81	8.669912716	0.000005782	There is a significant improvement in the time taken for a person to see the rating of a book. It takes about 20% of the time it used to take for each person to find the ratings on the original site. It is very evident by the lower p-value.

Lostness	Original 1.152 Redesigned 0.42	Original 1.01 Redesigned 0.32	2.032603385	0.069501558	The redesigned website helped people to view the rating in a streamlined process so that they didn't have to go to multiple pages trying to find the rating.
Errors	Original 3.67 Redesigned 1.23	Original 2.35 Redesigned 0.56	2.617967711	0.025687152	Overall the errors that occurred also got significantly reduced due to the fact that rating is displayed just below a book's name. Making the user less likely to land on different pages which was causing the errors.

Original Sample Finding	Redesigned Sample Finding	Recommendation/Comments
5 out of 6 participants were able to find the ratings in a given amount of time.	All the participants were able to find the rating.	The key factor in achieving such a greatly reduced time was just to follow simple UI rules for the designs like Legibility. It is a good design practice to make the information visible to the user and reduce clutter to ensure that the user is able to find the rating very easily.
The time was high for a simple task like finding a rating of a book. Their rating was hidden somewhere in a wrongly identified menu. Even there it was to be scrolled down to get the rating. Overall it was a painful process just to get the ratings.	The time was significantly reduced in our new design as we presented the ratings just below a book. On the homepage and even on the book's own page there was a rating just below the book's name making it easier to find the book.	The new design of explicitly showing the rating below the book reduced the time taken
The incorrect naming of the menu and putting the rating of a book hidden in a menu in the first place is		

causing the user to spend so much time.	to find the rating.	
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Task 2 – Reading reviews of the specified book

Original	Redesigned
Total participants = 6	Total participants = 6
Total successful = 6	Total successful = 6
% Successful = 100%	% Successful = 100%

Metric	Mean	Standard Deviation	t-value	p-value	Significance
Time to Task	Original 29.16 Redesigned 19.232	Original 12.32 Redesigned 3.56	1.966481511	0.077596662	Compared to the first task there isn't that much reduction in time, this is due to the fact that the reviews are available on the same page in the original site. Still there is a significant reduction in time which is evident from the t-value.
Lostness	Original 0.66 Redesigned 0.34	Original 0.82 Redesigned 0.12	1.393317240	0.193717005	The overall lostness was generally low again due to the fact that the reviews are

					literally present where the ratings are. Still there is an observed reduction in the lostness.
Errors	Original 3.33 Redesigned 1.22	Original 1.88 Redesigned 1.1	2.584921310	0.027185809	The very confusing UI made it very difficult for the people to find the reviews. Therefore, there were still errors encountered, which can be seen to have been reduced.

Original Sample Finding	Redesigned Sample Finding	Recommendation/Comments
All the participants were able to find the reviews as they were available just below the ratings. But the time taken for the task was higher than what is expected.	The new redesigned website had the rating in a different section, it was made available to the users in such a way that the users were able to instantly go to the ratings and view them.	The new redesigned part following various design principles and making the reviews section distinct from other menu items on the screen and making them look like a group really helped more people easily find the reviews. Also we followed what was common on other websites so people already knew what to do and where to find the reviews as expected from a standard website.
As seen from the statistics table above, there were many errors even for this simple task. This is due to clutter, bad UI, and overall a bad way of putting things together that violates the Gestalt principles, making them work in a negative way for the website.	Our website was able to reduce the error by clearly mentioning where the reviews are and providing a distinct and easily identifiable identifier for the review. Also all the reviews were grouped in such a way that it was easy to identify it was a list of reviews not anything else.	
Originally the reviews are placed inside a menu, with various other menus and tabs. This can cause a lot of opportunities to arise for the	The users are redirected to the reviews section with an easily identifiable link. Making users very less vulnerable to commit errors.	

users to commit errors.		
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Task 3 – Adding two quantities of the specified book in the cart

Original	Redesigned
Total participants = 6	Total participants = 6
Total successful = 6	Total successful = 6
% Successful = 100%	% Successful = 100%

Metric	Mean	Standard Deviation	t-value	p-value	Significance
Time to Task	Original 51.0 Redesigned 22.8	Original 18.58 Redesigned 5.43	3.213499534	0.009276826	On the original website there was a very confusing method to add additional items to the cart, our redesigned website reduced the time taken to add books in the cart using the proximity principle.
Lostness	Original 0.58 Redesigned 0.43	Original 0.32 Redesigned 0.12	2.022640406	0.070668055	Overall the lostness was reduced as the process was streamlined to dynamically add/remove

					books.
Errors	Original 3.16 Redesigned 1.18	Original 1.57 Redesigned 0.54	2.995571953	0.013445008	There were too many errors committed by the participants on the original website, which is seen to be reduced here by grouping similar items together and removing confusing menu options.

Original Sample Finding	Redesigned Sample Finding	Recommendation/Comments
It was surprising that all the people were able to modify the cart given that they had to go to so many pages to do so. But still people were not satisfied with this task and they committed various errors due to frustration.	All the participants were able to update the cart with minimal errors.	There were a lot of problems with adding extra numbers of the same book to the cart. One had to follow a very complex process, which was confusing and time taking. There were a lot of opportunities for a user to make errors which is never desired as we require the users to not make errors or at least minimize them. That's why we included a very simple way of updating the cart by adding plus and minus symbols. And making it accessible to the users on a single screen. We were able to reduce the number of screens required to visit, which greatly reduced the lostness.
As there was a lot of switching around involved we expected the time to be significantly high. Which was true as evident from the stats table.	The time taken was greatly reduced, it was reduced upto 35~40 percent in most of the cases.	
As there was a lot of switching around, the time, errors, and lostness was high for each person that was involved in the testing. This design problem was identified to us very early in the process of evaluating this	Evident from the stats we have reduced the time, lostness, and the errors greatly due to a very simple method of adding the items to the cart using the "+" and "-" menu options provided in close proximity to the	

website as it was very obvious that there were some serious design issues.	quantity.	
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Task 4 – Checking out the cart using the provided details

Original	Redesigned
Total participants = 6	Total participants = 6
Total successful = 4	Total successful = 6
% Successful = 66.67%	% Successful = 100%

Metric	Mean	Standard Deviation	t-value	p-value	Significance
Time to Task	Original 212.33 Redesigned 167.81	Original 23.47 Redesigned 18.95	4.710090749	0.000828788	As evident from the very small p value that there is a huge improvement in the time taken for the task.
Lostness	Original 1.20 Redesigned 0.76	Original 0.48 Redesigned 0.43	4.491346344	0.001158500	Overall the lostness was just too high. People were getting lost very often. There was no way of predicting if the users will be able to get to the designated page or not.
Errors	Original 6.16	Original 2.03	5.083911274	0.000475061	This metric was where we made the most improvement.

	Redesigned 1	Redesigned 0.67			A huge form with a lot of unnecessary fields meant a huge opportunity for errors. Modularizing the form meant lesser errors, which can be seen from the t test results.
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Original Sample Finding	Redesigned Sample Finding	Recommendation/Comments
As discussed in the above section one metric we really focused on was the conversion rate. Here it is very significant. The amount of conversion rate was to be even less, it was at 66% due to the fact that the users were given a task and they were expected to finish the same. If it was a normal scenario more people would have left the task in the middle.	Our redesign made the conversion rate come to 100%. While this may not be true in a real scenario as the users might not make the purchase that they were making here, as there was no real payment to be made. But still the amount of people who reached the last step in a given time was significantly higher.	We have provided a very improved version of the progress bar from what was on the previous website. Now the user knows at what step they are. We have also broken down some steps so as not to overwhelm the users. Next up we reduced the redundant and unnecessary information asked from the user. There was a huge form that the user had to fill. We made the form a lot smaller and modularized and have reduced the information required. Moreover, we had redesigned in such a way that we were able to reduce the process time by 40% in most cases. This is quite an achievement.
Originally to checkout the mean time taken is 212.33 seconds. Which is at the upper limit of what would be an acceptable range for any ecommerce website.	Our redesign brought down the time taken to checkout by at least 40% in all the testing cases. It is more than evident from the p values in the table above.	
It can be observed that the errors are just too high for a checkout process. It is expected to have very less errors at the checkout as the payment is involved. Also it is the very last stage and the user is about to convert to a paying customer, so close to none errors are expected.	The redesign brought the errors down, and made people have a modular process that makes it easier to do the checkout process.	

Sample survey questionnaire given to participants

1. Ease of use: I am satisfied with how easy it is to use this system. *

1 2 3 4 5

Strongly Disagree

Strongly Agree

2. Completeness: I could effectively complete the tasks and scenarios using this * system.

1 2 3 4 5

Strongly Disagree

Strongly Agree

3. Time: I was able to complete the tasks and scenarios quickly using this * system.

1 2 3 4 5

Strongly Disagree

Strongly Agree

4. Discovery: It was easy to find the information I needed. *

1 2 3 4 5

Strongly Disagree

Strongly Agree

5. Satisfaction: Overall, I am satisfied with this system. *

1 2 3 4 5

Strongly Disagree

Strongly Agree

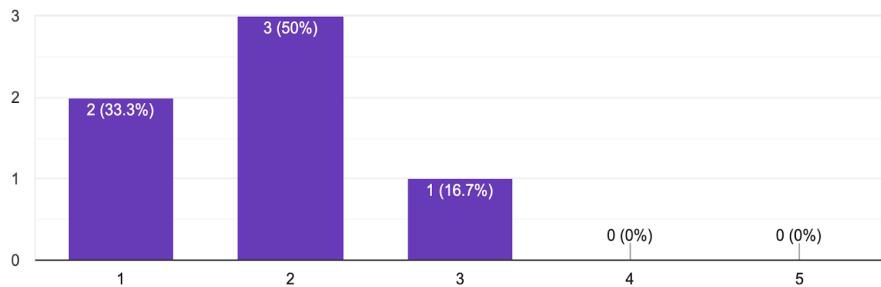
Submit

[Clear form](#)

Survey Response Summary for the Original Website

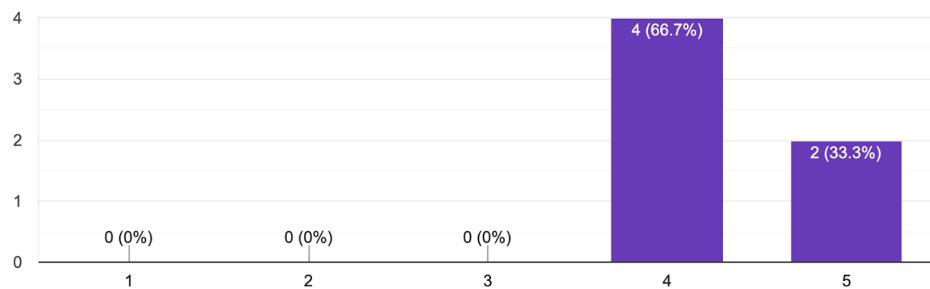
1. Ease of use: I am satisfied with how easy it is to use this system.

6 responses



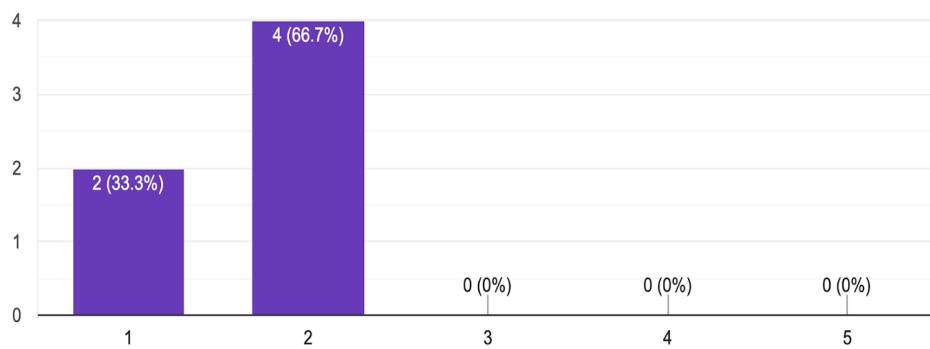
2. Completeness: I could complete the tasks and scenarios using this system.

6 responses



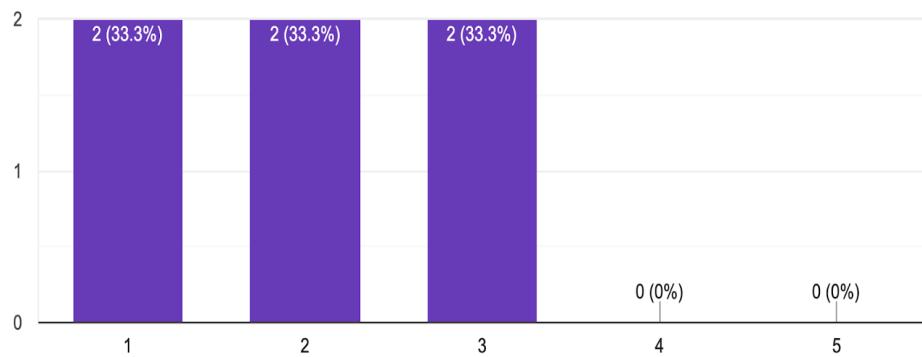
3. Time: I was able to complete the tasks and scenarios quickly using this system.

6 responses



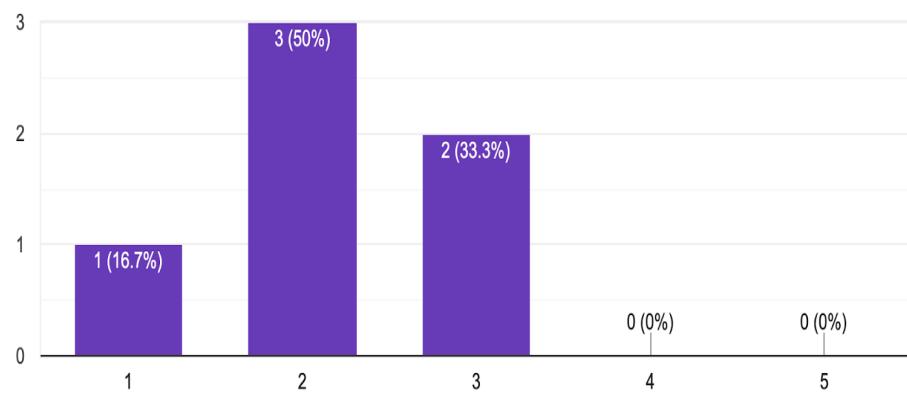
4. Discovery: It was easy to find the information I needed.

6 responses



5. Satisfaction: Overall, I am satisfied with this system.

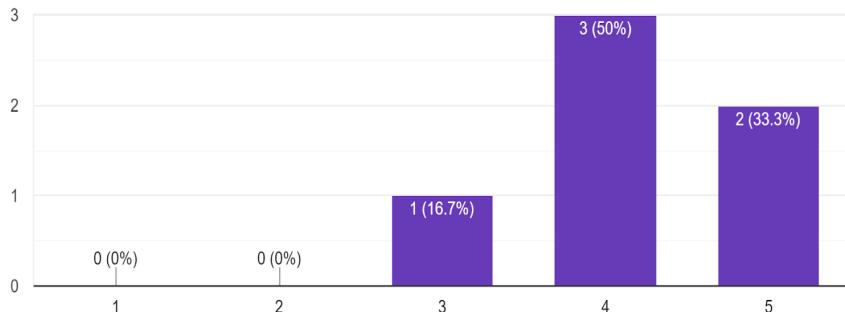
6 responses



Survey Response Summary for the Redesigned Website

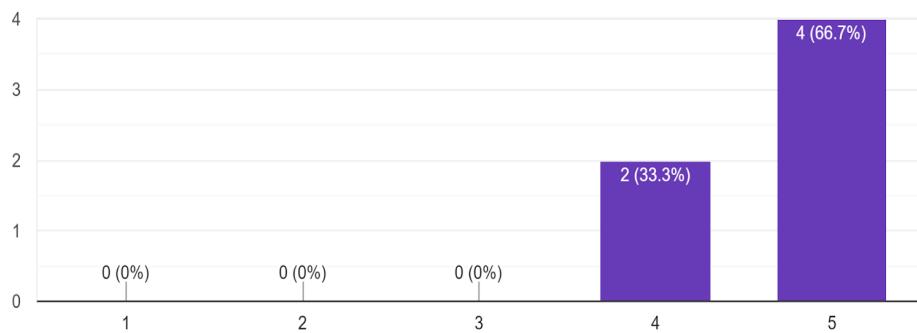
1. Ease of use: I am satisfied with how easy it is to use this system.

6 responses



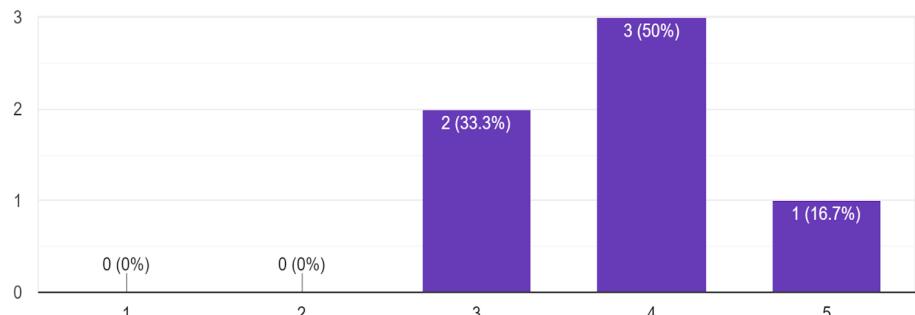
2. Completeness: I could effectively complete the tasks and scenarios using this system.

6 responses



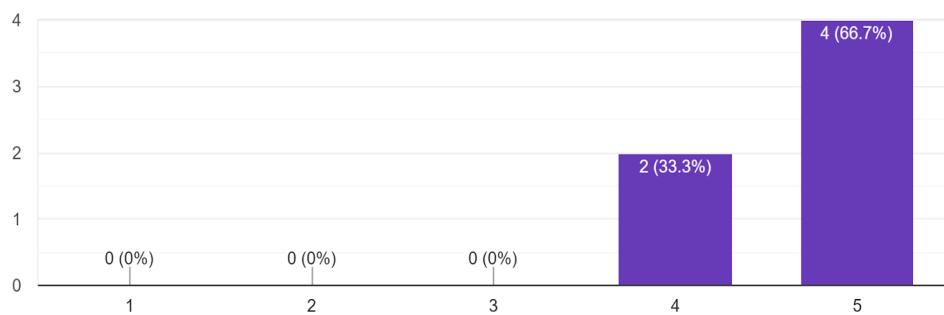
3. Time: I was able to complete the tasks and scenarios quickly using this system.

6 responses



4. Discovery: It was easy to find the information I needed.

6 responses



5. Satisfaction: Overall, I am satisfied with this system.

6 responses

