

# Why Not Zoidberg?

## User Interface Design Document

Version 1.3

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Prepared for  
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# Why Not Zoidberg?

## User Interface Design Document

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### Document Versioning Control

Version Number	Date	Changes from Previous Version
1.0	10/17/12	Introduction
1.1	10/26/12	User Interface Walkthrough
1.2	10/28/12	User Interface Standards
1.3	10/30/12	User Interface Walkthrough, Data Validation

## 1. Introduction

### 1.1 Purpose of This Document

This document provides an outline for what this system will look like to the users, including our customer: Ms. Lisa Matthews. We provide a set of design standards to make our user interface drawings clear and concise. We provide detailed diagrams which explain the layout and physical organization of the system. We will ensure valid data entry for the search box as well as the field for adding funds to the user's balance.

### 1.2 References

These are the references we used for helping us make the user interface diagrams:

- In class slides "User-Centered Design", in class exercise: Paper Prototyping.

## 2. User Interface Standards

When the user opens the home page, they will have the ability to login to the system or create an account. We will have the project name/logo present on every page accessed to allow the user and the administrator to quickly return to the home page. The search box and drop down menu for search criteria will be accessible on the majority of the pages. If a customer logs into the system, there will be a “Logout” and “View Account” button on the top right corner. If an admin logs into the system, there will be a “Logout” and “Control Panel” button.

The search bar is another common module that will be on several pages. The user will have the option to select a search criteria from a drop down menu to narrow their search to a particular attribute about a book, such as Title, ISBN, Author and Genre. The user may also choose not to provide a string, so that the system will perform a general search to return all books. The user will provide a string to search for, and the system will run the search query.

All registered customers (any user that is logged in who is NOT an administrator) will have a shopping cart, which will be displayed on a few pages such as the home page, search page, and account page. The shopping cart will temporarily hold items that the user has selected (via a “Add to shopping cart” button which is on every browse item page). The user will have the benefit of being able to view their shopping cart via a small module on the home and search pages, or they can select the “View Shopping Cart” button from within the module (or from within the “View Account” page), to take them to the full view of their shopping cart. The user may modify their shopping cart by updating the quantity of an item they selected or removing the item from the shopping cart. They can update the contents which will not only update which items are contained in the cart, but it will update the total cost as well.

Another common module that will be contained on most of the pages is the footer. The footer will have a link to the “About Us” page, where the a description of the team and all of the members will be displayed.

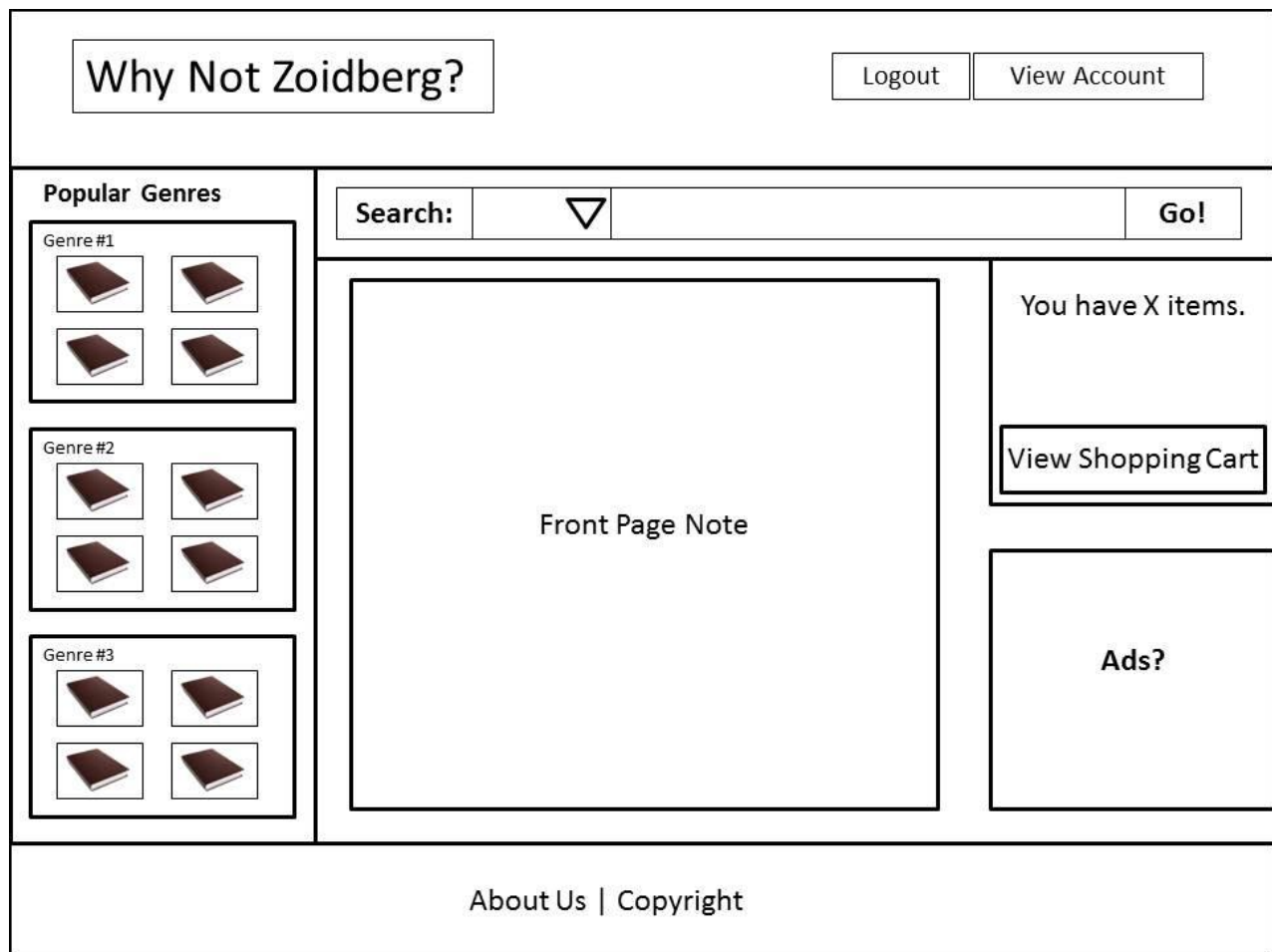
### 3. User Interface Walkthrough

Here is a table of UI diagram names and the corresponding figure numbers, which will be used in the navigation diagram below as well as the rest of the UI document.

Figure	UI Description	Page #
	Navigation Diagram	7
1	Home Page	8-9
1.1	Login	10
1.2	Create An Account	11
2	Browse	12
3	Search Results	13
4	View Account	14
4.1	Add Funds/Confirm Add Fund	15
4.2	Confirm Add Funds	15
5	About Us	16
6	Admin Menu	17
7	Add/Edit/Delete an Item	18
8	Shopping Cart	19
8.1	Checkout	20
8.2	Thank you for your purchase	21

This is the navigation diagram for the entire system. The user will first be prompted to login to the system in order to access it (Figure 1.1). The user may also create an account instead (Figure 1.2). If the login and/or create account is successful, they will be forwarded to the home page (Figure 1). From the home page, the user will have access to a certain subset of functionality. All users (customers and administrators) will have access to Browse, Search, and About Us, (Figures 2, 3, 5). Customers will have access to the View Account, Add Funds, Confirm Add Funds, Shopping Cart, Checkout and Thank You... (Figures 4, 4.1, 4.2, 8, 8.1, 8.2) in addition to Browse, Search, and About Us. The administrator will have access to the Admin Menu and Add/Edit/Delete Item (Figures 6, 7) in addition to the Browse, Search, and About Us.

Figure 1:



This is the home page of the entire system.

- 1.(Header) There will be a header which will contain the project name/logo. This will be contained on every page and will act as a link back to this home page.
- 2.(Logout/View Account) If the user logs in as a customer, the buttons will change to “Logout” and “View Account”. If the user logs in as the Administrator, the buttons will change to “Logout” and “Control Panel”.
- 3.(Popular Genres) There will be a “Popular Genres” sidebar, which will display a selection of books taken from random genres contained in the inventory. The system shall display 3 fields for 3 separate genres of books. Each field will contain 4 books randomly selected from that particular genre. The user may click on any one of these books to be forwarded the browse page, where they can view the information related to the book they selected. This feature will hopefully help the user find new books!
- 4.(Search Bar) There will be a search bar contained underneath the header. There will be a drop down box (the box containing the upside down triangle) from which the user will select a search

criteria to narrow their search. The criteria will be: ISBN, Title, Author, Genre. Or, alternatively the user may not select a search criteria and the system shall perform a general search. The user will type a string into the search bar (next to the drop down box) and select “Go” to start a search. The system shall validate the user’s input by making sure they type something (check for empty strings). The system shall query the inventory database and display the top matches.

5.(Front Page Note) There will be a large area in the middle of the page left for notes to the user. The developers will have a set of notices to display (message from the developers about the project, helpful tips, etc.). The system will randomly select one of these notes to display each time a user returns to the home page.

6.(Shopping Cart) There will be a field on the right side of the screen, underneath the search bar, for the shopping cart. If a user chooses to purchase an item, the system will add it to their shopping cart until they are ready to checkout and purchase those items contained in the shopping cart.

7.(Ads?) We may include an advertisement to fill up the area underneath the shopping cart. (More information later).

8.(Footer) We will also include a footer which will contain links to separate pages “About Us” and “Copyright”. This will be contained on every single page.



Figure 1.1:

The image shows a simple login window. At the top center is the title 'Login'. In the top right corner is a small square button with an 'X' inside, representing a close button. Below the title, there are two labels with corresponding input fields: 'Username:' followed by a rectangular text box, and 'Password:' followed by another rectangular text box. At the bottom of the window, there are three rectangular buttons arranged horizontally: 'Login', 'Create Account', and 'Exit'.

The system will prompt the user to login at the start of the program. The user MUST be logged in, in order to access the system. There will be two fields that MUST be required for the user to login.

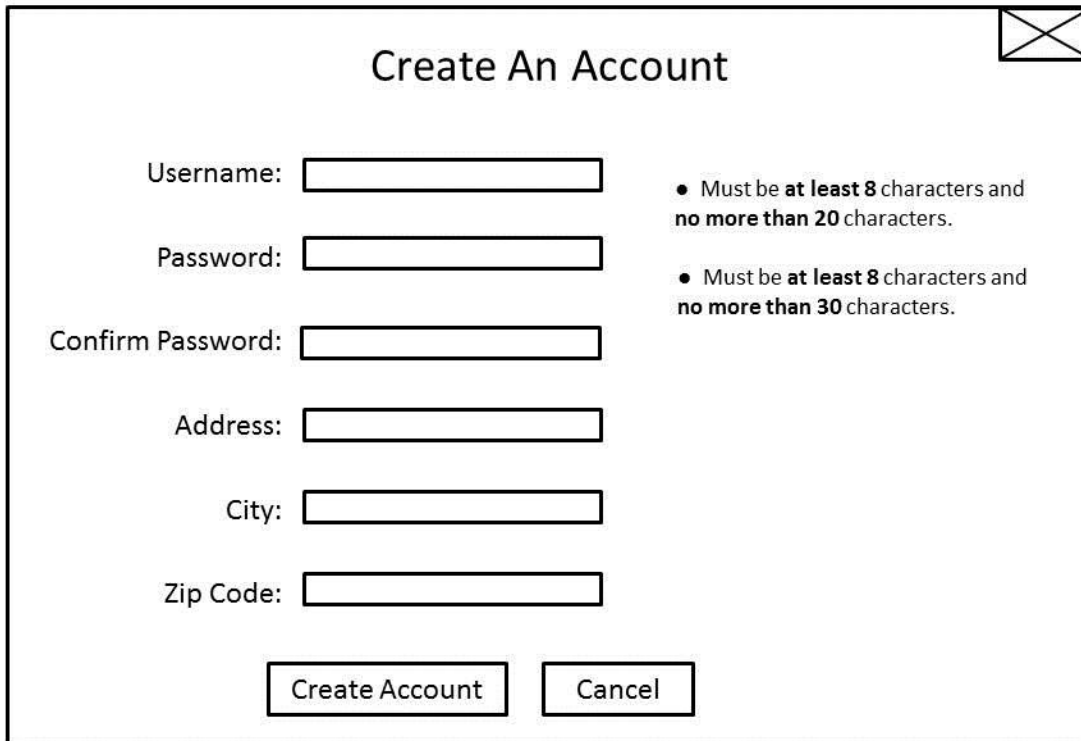
- The user must enter their username EXACTLY as they created it (case sensitive)

- The user must enter their password EXACTLY as they created it (case sensitive)

The system shall query the database and find a matching username and password in the system. If both parameters match, the system shall login to the user's account and will forward the user to the home page.

- If the username does not match any username in the system, the system shall inform the user that there is not a match in the system, and will be re-prompted to login. The user may enter another username and password, create a new account, or exit the program.

Figure 1.2:



The image shows a 'Create An Account' form. It has a title 'Create An Account' at the top center and a close button (an 'X' in a square) in the top right corner. The form contains six input fields: 'Username:', 'Password:', 'Confirm Password:', 'Address:', 'City:', and 'Zip Code:'. To the right of the 'Password:' and 'Confirm Password:' fields, there are two bullet points: '• Must be **at least 8** characters and **no more than 20** characters.' and '• Must be **at least 8** characters and **no more than 30** characters.' At the bottom of the form, there are two buttons: 'Create Account' and 'Cancel'.

Create An Account

Username:

Password:

Confirm Password:

Address:

City:

Zip Code:

• Must be **at least 8** characters and **no more than 20** characters.

• Must be **at least 8** characters and **no more than 30** characters.

Create Account Cancel

When the user selects “Create An Account” from the login menu, the user will be redirected to the “Create Account” page. There will be fields for different customer information.

-The username field will be validated so that the user provides a username that is at least 8, but no more than 20 alphanumeric characters.





-The password field will be validated so that the user provides a password that is at least 8, but no more than 30 characters. The confirm password field will be compared to the password field, and if the two match, the account will be confirmed.

-The address and city fields will be validated so that the user types in a non-empty string for both.

-The zip code field will be validated so that the user types in 5 digit number.

After the user has provided all of the information, they may select to create an account, or cancel the account creation and return to the login screen.

Figure 2:

<div style="border: 1px solid black; display: inline-block; padding: 5px 10px;">Why Not Zoidberg?</div>		<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">Logout</div> <div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">View Account</div>	
	<b>Book Title</b>  Author  <i>Date Published</i>  <b>Price</b>	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">Quantity</div> <div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">#</div>	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">Add to Shopping Cart</div>  Quantity Remaining ISBN Genre
<div style="border: 1px solid black; height: 100px; display: flex; align-items: center; justify-content: center;">Synopsis of the book:</div>		<div style="border: 1px solid black; padding: 5px;">Related Books (by Genre)</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"></div>	
<a href="#">About Us</a>   <a href="#">Copyright</a>			



When the user selects an item to browse, they will be forwarded to the browse page. An image of the book will be displayed, and next to that will be the Title, Author, Year Published and the price of the book. There will be a short summary of the book displayed below the image.

-To the right of the book title will be a quantity box, where the user may enter an integer quantity of the number of copies they would like. By default the quantity will be 1. The system will validate to make sure the quantity is a positive integer.

-To the right of the quantity box will be an “Add to Shopping Cart” button so that the user can add the item to their shopping cart.

Below the “Quantity Box” and “Add to Shopping Cart” button, the system will display the quantity remaining in the inventory. If there are more than X number of copies remaining, then it will say “In stock”. If there are less than X number of copies remaining, then it will say “There are this number of copies remaining”. The ISBN and Genre of the book will also be displayed below the quantity remaining.

Figure 3:

<b>Why Not Zoidberg?</b>		<a href="#">Logout</a>	<a href="#">View Account</a>
<b>Search:</b>		<input type="text"/>	<b>Go!</b>
<div><div><u>Title</u> Author Genre ISBN</div><div> Price</div></div> <div><div><u>Title</u> Author Genre ISBN</div><div> Price</div></div>		<div>You have X items.</div> <div><a href="#">View Shopping Cart</a></div> <div>Ads?</div>	
About Us   Copyright			

This is the search results page. When the user uses the search box to search for a book, they will be taken to this page. The top results will be displayed via a scroll-box, so that they will be able to view all of the results on one page. (If there is a software limitation of how many items can be displayed, we will accommodate this by putting the results onto separate pages, with links to the previous and next search results pages.) The page will also contain the header, footer, search bar, and shopping cart for the convenience of the user.

- Each result will be displayed in a particular format. The title, author, genre and isbn will be displayed, as well as a small image of the book with the price underneath. The user may click on the image of the book to be forwarded to the browse page.

Figure 4:

<div>Why Not Zoidberg?</div>		<div>Logout</div>	<div>View Account</div>
<div>Welcome, &lt;username&gt; !</div> <div>Current Balance: \$ &lt;userbalance&gt;</div> <div>Add Funds</div> <div>Current Address: &lt;address&gt; &lt;city&gt;, &lt;zipcode&gt;</div>		<div>You have X items.</div> <div>View Shopping Cart</div> <div>Picture/Ad</div>	
<div>About Us   Copyright</div>			

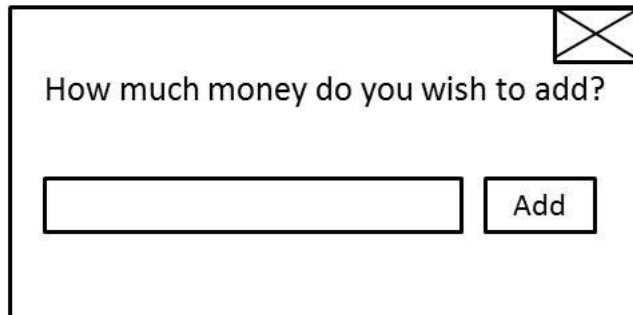
This is the “View Account” page, where the user may look at his/her account, add funds, and view their shopping cart. This page will also have the header and footer for convenience of navigating the application.

-The system will display an introduction “Welcome <username>” and then display the user’s balance. There will be a button below the balance where the user may add funds to his/her account.

-The system will also display the user’s current address (we may or may not add an option to edit their address, we’ll leave that in the open issues).

The system will also have the “View Shopping Cart” option on the right side of the page, as well as the picture/ad below (more specifics on the ad later).

Figure 4.1 and 4.2:



How much money do you wish to add?

Add

A dialog box with a close button (X) in the top right corner. The text "How much money do you wish to add?" is displayed. Below the text is a text input field and an "Add" button.



Are you sure you wish to add <funds> ?

**SHUT UP AND  
TAKE MY MONEY!**

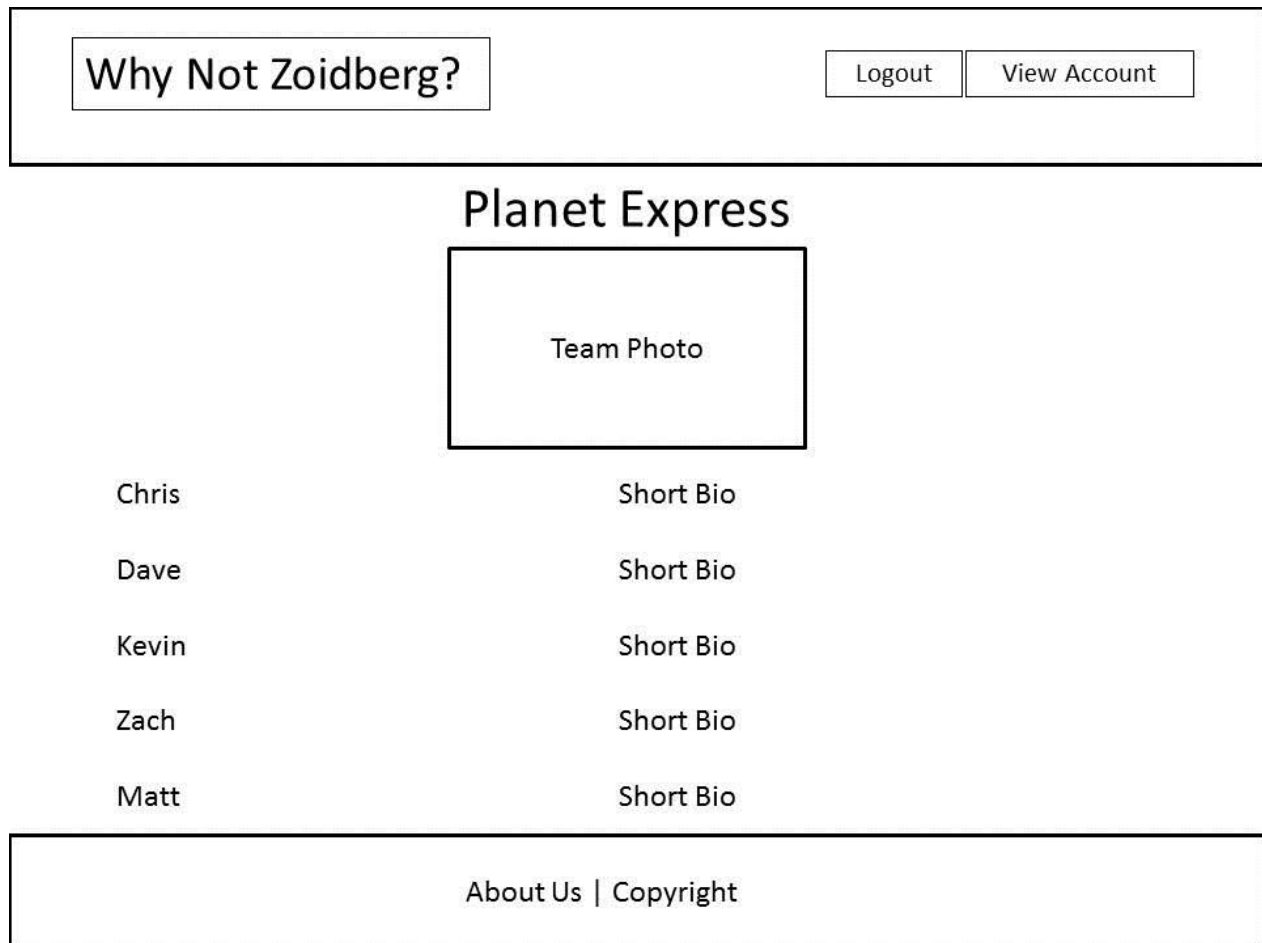
Shut Up and Take My Money! Cancel

A dialog box with a close button (X) in the top right corner. The text "Are you sure you wish to add <funds> ?" is displayed. Below the text is a meme image of a man holding a stack of money with the text "SHUT UP AND TAKE MY MONEY!". At the bottom are two buttons: "Shut Up and Take My Money!" and "Cancel".

This is the “Add Funds” window, where the user can specify how much money they would like to add to their account. The system will validate the input so that the user enters a positive amount. Once they have specified an amount, they will click to add the funds.

The system will forward to the “Confirm Add Funds” window, to make sure the user wants to add those funds to their balance. They can confirm by clicking “Shut Up and Take My Money”, or they may cancel the transaction, no money will be added to the balance, and the system will return the user to the “View Account” page.

Figure 5:



This is the “About Us” page for the Planet Express team. The page will contain a picture of the team and short descriptions about each of the team members. (Open to interpretation, not essential to the final product)

Figure 6:

Why Not Zoidberg?

LogoutAdmin Menu

Welcome, Ms. Matthews

Please enter an ISBN to start editing the inventory.

Go

The Best selling books are currently:

1.) Title	# of copies
2.) Title	# of copies
3.) Title	# of copies
4.) Title	# of copies
5.) Title	# of copies

About Us | Copyright

This is the “Admin Menu” for the administrator. The administrator can access this menu after they login by clicking on the “Admin Menu” button in the header.

- The administrator may also return to the home page, but they will not have access to purchase items/view their shopping cart, because they do not have one.

- The administrator will provide an ISBN for a book that she wishes to either add/edit/delete.

The system shall search the Inventory database for the ISBN – if a matching record is found, the administrator can either edit the information contained, or delete the item from the database.

If no records with that ISBN are found, the system shall forward the administrator to the “Add/Edit/Delete an item” page, and will be allowed to enter all of the information in the given fields.

- The top selling items will also be displayed on this page. The titles and the number of copies purchased will be displayed for the administrator.



Figure 7:

**Add/Edit/Delete**

ISBN: <var ISBN>

Title:

Author:

Year Published:

Genre:





Price:  Current Stock:

Summary:

If the ISBN is not found in the Inventory database, then the administrator will be able to add an item to the database. All fields must have a non-null, non-empty string provided. The administrator may not provide an image of the book – if they choose to not provide a picture, a default one will be displayed on the browse page. The administrator will click update to add the item to the inventory.

If the ISBN is found in the Inventory database, then the administrator will be able to edit the information from the element in the database. The fields shall display the information contained in the database. The system will ensure that all fields are valid before they click update to update the item information. Alternatively, the administrator may click delete to remove the item from the database.

Figure 8:

Why Not Zoidberg?		Logout	View Account
Book Title		Quantity: <input type="text"/>	Checkout
Book Title		Quantity: <input type="text"/>	
Book Title		Quantity: <input type="text"/>	
Book Title		Quantity: <input type="text"/>	
Update Shopping Cart		Total Amount: <input type="text"/>	
About Us   Copyright			

This is the Shopping Cart page. This page will list all the books that the user has placed into their shopping cart. They may also update the quantity of the books that are currently in their shopping cart by changing the quantity in the corresponding text box. The system will validate similarly to the “Browse” item page, so that the quantity is a positive integer (or 0 if they wish to remove an item). If the user has no items in their shopping cart, the page will say “There are no items in your shopping cart”. The user may also click “Checkout” to purchase their items.

Figure 8.1:

## Checkout

Book Title	Quantity	Price
------------	----------	-------

Your Balance:

Total:

Add Funds

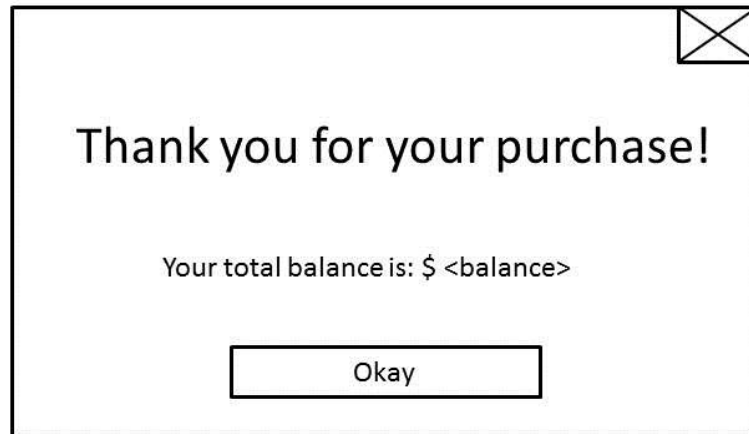
Checkout

This is the “Checkout” page, where the system will display all of the books that the user wishes to purchase, the quantities of each book they would like to purchase, and the price per book.

-Below the list of books, the system will display the user’s balance and the total price for the order. There will also be options to add funds if the user realizes there isn’t enough money in their balance to make a purchase.

-The user can select checkout to initiate the purchase. The system will validate to make sure the user’s balance is greater than or equal to the total amount. If the user’s balance is less than the total, then they will be returned to the “Checkout” page and prompted to add funds to their account. If the user’s balance is good, the system will update the inventory and customer database records and will forward the user to “Thank you for your purchase”.

Figure 8.2:



This is a notification to the user that the purchase was successful. The system will forward the user back to the home page when they select “Okay”.

#### 4. Data Validation

Figure #	Data Item	Data Type	Limits	Allowable Formats
1	search (bar)	tiny text	<ul style="list-style-type: none"> <li>non-null</li> </ul>	Any non-empty string
1.1	username	varchar	<ul style="list-style-type: none"> <li>8 - 20 characters (inclusive)</li> <li>Find in database</li> </ul>	Any non-empty string
1.1	password	varchar	<ul style="list-style-type: none"> <li>8 - 30 characters (inclusive)</li> <li>Find in database</li> </ul>	Any non-empty string
1.2	username	varchar	<ul style="list-style-type: none"> <li>8 - 20 characters (inclusive)</li> </ul>	Any non-empty string
1.2	password	varchar	<ul style="list-style-type: none"> <li>8 - 30 characters (inclusive)</li> </ul>	Any non-empty string
1.2	confirm password	varchar	<ul style="list-style-type: none"> <li>8 - 30 characters (inclusive)</li> </ul>	Any non-empty string
1.2	address	varchar	<ul style="list-style-type: none"> <li>Database limit of string data type</li> </ul>	Any non-empty string
1.2	city	varchar	<ul style="list-style-type: none"> <li>1 - 20 characters (inclusive)</li> </ul>	Any non-empty string
1.2	zip code	varchar	<ul style="list-style-type: none"> <li>Exactly 5 characters</li> </ul>	Character must be between 0 - 9
2	quantity	int	<ul style="list-style-type: none"> <li>1 - 99 (inclusive)</li> </ul>	Input must be between 1 - 99
3	search (bar)	tiny text	<ul style="list-style-type: none"> <li>non-null</li> </ul>	Any non-empty string
4.1	add funds	float	<ul style="list-style-type: none"> <li>0.01 to 999.99 (inclusive)</li> </ul>	Input must be between 0.01 to 999.99 (inclusive)

<b>Figure #</b>	<b>Data Item</b>	<b>Data Type</b>	<b>Limits</b>	<b>Allowable Formats</b>
6	insert ISBN	varchar	<ul style="list-style-type: none"> <li>10 characters</li> </ul>	Any non-empty string
7	title	tiny text	<ul style="list-style-type: none"> <li>255 characters</li> </ul>	Any non-empty string
7	author	varchar	<ul style="list-style-type: none"> <li>50 characters</li> </ul>	Any non-empty string
7	year published	varchar	<ul style="list-style-type: none"> <li>4 characters</li> </ul>	Input must be 4 digits 0 - 9
7	genre	varchar	<ul style="list-style-type: none"> <li>15 characters</li> </ul>	Any non-empty string
7	price	float	<ul style="list-style-type: none"> <li>0.01 - 999.99</li> </ul>	Input must be from 0.01 - 999.99
7	current stock	small int	<ul style="list-style-type: none"> <li>0 - 65,535</li> </ul>	Input must be from 0 - 65,535
7	summary	text	<ul style="list-style-type: none"> <li>0 - 65,535</li> </ul>	Input must be from 0 - 65,535 characters
8	update quantity	int	<ul style="list-style-type: none"> <li>1 - 99 (inclusive)</li> </ul>	Input must be from 1 - 99

## **Appendix A – Agreement Between Customer and Contractor**

We, the undersigned, agree as developers that we have fully understood all requirements which have been requested by our customer to the best of our ability. Our customer acknowledges that the current design is satisfactory and has been carried out and elaborated to the fullest extent. Any open issues related to this product will be resolved as soon as possible.

### **Team Signatures:**

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Christopher Raborg, Team Facilitator

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David Guldán, Requirements Leader

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Kevin Yu, Design Leader

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Zachary Hisley, Implementation Leader

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Matt Sperbeck, Delivery Leader

### **Customer Signature:**

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Ms. Lisa Matthews

## Appendix B – Team Review Sign-off

We agree as a team that we have documented the user interface design to the fullest possible extent and that we have all read the document. We shall consult the team and the customer to make said changes for the final product.

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Christopher Raborg, Team Facilitator

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David Guldan, Requirements Leader

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Kevin Yu, Design Leader

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Zachary Hisley, Implementation Leader

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Matt Sperbeck, Delivery Leader