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Crowd-Sourced City

Final Project: BikeCuriousNYC.com

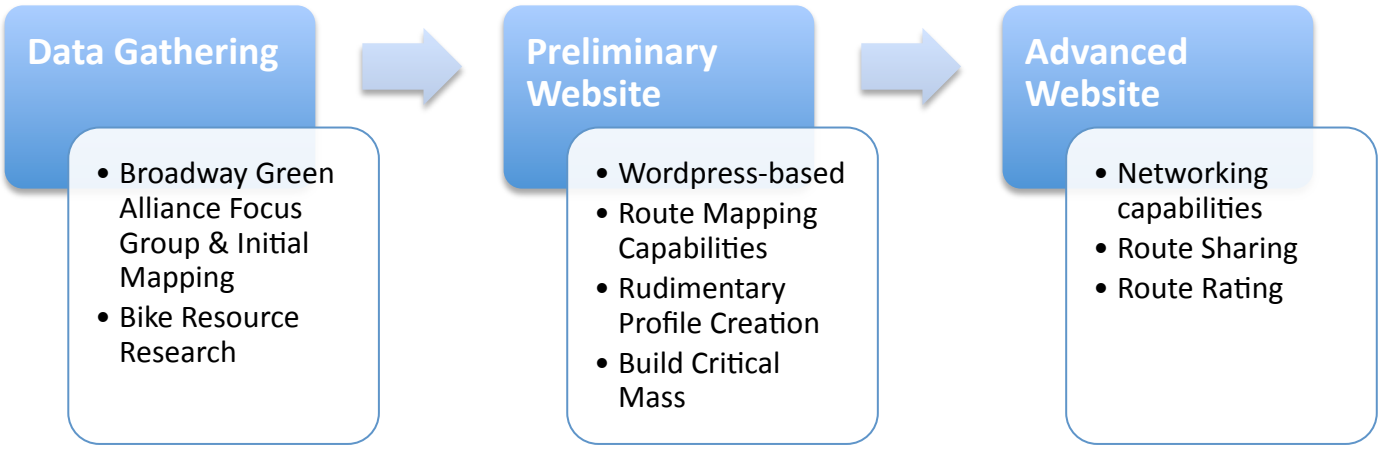
Creating a Bike Networking Platform for Midtown Manhattan

Introduction

Our group worked with Transportation Alternatives, an organization that advocates primarily for bicycle safety and increased ridership in New York City. They have lobbied extensively for improved bicycle infrastructure and bike lanes, as well as promoted the use of public transportation. However, for many bicyclists, Midtown Manhattan is a notoriously unsafe and intimidating space to ride a bike. Transportation Alternatives feels that if Midtown can be transformed into a bicycle-commuting hub, the rest of the City will quickly follow suit. Our job was to support this effort. Transportation Alternatives asked us to explore patterns of ridership, particularly between veteran and novice riders, in the Midtown area to ascertain what resources are needed to support and facilitate bike riding in the area. After thoughtful background research and discussion with our focus group, the Broadway Green Alliance, the project that we ultimately implemented was a website that would allow riders to connect with other riders and share route information. At the front end, our website allows riders to network with other riders, and on the back end, the website acts as a data gathering tool on biking conditions in the Midtown area for Transportation Alternatives. Our website is called BikeCuriousNYC.

Project Implementation Process

Our project was carried out in a series of phases. In their broadest form, these steps are outlined below.



I. Broadway Green Alliance: Data Gathering and Focus Group

At the outset of the project, our concern was identifying the factors that contribute to one's decision to ride their bike, particularly in the Midtown area. Data gathering was the priority. The Broadway Green Alliance (BGA) acted as our crowd-sourcing focus group. We circulated an initial survey to the BGA, which gathered information on riding experience, weather conditions in which they would ride, and primary challenges with riding in Midtown. We also conducted an initial meeting to both discuss the experience of riders in the area and to begin a pilot project, which would crowd-source route information using Google Latitude. Each BGA member would track their bike routes for a week using the program and would send route information to us, with a short blurb about their riding experience. Our hope was to gain quantitative information about the routes that riders were taking and qualitative information about what factors contributed to their enjoyment of the ride.

We received valuable feedback from the exercise:

- Novice riders expressed an interest in being paired with other novice or veteran riders as a way of easing into the biking community;
- Veteran riders showed discomfort at the idea of riding with others;
- While there is significant bike parking in the Midtown area, there is limited information on where it is for novice bikers;
- Information on geography can significantly influence a rider's decision (i.e. uphill or downhill) and is often not available for bike riders;
- Most riders had a set route, which was influenced by a combination of safety and time efficiency factors.

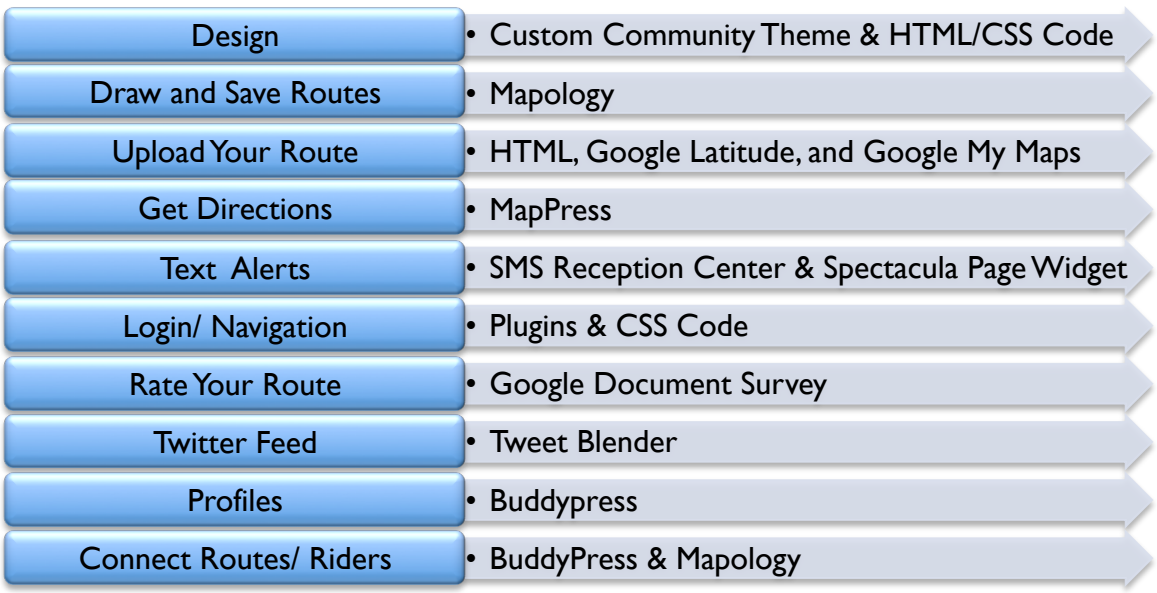
The pilot was also met with several challenges. First of all, a number of the riders had trouble using the Google Latitude program, making it clear to us that any resource that we created had to support other ways of entering route information. Additionally, because the weather was getting colder, the bikers were riding less frequently. Finally, the inconvenience of activating and deactivating the Latitude at the beginning and end of each ride deterred a number of riders.

In addition to conducting the initial research with BGA, we also researched other organizations that supply biking information for New York City to determine what resources are already available to bikers. We felt that it was extremely important not to reinvent a service that is already available, but rather to identify a gap for the biking community. We identified a number of websites, such as Fix City and Spokes.com, which provide information on safe routes and available bike infrastructure. While bike infrastructure was a concern among our focus group, because resources are already available to serve that need, we decided not to have infrastructure as a focus.

II. Website Design and Implementation

With the information that we gathered through BGA and in our own research, we decided to create a website with a primary focus on networking. On the front end, the website would give bikers a chance to connect, post their routes (either manually on the webpage or by uploading a shapefile from their smartphone via Google Latitude), look at other people's routes and share locational information. On the back end, we will be able to aggregate pertinent data regarding the bike routes that people use and how bicyclists make path-finding decisions. "Route Rating" will be a key feature for back end data gathering. Riders will be able to share their views about a particular route and share qualitative information about the ride, including road conditions, traffic issues, safety, and infrastructure.

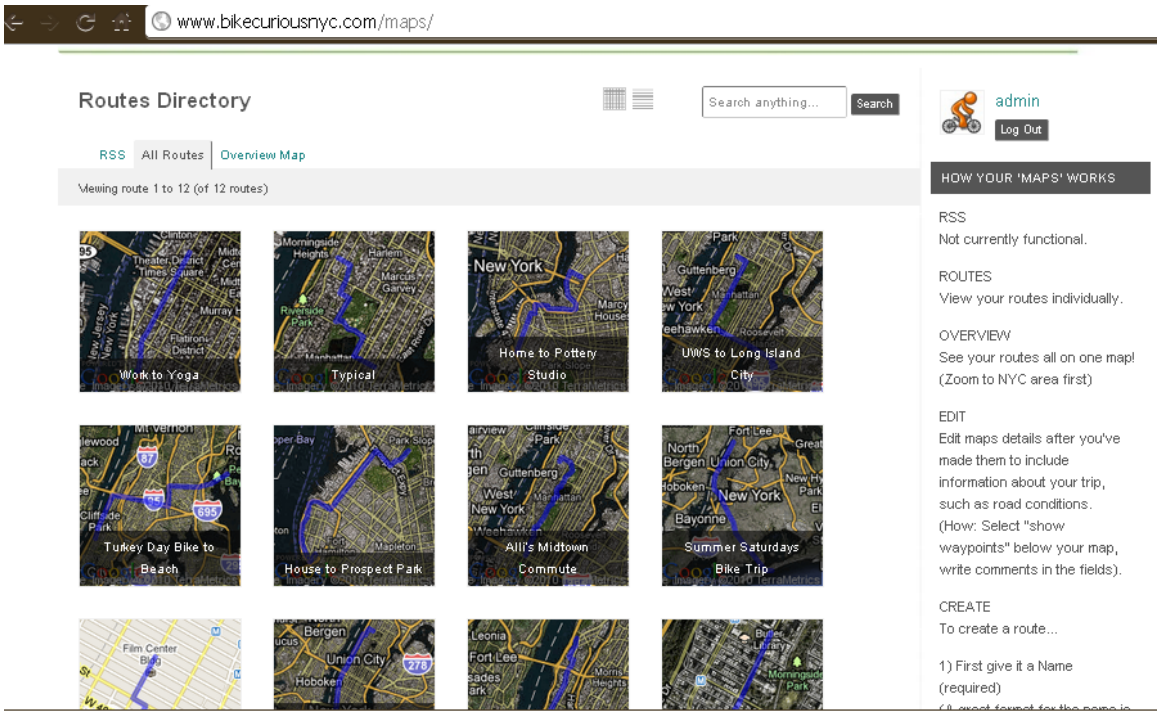
We have created the preliminary website. The website has a number of capabilities that are outlined below, along with the programs that were used to implement these capabilities.



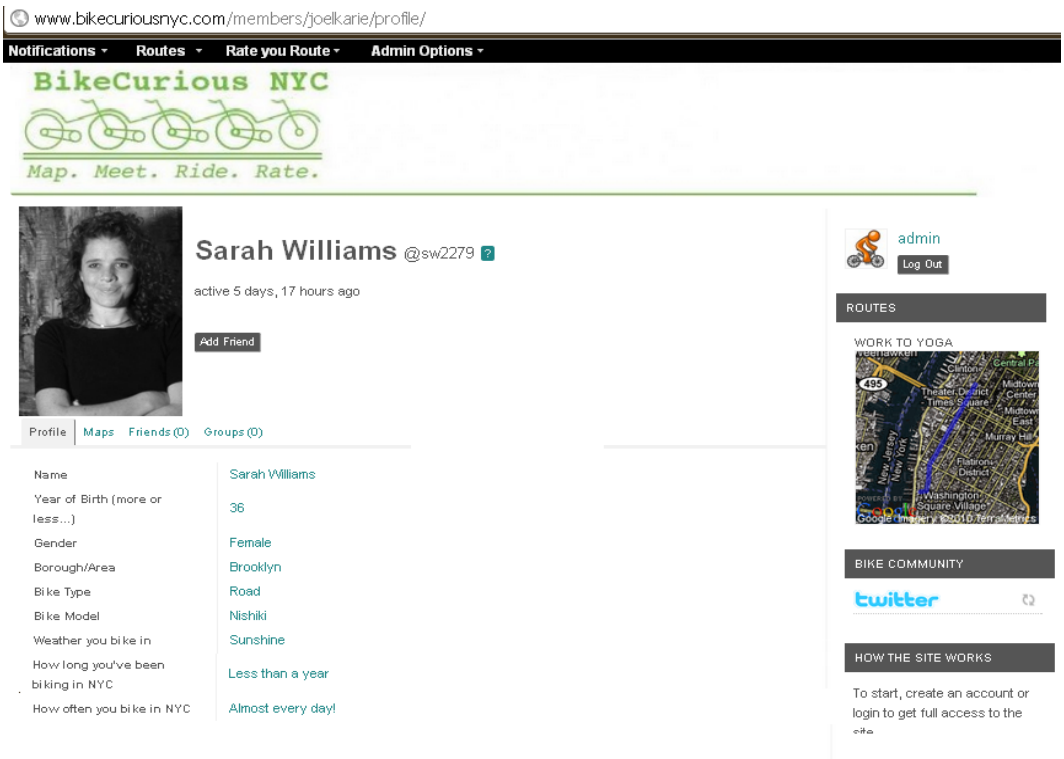
There were a number of challenges with the implementation of the website. Some of these challenges included bugs associated with the new Mapology plug-in, challenges building the HTML button to allow route uploading, automatic spamming on the login page, and problems with navigation customization. Additionally, one of the key features of the original plan for the website, rating routes, has faced some challenges. The rating system does not link directly up to the route that you've rated, taking away from the value that the website has.

That said, the current site has a number of valuable features. On the front end, riders can create a profile, search current members, explore routes that people have taken, check twitter feeds for recent bike news, and connect with other riders. They can also rate their routes, which also contributes to the back end features of the website. At the back end, the route rating system, which needs to be made more sophisticated, allows bikers to add qualitative information about the route that they took. This information could be infrastructure, road conditions, terrain, and other challenges. Transportation

Alternatives can use this information to inform its advocacy efforts in a targeted way. Several of the key website capabilities are featured below.

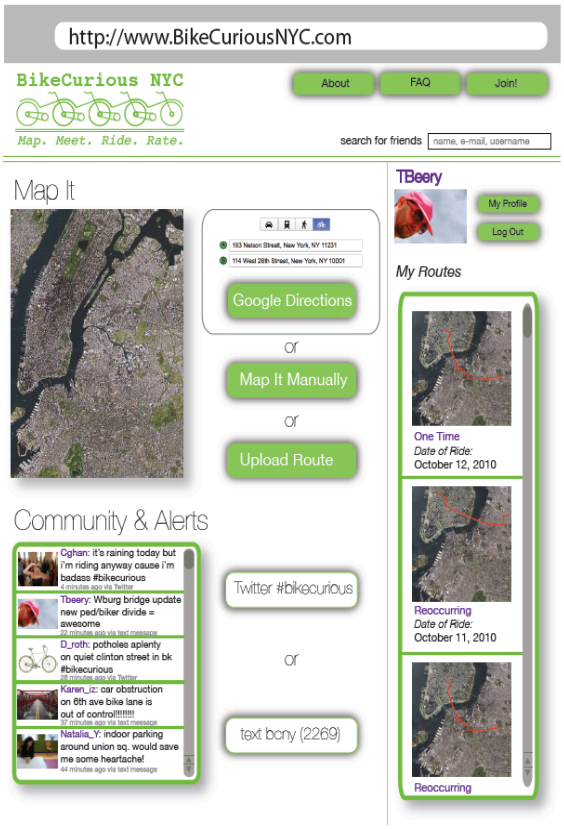


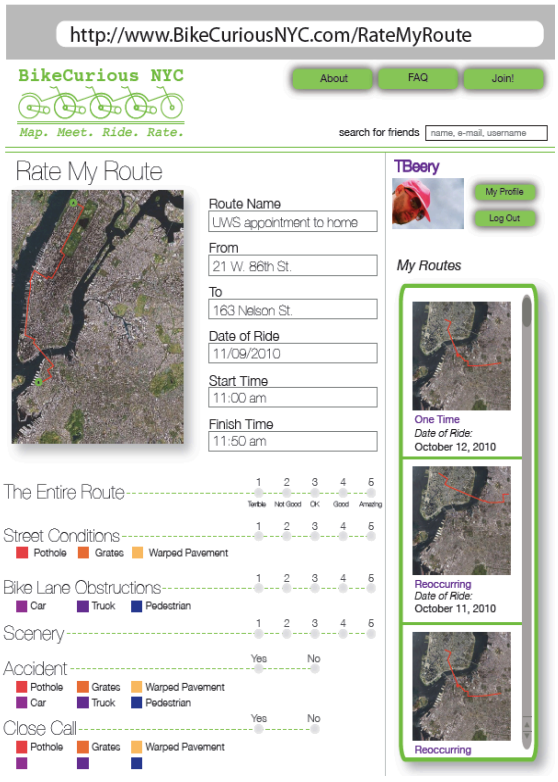
Directory of Member Routes in Manhattan



Profile creation with “My Routes” feature

Future Strategies





Although the direction that the project takes is dependent on the success of the initial stage of the website and the feedback we get back, more sophisticated manipulation of the website is needed. Ideally, this website will act as an online venue that will allow those interested in biking to map their route, save these routes to their profile, rate the routes, and meet up with other cyclists in order to ride together. It will also allow us to compile information about street conditions for cyclists, which routes people choose, and gain a greater understanding of the profile of cyclists in New York.

To meet these objectives, a number of advances need to be made. First of all, the website needs to reach a critical mass to be of value to those using it. To achieve this, an incentive structure needs to be built in to encourage riders to document their rides and provide qualitative information about their biking experience. In addition, several of the current applications need to be strengthened.

On the website, people will be able to:

- Create and save maps manually, using google maps, or uploading via google latitude
- Read & contribute to live Twitter/SMS feed
- Rate their routes and mark specific conditions on map
- Create a route and invite others to join you
- Join a group that rides a specific route
- See overlapping routes that other people are riding at the same time as you plan to ride
- Make a plan to meet up with someone whose route and time match your own

This website aims to connect and grow the biking community in New York City. Through providing practical tools that will help both new and experienced riders, the website will crowd source information regarding biking conditions on the ground. Thus the BikeCuriousNYC website will act as a resource for both bicyclists and bike advocacy organizations such as Transportation Alternatives.