INFO 2300: Milestone 1

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Client Description

Client: Big Red Bikes

Big Red Bikes is Cornell University's student-run bike share system that aims to provide a bike share service that is convenient, reliable, and free for all Cornellians. You must be a member of Big Red Bikes before you can check out a bike and registration is free for every Cornellian. Cornellians must register to be a member on the Big Red Bikes website.

Borrowing a bike is a 3 step process:

Step 1: Ask to check out a bike at the service desk at any of the three stations (Appel Commons, Mann Library, and Uris Library). Bring a Cornell ID with you. The service staff will provide you with a helmet and key for your bike. To check on bike availability Cornellians can check the website which is updated every 5 minutes noting each of the three stations availability.

Step 2: Unlock the bike, wear your helmet, and go! Big Red Bike's bike locks are heavy-duty, so they recommend you carry it in a backpack while you ride your bike.

Step 3: Return the bike at any of the stations before they close; you don't have to return it to the same station you borrowed your bike from. You may incur fines if you keep the bike overnight.

Client Expectation

The client expects the website to be completed by the end of this semester. They want it to integrate their two websites into one (1 Information Site Cornell Website, 1 Sign Up Site Zagster Website). They also want the website to have a cohesive design.

Who is the target audience of the site?

The target audience of this site is undergraduate Cornell students and everyone who pays the Student Activity fee, which funds this program. The site is geared toward those students who want to learn about Big Red Bikes participate in the bikeshare program. The site will also include functionality for administrators who need to use it to manage the program.

What is the purpose of the site?

The purpose of the site is twofold: for undergraduates to use the bikeshare program at Cornell and for administrators to manage the bikes. The components for students include information allowing them to learn about Big Red Bikes, signing up for the program, finding the location of available bikes, checking when a bike is due back, and accessing and editing some information on their user page. The components for administrators include checking bikes in/out, managing and viewing the location of the bikes, adding

and removing bikes, and flagging a bike that needs to be temporarily removed for repairs.

<u>What is the primary content?</u>
The primary content is comprised of information pages that allow users to learn about the program, functionality that allows the bikeshare program users to participate in the program, and functionality for the administrators to manage the bikes.

<u>What are the interactive elements that the client wants implemented?</u>
Users should be able to sign up for the program (create an account with their netid), login to their account, and change their contact information. Administrators can check bikes in/out to users, add/remove bikes, find out who currently has a bike, flag bikes to take out of availability, and manage the location of bikes. There are also features such as looking up where bikes are available or when they are due back.

<u>Web Hosting Plan</u>
The client is able to host their page on the Cornell website so they plan to continue using it, but they are also open to looking at paying their own hosting service.

<u>Compromises?</u>
As of now it seems that all of our client's expectations can be met. There are currently no compromises that we foresee needing to be made.

Project Requirements

<u>Content</u>
The content of the site will include the home page that gives a brief overview of the site, along with any news or announcement site administrators wish to share with the users. It will also a include a sign-up page for new users, login page of current users and administrators, a user page for each user detailing the user's current and past activities, and an information/about us page for more detailed information about the site.

As for interactive elements on the site, it will include a search function for users seeking bikes based on location, and interactive map powered by Google Map javascript API which display information about bike availability at renting sites.

Through administrative logins, more content will become accessible allowing admins to check bikes in or out, add or remove bikes, flag bikes for repair, and edit bike database for appending or removing bikes at renting locations.

How website content matches goals for target audience:
The target audience for the site are the users and the administrators. The site will provide users with bike rental information, allows users to manage their profile, view activity history, view bike availability. It allows administrators to manage site information and announcements, and bike database.

<u>Design</u>
Design elements:
After speaking with Big Red Bikes, they have decided to keep the current color scheme of their site: carnelian red and white (Cornell's colors). Our color swatch for the entire site will be an analogous split based around these two rudimentary colors. A sharp non-Serif font will be used predominantly. In regards to the overall layout, and F-layout design will be used with a top-page navigation bar. New graphics will be rendered to add to the overall design in hopes of creating a site that has finesse but is not too visually overstimulating. In addition, we plan to redesign the logo from the current logo shown below to create a more modern and captivating look.

Why certain design choices are made:
We have made these design choices based on what the executive board of Big Red Bikes wants in their new website. The color scheme is inspired by our school's colors and will serve to better connect with Cornell students, target audience, who wish to use Big Red Bike's services. In addition a clear non-Serif font will aid viewers in understanding Big Red Bike's text content. The F-layout and top-page navigation bar will making locating vital information efficient, as research has proven these site features aid viewers the most in finding what they need quickly. Lastly, the new graphics and logo will create a sense of a "grand opening" for Big Red Bikes and will likely attract new customers.

<u>Interactivity</u>
Creative Interactivity, how they add value:
Includes google map javascript API to track bikes at renting locations, the map will feature pins for each location displaying information such as bikes availability, renting hours etc.

Log-in system to unlock extra functionality:
There will be one login for both users and administrators, however administrators will be able to unlock extra functionality once logged in. The login for administrators will facilitate them in adding content to the site via our platform and allow them to view user information. On the other hand, the login for users will display information to said user such as due date of bike, rental history, etc.

<u>Database</u>
A database will be used to keep track of members, administrators, and the bikes. Big Red Bikes needs a database for several reasons. They need to record the contact information of their users, since they are lending them bikes. This will also allow users to be able to register for the program online, login to see when a bike is due, and change their contact information. The database will also allow administrators to login to a system where they have special privileges. This is important because only administrators can rent out bikes

to students, add or remove bikes, or flag a bike as out of service. Finally, the database will manage information about the bicycles. The bikes are the central component of Big Red Bikes's program and each one must be accounted for. This includes information such as the bike's current location, who, if anyone, is using the bike, the last time it has been used (for wearing the bikes down evenly), and whether it is out for repairs. A database is clearly critical to the intended functionality of the site and will allow Big Red Bikes to make their program easy to use for both users and administrators.

Scale
How large will the site be (number of pages):
Our current estimate is that the site will be 15-20 pages in total, as there are multiple information pages plus pages with functionality for users to register/login and edit information and for administrators to manage the bikes.

Number of hours of work it will require to finish the site:
It will take at least 65 hours to complete the project since there is a lot of functionality that needs to be implemented.

Why scale is well suited to scope of the project:
We believe that this site is well suited for the final project, as it will require the application of many different concepts we've learned through the semester. Big Red Bikes requires a database and interactivity on their website which fulfills the course project requirements. The scale of the project is challenging but manageable with a group of four people and proper planning.

Work Distribution

Abdulkareem Adesokan
Junior in Computer Science, Electrical and Computer Engineering Minor
Strengths: Javascript, Bootstrap CSS, PHP
Team Role: PHP and Javascript interaction

Abdul will be responsible for the PHP and Javascript interactions, making sure that Ariel website design interacts as intended with the Kristen SQL database implementation. He will also be responsible for adding meaningful javascript elements to the site, for added interactivity. He will have to ensure that site is just as effective with javascript disabled.

Abdul and Kristen will discuss how to best design the database schema in way which simplifies PHP usage since PHP will be used for database queries. At early stages of the project, Abdul and Ariel will have to agree on a feasible and maintainable design layout, allowing for a consistent interaction throughout the site. At all stages of the project, Abdul will discuss with Claire possible test cases, testing both edge and trivial cases to ensure a bug free site.

Ariel Soriano
Junior in Information Science, Business Minor
Strengths: CSS, PHP, Graphic Design (Illustrator, Photoshop, Fireworks)
Team Role: Website design, Information Architechture, Validation checking

Ariel will essentially be creating the framework for which the whole website will be built upon. From creating custom graphics using Adobe Creative Suite software to implementing the color scheme, he will be in charge of how the site looks visually and how all the different pages come together--achieving a uniform look. The CSS3 library for the entire project will be headed by Ariel. In addition, the information architecture will be reworked by him using an appropriate card sort method to find the best location for each individual web page. If required by the client, a the design of a mobile site will be created by Ariel.

The validation of all sites will be done by Ariel as well as checking for orphan pages and broken links. From this, he will also be in charge of general debugging and making sure all features fall into the design scheme. Ariel's role interfaces most closely with Abdul's role of interactivity as the features must appear consistent with the site theme. However, the overall design role affects the other 2 roles since it provides the foundation for how users will interact with our SQL database and website content (Kristen's and Claire's roles).

Kristen Tierney
Senior in Mathematics, Computer Science Minor
Strengths: SQL, PHP, database design
Team Role: SQL database implementation

Kristen will be responsible for the aspects of the project related to the database. She will in charge of designing the database schema, including collecting information from the client about different integrity constraints involved with their program works and designing ER diagrams. She will also help implement the SQL queries to the database in the later stages of the project.

When designing the database schema, she will interface with all the other members of the group. This is because it is essential that everyone understands and agrees upon the database implementation. During later stages she will interface primary with Abdul, who is handling the interactive elements of the websites, as the interactive elements will sometimes need to query the database. This role will also interface with Ariel's role since the design of the website and how the users interact with the database are connected.

Claire Blumenthal
Senior in Industrial and Labor Relations, Business and Information Science Minors
Strengths: SQL, CSS, Content/Navigation
Team Role: Team leader, Organize website content, User testing

Claire as the team leader will be working a lot on project management and making sure all of the group members get their parts of the project completed in time. She will also be making sure that each person's part of the project interfaces well together. She will be in charge of developing the website content and fitting it all nicely on the site with a clear navigation between pages. Also, Claire will be in charge of organizing how user testing will be performed.

How each person's work will interface with that of the others:
We have broken up the different components of the website and we will meet frequently as a team to make sure all of the pieces fit well together. We are using Google Drive and Github to communicate as a group and keep our project work all in one place.

How goals of the project are covered by the distribution:
By dividing up the work in this way we will be able to accomplish all of the goals of this project. We used Milestone 2 to help us know how to divide up the work as that Milestone broke the project up into three parts: database implementation, website design, and PHP interactivity. Since we have four people on our team the fourth person will focus on keeping all aspects of the project consistent by maintaining communication among group members. The fourth person will also lead the teams user testing and putting content on the website.
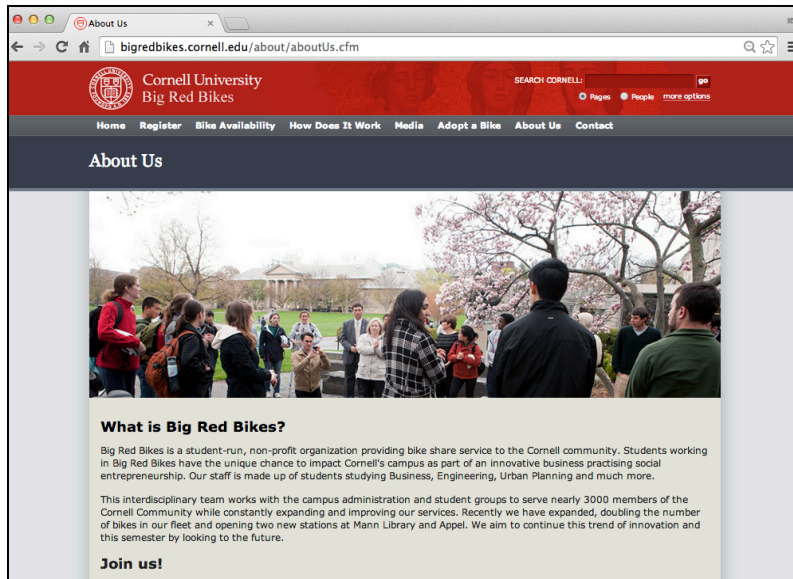
Appendix: Big Red Bike's Current Website

Essentially every page will be redone for formatting with a lot of the content staying the same. We will be combining their Cornell Big Red Bikes site with their Zagster registration site. Please find screenshots of both websites below.
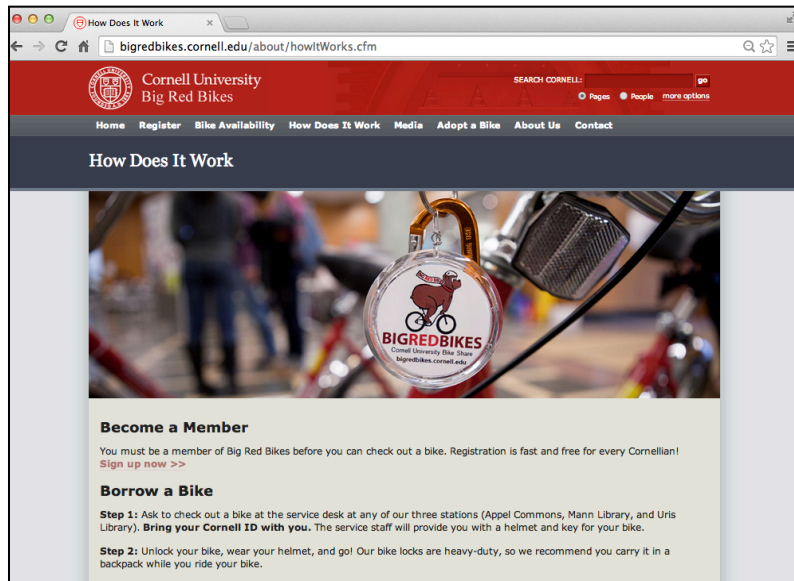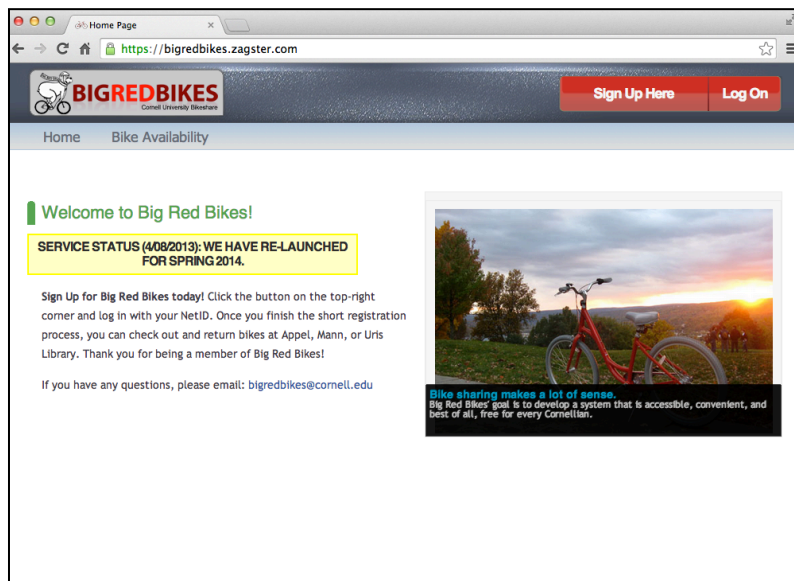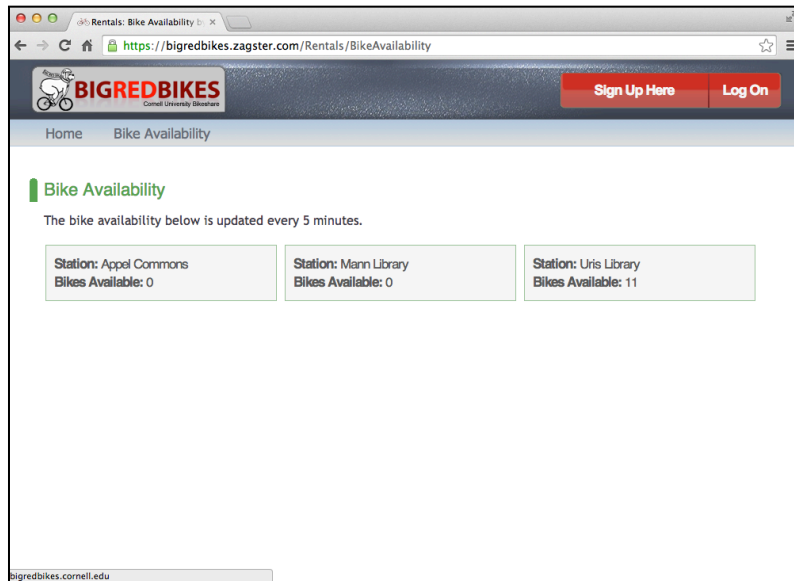
The Cornell Website: http://bigredbikes.cornell.edu
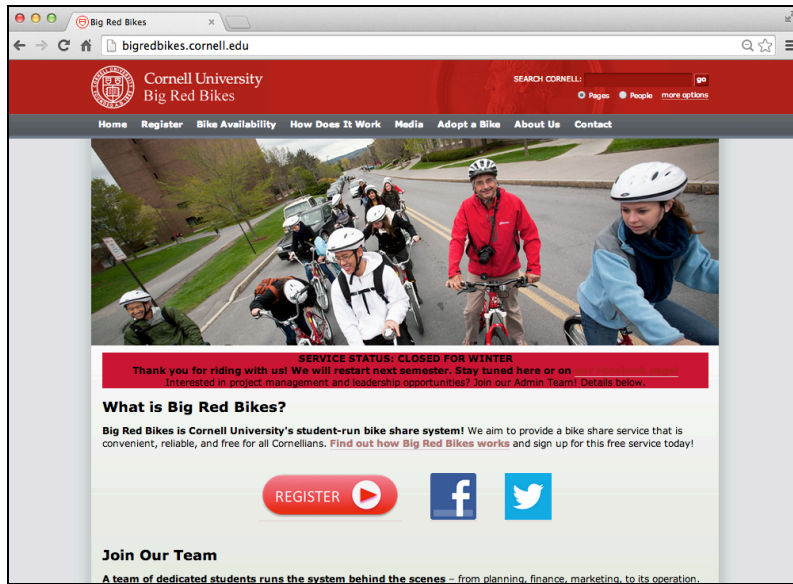
Home page

About Us page

How Does It Work page

The Zagster Registration Website: https://bigredbikes.zagster.com/

Welcome page

Bike Availability page