

Javascript β (2 Points)

Empathy-Driven Redesign Using Component Libraries

[GitHub Classroom Starter Code for JavaScript \$\beta\$](#)

In this assignment, you will practice design thinking and visual design methods to improve upon Badger Bank. You will complete this assignment in three parts.

In the **first** part, you will practice using the "empathy" method (the think-aloud protocol) that we have discussed in class as a method that will give you the most bang for the buck in terms of understanding user needs, preferences, and behavior. Specifically, in think-aloud, you will (1) identify users who represent your target group of users, (2) identify/develop tasks that represent the functioning of the target system, (3) observe users as they perform the tasks, and (4) analyze your data to develop design insight.

In the **second** part, you will practice the ideation and visual design principles you have learned in class to turn your design insight in the first part into a redesign of the Badger Shop website you have created, expressed in a layout sketch.

Finally, in the **third** part of the assignment, you will implement the design you created in the second part using the Bootstrap component library. This three part assignment will take you through user research to ideation and from sketching to implementation of user-facing elements. Follow the instructions below to complete the assignment.

Part 1: Think-aloud

(0.1 Points) **Step 1. Identify users.** Who uses online shopping? Describe below the characteristics of this user group, identify one person (a roommate, a friend, or a family member) who might be willing to take part in your user research, and ask the person for their interest/availability. (If the person you identified is in this class, it is acceptable to swap roles.)

When it comes to online shopping, most people with disposable income and an internet connection in the United States do some or all their shopping online. In particular, those who value convenience over the traditional brick-and-mortar shopping experience tend to shop online. Also, shopping online can make finding obscure items an easier task than other alternatives.

My wife is willing to take part in user research.

(0.1 Points) **Step 2. Develop tasks.** Study the new Badger Shop application, Javascript **B**, to develop a set of tasks that users might perform with the system. Rank your list in terms of importance (simultaneously considering impact, frequency, prevalence) and identify the top three tasks. Describe each task in 1–2 sentences in a way that your users can understand.

Note: Your tasks can focus on the general visual and click-through navigation of the site and interact with personal information in a very limited sense.

Task 01: Contact site by phone or email

Task 02: View Account Information

Task 03: Subscribe/Unsubscribe

Task 04: View Orders and Subscriptions

Task 05: Download Order History

Task 06: Download Subscription Invoice

Task 07: View Family Plan Members

Task 08: Add Member to Family Plan

Task 09: Logout

Task 10: View Flash Sale

Tasks By Priority:

- #1: View Flash Sale
 - Find and view current information regarding flash sales in the Badger Shop.
- #2: View Account Information
 - Find and view current account information.
- #3: View Orders and Subscriptions
 - Find and view order history and subscription information.
- View Family Plan Members
 - Find and view members of your family plan.
- Logout
 - Log out of your Badger Shop account.
- Subscribe/Unsubscribe
 - Subscribe or unsubscribe to Badger Shop membership services.
- Add Member to Family Plan
 - Add a new member to your family plan.
- Contact Site
 - Contact the Badger Shop staff by email or phone.
- Download Order History
 - Download a history of all orders.
- Download Subscription Invoice
 - Download an invoice of all subscriptions.

(0.2 Points) **Step 3. Perform think-aloud.** Hold a think-aloud session with your representative user (e.g., over Zoom using screen sharing) *on a real shopping website* (NOT the Badger Shop interface). First describe to your user how the think-aloud will work (refer to the reading and class notes), describe the tasks one at a time (answer any questions you might have), and ask them to perform each task while they say out loud what they are thinking.

Pro tip: If you see your user performing the task but not speaking, probe them by asking what they are thinking or reminding them that they should be describing.

As you observe your user performing the tasks, take notes (using the other sheet) of important actions, problems they encounter, confusions they might voice, and so on. For anything that stands out, after each task, ask your user why they did that or said that. Your observations and notes will form your data. Include your data below.

Note: If your tasks involve entering or reviewing personal information, you can ask your user to stop screen sharing while they perform these actions in order to preserve their privacy.

We went with Target.com.

Task List:

- Find and view clearance sales
 - Was able to find clearance sales relatively quickly, though she found it in a different location than where I found it. (She found it under Categories, I found it under Deals).
 - She commented that she wasn't a fan of photos changing on items on mouseover.
- Find account settings (where you would change your password)
 - Was able to navigate through the account settings pretty quickly in order to find the password edit page.
- Find your order history in its totality
 - While able to find order history right away, in-store orders and online orders were separated, and she commented how she would rather they be condensed into a single window.
- Find memberships
 - Was able to find the memberships page, but had issues with Target Red Card and Red Circle program being in separate locations from the membership page. She felt things were too split apart, and it defeated the purpose of having a membership page for only one subscription.
- Find share partners
 - Found this relatively quickly since it was in the Account view. She found the program to be unnecessary and failed to see the value in it.

(0.2 Points) **Step 4. Create insight.** In your data (e.g., notes), highlight where you saw significant breakdowns in functioning, need for better functioning, or user preferences that would require an alternative design. Make a list of your findings as design recommendations.

Key Insight:

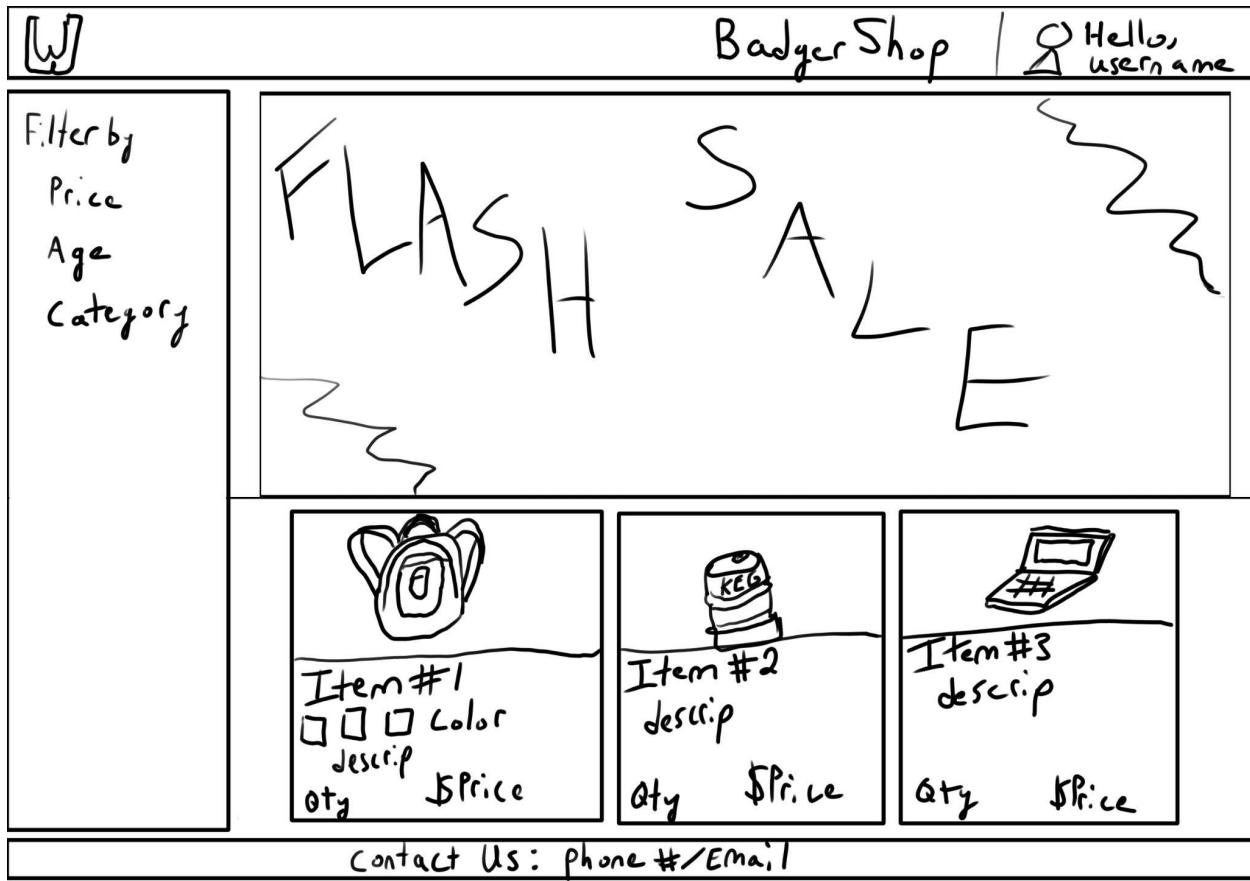
- Problem: The user disliked when similar tasks were spread out across the site (memberships, RedCard, Target Circle). The user also disliked when order history was separated by in-store/online.
- Solution: Make the membership page the primary hub to access RedCard, Target Circle, and other memberships. Merge the order history of in-store/online purchases, or at least make the default view be all orders.

Secondary Insight:

- Problem: The user found motion and transitions to be distracting on the site.
- Solution: Limit dynamic components on the site (eg. gifs, auto-playing video, image change on-hover, etc.) Or at the very least use them sparingly.

Part 2: Design

(0.4 Points) **Step 1. Visual Design.** Next, using knowledge of shopping operations from the think-aloud, you will redesign JavaScript **B** with the goal of improving its visual design. First consider what elements you must place on the canvas. All elements should have a function. If the original design included elements with no function or use, you can exclude them in your redesign. Next, consider the design principles, and ask yourself, “how can I direct user attention appropriately,” “do I need to create contrast between elements,” “how do I achieve unity,” and so on. You will need to go back and forth between the elements and principles. For example, you must determine what user attention should be directed to, such as a product photo, a button, or a paragraph of text, in order to place the focal point to it. Similarly, you should think about the composition of elements to create an appropriate level of balance on the page. Your redesign should be in the form of a digitally- or hand-drawn wireframe with annotations that justify the use of the elements and principles.





BadgerShop

Hello, username

Filter by
Price
Age
Category

FLASH SAL

Orders
Subscriptions

Logout



Item #1
 Color
descrip

Qty \$Price



Item #2
descrip

Qty \$Price



Item #3
descrip

Qty \$Price

Contact Us: phone#/Email



BadgerShop | Hello, username

Filter by
Price
Age
Category

Grid
- Geometric shapes
- Borders/Lines
- Symmetry/Balance

Eyes
FLASH Drawn
S
Here A
L
For
Emphasis E
then you
Contrast



Item #1
B.I. Dark
Color
descip
Qty \$Price
small muted
med dark



Item #2
Value
descip
Qty \$Price
look
here



Item #3
descip
Qty \$Price

Contact Us: phone#/Email



BadgerShop | Hello, username

Account
Orders
Membership

Account Information

Name: Text

Phone: Number

Email: Address

Subscription Status: Bool

Contact Us: Phone #/Email



BadgerShop | Hello, username

Account
Orders
Membership

Order History [Download ordertHistory](#)

order #: ~~~

Total: ~ OrderPlaced: ~ 

order #: ~~~

Total: ~ OrderPlaced: ~

:

~~~~~

~~~~~

Contact Us: phone #/Email



BadgerShop | Hello, username

Account
Orders

Membership
└ Subscriptions
Family Plan

Manage Your Subscriptions [Download Subscr. Invoice](#)

Next Automatic Payment: ~~~~~

Service	Description	Price	Subscription
~~~~~	~~~~~	~~~~~	<u>Subscribe</u>
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
~~~~~	~~~~~	~~~~~	<u>Unsubscribe</u>

Your Family Plan Members
Contact Us: phone #/Email



BadgerShop | Hello, *username*

Account
orders

Membership
Subscriptions
Family Plan

Your Family Plan

Add Member

Name	Email
wavy line	wavy line
wavy line	wavy line
wavy line	wavy line

Contact Us: phone #/Email

Extra Notes:

- Justification for Multiple Pages:
 - While my think aloud session indicated that too many different pages is a frustration to the user, my concern was largely that all information on the same page would distract and/or confuse the user and their intent.
- Reasoning for Separate Colors on sidebar:
 - Goal was to indicate to the user which step of navigation they currently are on.
- Reasoning for Large Headers:
 - Goal was to draw the users attention to the start of that column, as that is where each page's primary content is shown.
- Reasoning for Muted/Small Text:
 - For things like Next Automatic Payment, Unsubscribe, and Logout, I chose to mute the text in order to draw the user's attention away from these features, as we don't want the user to be reminded of auto-pay or to encourage unsubscribing/logging-out.
 - I'm aware that in some cases, the contrast of a single muted option actually draws more attention to said option. I'm not sold on my decision to mute the text of log-out.
- Reasoning for Dropdown Order Tables:
 - Goal is to avoid a cluster of visual information that is unappealing to the eye.

(0.2 Points) **Step 2. Specify color and type choices.** Finally, determine what color palette your redesign should follow. How many colors/shades will you use? Why will you use these colors? Keep design principles in mind when you are choosing colors. For example, using contrasting colors, you can create contrast and manage user attention. Additionally, determine what category of typeface and what font you will use, whether or not you will use multiple fonts on the page, and how you will parameterize each font. You may review the fonts in your computer's fonts folder (on Windows, go to "My Computer > Control Panel > Fonts" and select "View > Details;" on the Mac use the Font Book app) or the [Google Fonts collection](#) to give you ideas and get familiar with available typefaces.

I'll be using a monochromatic palette of Firebrick Red: [Color picker - Coolors](#).

These tones, tints, and shades all align with the school's colors, thus seeming a thematic fit.

The reds and whites also contrast nicely, as can be seen on sites like target.com.

Fonts:

- Shop Title: [Crimson Text - Google Fonts](#)
 - Has a formal look, similar to UW Madison text on their site logos.
- Default Font: [Signika Negative - Google Fonts](#)
 - Has a clean modern look. Tried this out instead of bootstrap's default and realized the site looked more crisp with this font.
- Carousel Text: Garamond
 - Would have used Crimson Text, but Paint3D (the software I used to edit the images) had Garamond, which is close enough to Crimson Text. The intent was the font on the carousel to act as a callback to the site name as an attempt at unifying the site.

Part 3: Implementation

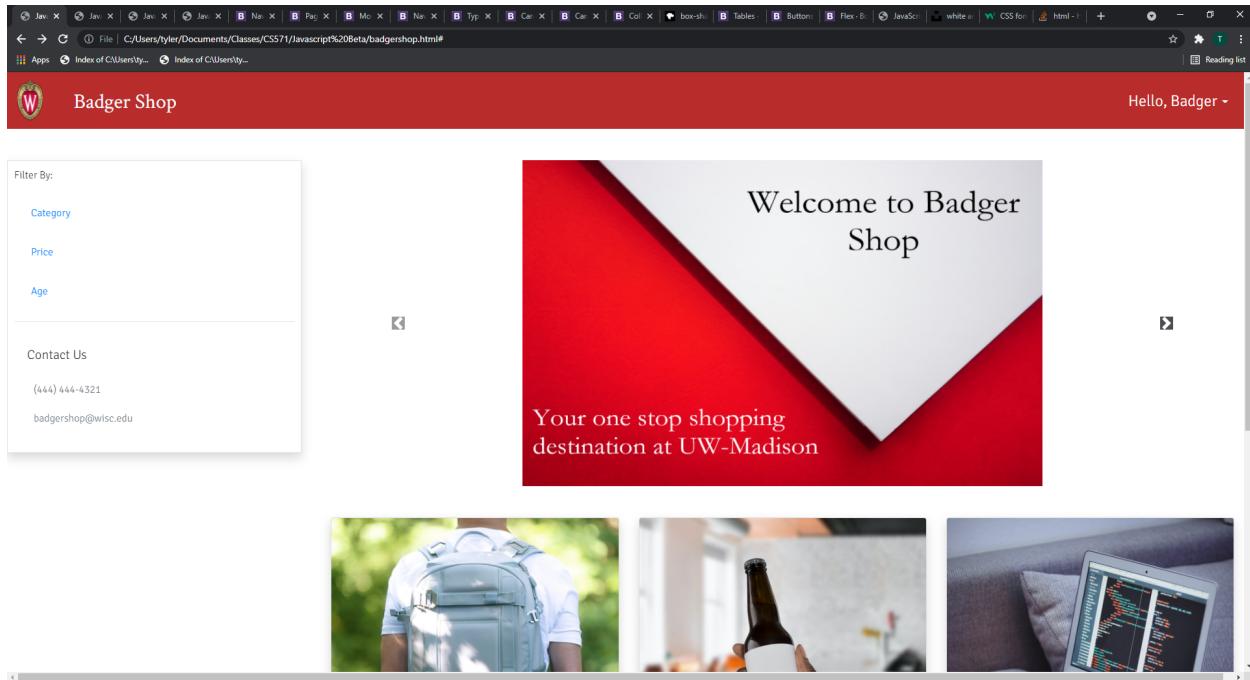
(0.2 Points) **Step 1. Inspect component library elements.** In this step, you will inspect the [Bootstrap](#) component library to see how you can realize the layout, visual-element, and color/type choices you have made in the previous part using the component library. You are not expected to change the library components to exactly match your design choices, but to identify which component elements might best meet your design goals. Below, copy the design and the choices you generated in Part 2 and annotate them to describe which components from the library you will use to accomplish your design goals.

Note: So I think I misinterpreted this section without time to correct my mistake. So I have a text-version that's a bit sloppier and less clear. Sorry. (Originally I thought you just wanted a list of components and their role.)

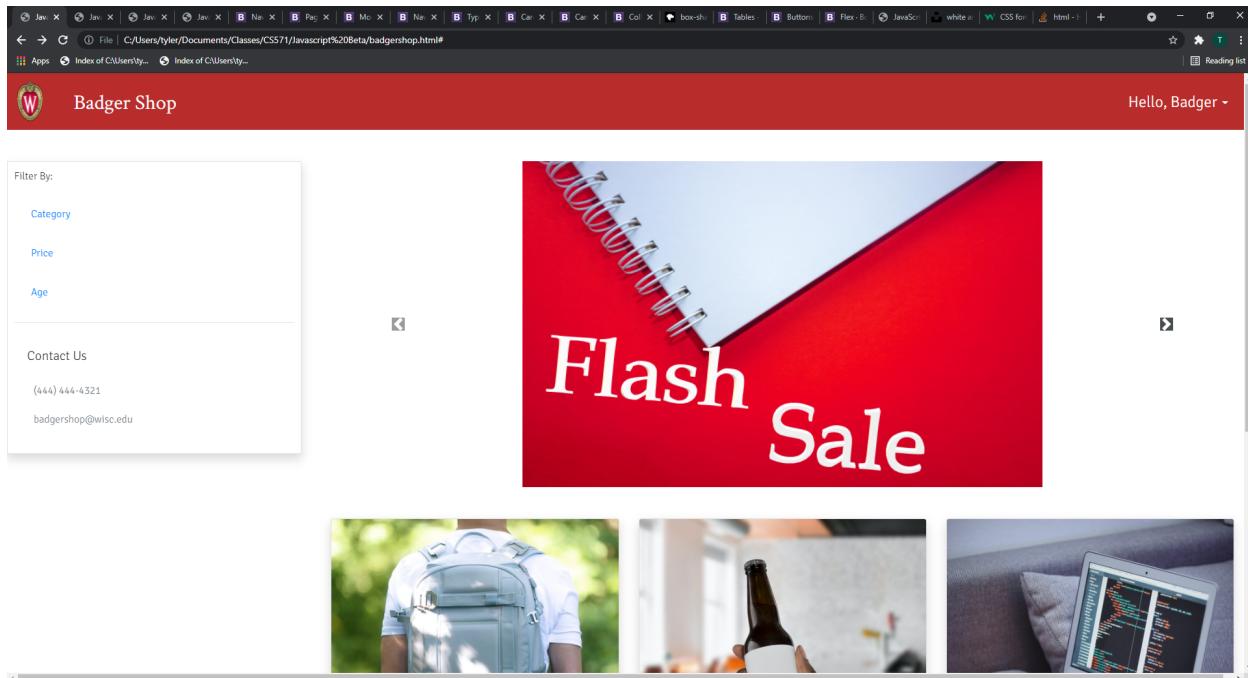
- Bootstrap Top Navbar:
 - Home of site title, UW Icon on the far left.
 - Bootstrap Dropdown: User tab navigation
- Bootstrap Bottom Navbar:
 - Reinforce Site Name and Jump to Top
 - Contact Us information
- Bootstrap Rows/Col:
 - Overall site layout (excluding navbar and footer)
- Bootstrap Carousel:
 - Flash Sale image transitions to show shop welcome page.
- Bootstrap Navs:
 - Side navigation on the left side of the page.
- Bootstrap Card Grid
 - Displays product cards.
 - Accordion Example
 - (<https://getbootstrap.com/docs/4.0/components/collapse/#accordion-example>)
 - Used as a dropdown to show order table information.
- Bootstrap Table
 - Subscriptions
 - Family Members
 - Order History
- Bootstrap Buttons
 - Add Member
 - Subscribe/Unsubscribe Button within Subscription Table

(0.6 Points) **Step 2. Implement your redesign.** The last step of this part will involve implementing the layout and components you had identified in the previous step. You will include Bootstrap in your project and use it to implement your design. You do not have to implement new *functionality*; focus on implementing your *design*.

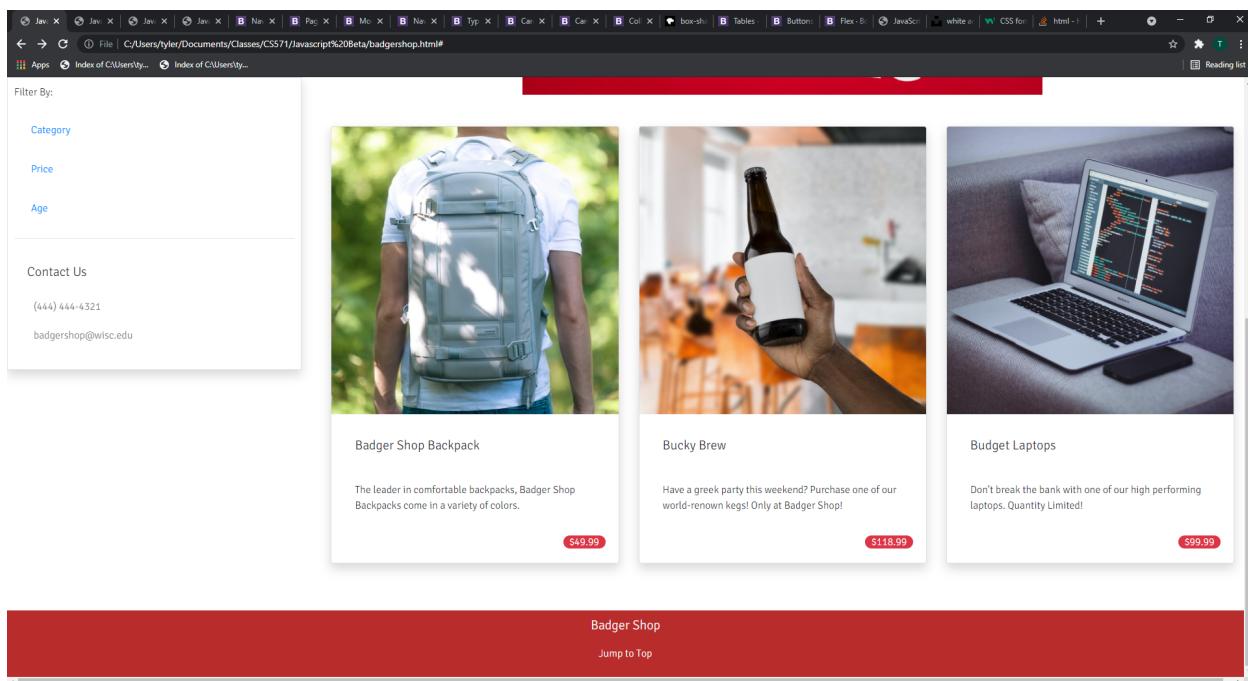
Your deliverable will be a completed version of this document, attached to the canvas assignment as a PDF, and the GitHub Classroom repository name and latest commit hash.



01: Home Page



02: Home Page



03: Home Page

The screenshot shows a web browser window with a red header bar containing the Badger Shop logo and the text "Hello, Badger". A dropdown menu is open on the right side of the header, showing options: Account, Orders, Memberships and Subscriptions, and Logout. The main content area has a white background and features a sidebar on the left with links for Account, Orders, and Memberships and Subscriptions. The main content area is titled "Account Information" and displays the following details:

- Name: Badger
- Email: badger@wisc.com
- Phone Number: (555) 555-1234
- Active Subscriptions: BadgerFlix, Holy Cow

The screenshot shows a simplified version of the account page. It features a solid red header bar with the Badger Shop logo and the text "Badger Shop". Below the header is a "Jump to Top" link. The main content area has a white background and contains the same sidebar and account information as the previous screenshot.

04: Account Page

Note: I chose to click the dropdown link in order to show how it looks. It isn't down by default.

The screenshot shows a web browser window with a red header bar containing the Badger Shop logo and the text "Hello, Badger". A dropdown menu is open on the right side of the header, showing options: Account, Orders, Memberships and Subscriptions, and Logout. The main content area has a white background and features a sidebar on the left with links for Account, Orders, and Memberships and Subscriptions. The main content area is titled "Manage Your Subscriptions" and displays a table of current subscriptions:

Service	Description	Price	Subscription
Badger Tunes	Unlimited music streaming	5.99	Subscribe
BadgerFlix	HD-quality video streaming	12.49	Unsubscribe
Badger Prime	Free same-day delivery of grocery items	9.99	Subscribe
Bucky's Cheese Club	Holy Cow	30.00	Subscribe
Holy Cow	\$10 ice cream vouchers every week	7.99	Unsubscribe

Next Automatic Payment: \$1,000.000

[Download Subscriptions Invoice](#)

The main content area also includes a section titled "Your Family Plan" with a "Add Member to Family Plan" button and a table showing family members:

Name	Email
Goldy Gopher	goldy.gopher@example.com
Pioneer Pete	pioneer.pete@example.com

05: Membership And Subscription Page

The screenshot shows a web browser window with the URL <C:/Users/tyler/Documents/Classes/CS571/javascript%20Beta/orders.html>. The page has a red header bar with the Badger Shop logo and "Hello, Badger". On the left, there's a sidebar with "Account", "Orders", and "Memberships and Subscriptions" sections, and a "Contact Us" section with phone number and email. The main content area is titled "Your Orders" and shows three order entries:

Order #	Order Placed:	Total:
Order #0616803	2021-09-03T12:45:55.622Z	66.79
Order #9033042	2021-09-16T06:48:57.633Z	211.29
Order #0616803	2021-09-03T12:45:55.622Z	66.79

At the bottom right of the content area is a "Download Order History" link. The footer is a solid red bar with the Badger Shop logo and a "Jump to Top" link.

06: Order Page

Note: Couldn't figure out a way to make the footer be fixed to the bottom without covering up information on the page.

This screenshot shows the same web browser window as the previous one, but the footer is no longer visible at the bottom of the page. Instead, the content area is taller, and the "Your Orders" table is positioned lower down. The rest of the page structure is identical to the first screenshot.

07: Order Page