A Redesign of Brendonsweb.com

Brendonsweb.com is a website for interested readers to connect with Brendon's doings.

Design & Prototyping
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Product Concept Statement

This website sets a framework that serves and marries several related interests revolving around delivering information of Brendon's activities.

In a world of messy collections and emphasis on varying social platforms, including professional-oriented platforms such as *Github*, *Linked-In,* and *Stack-Overflow*, this website first serves in being a centralized hub connecting these many platforms.

The site also acts the role of *directly* serving content—images may be hosted on the site, rather than exclusively on Instagram, Flickr or Tumblr. This avoid collisions of aesthetic cultures and trends within each of the platforms' communities. Beyond this, it allows the delivering of images and essays with more control, so as to have direct copyright and advertising control as well as further flexibility in formatting writing and providing subscription possibility.

The website aims to reflect a clean look that means to give authority to the content rather than the site itself–parallel to the intent of an art gallery or an academic journal. With this, it should keep up on the standards of *CSS* without leaning into web-design trends such as *Javascript-powered* moving entities and impressing the viewer with flashy appeal.

The website code is developed with *HTML5* and *CSS3* in mind, with *PHP* backing and minimal *JQuery* features. The website will be developed with *Adobe Dreamweaver*.

Features Include:

1. An entry page
    - featured content (latest project, polls, shows appealing material
2. An overview blog page
    - landing pages for full-markdown blog-entries
    - these blogs as shareable to social-media
    - blogs associated and searchable by keywords
    - direct ability to enter blogs by entry-form on the site
3. An overview page for reflection on coding projects
    - landing pages for projects
4. An overview page that displays photography images and drawings
    - breadcrumbed albums and image-landings
    - downloadable higher-quality images
    - images associated and searchable by keywords
5. A contact page
    - includes direct contact by form
    - includes email and social media contacts (LinkedIn, Twitter, Github, StackOverflow)
6. Ability to login/subscribe
    - allows for notification emails of new posts
    - allows for commenting/liking blogs and images
    - allows downloading high-resolution images
7. A page for survey polls (to inform later blog posts and encourage traffic)

8. A page for events
    - allows to RVSP to an event
    - shows interactive calendar
    - shows interactive map

A part of the redesign of the website is to implement breadcrumb navigation to the photos and to clean up and be thoroughly aware of user frustrations and user navigation. The back-end structure, *SQL* structure of the image files and attached information is largely set, which will allow for a redesign focus on front-end usability and experience.

Ideation

Noting the process of ideation, the process of generating potential ideas, is valuable for future reflection in seeing the weighted reflections used in development. This section of the documentation is for logging consideration in design towards various ideals. In the case of future redesign, this section may give insight to particular questionable design choices.

Before we open up on the project's stage of ideation, it should be noted that there are six major design principles that inform the following discussion with a focus on usability: *visibility*, *feedback*, *constraint*, *mapping*, *consistency*, and *affordance*. These principles are posited by Don Norman in *Interaction Design: Beyond Human-Computer Interaction* [1]. For clarity in documentation, I will define these terms below.

Terms:

Visibility – The more visible functions are, the more likely users will be able to know what to do next.

Feedback – Feedback is about sending back information about what action has been done and what has been accomplished, allowing the person to continue with the activity.

Constraints – The design concept of constraining refers to determining ways of restricting the kind of user interaction that can take place at a given moment.

Mapping – This refers to the relationship between controls and their effects in the world. Nearly all artifacts need some kind of mapping between controls and effects, whether it is a flashlight, car, power plant, or cockpit.

Consistency – This refers to designing interfaces to have similar operations and use similar elements for achieving similar tasks. In particular, a consistent interface is one that follows rules, such as using the same operation to select all objects.

Affordance – is a term used to refer to an attribute of an object that allows people to know how to use it. For example, a mouse button invites pushing (in so doing acting clicking) by the way it is physically constrained in its plastic shell. At a very simple level, to afford means "to give a clue."

Considering Ideas:

First, we can consider a potential logo/icon for the website. As this object is one of the first things shown to the user as well as a prominent and repeated object shown to the user, we should expect to put some thought to presentation.

Portraying Values – Immediately, we can consider what values the style of the logo portrays to the user. Is it sleek and modern, giving a sense of keeping up with contemporary trends in professional culture? Is it playful, either in the way of being rebellious to that previously stated professionalism, or in the way of immediately inviting a relaxed state of mind? We could consider having the icon be less prominent, as to suggest that the focus of the website is truly on the material rather than a play towards image and posture—this playing on the mechanic of art galleries, quiet atmosphere with simple well-lit walls.

Considering Structures and Organization of Elements – In tandem with consideration of aesthetic presentation, there should be consideration to the structures of the various screens the user could be handling. On a website, traffic comes from a mix of traditional computers, tablets, and smartphones—each with a different tendency of screen resolution, size, and shape. One 2017 report by Stone Temple, a marketing company, marks the percentages of web traffic between desktop and mobile devices as 44% desktop to 56% mobile, with a note of fluctuation related to the type of the website material [2]. And how unfortunate for designers that the design for a vertical-oriented screen of a phone is in direct feud with the traditional horizontal-orientation of a desktop computer! This consideration of varying architectures is a valuable thought to have hovering in the entire design process, but while we are focused on the logo design in particular we can think of a few derivative maxims to hold to. First, the logo needs to fit in the small width of a mobile device, this writes off any wide-focused designs. Second, the logo should not take up too much vertical space for the sake of allowing other critical material to stay "above the fold," or initially viewable on the screen. Third, it would be preferred to have this logo be scalable to fit in various marketing spaces for internal consistency, in our case we can imagine business cards, email headers, and social media accounts.

Aesthetic Direction of Design – Another major consideration is direction of screen designs, that is, how things should be organized and structured within the site. Some driving questions come to mind: Should there be an emphasis on stability of the site design or a flexibility with changing interests and events? Should there be an encouragement towards specific aspects of the site? In thought of developing graphics, color scheme and suggesting continuity and separation of elements, should there be (1) a more bubbly focus of elements; (2) a simple block-focused look; (3) a minimalist design that separates by relative spacing; or, (4) an academic or journalistic appeal by mirroring a design consistent with an established journal or media group?

Note on Ideation Process – Beyond the structured reflections, we should have a note on the ideation *process* as a whole. Outside of this documentation, there was formally set up time to have a brief brainstorming session with a partner. This allowed for quick prototypes of logo design and cooperative reflection on three variations of design directions. Within a group setting, with others in the room doing a similar exercise, there was a note to the *very brief* nature of the exercise, the energy level was high, and low-commitment to the drawings which allowed for a unique sort of open discussion. Beyond the consideration of quickly drawn logos, this brainstorming session allowed for discussion of how to handle an audience. I found the discussion itself to be fruitful towards potential maxims to hold to, further than simple critique on the drawings.

Logo / Icon

This section notes proposed logos that we created in initial stages of ideation.

The following are three rough-draft header logos that are to be placed at the top of our designed webpage. They represent varying professionalism and simplicity. Figure 3 will be highly considered to be the final representation of the logo.

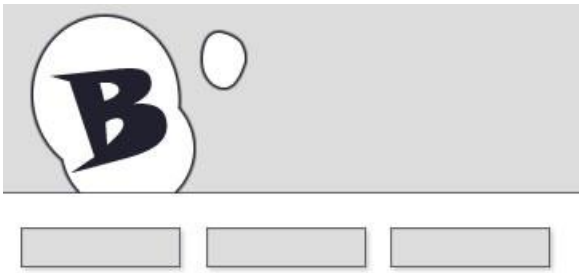


Figure 1: Sample Logo / Header

Figure 2: Sample Logo / Header

Figure 3: Sample Logo / Header

Conceptual Design

This section offers a brief framework for the user or tester to quickly understand the website.

This website, https://www.Brendonsweb.com, can be understood as a blend of a higher-quality resume, an art gallery, and a blog. With a potential source of user-traffic coming from social media sites, before users arrive they may have a brief expectation of art material, my headspace, and particular quality of material. With another potential source of user-traffic coming from professionals considering business relation, before these users arrive they may have expectation of academic/professional appeal. These two aspects guide a website that leans towards art-gallery inspired minimalism and professionalism.

Design Guidelines

This section of *design guidelines* means to report on research of valuable recommendations that apply to the particular platform of our product. These guidelines are notably more specific than the previously defined design principles to give a framework to further grounded design consideration. This section also means to set a foundation of authority that inform design choices—in thought of having to sell an idea to potential manager, or even to inform a redesign of aspects of the website.

Repetition – "Repetition with variation is interesting, without variation repetition can become monotonous," writes John Lovett, an accomplished artist and designer [3]. As related to our principles of mapping and consistency, this guideline suggests a use of repetition of shape or color to guide the user to consider various elements as related, as well as to draw interest in them altogether.

Unity – This has to do with putting emphasis to organizing, shaping, and coloring various elements to suggest them conceptually belonging together. Usability.gov suggests that to avoid boring the audience visually, there must be a blend between unity and variety [4]. As much as this is a focus on holding user attention visually, it also sets up a situation for the user to scan the site and have an intuitive feeling of grouped elements.

Hierarchy – This guideline, suggested by Usability.gov, suggests implementing a variation of significance between elements [4]. Hierarchy can be expressed through varying font sizes, colors, and placement on the page. Items at the top are perceived to be more important.

Optimize Page Loading Times – "Fast sites make users happy and improve the overall quality of the web." This guideline comes from Google's documentation to help a site's visibility to their search engine, though particularly with the emphasis on helping visitors [5]. This becomes important on our website that may contain many high file-sized images and varying bandwidths between user devices and locations—a lengthy loading time makes for particularly bad user experience.

Use Text Rather Than Images – When displaying important names, content or links, try not to use images when text would do. Use *alt-text*, text that shows on hovering over the image, when images must be used. As suggested by Google, this helps users with visual-impairments as well as making for good general design [5].

Low Fidelity Prototypes

There has been a main design of a low-fidelity prototype to be able to show most of the features listed in the initial design specs. There is a complementary, vertical, prototype to show a difference in the action of messaging Brendon through the website's form.

Figure 5 and Figure 6 below represent the more normalized version of the prototype, where the "direct message" link takes the user to a separate page to enter a form to contact Brendon. This is in contrast to Figure 4, where by clicking the "direct message" link a form is created in the space directly below. This could be tested to take user response. This implementation may play better with giving user immediate feedback.

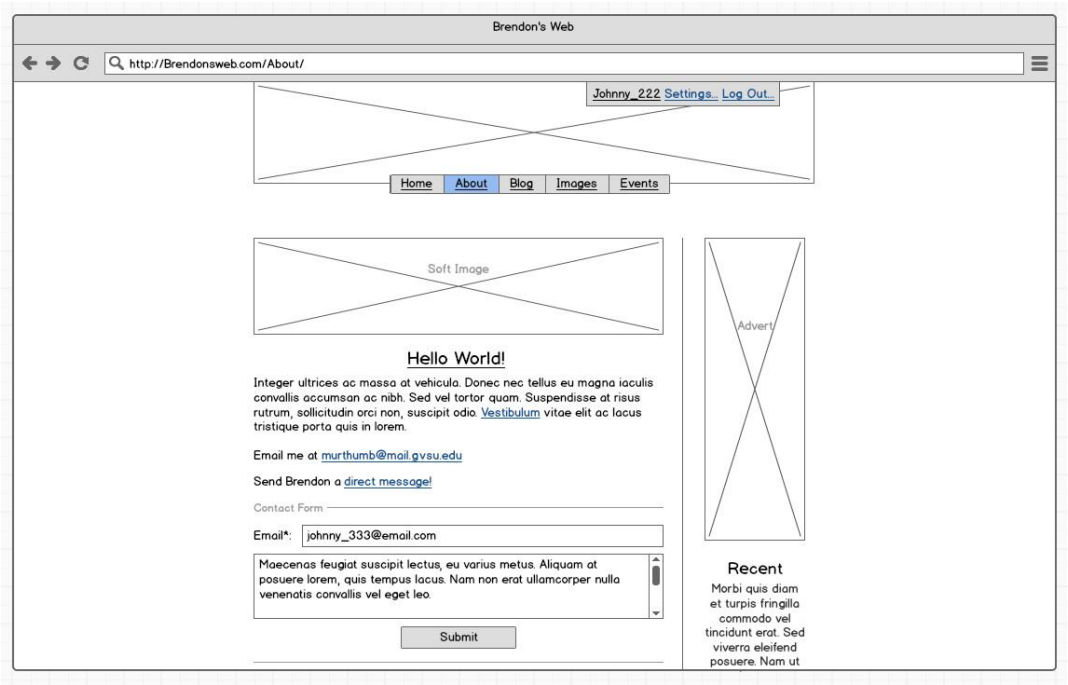


Figure 4: In-line Form for Contact

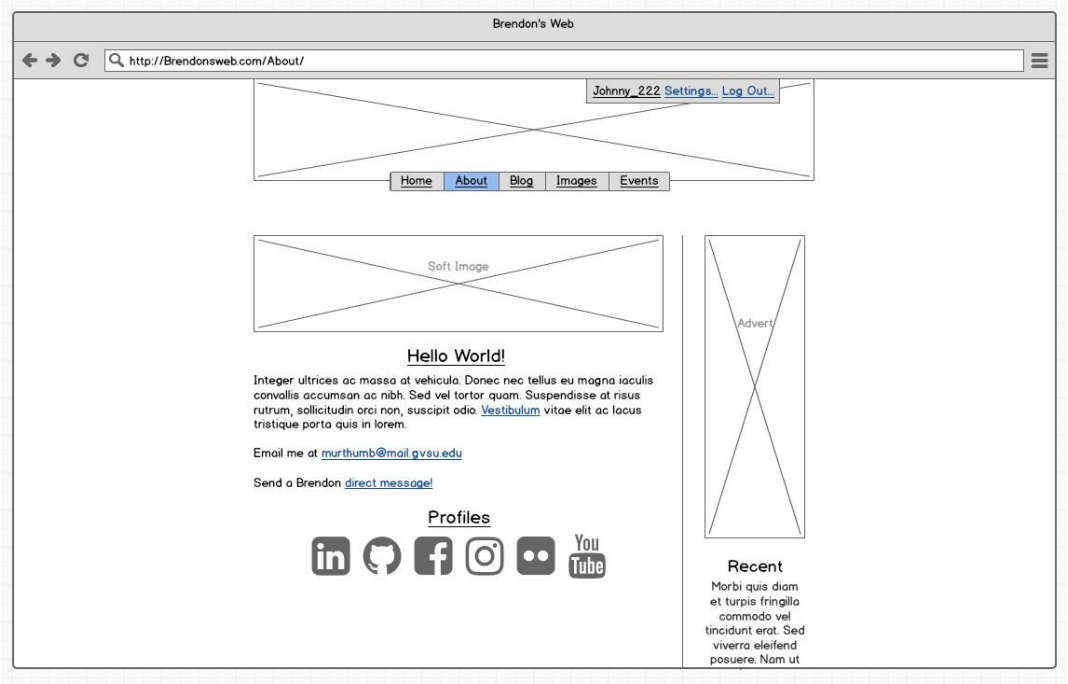


Figure 5: Linked to Contact Page from About Page (Step 1)

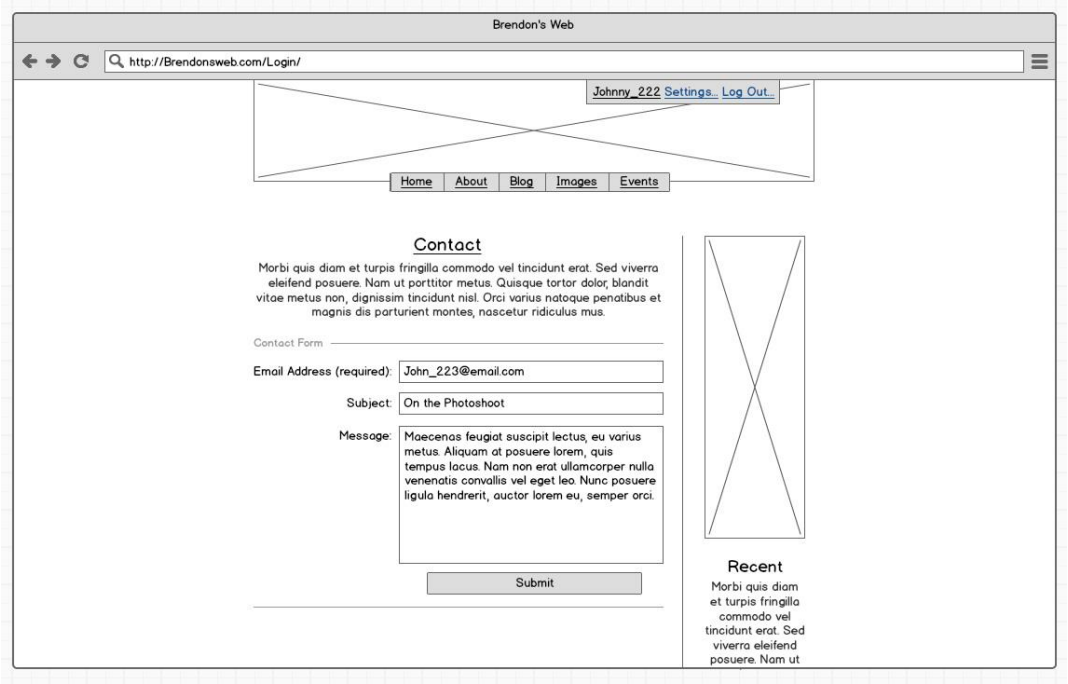


Figure 6: Linked to Contact Page from About Page (Step 2)

Formative Evaluation

This section represents formal preparation for collecting useful feedback. This is a major step in documenting a true focus on the user rather than desire of the designer as well as gathering qualitative feedback from a representative audience. Below is documentation of potential standardized questions to ask a single user that is testing a prototype.

In our case, the "user tasks" below are the main ones to test as the majority of the audience will be end-users coming through to view content and interact with the elements. The "host tasks" represent tasks of a separate type of user on the site. The "host tasks" may come to be important to test in the case of later developing the capacity for moderators on the site, or developing a similar site for another client.

User Tasks

Task 1: Login to the site

- Did you find this operation doable without thinking?
- Was there something about the shapes of objects you clicked on that bothered you?
- Is there anything you expected that was not shown?

Task 2: There was an image you saw on Instagram, find the image and download it.

- Was there anything about this landing page that felt odd?
- Can you tell me what these symbols mean to you (the heart and the down arrow)?
- Does this breadcrumb chain feel intuitive? Does it feel to be placed correctly?
- Would you prefer the "download" arrow to directly download it, or rather to link to a page with the image alone to right-click and download?

Task 3: Read a blog and "like" the post.

Task 4: On that same blog, leave a comment.

- Were there any moments of hesitation in this process?
- Is there anything about this "Comment" button that feels odd?
- Is there anything that strikes you in this design as notably different than expected?

Task 5: You want to leave a message with Brendon. Send him an email.

- Is there anywhere else you would have looked to contact Brendon?

Task 6: You want to RSVP to an event that Brendon is hosting.

Host Tasks

Task 1: Login to the site.

Task 2: Make a blog post.

- Would you like to have a preview before you confirm the post?

Task 3: View all comments and statistics.

- Do you imagine this as a page simply to view? Or, as a page to view with focus on managing?

Task 4: Delete a comment.

- Is there anything that feels unintuitive about this action?

Task 5: Register an event.

Early Design Changes

This section documents a few particular design changes and observations after initial user testing.

Login / Subscribe

- Users noted an expectation of the login button to be near the top-right of the screen. Initially, this box was only displayed when the user was logged in (Figure 7). This is changed to have the box always be displayed, only changing with conditions of whether the user is logged-in or not. This allowed for the removal of the initial login-button from the menu bar (Figure 8).
- It was also noted that in the location to comment on a blog, there could be a link to log in before ability to comment. This can be seen as a mapping and constraint suggestion, in that it would be suggested that logging in is related to commenting and that it is *required* to login to comment.
- Subscription was initially separate as an action as to allow for a more easily accessed notification system that did not require the time of registration. Users noted that there was confusion in their being separate. This aspect was changed on account of (1) a focus to make registration easier altogether as well as (2) a notice that those users that would subscribe would be the users that would be less bothered by the effort to register.

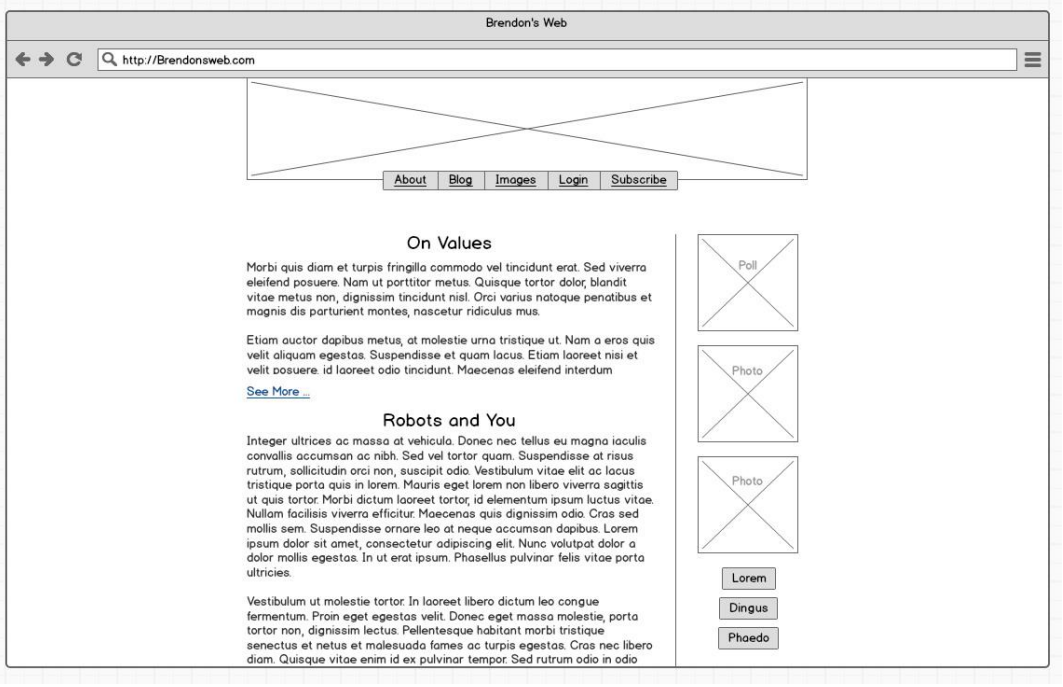


Figure 7: Before Changed “Login” Button

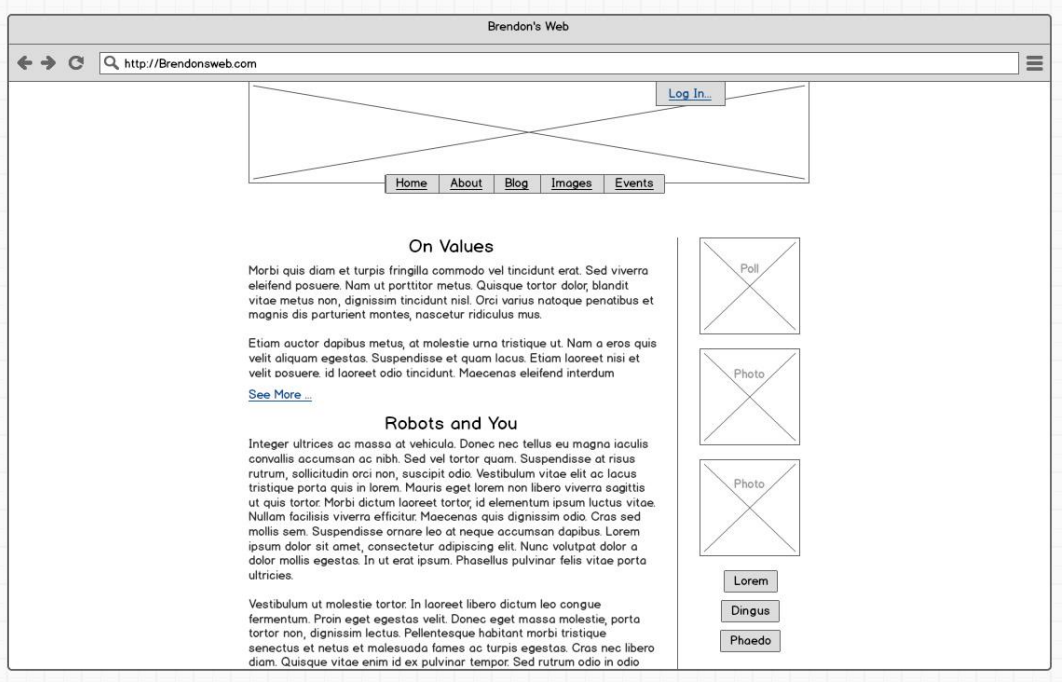


Figure 8: After Changed “Login” Button

Download Image Icon

- The icon-button used to signal the downloading of an image was noted by users to be confusing with the cloud design (Figure 9) suggesting some relation to an idea separate from downloading alone. This was changed to a more standard download icon (Figure 10).

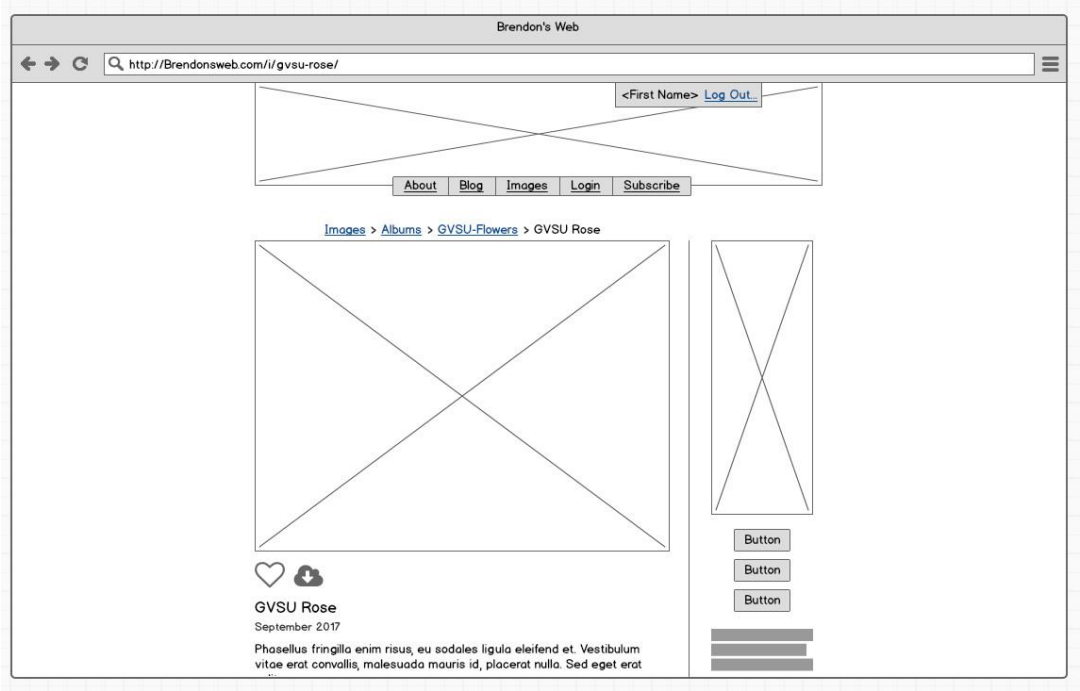


Figure 9: Before Changed "Download Image" Button

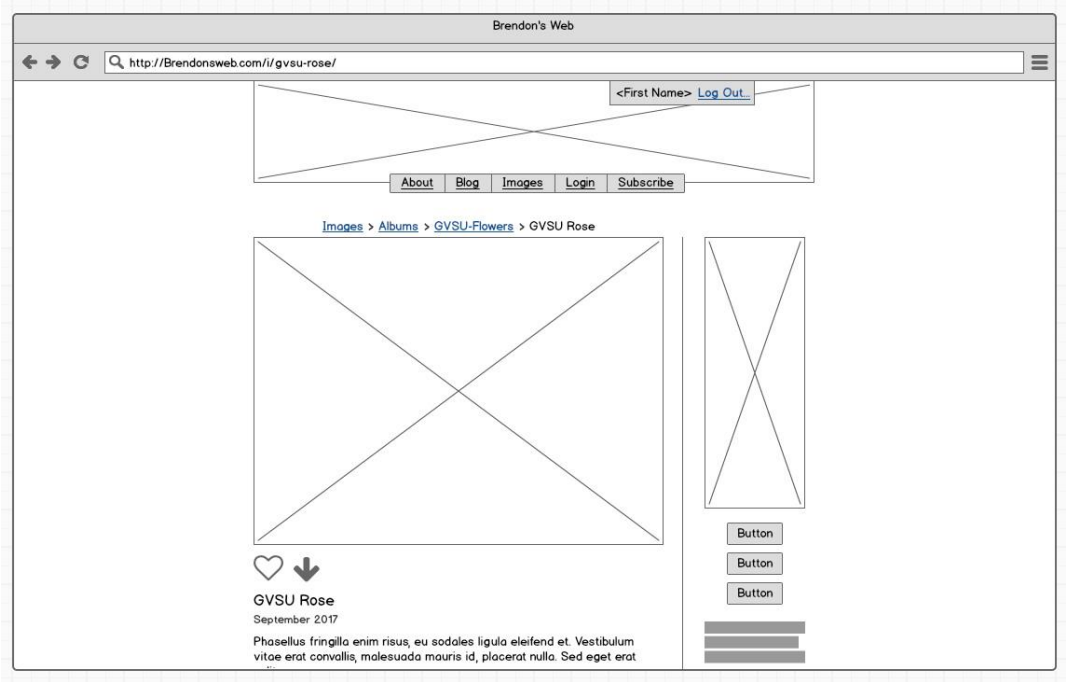


Figure 10: After Changed "Download Image" Button

Featured Images

- The several featured images at the top of the “Images” page were noted by users to be confusing in intent. This may have been clearer with a placement of variety sample images. This was considered by adding a small header “Featured” above these images.

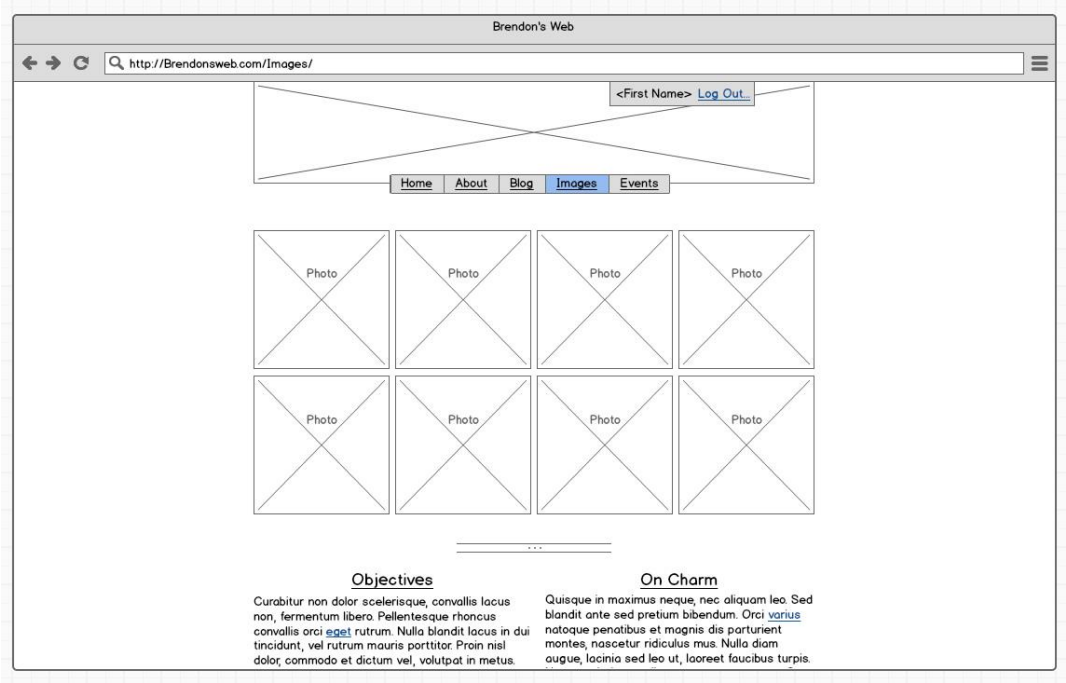


Figure 11: Before “Featured Images” Heading

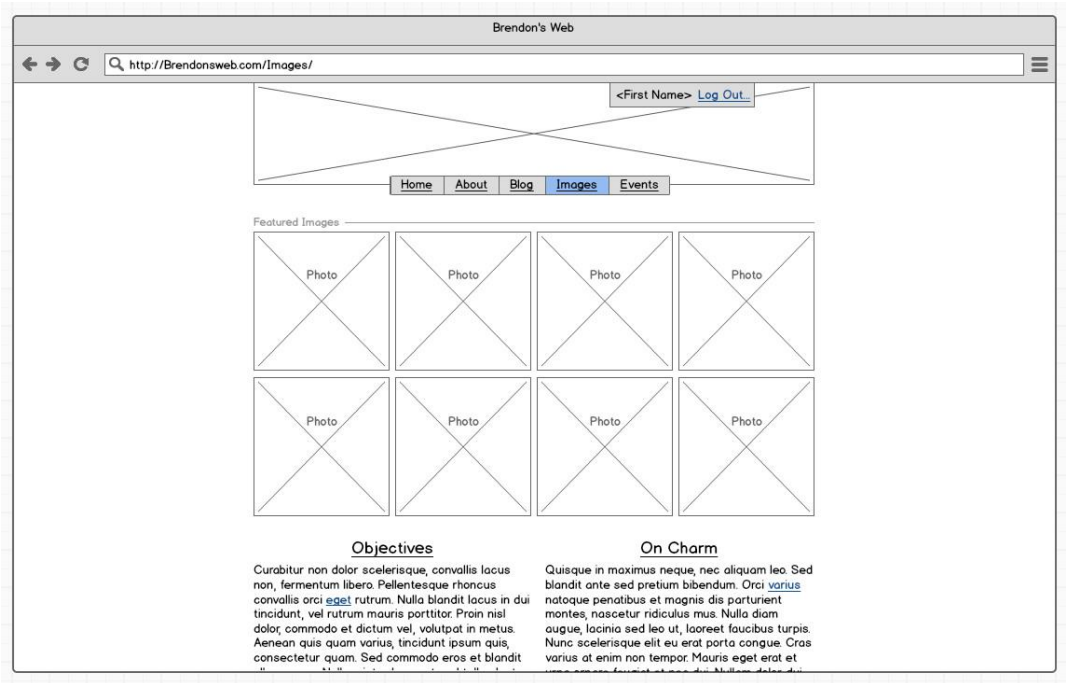


Figure 12: After “Featured Images” Heading

More Prominent "Albums" Display

- Partly due to constraints of the prototyping tool, on the "Images" page, users may have gotten the feeling that there was more material below the fold but were unable to scroll to see something suggesting a list of available albums. This led to confusion of how to reach "Albums," when seen later in breadcrumb links. To accommodate for the space that the album section may take up, this header of "Albums" on the image page is still below the fold.
- The change made below was to add some helper links above the fold that lead further inquiries (Figure 14). By use of Javascript, the "Album" link here would scroll the user down the page to the start of the albums area. The other links may perform similarly, or take the user to a new page.

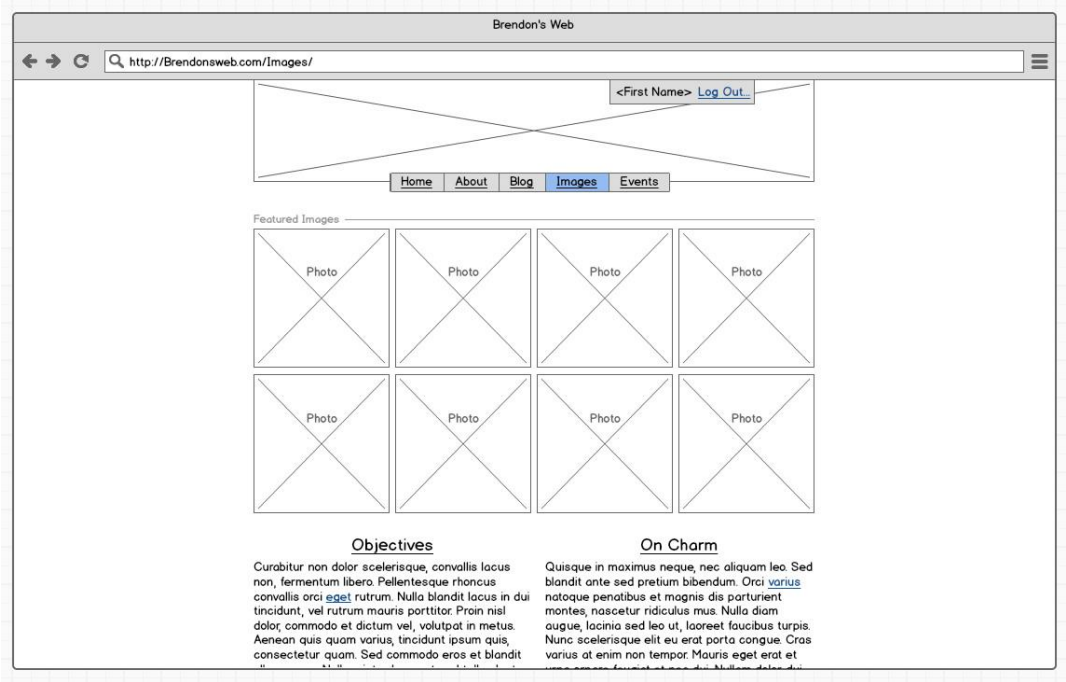


Figure 13: Before Suggestion of Albums

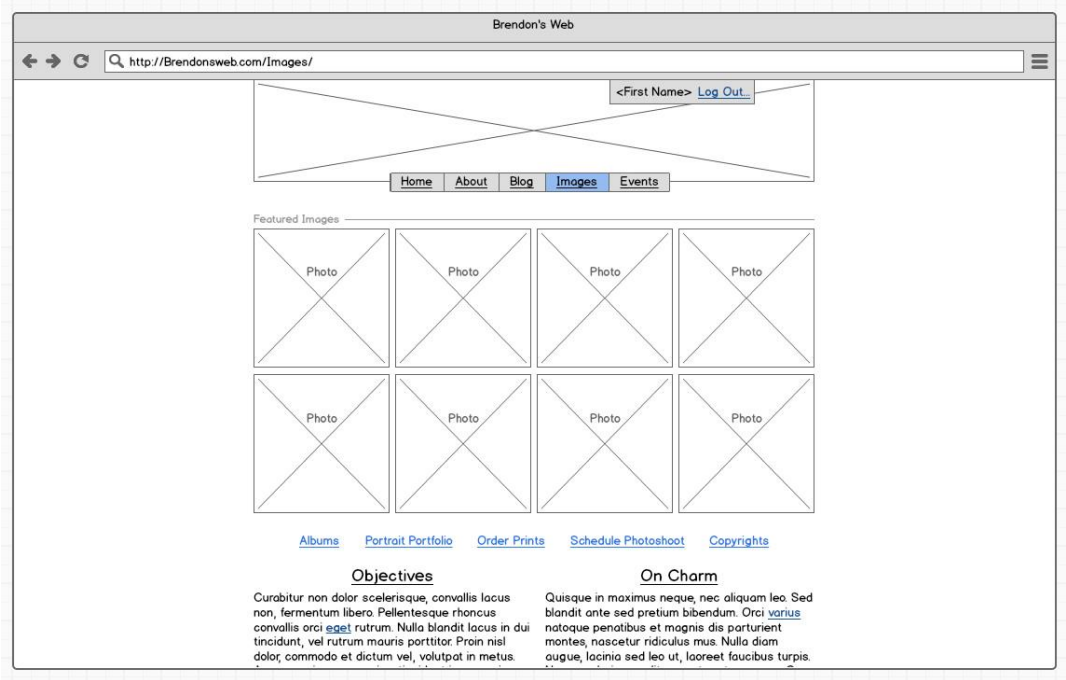


Figure 14: After Suggestion of Albums

Design Reflection #1

This section means to show some examples of comparison and transition between the low-fidelity prototypes and testing, and the resulting high-fidelity mock-ups that developed off of that earlier period. I give three examples with some brief explanation to the design of a couple core features.

Login Button Location

The initial design for logging-in featured a link to goal within the line of the several main navigation buttons. Very quickly, within low-fidelity testing, I came to hear that this was largely unexpected—that the login button should be higher up than that, right at the top. Right after testing, I made sure to apply the design even in the low-fidelity mock-ups. In the high-fidelity model I made sure to apply the design choice, an effort towards less confusion, as well as directly applying more external consistency—as it parallels a common site design.

Between the low-fidelity and the high-fidelity mock-ups I was conflicted in how to play on a lighter theme in this space. The main navigation buttons had a good weight in their contrast to the page. To have the login button still gather attention without having too much pull and throwing off the symmetry was a struggle. I decided to mark the “login box” as separate by a contrasting color choice. In Figure 16, we can see all of the navigation buttons are grey and heavy, while the off-center login box is intentionally light and fluffy with a blue outline.

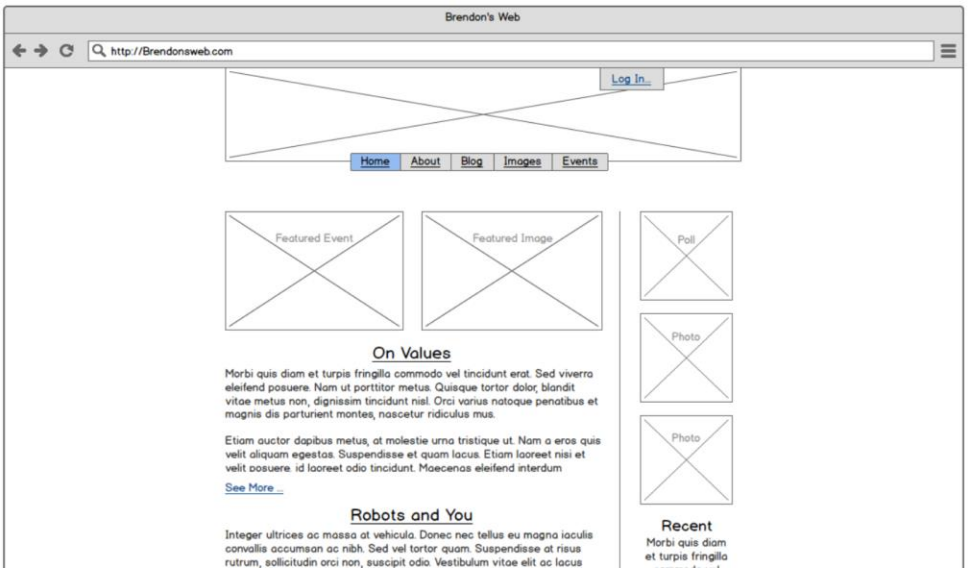


Figure 15: Low-Fidelity Show of the Login Button

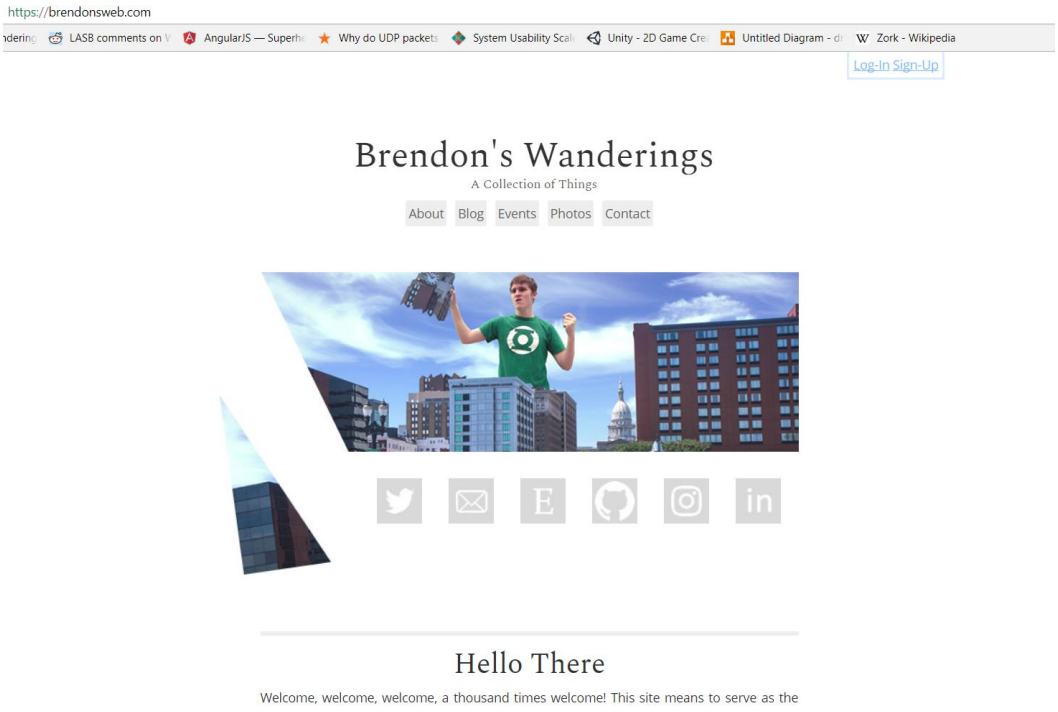


Figure 16: High-Fidelity Show of the Login Button

Index Page as Landing Page

With this transition to high-fidelity prototyping and its related testing, one thing I wanted to test in this new environment was how people respond to there not being a “home” button. In this newer design, I decided to have the index as a “landing page” to have its focus be an advertising space for the latest and

greatest materials—see Figure 15 and Figure 16 for this comparison. Though, the user can still get back to that page by clicking on the main header at the top of the page. In this way it separates itself from the core frame of the rest of the pages. I'm particularly curious to see how much time is spent on this page to see if there is potential for influence in that space. Though, it may come at the cost of disorientation if the user is not familiar with many practices of web space formatting. This should show itself to be valuable in testing—especially with an eye for particular audience.

High Fidelity Prototype

In this phase of the overall project, we developed a working prototype that both meets requirements, and is suitably prepared for, quality user testing. The experiencing test-user should have the feeling that they are working with the real product. The tests run with this model should make possible the gathering of quality sets of data. Some possible design suites to build the prototype with were Axure, Keynotopia, InVision, and even simply HTML.

On My Prototyping Tools

As my project is a website, I worked very closely with HTML and CSS to prepare the prototype. Luckily, the flexibility of CSS allows for some quick rearranging after this round of testing. I should also note that I worked closely with Chrome's "inspection" window, which both allows you to view your webpage as if through different devices as well as quasi-edit the code right in the browser for quick editing.

User Tasks

The user can do several things with this prototype. A few more features could be added that allow my own interaction—blog uploading, managing comments, handling promotional material—though these are more back-end-heavy than design-heavy. As the general user is a fruitful audience to get feedback from, as they are the core demographic of the site, this round of testing and prototyping could be very fruitful.

In this prototype, the user can do the following:

1. Navigate through photos and albums
    - Like images (Figure 18)
    - Buy framed copies (Figure 18)
    - Breadcrumbed navigation for ease of access (Figure 17)
2. Can register and sign-in to the website (Figure 19)
    - This restricts comments on blogs from outsiders
    - It allows them to then register for notifications, if desired
    - They can also change their password and delete their account
3. Users can RSVP to events (Figure 20, Figure 21)
4. Users can message Brendon through a web-form (Figure 22)
    - This contact form exercises reasonable constraints on user
    - There is also offer of other ways of messaging; for consideration of power-users, business-people, as well as social-media fanatics.

5. Users can also view, comment and “like” blog entries (Figure 23)

Images of Example User Tasks

The following images are displays that show some of the available user tasks. The order of the images correlate with the order of the user tasks as given previously.

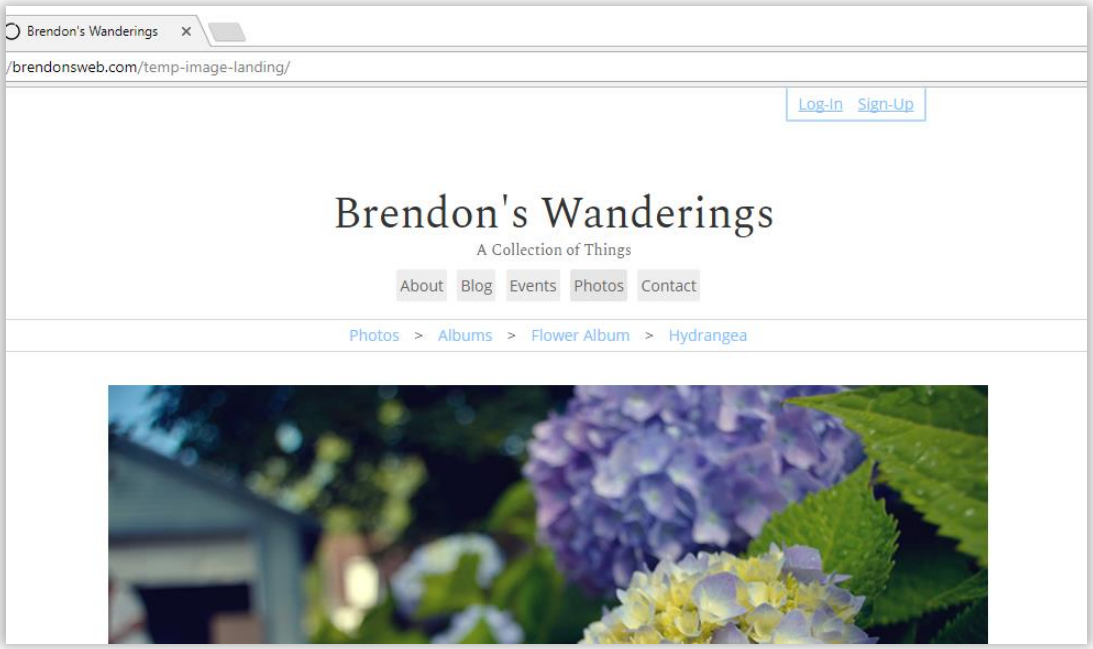


Figure 17: Breadcrumb navigation.

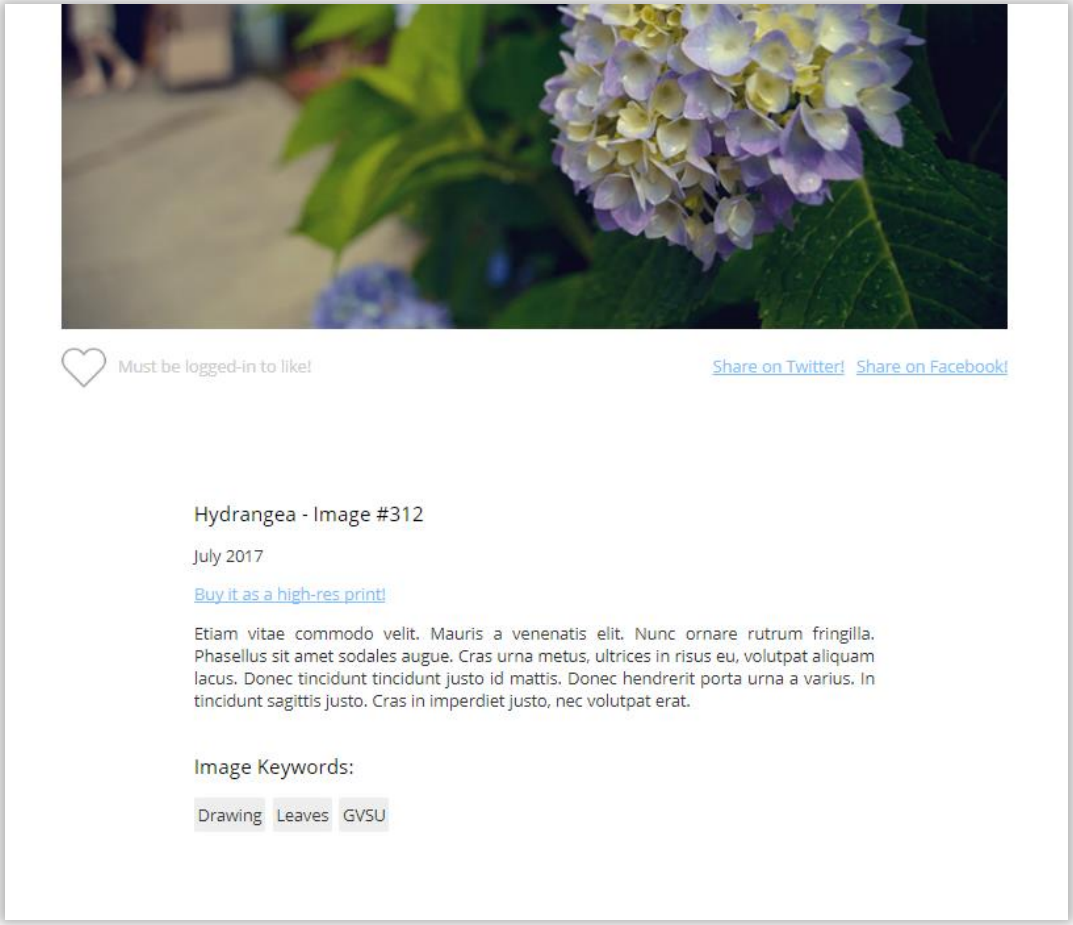


Figure 18: Liking an Image and Buying Prints.

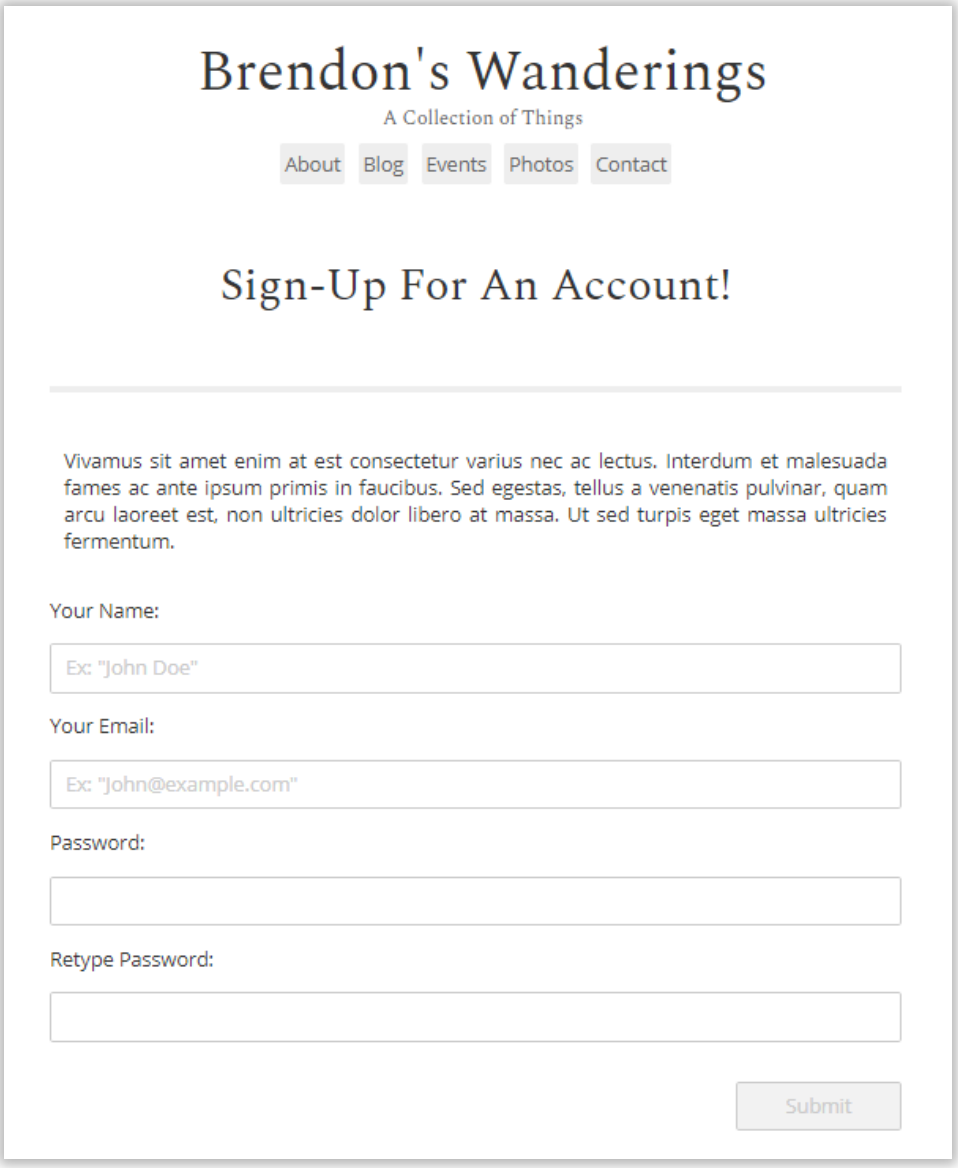


Figure 19: Signing Up for an Account.

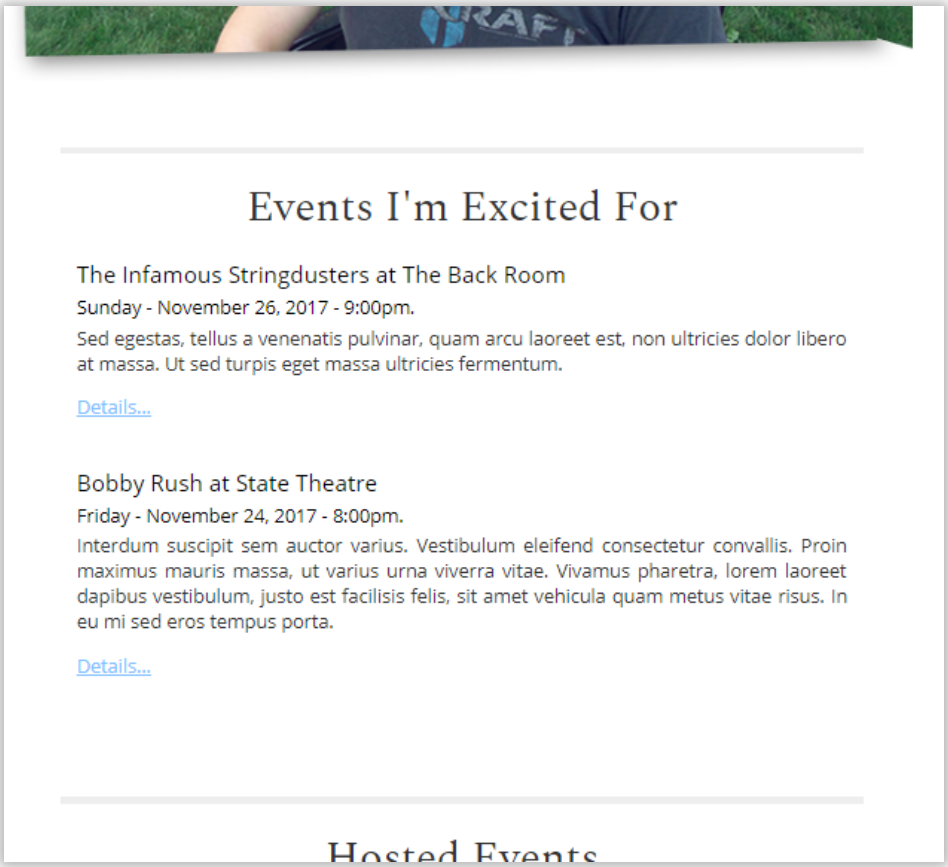
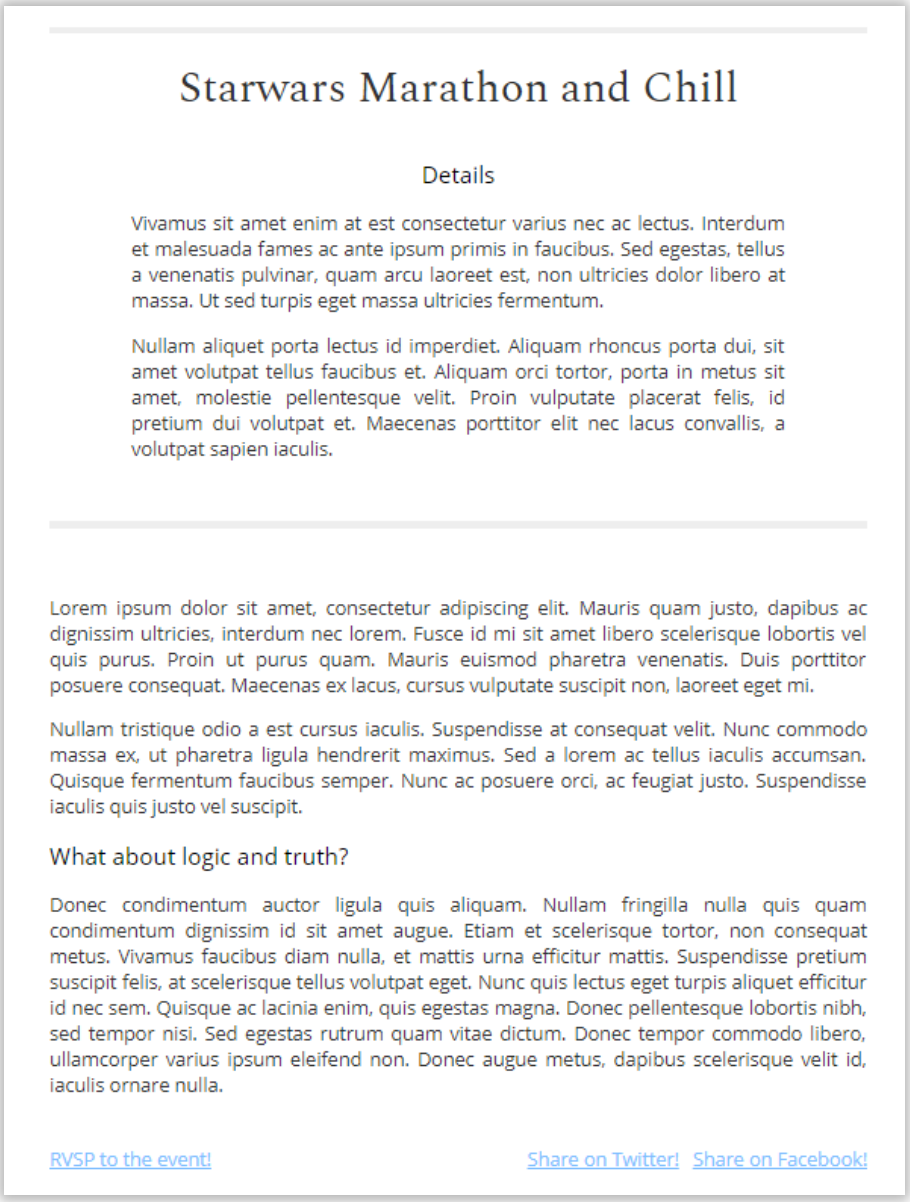


Figure 20: Selecting from Multiple Events.



Starwars Marathon and Chill

Details

Vivamus sit amet enim at est consectetur varius nec ac lectus. Interdum et malesuada fames ac ante ipsum primis in faucibus. Sed egestas, tellus a venenatis pulvinar, quam arcu laoreet est, non ultricies dolor libero at massa. Ut sed turpis eget massa ultricies fermentum.

Nullam aliquet porta lectus id imperdiet. Aliquam rhoncus porta dui, sit amet volutpat tellus faucibus et. Aliquam orci tortor, porta in metus sit amet, molestie pellentesque velit. Proin vulputate placerat felis, id pretium dui volutpat et. Maecenas porttitor elit nec lacus convallis, a volutpat sapien iaculis.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris quam justo, dapibus ac dignissim ultricies, interdum nec lorem. Fusce id mi sit amet libero scelerisque lobortis vel quis purus. Proin ut purus quam. Mauris euismod pharetra venenatis. Duis porttitor posuere consequat. Maecenas ex lacus, cursus vulputate suscipit non, laoreet eget mi.

Nullam tristique odio a est cursus iaculis. Suspendisse at consequat velit. Nunc commodo massa ex, ut pharetra ligula hendrerit maximus. Sed a lorem ac tellus iaculis accumsan. Quisque fermentum faucibus semper. Nunc ac posuere orci, ac feugiat justo. Suspendisse iaculis quis justo vel suscipit.

What about logic and truth?

Donec condimentum auctor ligula quis aliquam. Nullam fringilla nulla quis quam condimentum dignissim id sit amet augue. Etiam et scelerisque tortor, non consequat metus. Vivamus faucibus diam nulla, et mattis urna efficitur mattis. Suspendisse pretium suscipit felis, at scelerisque tellus volutpat eget. Nunc quis lectus eget turpis aliquet efficitur id nec sem. Quisque ac lacinia enim, quis egestas magna. Donec pellentesque lobortis nibh, sed tempor nisi. Sed egestas rutrum quam vitae dictum. Donec tempor commodo libero, ullamcorper varius ipsum eleifend non. Donec augue metus, dapibus scelerisque velit id, iaculis ornare nulla.

RVSP to the event! Share on Twitter! Share on Facebook!

Figure 21: User Can RVSP to a Sample Event “Starwars Marathon.”

Figure 22: User Can Send Constrained Message Through Web-Form.

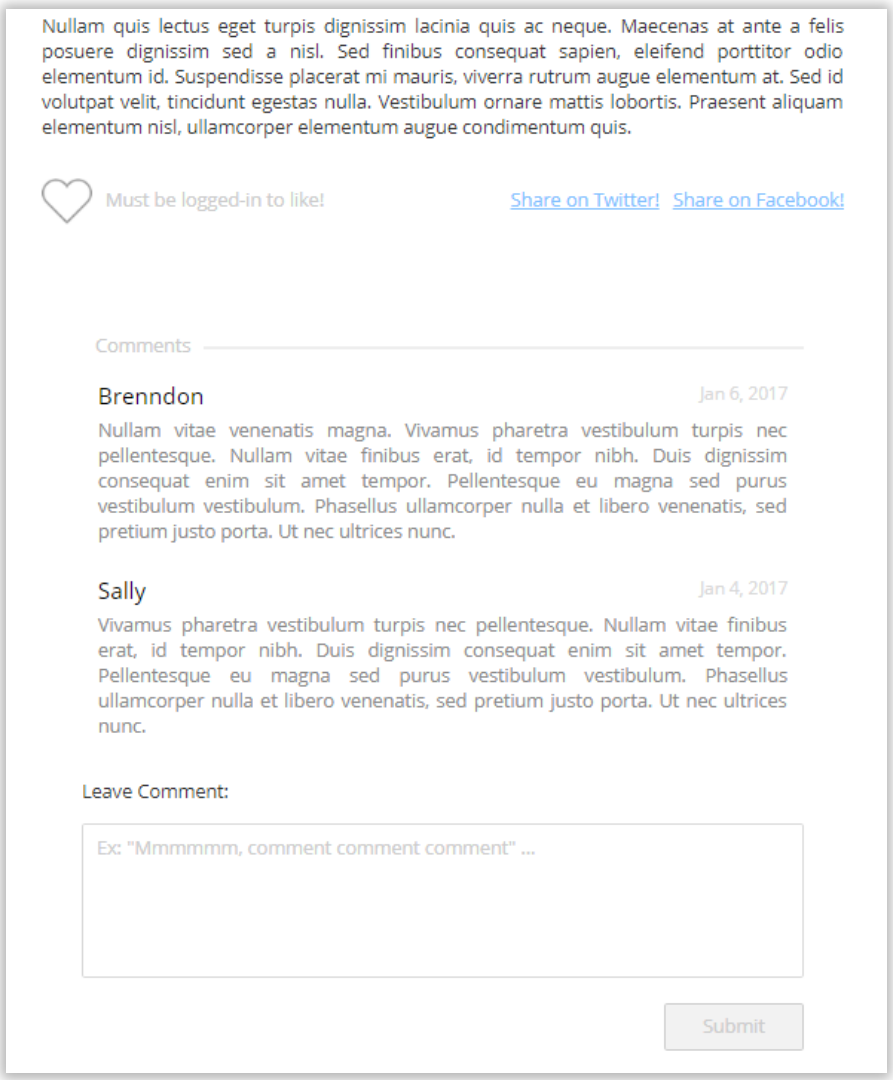


Figure 23: User Can Like and Comment on Blog Entries

Evaluation Plan

This section serves to lay out the procedure used for data collection. The following can be considered to be guidelines for the further testing of a high-fidelity prototype.

Goal and Purpose

In evaluating the high-fidelity prototype we are interested in a few particular metrics for the sake of establishing completion of goals and reporting, as well as finding new insights directly by observing the user.

One direct goal is to observe the time users take to complete each individual task to compare this to particular associated goals.

Evaluation Team Roles

This evaluation requires only one supervisor which will both observe and time the participant's time to perform tasks.

Measures

We want to measure this prototype's usability. To do this we will set some structured goals and analyze the participant's usability survey.

Two UX goals that we are interested in include:

- Ease of use
- High user satisfaction

Two UX measures that we are interested in include:

- Initial Performance
- First Impression

Four UX metrics that we will record are:

- Performance time
  - Overall Goal Time: 5 minutes
- Number of critical errors
  - Goal number: 0 errors
- User ratings using specific questions
  - Goal ratings: above 4.3 on positive questions and below 1.7 on negative questions
- Success rate
  - Goal Success Rate: 90%

Participants

For our evaluation, our test will include six participants. The interested demographics of the website are unknown, so this will not play into decision of participants. There will be no incentives given to the participants. Recruitment for these participants will be a matter of volunteers from a classroom.

Test Environment

The required environment for testing is simple: a clear table that can hold a laptop and a chair for the participant to sit in, a prepared laptop with the prototype ready, and a space for the supervisor to observer and intervene if necessary.

The supervisor is required to have a timer of some sort, a pad of paper for recording participant critical-errors and notes related to those errors, and the combined survey (Appendix B) and consent form (Appendix A).

Procedures

- First, this supervisor should first set up the computer screen with a sample website that is NOT the prototype such that each user starts with the same time and observation of the prototype.
- While this screen is at this default, this supervisor should discuss information about participation and consent with the user. The supervisor should specifically allow the participant to read the given consent form and offer to read it.
- After the consent form, inform that there will be a usability survey to complete after running through the prepared tasks.
- At this moment, the supervisor should prepare a timer, then give the user the prepared task list (Appendix C), then switch the default screen to the starting, index-page, of the prototype, and immediately start the timer.

As the user completes each task, the supervisor should note the precise times of completion. The supervisor should allow the participant to follow their search in the case that the participant feels or seems off-path to completion. In the case that participant seems to not to be able to complete the task or too frustrated, the supervisor can take the user to the next step. This should be marked as a VOID time on this particular task.

Data

The collected data should be handled with care. The data needs to be handled to later be summarized and analyzed accurately and with care to the privacy of the participants.

Protecting Participant Privacy

- Each of the collected surveys are without an area for the participants names. This will limit the potential for correlation of response with particular participants.
- Each of the consent forms admits to the participant the confidentiality used in the evaluation such that it can become a legal issue if the contract is broken (See Appendix A).

- Each of the consent forms admits to following the GVSU's Responsible Conduct of Research guidelines and provides information to contact the related GVSU Advisory group (See Appendix A).

Summary and Analysis of Data

- Each of the surveys that the participants fill out after the tasks are prepared as parallel to a standard SUS survey as to help with the analysis of this sort of data (See Appendix B).
- The recorded times of performance should be recorded to a data table such that we can find averages and outliers for both each individual task and for the entire observation.

Evaluation Results

This section lays out the recorded data from the session of observing our participants running through the given user tasks on our high-fidelity prototype.

Target Values Compared to Results

Target SUS scores: > 85%
Average Recorded SUS Score: 80.83%

The goal for the reported SUS responses was a reasonable 85%. In the standard descriptions of using this model for evaluating usability, it is reported that results above 68% are considered "above average" [6]. With this website being specifically designed for aesthetics and for pleasant user experience more particularly, the goal was set higher than this.

This recorded average of the reported participant SUS surveys shows that the goal was not met. It can be noted that there was one user that reported significantly lower than the others. Considering that the other users reported results very highly, I would like to handle this user as an edge case. Though, because that rating is *significantly* lower, I would strongly like to resolve the issues that this user would report.

If this user had a better experience, I would imagine these SUS results being around 93%.

Target Time to Task Completion: *5 min, 0 seconds*
Avg. Recorded Time to Task Completion: *5 min, 56 seconds*
Avg. Recorded Time Removing User-6: *5 min, 9 seconds*

My set timed-goal was to have the participants complete the set of tasks within 5 total minutes. This goal was not met, seeing that the average was about a minute higher than that.

"User-6," as see in Figure 24, had a particularly difficult experience with Task-8, with a recorded time of 3 minutes, 48 seconds. In a regular case, I would consider this a very frustrated user, or a user that would have given up before this amount of time spent on this task. Removing this user from the sample would have given us a average time-to-completion of 5 minutes and 9 seconds. This time is still above the desired time-to-completion.

Observations

1. Select users had similar troubles with particular tasks. There was enough similarity in their actions that we could come to propose some reasons for these troubles. This was the case for Task 8, where the user is asked to sign-up for notification, as referred to in Figure 24, in the next section.
2. In the real application of this website, these actions may performed by users much more leisurely. This should be taken to consideration when comparing these results which were very goal-oriented. A leisurely user may have more wandering curiosity and discover things at their expected pace. User-2 as referred to in Figure 24 can be noted to have rushed through the tasks, while User-6 can be noted not to be leisurely exploring, but to having significant troubles with Task 7 and Task 8. The other participants took what felt to be a normal pace, but still more oriented on the goals than I would expect from a potential audience.
3. Particulars of the page of task descriptions drew attention from the participants in evaluation. This may have caused some friction to their performing the tasks.
4. Particulars on the example website drew attention and delay from the participants in evaluation. This delay of the participants could be avoided by having more generalized text, rather than any pop-culture references such as my included "Starwars." Though, again, it should be considered that this site is meant to have a leisurely audience that may be less goal-oriented. The responses from the participants in evaluation may mirror what a potential user would do.
5. In performing Task 2, to then transition to Task 3, in the moment of the participant clicking "like," to have the prototype not respond to that click caused some general delay among participants. This can be shown in several seconds of delay in the recorded times of Task 3 in the data. This can be seen as a bad development of the prototype rather than a design mistake.

Data Tables and Graphs

Task Times - The following is the data for the performance times of each of the tasks given to the participants in the evaluation of the high-fidelity prototype (Appendix C). There are a couple things to note about this data. First, that each individual task has its individual timing data for each participant–we can use this data to analyze each tasks particular ease of use. Second, the total performance times of the participants may also indicate some familiarity with similar designs. By observing the variability between the total times we can see variability in the audience, this should be taken to consideration when making future changes. Much more data would be fruitful for considering smaller design changes where consistency across users is desired.

The following is a list of precise moments that the timings were set to. The full descriptions of each task given to the user can be found in Appendix C.

- Task 1: User clicks "Buy a print," to navigate to purchase an image.
- Task 2: User clicks "Like" on an image.
- Task 3: User clicks "Submit" to sign-up for an account.
- Task 4: User highlights a paragraph of a blog post.
- Task 5: User clicks "Submit," to submit a comment to a blog post.
- Task 6: User clicks "RSVP for event," for the Starwars event.

- Task 7: User clicks “Submit,” to submit a message on the contact page.
- Task 8: User clicks “Get notifications,” to sign up for blog notifications.

Individual Task Performance Times

	User 1	User 2	User 3	User 4	User 5	User 6
Task 1	1:11	0:15	0:26	0:44	0:37	0:24
Task 2	0:28	0:43	0:22	0:23	0:31	0:57
Task 3	1:08	0:29	0:52	0:32	0:44	0:51
Task 4	0:33	0:18	0:34	0:44	0:41	1:13
Task 5	0:25	0:20	0:15	0:10	0:28	0:40
Task 6	0:37	0:22	0:38	0:30	0:34	0:37
Task 7	0:37	0:20	0:28	0:24	0:44	1:18
Task 8	0:22	0:34	0:28	0:34	0:42	3:48
Total Time	5:37	3:27	4:23	6:48	5:30	9:51

Figure 24: Full Data-Set for Performance Timing.

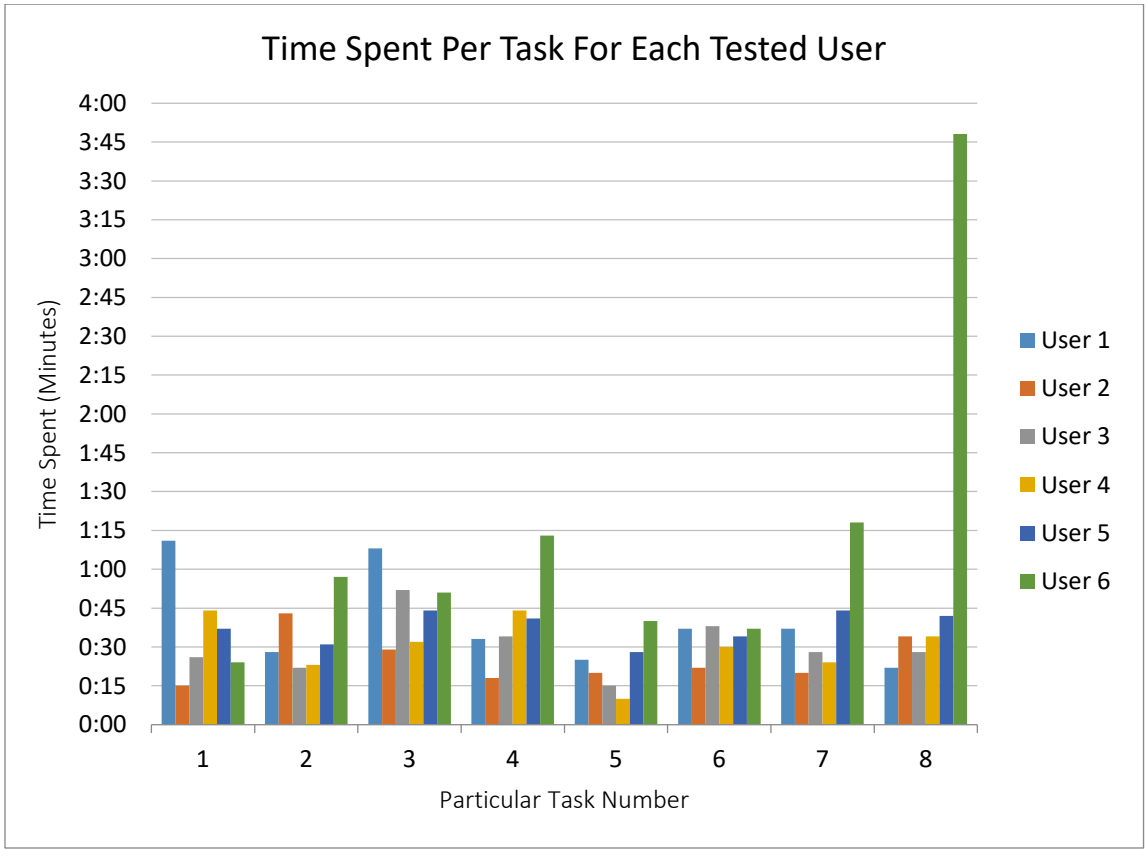


Figure 25: Individual Distribution of Task Completion Times.

SUS Report Values - Figure 26 represents the full data set of the reported results from the usability survey given to the participants immediately following their performance of the set of tasks, before any discussion of the website. An example of the actual form given to the participants can be found at Appendix B. Following the table of data, Figure 27 presents a visual of the various amounts of time each user took to perform the given tasks. This bar graph may help in recognizing the amount of variation between users.

For reference, the following are the questions that the participants were directly responding to:

- Question 1: I think that I would like to use this website frequently.
- Question 2: I found the web pages unnecessarily complex.
- Question 3: I thought the website was easy to use.
- Question 4: I think that I would need to ask for help to be able to use this website.
- Question 5: I found the various functions in this website were well integrated.
- Question 6: I thought there was too much inconsistency in this site.
- Question 7: I would imagine that most people would learn to use this website very quickly.
- Question 8: I found this website very cumbersome to use.
- Question 9: I felt very confident using this website.
- Question 10: I needed to learn a lot of things before I could get going with this website.

The following table, figure 26, represents the values given on the form translated from the initial markings to a rating of 0 - 4, where 0 denotes bad usability and 4 denotes good usability, following the standard SUS system.

SUS Survey Scores For Each User and Question

	User 1	User 2	User 3	User 4	User 5	User 6
Question 1	2	3	2	3	2	1
Question 2	4	4	4	4	3	0
Question 3	4	4	4	4	2	2
Question 4	4	4	4	4	4	0
Question 5	3	4	4	3	3	2
Question 6	4	4	4	4	4	4
Question 7	4	4	4	4	4	0
Question 8	4	4	4	4	4	0
Question 9	4	4	4	3	3	1
Question 10	4	4	4	4	3	1
Total Scores	37	39	38	37	32	11
Percentages	92.5	97.5	95	92.5	80	27.5

Figure 26: Full Data-Set of SUS Results

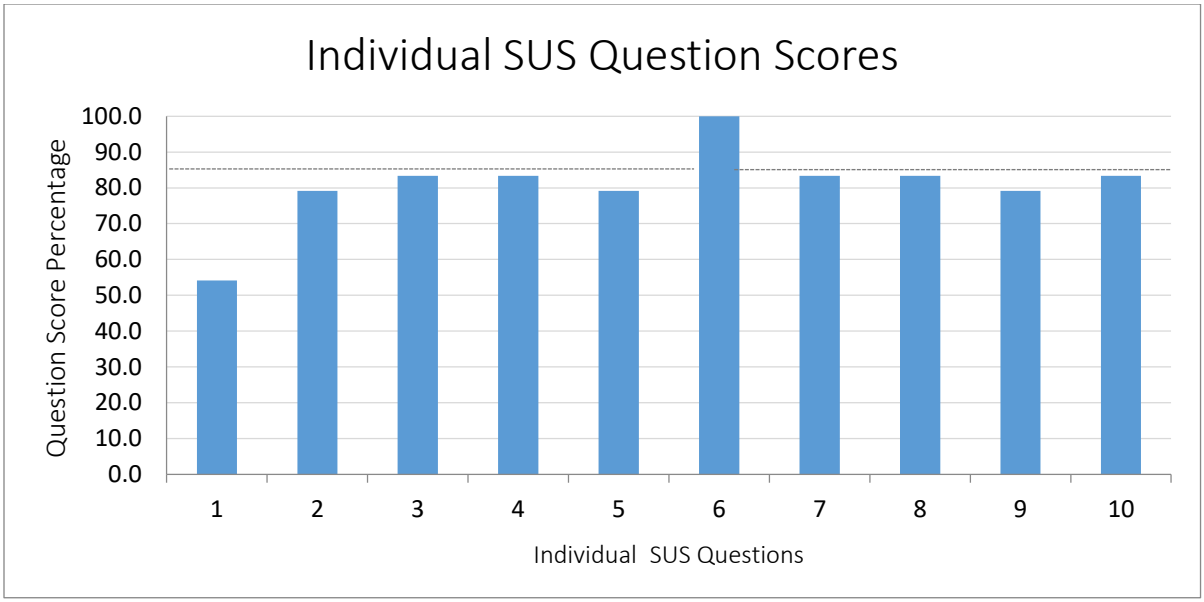


Figure 27: Individual Average Scores for Each SUS Question (with a line at 85% for goal).

Design Reflection #2

This section provides description of reflection on potential new designs in consideration of participant's performance in doing the user tasks.

The following are a list of changes to be made.

User Wants Notification of Updates

In observation of a couple participants, there was an issue of finding where to sign up for notification. In these users, when prompted with Task 8, "Sign up for notifications on new blogs," their path of thought was in emphasis of the word "blog" in the task. These users looked to the blog page for something about notification. These users also looked to the bottom of the page, in the footer, for potential links (Figure 28). The ability to request update notifications was within the user settings due to its direct relation to the user's communication with the site, for the capacity for future toggling.

A potential change to be made here would be to change the wording of the user task itself such that there is less of an emphasis on "blog," but rather to something emphasizing the notifications to see if the same effect occurs.

Another potential change could be to catch and help the users of this case. We could put a link in the footer–as well as on the blog page–that would take the user to the correct destination. This could serve as advertisement of the possibility of site notifications to the others as well.

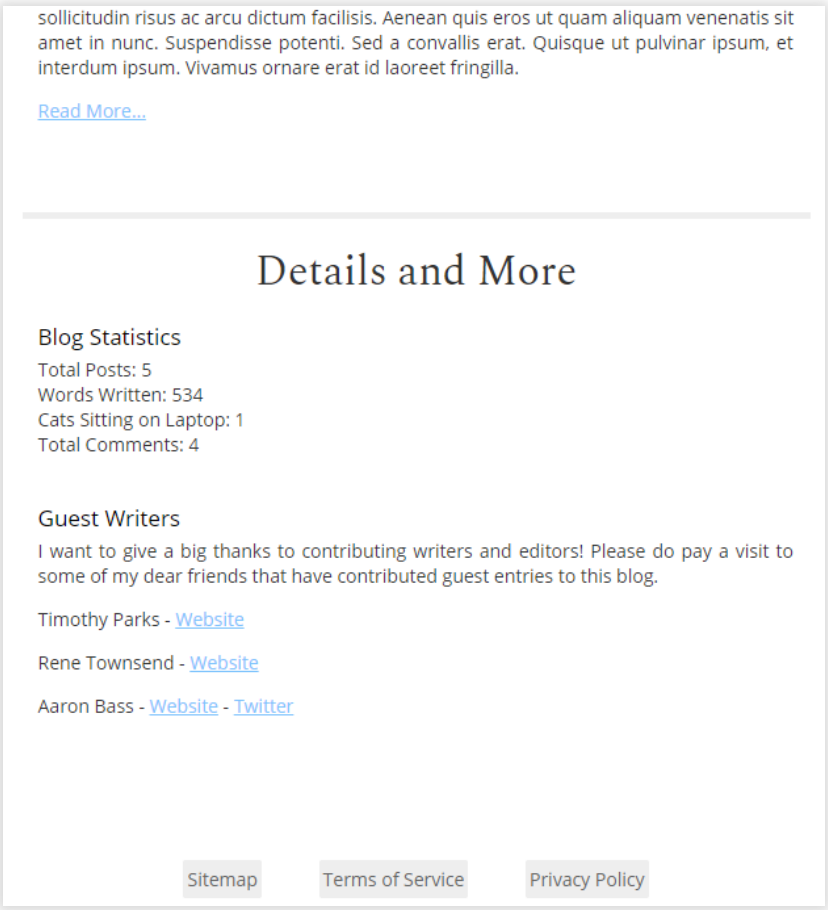


Figure 28: Bottom of Blog Page and Footer

Contrast of the "Login" Button

In discussion with some participants, these users mentioned the difficulty in seeing and reading the top "log-in" and "sign-up" buttons (Figure 29). This was further brought to importance by the general difference in monitor display that was discovered by using the specific laptop used for the testing; the general contrast on some displays makes these buttons much less visible.

A potential change here is to choose darker colors of blue for the outline of this small box at the top. The choice of a light blue was intentional to signify the separateness from the main content. Its lighter nature and this separateness in color and alignment may help returning users be less distracted by this space. Going forward, I will aim for a darker blue and an intentional observation of varying displays. This case does bring to light this tension between the importance of an effect on the general or desired user and the importance of general and more unique accessibility issues.

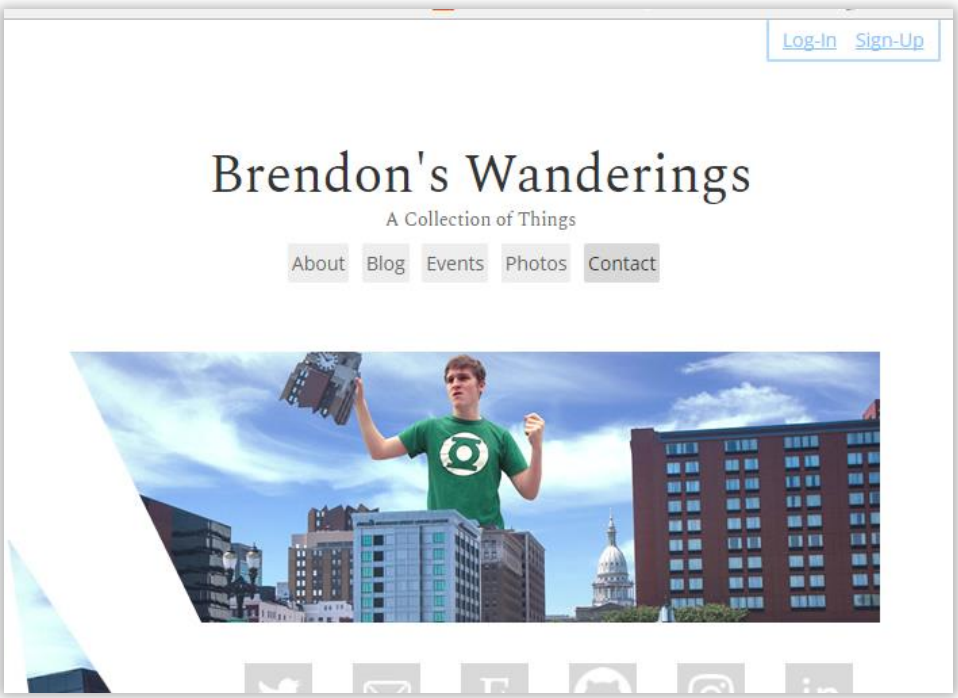


Figure 29: A Display of the Log-In Box in the Top Right Corner

Conclusion

This section means to describe some overall lessons learned during the time of performing this exercise.

Usability Testing – In the time of the course, I found the specifics and framework for fruitful and convincing analysis to be incredibly useful. Particularly the specifics of metrics to be recorded such as performance time, number of clicks, what the first click performed by test participant, and gathering user ratings using a survey designed similarly to SUS standard.

Designing Good Paperwork – To learn a proper way for preparing documents in iteration as if consulting with a client has given me much confidence in this area. Complimentary to this, to be able to have academically suggested material to pull from in the future is something I'm glad to have. In some future document I will be more inclined to pull from known guidelines of UX experts when making an argument to my design choices.

Resources for Future Reference - I feel considerably happy to now have a good set of documents and authors that I can refer to. These website sources and notable authors, as well as sites and resources found by my own searches–prompted by this class–are sources that I have come to document for future use. With my interest in helping artists and writers to have websites that have both high-usability and aesthetic appeal, I will take these lessons and documents with me into the future.

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[6] US Dept of Health and Human Services, "System Usability Scale (SUS)," *Usability.gov: System Usability Scale (SUS),* Visited 8 Dec 2017, https://www.usability.gov/how-to-and-tools/methods/system-usability-scale.html.

Images Used

[1] Pixabay, "Low Angle View of Laptop Keyboard," CC0 License, *Pexels*, 2017, https://www.pexels.com/photo/book-computer-design-development-326424/.

Appendix A – Consent Form

Brendon Murthum

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17 November 2017

A Usability Study of Student Website

Consent Form

You are invited to take part in a research survey about the usability of a sample website. Your participation will require approximately 10 minutes. There are no known risks or discomforts associated with this survey. There are no benefits to taking this survey. Taking part in this survey is completely voluntary. If you choose to be in the study you can withdraw at any time without adversely affecting your relationship with anyone at Grand Valley State University. Your responses will be kept strictly confidential, and digital data will be stored in personal computer files after it is entered. Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified. If you have questions or want a copy or summary of this study's results, you can contact the research at the email address above. If you have any questions about whether you have been treated in an illegal or unethical way, contact the Chair of the GVSU Responsible Conduct of Research Advisory Board, Glenn Valdez at 616-313-3798 or valdezg@gvsu.edu. Completing this survey indicates that you are 18 years of age and indicated your consent to participate in the research.

<<< See Other Page For Survey >>>

Appendix B – Usability Survey

Usability Survey

Please circle numbers below as they relate to the statements provided. The numbers below arrange from strongly disagree to strongly agree.

I think that I would like to use this website frequently.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I found the web pages unnecessarily complex.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I thought the website was easy to use.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I think that I would need to ask for help to be able to use this website.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I found the various functions in this website were well integrated.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I thought there was too much inconsistency in this site.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I would imagine that most people would learn to use this website very quickly.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I found this website very cumbersome to use.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I felt very confident using this website.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

I needed to learn a lot of things before I could get going with this website.

Strongly Disagree — 1 2 3 4 5 — Strongly Agree

Appendix C – Sample User Tasks

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17 November 2017

User Tasks

Task 1 – You saw a photo that you liked on Instagram. You came here to search for it. Buy a print!

Task 2 – "Like" another image from that album.

Task 3 – You need to sign-in to do that! But you haven't used this site before. Sign up for an account. (Don't worry about liking that image from Task 3 after logging-in.)

Task 4 – You heard Brendon talking about something he wrote the other day. With your mouse, highlight a paragraph of a blog post.

Task 5 – Leave a comment on that post.

Task 6 – Brendon mentioned a Starwars Marathon the last time you saw him. RSVP for that event.

Task 7 – You want to leave Brendon a message. Send one.

Task 8 – Sign up for notifications on new blogs!