MDIA 2536 - MIDTERM PROJECT
Cynthia Cheng (A01163647)
Chloe Choi (A01165453)

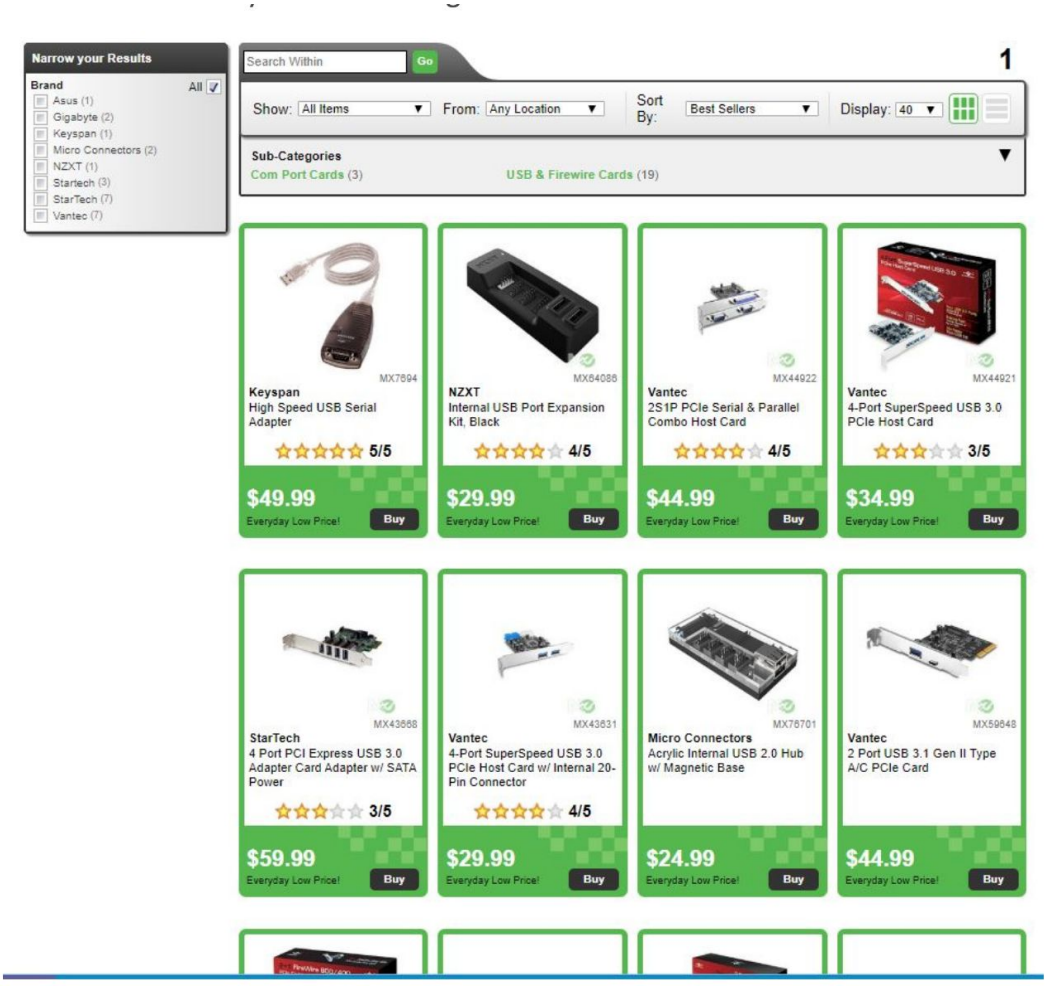
https://www.memoryexpress.com/

- **Product Design**
    - User Research
        - Survey
    - Personas
    - Problem
    - Solution (in a simple format)
- **Accessibility Report**
- **Usability Report**
- **Draft a potential solution**

SURVEY
Memory Express

- Sells computers and computer parts (laptops, monitors, speakers, usbs, hdmi cables, etc…).

Please answer the following questions based off of this screenshot, from the Memory Express website:



Questions:

1. Give a brief description of yourself (Please include your name, age, and occupation).
2. What are some (if any) negative aspects that you notice on this page?
3. What are some (if any) positive aspects that you notice on this page?
4. Do you think the layout of this page is effective?
5. Simply by looking at this page, would you consider visiting the full website to browse or make a purchase? Why or why not?

SURVEY RESPONSES

Survey 1:

1. Brenna Barrett-Lennard, age 24, ECE (Early Childhood Educator)
2. The "star" rating of each item is shown with stars but also written out in numbers; each individual item is titled with the brand of the item and not with what the item actually is.
3. There appear to be multiple options for narrowing your search parameters; each item shown has plenty of information available for a brief description.
4. The layout of the page is alright, but could be improved to make things clearer for the buyer.
5. I would maybe consider visiting the site if I was looking for something specific.

Survey 2:

1. David, 18, Student
2. The color palette/scheme is nasty as heck, every product item has the caption "Everyday Low Price!" and the green border around the products is very unappealing. The page number also seems to be in the top right which is very weird. When there's a lot of sub-categories; a lot of text links seem like they're going to be crammed at the top and that won't be good! Buy button also looks wack. Layout could be better.
3. You can filter brands with the left hand segment,
4. Not at all.
5. The website overall is horrendous not just due to the color but as well as the overall layout.

Survey 3:

1. Christin, 23, Student
2. Buy button below products is very small. Green block around product makes the product/website look cheaper which makes it feel unreliable. Brands on left side of the page are very small and hard to read. In general, all text on page is small and hard to read. Everyday low price beneath products is kind of distracting. Makes it seem like the product is on sale even though it's not.
3. I like the green and the fact that the rating is under the product so you know immediately whether to even bother looking at the product.
4. I think it's fine. It's straightforward and not difficult to scroll through/see products.
5. Not really. The website looks cheap/low quality and I would feel like I would be scammed or ripped off if I bought something on the website.

Survey 4:

1. Farhaz, 21, Student
2. Lots of white space, looks kind of 'bland' to be honest. Looks outdated, not a very modern design.
3. All the products are played out in a grid format (like other e-commerce sites) so it’s easy to understand how to click and view/buy a product
4. It served its purpose but could be better.
5. I would consider visiting the site if I needed to purchase something, but I would go to newegg first to compare prices

Survey 5:

1. Alison, 28, Graphic Designer
2. the buy button seems too small, it would be good to be able to narrow search results by star rating, the "everyday low price" under every price seems a little redundant
3. the items are clearly labelled, it's obvious what the brand name is
4. Not as effective as it could be -- I think with some tweaks to streamline it could be more effective
5. I don't think I would -- it reads as a "tech nerd" site and as an average layperson I would think it was above my knowledge grade

Survey 6:

1. Age 27; Occupation: graduate student (life science research)
2. Page is not very aesthetically pleasing, the large empty space on the left does not look good. Product names are a bit small. Checkered squares on the bottom right of each item look like missing images (like empty layer on photoshop).
3. Rating and price of each item is very clear and easy to see.
4. It's fine for simply displaying information. Layout is simple, search bar is easily seen.
5. No, nothing in particular stands out to me visually that would make me choose this over amazon or best buy. The only reason that would make me change would be if I knew the website offered better prices or a product not found on the other sites.

Survey: 7

1. Rebecca,24,sales
2. Font size is too small.
   Product categories seems unorganized.
3. Color coordination of the website is easy on the eyes
4. Seems unorganized
5. I would still make a purchase if they offer good price however the website looks like it doesn’t care about the design.

Survey: 8

1. Bob, 43, Programmer

2. The left-hand side of the page is not really in use and all that space is wasted.
   At the top of the page, "Search Within" is confusing. It looks like a global "search" but based on the text, it seems like it's a filter (I enter "monitors" and it only searches the current category that I'm in). If it's a filter, it's confusing why it's at the top of the page since that's predominantly where global searches reside.
3. Users who are just looking to browse, can easily do so. And they can control how the products are seen and how many are shown on the page.
   There is a good number of filtering options.
4. It's not terrible, but there could be improvement. Functionality is placed inconsistently. There are three primary behaviours on this page:
   a.) adjust how the page looks (change the # of results, show product images, etc)
   b.) searching for a product
   c.) filtering down the results
   It doesn't look like the designer has thought through the flow. Which does a user do first?
   Which do they do last? Which are a priority?
5. If the prices are cheap, the site runs fast, and I can find the product, yes.
   Regardless of how bad the design might be, if redesigning their site means they're going to increase all their prices, I'm fine with bad designs.

   AKA if design causes the product/service to become drastically more expensive, that's a symptom of "over-designing"

Survey: 9

1. Victor, 28, graduate student
2. The general format & layout is unattractive to me.
3. A few categorizations of limited brands are laid out on the side?
   Some ratings on some items?
4. It's dull and boring. Btw, I am color-blind to greenish colors.
5. I would never waste my time on such a website. Why? Refer to # 2 - 4 again.

Survey: 10

1. Hilary 29
2. The green color can not see the products and price properly. It is really hard to focus on the products that they are trying to sell.
3. The bar that helps to narrow my results. It is easy to see the number of different brand.
4. Yeah.
5. Nope. The way that represents the products doesn’t really attract me.

Survey 11:

1. Crystal, 25, software developer
2. It's really ugly and unappealing. Looks like something from another era. There aren't very many useful filters to select from (eg price?)

3. It's well organized. The information you need is easy to see from a glance (eg photo, price, product name, review, call to action, even the product SKU) and it's all very intuitive.
4. Yes, because it follows exactly what you would expect from a product list page.
5. yes I would check out this website. but I am pretty not picky about websites, if I need something and the price is right I will find a way to work around the site. the only thing that will make me 100% turn away is if the checkout does not seem secure

Survey Results Summary

Most of the participants think the “Narrow your Results” bar on the left hand side is useful, and that the general layout of the page is okay. Many people found the “Everyday Low Price” listed at the bottom of every product to be unnecessary, and doesn’t make much sense. Overall, the page’s visual appearance did not receive good reviews; there were a lot of negative comments in regards to the design aspects, including the page’s use of colour and font size. There was also a general consensus that the execution of the design makes the page look very outdated.

PERSONA

In order to create the persona, we examined our survey results and picked out the few potential users of memoryexpress.com. From there, we brainstormed ideas loosely based on those users, and built a persona that, we believe, best reflects an individual who would spend time and make purchases on the website. The following is the content included in our persona:



Name: Steve Miller
Age: 27
Character: Tech nerd
Occupation: IBM computer engineer
Status: Single
Education: Bachelor's degree in Computer Science, University of British Columbia

Location: Vancouver, BC

Motivations:

1. Challenging myself
2. Working for myself
3. Good quality product at the lowest price.
4. Helping people

Biography:

- Steve has been working as a computer engineer at IBM since graduating in 2015. He earned his position during a summer coop program, and the company loved him so much, they offered him a full time job at the end of the program. Steve is very tech savvy, and is a hard worker. Even though he is an introvert by nature, he has adapted to working with other people, and is a great team player. As a computer engineer, Steve likes to purchase computer parts; he spends a lot of time on various websites looking for ideal products at an ideal price. Because he is spending so much time on websites searching for

Brands:

- Microsoft
- Nike
- Harrypotter
- Github
- Revolve Coffee Shop
- Best Buy

Personality:

- I (81%)
- N (80%)
- T (72%)
- J (63%)

Goals:

- Building his own blog about electric devices
- Easy buying process on websites
- To find quality tech parts at lowest price

Frustrations

- Data crashes
- Hard to find the exact parts of his computer.
- Difficult to find computer parts of quality for his budget.

Accessibility Checklist

A checklist/guideline template for disabled users

Application/site: memoryexpress.com (specific screenshot)
https://www.memoryexpress.com/Category/AdapterCards

Visual Disability

Font Size

Observation: Every font size is smaller than 16px. E.g., “Narrow your Results” = 11 px. Product information and brand name = 12 px. “Sub-Categories” = 12px. Subheadings under search bar = 14px.

Comment: All of the fonts do not meet the requirement of 16px.

Grade: A / AA / AAA

Color Contrast

Item 1

- Observation: “Go” button and prices are white text on light green background.
- Ratio: 2.51:1
- Comment: The white and green contrast is very poor, and doesn’t meet the required 4.5:1 ratio
- Grade: A / AA / AAA

Item 2

- Observation: The text under “Sub-Categories” is green on a light grey background.
- Ratio: 2.2:1
- Comment: The light green text against the light grey background produces a poor contrast, and doesn’t meet the required 4.5:1 ratio. It can be difficult to read for visually impaired individuals, as it is also not easy on the eyes for normal vision individuals.
- Grade: A / AA / AAA

Alternative Texts

Item 1

- Observation: For all products: alt = “Product Image”

- Comment: The alternative text is not descriptive enough. The different products cannot be distinguished because they all have the same description. The alternative text should be more detailed, by stating exactly which product is being displayed and some information about the physical features shown in the photo.
- Grade: A / AA / AAA

Color Blindness

- Red-Blind / Protanopia
    - Comment: The green colors on the page appear dark yellow and gray. The green colors are unsaturated. More difficult to read the text and for stars, the contrast is not enough.
- Green-Blind / Deuteranopia
    - Comment: The green/red colors on the page appear dark yellow and gray. The green colors for price, Everyday Low Price and buy sector, because of its high saturation, it looks more clear than the original text, but the others are poor contrast.
- Blue-Blind / Tritanopia
    - Comment: The green colours become low chroma turquoise. Only black, grey, and red reveal the same as its original setting.
      In general, it looks more calm and little bit darker. It's not the best, but it's better.
- Red-Weak / Protanomaly
    - Comment: The red colours on the page appear orange, and the light orange colours appear even lighter with a hint of green. Green appear more darker. Blue reveals as more garish blue.
- Green-Weak / Deuteranomaly
    - Comment: Almost the same as its original.
- Blue-Weak / Tritanomaly
    - Comment: Colors are almost the same as the normal vision version. However, in general, the colors are darker than the normal vision version.
- Monochromacy / Achromatopsia
    - Comment: The entire web page is unsaturated, and the poor contrast of the text is shown. Some of the thinner light grey text, like the model name next to the product image is almost not visible.
- Blue Cone Monochromacy / Achromatopsia
    - Comment: The colors of the page remain about the same hue, but everything has a low saturation, so the contrast is very low.

Reading Disability

Font Choice

Observation: Arial, Verdana, sans-serif.

Comment: The font choices are good - the sans serif fonts make the text easy to read on the screen.

Grade: A / AA / AAA

Word Choice

Observation: “Search Within” placeholder in the search bar, searches for items within the current category. Subheader for filter “From”, shows a list of store locations once clicked on. “Manufacturer A-Z” and “Manufacturer Z-A” under drop down menu “Sort By” filters search by brand name (alphabetically).

Comment: There are many poor word choices used in this section. “Search Within” is confusing - search within what? It would be clearer to say “Search Within Category”/ “Search Current Category”. The filter, “From” does not make much sense - from what? We had to click the filter to see what was in the drop-down menu in order to understand what “From” meant. Using the term “Manufacturer” in place of “Brand” also causes confusion; we did not know the purpose of the filter until we clicked on it and saw the results. Overall, word choice is not effective at all.
Grade: A / AA / AAA

Typography

alignment - line spacing - paragraph spacing - paragraph width - heading - background - horizontal scroll

Observation: No horizontal scrolling is required. Headings and subheadings are small. Line spacing is less than 1.5 times the line height. Background behind the products is white.

Comment: No horizontal scrolling makes it easier to navigate. Headings and subheadings are unsatisfactory - they should be larger and clearer for the user to see, and know what information they are looking at. Line spacing is too close; users with dyslexia may have trouble reading the text

Grade: A / AA / AAA

Motor Disability

Simple Interactions and Gestures

Item 1

Observation: When the cursor hovers over the search bar, <Product Search>/<Search Within>, the cursor changes to I-beam text cursor. Also, when the cursor hovers over any clickable area, it changes to a pointer. However, when the cursor hovers over the drop down menu, no changes occur and the cursor remains as a pointer.

Comment: It helps to let users notice immediately whether they can click or not, with the exception of the drop down menu.

Grade: A / **AA** / AAA

Item 2
Observation: When the cursor hovers over product section including the product image, product name, description, and price tag, the dark green part turned bright green.

Comment: This allows users to focus on the product of their choice, among other complex information.

Grade: A / AA / **AAA**

Time Sensitive Activities

Observation: There are no time sensitive activities.
Comment: It is good for users. They can stay as long as they want to stay to take a look at products

Grade: A / AA / **AAA**

Prevent Human Error

Observation: There are no forms to fill out.
Comment: If you click on the wrong button you can go back to the homepage or previous page.

Grade: A / AA / **AAA**

Easy Key Access

Observation: The user can navigate the website using the tab, enter/return key and arrow buttons.
Comment: The use of tab, enter/return and arrow buttons provides quick access.

Grade: A / AA / **AAA**

Responsive Design (laptop & iPhone)

Observation: The layout of the website on desktop view is different from mobile view. It shows hamburger on the top-left section and cart image, chat window, and search icon on the top-right section.
Product images are aligned in one column instead of four, and the drop-down menus are located on the top and bottom of the webpage, just like the desktop version.

Comment: The responsive design allows users to navigate the webpage on their phones more easily than if the page was not responsive. There's no need to scroll horizontally due to the responsive design.

Grade: A / AA / **AAA**

Cognitive Disability

Navigation

Observation: The "Narrow your Results" section can filter out products by brands. The "Sort By" section can filter products as well, by price, reviews, and order of brand names.

Comment: The ability to filter results is helpful, because the user will be shown a smaller selection of options that are related to what they are looking for; it's not as overwhelming as it could be when all products are listed. Although the filters are great for navigation, they can be better organized.

Grade: A / AA / AAA

Unexpectancy

Observation: The buttons available on the page perform the functions they each are meant to. The "Search Within" bar searches for products within the current category. The "Sort By" section filters out products by whichever element the user selects under the drop-down menu. There are no unexpected pop ups that appear on the page or random movements across the screen, or sudden changes that occur without the awareness/ understanding of the user.

Comment: The expected functions work to prevent confusion for any user, not just those with a cognitive disability. The only unexpected aspect is the readability of the information given, however, in that case the function is unknown, not unexpected. The user may not know what the function of a specific button is until clicking on it to find out, due to some poor word choices.

Grade: A / AA / AAA

Time Allocation

Observation: There are no time sensitive activities, however, the word choice is poor

Comment: The poor choice in wording may cause users with a cognitive disorder to require more time in order to understand how to navigate the website, and to comprehend what information they are given.

Grade: A / AA / AAA

Moving / Animated Objects

Observation: There are no moving objects in this section of the website.

Comment: The lack of moving/ animated objects makes it easier for individuals with a cognitive disorder to use this section of the website. They can focus on the products and product details without moving distractions.

Grade: A / AA / AAA

Seizure Inducing Activities

Observation: There are no flashing bright lights or patterns used in this section of the website.

Comment: The lack of flashing bright lights/ patterns is good, because it is safe to use for those who are at risk of seizures.
Grade: A / AA / AAA

Hearing Disability

Transcripts / Closed Captions / Subtitles

Observation: This section of the website does not contain any audio files.

Comment: Individuals with a hearing disability can fully use this product section of the website like anybody else can, which is good.

Grade: A / AA / AAA

Usability Report

Tap Targets

- Discoverability
    - Mental Models
- Clickability
- Readability
- Reachability

Item 1: “Narrow your Results” section

Observations:

- Discoverability - The “Narrow your Results” section is located on the left hand side of the page, and separated in its own container.
- Clickability - The buttons either have some shadow effect and depth.
- Readability - The section title is “Narrow your Results” on desktop, and “Filter Results” on mobile.
- Reachability - This section is in the middle-right of the page on mobile, in the natural reach section of the phone screen.

Comments:

- Discoverability - After checking other tech website layouts, it was concluded that having the “Narrow your Results” section on the left hand side is quite typical. This allows users to locate the section easily.
    - Users’ cognitive load is decreased due to the common locations chosen for most of the page’s important elements.
- Clickability - The shadows and depth used for the buttons show that they are different from the other elements on the page, and are clickable.
- Readability - Both of the names are fine, but using “Narrow Search Results” and “Filter Search Results” would probably be clearer.
- Reachability - The filter is easy to reach, because it’s in the green section for left hand, right hand, and both hands.

Item 2: Filter section that is displayed horizontally across the top of the page.

Observations:

- Discoverability - The filters are shown horizontally across the top of the product page.
- Clickability - The filter sections at the top of the page have rounded corners and little up and down arrows inside each container.
- Readability - The filters read, “Show”, “From”, “Sort By” and “Display”.
- Reachability - This section is located in the upper middle area of the phone screen (not way up at the top vertically, just above center).

Comments:

- Discoverability - Some filter options are commonly listed along the top of the product page which makes it simple for users to find.
- Clickability - The rounded corners and arrows help indicate the clickability of each filter section.
- Readability - The word choice is very poor; it is difficult to understand what “Show” and “From” is meant for, until they are clicked and the drop-down menu shows what’s inside each section. “Sort by” is clear. “Display” should say “Display format” or “Page layout” instead, to avoid confusion.
- Reachability - The section is located mostly in the green/ natural reach area of the phone screen, and a little bit towards the stretching area, for left hand, right hand, and both hands.

Item 3: Search bar, “Go” button

Observations:

- Discoverability - The search bar for the category is at the top of the product page, above the filter section, and the “Go” button is right next to the search bar.
- Clickability - The “Go” button has rounded corners and uses a different colour, to indicate the element is clickable.
- Readability - The search bar reads, “Search Within”, and the search/ enter search button reads, “Go”.
- Reachability - The search bar and “Go” button are located at the top left area of the phone screen.

Comments:

- Discoverability - The search bar is located in a common area of the page, as users would expect.
- Clickability - The search bar has placeholder text that is lowered opacity and the cursor changes when hovering over the box, which indicates text can be written inside. The “Go” button has rounded corners and uses a different colour to indicate that it is a button to be clicked.
- Readability - The search bar should read, “Search within category” instead of “Search Within” which can get pretty confusing (search within what?). The “Go” button is fine since it’s right next to the search bar, however to make it clearer, the button could read “Search” instead.
- Reachability - This section is located in the stretching area of the phone screen for left hand, hard/ stretching area for both hands and right hand.

Item 4: “Buy” button

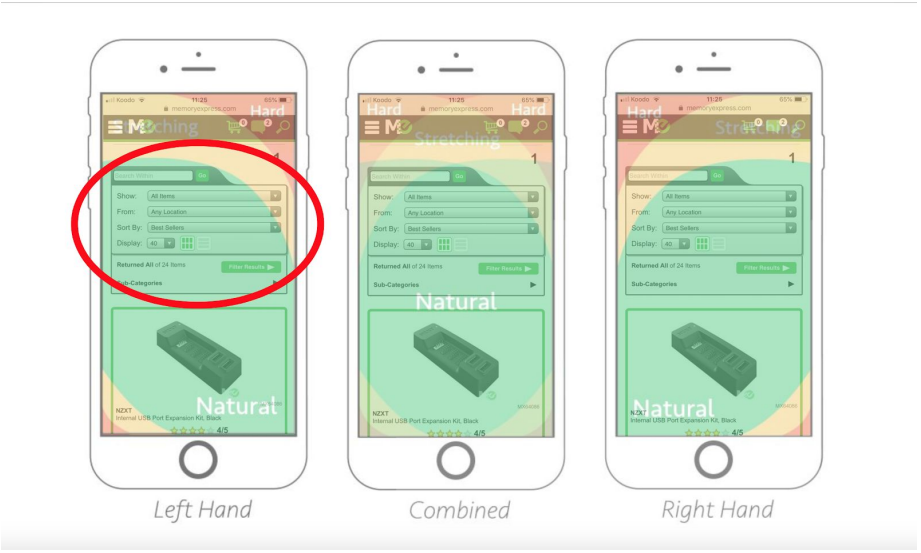
Observations:

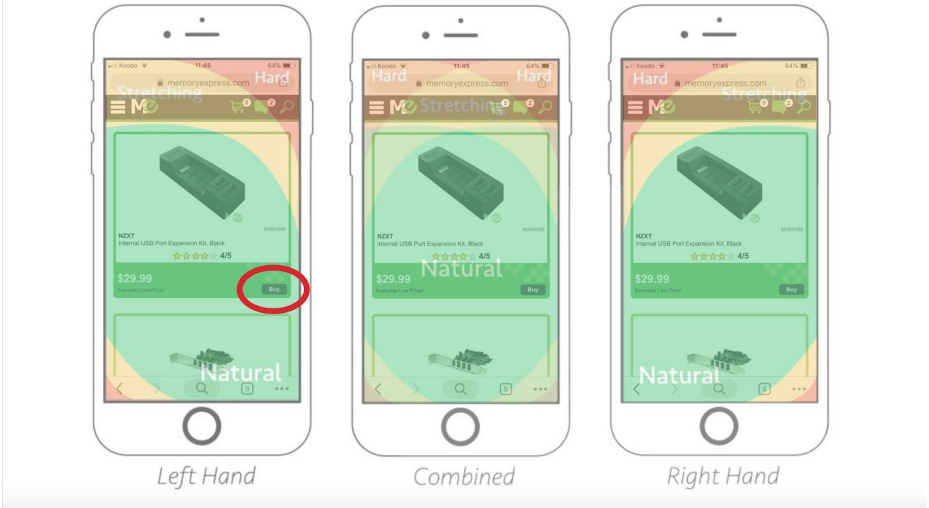
- Discoverability - located at the bottom right corner of each product.
- Clickability - the button has rounded corners and is in a different colour.
- Readability - The button reads, “Buy”.

- Reachability - The exact location of the button depends on where the user stops scrolling on the phone. However, regardless of scrolling, the button will always be on the right hand side of the phone screen. With the full product in view, the button is somewhere on the middle-right/ lower-right hand side of the screen.

Comments:

- Discoverability - This is a typical location for the button, and users can find it easily (a part from the size being too small).
- Clickability - The rounded corners and different colour used for the button makes it clickable.
- Readability - Using “Buy” may lead users to think once they click on it they have instantly purchased the item, or that it will take them to the checkout page immediately. Instead, the button should read, “Add to cart” or something along those lines.
- Reachability - The button is located within the green/ natural area of the phone screen for left hand, both hands, and right hand. This allows users to press the button easily.





Information Architecture

- Clarity
- Findability
- Memorability & Scannability

Item 1: “Narrow your Results” section
Observations:
- Clarity: Shows the title of the section; lists filter options underneath the title.
- Findability: located at the left hand side of the screen for every product section.
- Memorability & Scannability: This section is located in typical area of the webpage.

Comments:
- Clarity: It is not overwhelming; there isn’t too much going on in this section, so it’s not difficult to navigate.
- Findability: easy to locate
- Memorability & Scannability: Due to the typical location and layout of this section, users can easily navigate from previous experience.

Item 2: Filter section that is displayed horizontally across the top of the page.
Observations:
- Clarity: There are four subsections. Each section has a name and a drop down menu.
- Findability: This section is located across the top of the page, horizontally.
- Memorability & Scannability: This section is located in a typical area of the webpage.

Comments:
- Clarity: There aren’t too many subsections shown, so it’s not overwhelming to look at.
- Findability: It is easy to locate, because it’s contained within its own section at the top of the page.
- Memorability & Scannability: Because the section is located where it usually is on most websites, uses can navigate this section easily.

Item 3: Listed products
Observations:
- Clarity: The products are separated into individual containers, and spans four columns across the webpage. The product brand, name, review, price, and purchase button are within the specific product container. “Everyday low price” is also written at the bottom of each container.
- Findability: This section is located at the center of the page. The product brand and name and written next to each product, with the review and price directly underneath, and the “buy” button is at the bottom right corner of the container.
- Memorability & Scannability: This section is located in a typical area of the webpage.

Comments:
- Clarity: There is not too much product information, so it’s not too overwhelming. However, “Everyday low price” written for every single product can be overwhelming to look at.

- Findability: The section cannot be missed by the user. Each product information is easy to find (in terms of location; disregarding contrast/ text size).
- Memorability & Scannability: Because the section is located where it usually is on most websites, and the information provided for each product is as expected, users can navigate this section easily.

Microinteractions

Item 1: “Narrow your Results”, brand checkbox.
Observations: If the user clicks the checkbox next to a brand, a loading icon appears on the page.

Comments: The icon makes the user aware that the page is/ results are loading.

Item 2: “Drop Down menus”
Observations: When the user clicks the drop down menus located on the top and bottom of the page, the user can see some options and when hovered over, the box color of the selection changes from default gray to blue.

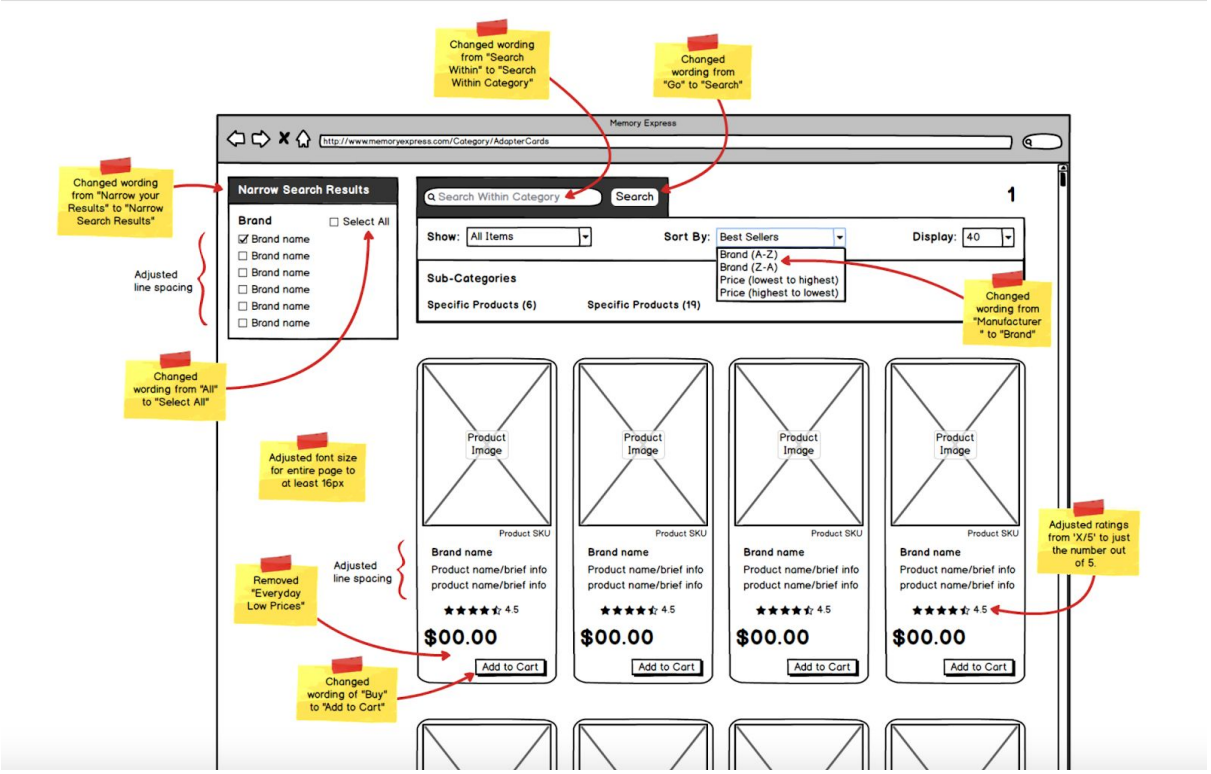
Comments: It is a good example of clickability. It allows the user to instantly recognize and click without human error.

Forms

Observations: There are no forms in this page.
Comments:

Solution Draft (Wireframe)

The wireframe we drafted for a potential solution is a direct result of combining the information obtained from our survey outcomes, and the accessibility and usability research checklist. As part of the draft, colours were not included, but if a style guide was to be created, the use of green colours on the original page would be reconsidered, as it was an issue noted in the survey responses. In this wireframe, the font size was adjusted to at least 16px, the “Everyday Low Price” area was removed as requested by survey participants. The filter section with drop down menus has been decluttered; the unnecessary elements have been removed (“From”). From the accessibility/ usability checklist, we found that a lot of the wording was quite unusual, so we changed some words for the wireframe to improve readability.


Changed wording from "Search Within" to "Search Within Category"
Changed wording from "Go" to "Search"
Memory Express
http://www.memoryexpress.com/Category/AdapterCards
Changed wording from "Narrow your Results" to "Narrow Search Results"
Narrow Search Results
Search Within Category
Search
1
Brand
Select All
Brand name
Adjusted line spacing
Show:
All Items
Sort By:
Best Sellers
Display:
40
Brand (A-Z)
Brand (Z-A)
Price (lowest to highest)
Price (highest to lowest)
Changed wording from "Manufacturer " to "Brand"
Sub-Categories
Specific Products (6)
Specific Products (19)
Changed wording from "All" to "Select All"
Adjusted font size for entire page to at least 16px
Product Image
Product SKU
Brand name
Product name/brief info
product name/brief info
4.5
$00.00
Add to Cart
Adjusted ratings from 'X/5' to just the number out of 5.
Removed "Everyday Low Prices"
Adjusted line spacing
Changed wording of "Buy" to "Add to Cart"