

# Codesters

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*Final Project Report  
for  
Wild Cider, LLC  
Web Design*



INFO 1300  
Cornell University  
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## *A. Client Requirements*

### Client and Goals:

Our clients are a group of five Cornell undergraduate students enrolled in BEE 4890 - Entrepreneurial Management for Engineers this Fall 2013 (E. Keller, A. Ramesh, E. Buell, M. Millard, and V. Mijares). Their whole course revolves around an original entrepreneurial business venture, which they agreed from the start of the semester to be **Wild Cider**, LLC--a company that sells an organic hard cider (created by the team members themselves). The company's mission is to provide upstate and central New York with premium hard apple cider that is locally and organically grown and never produced from concentrate. They use apples that would otherwise go to waste on New York farmland by turning it into a high quality, low cost product. The clients' target audiences are local people of Ithaca and surrounding central and upstate New York. They have specified that they are particularly interested in targeting environmentally friendly people and those who use organic products regularly.

Their main goals for a website, and in extension ours, was to have a small and simple site. They were very open minded and not familiar with web technology, which essentially gave us a blank slate for designing a website, as long as it met the following criteria:

- To advertise and promote to their target audience and others, who are of legal drinking age in the U.S.
- To convey detailed information about how their cider is different (i.e. organic) from similar products
- Top-page navigation bar
- Design that reflects company values

### Content:

The entire site is used primarily as a means of advertising and giving information about Wild Cider's sole product: organic hard cider. Thus the content includes text descriptions of the product, how the final product comes about, how it is different from other hard ciders out on the market, company overview, and short biographies of the company staff (team members). There are a plethora of photos and images (.jpg and .png) depicting the product, process, team members, locations, etc. to engage the interest of visitors. There is also a short video (.mp4) showing a phase in the cider making process. In addition, our site includes a contact form (as a separate page) and PHP age verification system. When the user first navigates to our site, it allows only those who enter a date of birth equal to or greater than 21 years of age to access the rest of the site.

### Scale:

Our website is relatively small, in terms of the number of visible pages—since our clients are only selling one product. We have 6 web pages on our desktop site that visitors can directly access. The first is the age verification page users are directed to when they first enter our site. The other 5 pages link directly from our navigation bar. The “hidden” pages, that are only accessed when a unique input is entered, are the thank-you.php page (where the user is directed to after he or she submits a message) and the denied.php page (where the user is direct to if he or she is under 21 years old). In total, we have 8 visible pages for our desktop website. In addition we have an additional 8 mobile web pages (created specifically for browsing on smartphones) that convey almost the same content on the desktop site, but have distinct styling optimized for mobile browsing. Therefore the total amount of unique visible pages for this web endeavor is 16.

## *B. Personas*

### Persona One:

Elizabeth Applestein is an environmentally conscious female Junior Cornell student of legal drinking age who wishes to find more apple products that do not adversely impact the environment. Elizabeth also wishes to find a supply of alcohol for her respectable sisters at her sorority to enjoy. Imagine her amazement when she discovered a website that promised a product that could achieve both of her desires: Wild Cider hard cider!

Elizabeth is not the most technologically able person around, having spent several hours trying to get her laptop connected to the Internet when she first moved into Cornell. The only thing she is really proficient at is using websites like Facebook, and at first, she was afraid that Wild Cider's website would be too hard to navigate. "Oh jeez, where can I find out how they make these ciders? How do I know if this cider truly is organic?" That's when she noticed that there was a Process button on the navigation bar, and upon clicking it; she received all the information she needed. "Wow, this group's really transparent about how they make their cider. And that price is really cheap for something that's organically made!" Excited, Elizabeth decides to click on the Product page, where she can find information such as how the cider is "touted as a gluten-free alternative to beer" and that she is truly "supporting a local green product."

### Persona Two:

Sebastian Grandsmith is an experienced male bartender in his early 30s at a local College Town bar, and he's looking for a more unique product that is not widely available across the nation in order to give the bar that special feel to distinguish it from other bars in the area. He's searched quite a few places, but most of the "unique" products he's found were available elsewhere in the state, not what he wanted. However, as he was browsing a list of local businesses in the Yellow Pages, he found Wild Cider, apparently a local business that makes all of its cider organically. Curious, he decided to check out the web page listed to see what they have to offer.

Sebastian is not a newcomer to computers, having imported many different types of liquors online from various states and ordered special tools that are custom-made for his expertise. Once he logged onto his computer and typed in the address to Wild Cider, he immediately opened two tabs: the About page and the Contact page. "If they are worth contacting, they will be transparent about who they are, and should give me enough information to paint me a picture about themselves." What Sebastian found pleased him, as the owners of the website were not ashamed to admit that they started the business as college students, which showed good initiative on their part. He had opened the Contact page, on the other hand, in order to inquire about how he might be able to order cider in bulk, as it would not be feasible for him to buy individual bottles if he wanted to make it a staple at his store.

### How Did We Get This Data?

When talking to our clients, they furnished us with a lot of information about their business and target audience. In particular, our clients described a target audience of environmentally conscious people who want to support local products and another possibly intersecting group they called the hippy population along with "hipsters," or in this case, a group of people who wanted to feel special in supporting a product that is unique and not mainstream. Elizabeth and Sebastian, then, are two personas that we came up with who would fit one or both of these groups, with Elizabeth leaning towards the supporters of the environment and Sebastian representing some of the hipster audience our client so earnestly desires. Not only that, they wanted to emphasize ease of use when it comes to using that website, so Elizabeth represents

some of the more technologically inept guests while Sebastian is more indicative of the hip, tech-savvy audience who knows how to use the internet.

### *C. Information Architecture and Navigation*

Our website is divided into five pages: Home, Product, Process, About, and Contact. The pages are divided by category (product, process, about) and ordered by importance to the user, a continuum information organization. The home page quickly introduces the theme of the product to the user, with no overwhelming information. This page advertises the product's slogan with an image gallery and a background of apples to illustrate the nature of the product: a natural, green "Wild Cider." The simplicity of this home page also draws attention to the navigation bar, forcing the user to recognize and use the navigation bar to travel to other pages. This allows the user to always have the navigation bar as a safe place to return to, since it will persist, exactly as it appears, across all pages.

The Product page describes the product and explains the benefits of choosing this product over competing ciders. The benefits and testimonials appear on this page because they supplement the description, so that this page not only explains what the product is but why a user should buy it. One such advantage is that Wild Cider is a green product, organically created from otherwise unused apples. This process is explained in order to emphasize the company's commitment to eco-friendly practices. However, it is described in a separate page so as to not overwhelm the user. The Product page is meant to advertise Wild Cider without overwhelming the user with unwanted information.

The Process page comes next, for consumers who are interested. This page contains only a description of the process and a video, so that users who are not interested in the process and do not visit this subpage do not unwittingly miss any information. The process warrants its own category because it doesn't focus on the product, but rather how the final product comes about. This process continues the theme of environmental friendliness to further appeal to the expected user. Users such as Elizabeth above would love to find out how this organic cider is made. Making the process its own page also marks it as an "optional" page, since uninterested users could harmlessly skip over this page.

After all information about the product is finished, then there is a subpage about the company and its members. This page is least important to the user since, as a consumer, he cares more about the product, the thing he is actually paying for and ingesting, than the people who made it. This page is available however, to increase the intimacy between the company and the consumer. This would attract customers such as Sebastian above, who are looking for a transparent and pure company. With circular, cute pictures of the company members, this page shows that the company is not a corporate soul prison seeking only money but rather a small team of environmentally conscious college students with a mission. Since the expected customer is an eco-friendly hipster fighting against major corporations, this type of grassroots approach should appeal to them.

The Contact page comes last primarily because it is least important and partly because of convention. It is least important because only a user who is already interested in the product would contact the company. It is made available to the user so that if a user wanted to, he could easily send complaints or remarks to the company members. For example, users like Sebastian above, who wanted to inquire about bulk orders, have access to communication with the company about their unique situation. With a company that sells product, it is necessary to have an independent contact page so that a user with the sole intention of contacting the company can immediately do so. Therefore, it is its own category, readily available in the navigation bar. Users are not expected to often contact the company, so it is last in the navigation bar. The contact form itself is painless, requiring only a name and email address to send a message. This allows customers to easily communicate with the company without running into additional roadblocks.

The navigation bar for the site includes the company's logo and links to these five pages: Home, Product, Process, About, and Contact. Clicking on the logo just links to the home page, as convention dictates. This bar is large to force the user to notice it. Even a technologically inept user like Elizabeth above would notice this bar and realize it's for navigation. This navigation bar appears in the same space on every page to provide stability and a constant place to return to if a user is ever lost. Hovering over any link highlights that link; this link remains highlighted after the user travels to that page. This prevents confusion by allowing the user to always see which page he is on. (Initially entering the site, none of the links are highlighted because the user has not clicked on a link yet.) There are no links to hidden subpages in the content section of each page. The navigation bar links all pages. This allows the user to easily find specific content without passing through other pages. Furthermore, the navigation bar is prominent and simple enough for additional sub-navigation to be unnecessary.

The navigation bar was built primarily using PHP. An array, `$img_name_array`, was used to link each needed image with the image name, allowing us to easily alter image names by changing values in this array. A variable, `$current_page`, is instantiated at the beginning of each page (before including "navigation.php") holding the name of the current page. This value is later used in navigation.php to determine which image link (Home, Product, Process, About, or Contact) to highlight. navigation.php then uses PHP to loop through an array containing the names of all the pages and creates the links, using images accessed using `$img_name_array`. The use of these arrays to store the names the page names and image names allows these names to be easily changed later in time. The PHP used to generate this navigation bar is robust.

#### *D. Interactive Elements*

Our website makes use of a deluge of PHP code. Specifically, we wrote custom PHP for our age verification system. We did this because the website is advertising hard cider, which contains alcohol. Therefore, any underage users (under 21 years of age) are denied access to the site. Our first page requests the user's birth date through an HTML form (the input masking is achieved using jQuery acquired from Josh Bush, MIT License). Upon submission, the user is then redirected to our home page, which does server-side validation on the birth date, confirming that it is of the correct format before calculating the user's age. If the input is malformed or if the calculated age is over 200, then we assume the user has made a mistake and so is redirected back to the age input page with more detailed instructions. Otherwise, if the user is under 21 years old, he is redirected to another page that informs him that he is too young to access our site. If the user is over 21 years old, he is free to roam our website. Age verification is included in navigation.php and so is done on every page, guaranteeing that an underage user cannot access the site. The age is stored in a `$_SESSION` variable so underage users cannot retry inputting a deceptive birth date and users of legal age do not have to re-input their birthdate every time they travel to another page.

The navigation bar is produced efficiently with custom PHP. Page names and their corresponding images are stored in arrays. Using PHP, the page names array is iterated over, generating HTML for each page name by finding their corresponding images in the respective array. Because of this, changing an image name requires only changing it in one place, the image name array, and adding or removing pages is incredibly simple, as it requires only adding or removing entries from the two arrays. The navigation bar PHP is robust and efficient. The navigation bar and footer are included in every page using PHP, so that changes to either would only have to be made in one place to change it on all pages.

PHP is used to detect if the user is viewing the website on a phone, and if so, redirects the user to the mobile version of our site. The pages on the mobile version are made specifically for viewing on phones and have their own unique, albeit similar top-page navigation bar. The code

for this was adapted from Wally David, 2013, <http://wallydavid.com/simple-php-mobile-website-redirect-code>.

PHP is also included in our contact form, which allows people interested in hard cider to contact the company and ask any questions they may have about the product that are not listed on our website. The user may have questions about bulk ordering hard cider, or even questions about what ingredients are used in the product, to make sure it is safe for them, based on their health needs, to drink. The contact form combines JQuery and PHP to very complete client-side validation—the user is unable to submit the form if the fields are blank or not in the proper format. Once the user submits the form, the owner will receive an email and reply within 24-48 hours of receiving the message. This contact form was not written from scratch. The code for this contact form was retrieved from <http://www.html-form-guide.com/contact-form/creating-a-contact-form.html>.

The gallery of images displayed on our home page was built using a tool from <http://wowslider.com/>. It is a sliding gallery with photos provided by the client. This sliding gallery is all that is on our home page, since we wanted a simple, attractive home page that does not overwhelm the user with text. This gallery draws in users, such as Elizabeth or Sabastian, so that they would become encouraged to explore the site further. The JQuery social media plugins, acquired from <http://jquery-plugins.net> facilitate the process of sharing this site if the user enjoys it, definitely something of interest to a social college student like Elizabeth.

In all, the age verification fulfilled the goal of our clients to ensure that the product is being safely marketed to only those of a legal drinking age. The social media plugins and contact form also facilitated this promotion process. The jQuery-sliding gallery added to the organic theme of the site, which was another one of the client's goals.

### *E. Design*

#### Rationale:

The overall site follows an F-layout for maximum search efficiency of the most relevant details (most important details on top and content beneath it following an F pattern). There is a navigation bar placed on the top of the page with the company logo with hover-state and inactive-state button links. In addition, we chose to follow the Golden ratio and making the navigation and headers of the pages on our site equal to 2/3 the width of the entire page (however for HD widescreen displays the main content takes up considerably less space since it has a fixed width). In this way, users are optically engaged. The prevailing color scheme is dark red, espresso brown (wood paneling), with shades of pale yellow (the background color of the content on the pages are actually a very pale yellow #ffffee). The pale yellow hue (#ffffcc) predominantly used is a lighter shade of one of the color triads formed from dark red (#660000), therefore was a logical color to pair with dark red based on color theory. In addition, all 3 colors are part of the Earth tone color set, which add to the organic feel the site is trying to convey. The wood paneling found on every page (in the desktop version) really sells the company as environmentally conscious and ties the all-natural theme of the website together. The font we used for the navigation buttons, DK Crayon, also adds to the organic feel since it is a hand-written font and looks raw. The company slogan and captions on the home page photo slider uses another hand-written font called DK Keswick to further add to the natural theme of the site. The font used throughout the content portions of the site is Lato, a sans-serif font, and was chosen for its crisp letters and natural look.

Our team created all graphics from scratch (with the exception of social media buttons, acquired from <http://jquery-plugins.net>) in Adobe Illustrator and Photoshop. Our clients provided all the pictures and videos found on the site. The “Wild Cider” logo, in particular, was one of our best image renderings and was created in collaboration with a member of our client's entrepreneurial team who is design savvy as well, M. Millard. The logo contains a deer because

the brand is all about being local. Deer are just recently becoming an emblem of Ithaca (since there are just so many here). Also, the antlers are entangled and bear apples to convey the company's "wild" concept: the fact that we source all our apples from untended trees on farms where they would have gone bad anyway. The red and yellow colors used in the background of the deer evoke thoughts of autumn, which is the season in Ithaca when apples are sources and when cider is most popular. From the logo concept, the rollover PHP navigation buttons were created. The three apples that hover and remain on the links are a whimsical representation of the antlers of a deer.

Our mobile was designed in the same spirit as our desktop one with only dark red and pale yellow as the color scheme. It is a simpler design and is stripped of much interactive functionality such as the social media plugins, scrolling sidebar (about.php), and video (process.php) in order to be compatible with all mobile operating systems. The site works quite well on iPhones—and fairly well on Androids—with the potential to work on Palm Pre's, BlackBerry's and other obscure mobile platforms. It does not work by resizing on a desktop browser. It works via PHP and JavaScript, redirecting the user if it senses that the site is being viewed on a smartphone. The mobile home page is simply a list of the navigation bar links that we have in our original design. Each page has a top-page navigation bar (like in the original design) and all extraneous styling is stripped so that information is easily viewable. This may seem like a crude way to make a site mobile but it was the only way considering our site uses too many complex elements to be able to resize normally (namely our navigation.php), so we had to create a different mobile site from scratch, albeit similar. Responsive design was out of the question considering the incredible amount of detail we put into our graphical design (which would have been distorted had we put in responsive elements) hence the reason for our mobile redirect code.

In terms of the CRAP design model, the following themes were employed:

- **Contrast:** Pale yellow has a stark contrast on dark red and espresso brown (wood paneling), which is the main reason why the colors constitute the main design scheme. It creates a superb visual separation of the navigation bar from the content of the site. In addition, the usage of dark red on pale yellow (#ffffee) serves to create notable headers as seen in all of our pages. The pale yellow (#ffffcc) colored navigation buttons also stand out on the dark wood paneling.
- **Repetition:** Every page has the same top-page navigation bar as well as a footer section with the site's credentials and links to home.php and contact.php. The content foreground is combination of wood paneling and a #ffffee colored background (creating a notepad look) coupled with box shadows. The background is set to an image of raw apples. All the headers are the same (#66000 color, large font) and all the images (and 1 video) have a custom hand drawn dark red border around them, except in about.php and home.php. Padding is set to the amount for all content on all pages. Of course, some extra spacing was added due to odd shaped media elements to ensure that the padding was visibly uniform for all pages across the website.
- **Alignment:** Text is aligned to the left on all the content areas of the page, except for index.php and contact.php, that don't have a lot of text content. Images are vertically centered and forms are horizontally centered. To pique visitors' visual senses, product.php and process.php were designed as polar opposites of one another with staggered alternating text and media arrange in tables.
- **Proximity:** As aforementioned, an F-layout is used therefore all headers are immediately followed by related text in order to facilitate reading. Images relating to text are placed next to it. Content blurbs are separated by a single space to denote a new idea.

Design Justification with Respect to Personas:

In terms of the first persona Elizabeth, the content should have been easy enough for her to understand, given that she wanted quick and easy access to what the product is and where it comes from. It validated her value system of being a conscious consumer and buying things locally and organically. She could have also connected to the company via the About page because there she could have found out that the cider is made by Cornell students like herself--even some that share her affinity for getting “wasted” (as found in the last line of Aditya’s short biography). In addition, the pictures of the Product and Process hopefully enticed her to buy the cider (the cider is individually packaged in reusable Ball jars). The small number of pages (scale) added to her efficiency in searching for what she needed since she most likely was just interested in the Product, Process, and Contact pages. She most likely appreciated the dark red and pale yellow color scheme of the website as she reflects on apples and organic things in general. In terms of interactivity, she felt grateful that she was over 21 years old and passed the PHP age verification. This PHP feature adds an “exclusivity” element to our site. In addition, the PHP and JQuery contact page made her busy Cornell life easy by requiring only three simple fields and guaranteeing a response from the company within 48 hours.

The second persona, Sebastian, should have found the content very enlightening. He was looking for transparency--that was what he got. All the details of the product and how it is made are listed on the Product and Process page. He also appreciated the numerous photos and (future) video clips that delineate the cider process. The content validated his need for a local and unique product--a great addition to his bar. The small scale of the site facilitated his search for more information on the cider, considering he is only interested in the Product, About, and Contact pages, and from there will hopefully have ordered a lot of cider to have on tap. The clean design allowed him to focus on what matters: the words. The way the blurbs of information are laid out (F-layout) helped him get the “whole” picture of who Wild Cider is and their commitment to being local and organic. As a native from Ithaca, the red and yellow design should have reminded him of the Apple Harvest Festival that occurs every year. He would have also been even more willing to do business with Wild Cider when he first went to the index page. A PHP splash page appeared asking him to verify his age. He then knew that this company is in compliance with U.S. drinking regulations and is conscious of selling the product out to only those of legal age--a common issue that he deals with, no doubt, being a bartender in a college town. In addition, the PHP and JQuery contact page were sure to help him finalize his plans for incorporating a new beverage on his bar menu!

#### Design with Respect to User Testing:

We were testing for general ease of use of our site. Specifically, we were investigating how easily users were able to find the Contact and Product sections of our site. We learned that most users had no difficulty at all finding these priority items. Overall, they gave positive feedback, especially towards the design. One thing all users gave criticism towards was the size of the text font--it was smaller than expected. Some people also noted that there were no pricing options. Other people noticed no social media plugins on the home page. A select few noticed that the home page images were not clickable and thought they led to a gallery. In addition, our sidebar for our About page received some criticism because it was not balanced when users scrolled down the page. We fixed these issues by doing the following:

- Made the font 105% larger
- Put in current pricing options that clients have given us
- Placed social media plugins on the home page
- Replaced the three images on the homepage with a JQuery sliding image gallery
- Allowed for the sidebar in the about page to stay fixed at the top of the page using JQuery



We updated our website to include what our testers recommended, such as the larger font, social media buttons on the homepage, pricing options, and a slideshow of images on the homepage using jQuery. Doing two rounds of user testing with people who were of different ages, sexes, and personalities helped us improve our website by fixing the minute issues that make our website better than just a “good” website. In our lab section on December 6<sup>th</sup>, 2013, we found out that many users did not like that our age verification page used the ISO date format, YYYY/DD/MM, so we changed it to the format Americans are used to, MM/DD/YYYY. Apart from this, users were pleased with how the website appeared and behaved.

### *F. Deployment Plan*

Our clients' have decided not to continue their business venture outside their course, BEE 4890. Therefore they have expressed no desire to find a server and a domain name to make their Wild Cider site live. If they were to make it live, we would have made sure to find them a hosting site that could handle PHP.

### *Group Dynamics*

Daniel was the leader for our team and made sure that everyone was on track. He took on tasks that other members of the team found that they did not have time to do, though this was usually determined through group meetings and proposals rather than any member contacting him randomly. Terrence took care of general formatting through HTML and CSS and implementing the contact page in PHP since he already had some experience with it in his first project. Xiaotian provided the code for age verification as well as navigation, making sure that the pages are integrated seamlessly in order to ensure that users have an easy time navigating without encountering odd HTML, CSS, and/or PHP bugs. Ariel was in charge of the general design and art assets, making decisions about what color schemes to use and creating buttons that fit the theme well.

Though Daniel was the leader in this project, he made decisions by himself only when it was necessary, as the group was mostly autonomous and democratic. Members consistently answered each other through emails and gave each other feedback depending on issues that they found. Through our meetings, we were able to decide on general, flexible due dates. We worked extremely well in this fashion and labored ardently to perfect our masterpiece of a website.