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## Healthy Monday: A Mobile Web Application

Megan E. Snyder

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## Healthy Monday: A Mobile Web Application

A Capstone Project Submitted in Partial Fulfillment of the Requirements of the Renée Crown University Honors Program at Syracuse University

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Honors Capstone Project in Information Technology

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Honors Director:

Stephen Kuusisto, Director

Date: April 24, 2013

## Abstract

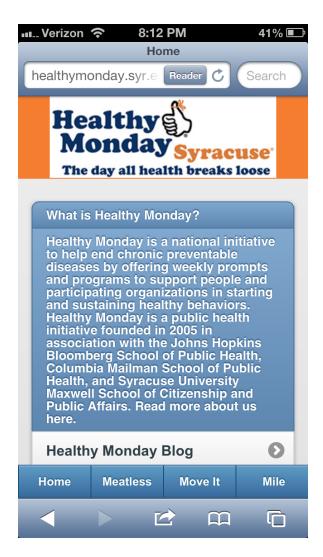
For my capstone project I created a mobile web application to help promote the Healthy Monday initiative. This is a program on campus that is run by the Learner Center for Public Health Promotion that encourages student and people in the community to start the week with healthy lifestyle choices. Healthy Monday's website states: "Healthy Monday is a national initiative to help end chronic preventable diseases by offering weekly prompts and programs to support people and participating organizations in starting and sustaining healthy behaviors. Healthy Monday is a public health initative founded in 2005 in association with the Johns Hopkins Bloomberg School of Public Health, Clumbia Mailman School of Public Health, and Syraucse University Maxwell School of Citizenship Affairs." The mobile web application provides information that focuses on the Syracuse area including Syracuse fitness classes and restaurants promoting Healthy Monday.

The main purpose of the mobile app is as the website is updated, the mobile interface updates automatically. In order to complete this, the mobile web application was built in Cascade, Syracuse's enterprise web content management system, referencing the key components of the current website which allows for both the traditional website and mobile web application to be updated simultaneously. To view the Healthy Monday Mobile Application please go to: <u>http://healthymonday.syr.edu</u> from any mobile device (Android phone, Apple iPhone, etc.)

This can be accomplished by selecting the mobile browser your mobile device employs (Safari, Chrome, etc.) and typing in at the top:

http://healthymonday.syr.edu

Once this is complete- you will see my Honors Capstone project that should look like this:



For further instructions please see **User Interface** (p. 24) in **Healthy Monday: A Mobile Application** 

I ask that you take the time to have fun exploring the Healthy Monday mobile web application!

© Megan E. Snyder, April 24, 2013

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## Preface

As the journey through my Capstone began, I had larger goals to create a native mobile application that would take years to develop and perfect. As a future IT consultant, I learned a valuable lesson: scale the project to a manageable size and accept that along the way there will be new constraints to the project.

Through this journey, I have gained valuable experience of learning about client relations, carving out time when none seems to be available, and gaining crucial insight into the world of mobile web application development.

As a novice programmer and with interest in website development, I thought this project would be a manageable extension of my interests. Instead, it pushed me out of my comfort zone and into the vast world of mobile web development. It has been a bumpy ride but an invaluable experience for my future career goals. It has inspired me to start my own company and continue my learning on website development.

## Acknowledgements

- A special thanks to all those who aided in the completion of this project, it would have not been possible without you:
- Carlos Caicedo, I could not have conceived the idea of this Capstone without your assistance and encouragement
- Lauri Francis, for being the best mentor and spending countless hours going through this project with me, I cannot thank you enough for all the guidance I have received from you.
- Rebecca Bostwick, for being an understanding client and great example of a director, you do amazing work.
- Marcello Prattico, for helping the process along with your skill and expertise in this very complex field.
- Jackie, Molly, and Rachel, whenever I needed someone to sit in the Honors lounge with me late in the night you guys have always been there, your friendship is invaluable to me.
- Ellen, a special thank you for all the times spent talking about my capstone and various other life projects and goals, you are the best.
- My parents, for their constant encouragement with all of my hairbrained ideas.

## **Advice to Future Honors Students**

As a very practical person, I have always understood the value of education but always had a disdain for schoolwork. This Capstone experience has been an invaluable addition to my education. This was not an easy experience but forever worth the lack of sleep, worry, and energy it took.

My advice to you is:

- Develop an affection for coffee now, it will save you
- Make sure you LOVE your topic, not like, LOVE, you will be married to this topic for a couple of years
- If you are a professional or creative person, go out of your way to create a project that you would be proud to show to a future employer, it will serve a great purpose when you start looking for that job.
- Keep in mind that every capstone is different and should reflect your experiences at Syracuse, it makes that project so much more rewarding
- Make some good friends in Honors that will stay up with you and listen to you complain about your project

## **Primary Scope**

For my capstone project I created a mobile web application to help promote the Healthy Monday initiative. This is a program on campus that is run by the Learner Center for Public Health Promotion that encourages student and people in the community to start the week with healthy lifestyle choices. Healthy Monday's website states: "Healthy Monday is a national initiative to help end chronic preventable diseases by offering weekly prompts and programs to support people and participating organizations in starting and sustaining healthy behaviors. Healty Monday is a public health initative founded in 2005 in association with the Johns Hopkins Bloomberg School of Public Health, Clumbia Mailman School of Public Health, and Syraucse University Maxwell School of Citizenship Affairs." The mobile web application provides information that focuses on the Syracuse area including Syracuse fitness classes and restaurants promoting Healthy Monday. The primary function of this application is to market the Healthy Monday message of starting your week off right with an event or healthy tip. The main components of Healthy Monday that are featured on the application are; Move it Monday which is fitness classes provided for free every Monday, Monday Mile which is informative maps of a one mile runs or walks, and Meatless Monday which is parternships with local restaurants that support no meat on Mondays. This information is currently available on the Healthy Monday website that is hosted on the Cascade server. Cascade is an interface that helps to create websites and various other forms of digital media. Cascade was

used to create this mobile web application. No geo-locating app protocol will be used with this application (such as Foursquare®).

The flow of the application is as follows (for visual aids please refer to **User Interface**):

- First, assuming the HM app is installed on the phone, launch the app or go to http://healthymonday.syr.edu which automatically redirects mobile devices to the mobile web application
- Second, the user will be shown the home screen with selections for: Meatless Monday, Move It Monday, Monday Mile, Healthy Monday blog, Resources, Email Us, and a feature to sign up for the newsletter
- Third, the user will select an item from the feed, or choose to view an expanded list of the Meatless Monday, Move It Monday, or Healthy Tips options.
- Fourth the user will be able to expand the item to see a location (with Google Map), event, or tip.
- Fifth, and finally, the user will have the knowledge of the Healthy Monday event, tip, or restaurant so they may have a healthy Monday!

This data is stored on a database hosted by Syracuse University. The content is managed on Cascade Content Management system. Optimal Coding language – HTML5/CSS/JavaScript was used. Some design graphic elements are developed or enhanced by jQuery Mobile.

The site also can be viewed by a mobile device simply by going to the url **http://healthymonday.syr.edu** 

using the phone's native browser. That way, those who have not downloaded the app itself can view the content much a web page. The experience is still improved as the page will display in a format optimal for a mobile device.

## Healthy Monday Initiatives include

The Healthy Monday initiatives that are focused on in this application are:

- Meatless Monday- "restaurant partners who participate in Meatless Monday are now committed to featuring meatless entrees and options on Mondays"
- Move It Monday- "free weekly fitness classes every Monday"
- Monday Mile- "The Monday Mile is a fun way to get in your daily exercise, it easily works into your schedule and helps to jump start your week"
- General Healthy Monday tips through the Healthy Monday Blog

## **User Profiles**

A user profile allows the web application developer come up with useful ways for the mobile web application to interface with the user. It is important to keep these users in mind so that the mobile web application is functional for the desired purposes of the user. It also helps to conceptualize the mobile web application structure so that the interface is user friendly.

#### **Typical Use Scenario:**

- Have users open mobile web application
- Show the user information about events, tips, and restaurant information to promote a healthy lifestyle, starting with Monday
- Receive information about a restaurant with Google map or event.
- This will be based off of the information provided by the Learner Center about Healthy Monday

#### Mom on the go

- Interested in fun activities for the family
- iPhone user, looks up information on the go
- Needs to find a quick healthy restaurant to eat with kids

### College Student

• Interested in a fitness class

- Uses scheduler on her Android phone
- Never can find information on Move It Monday activities easily
- Forgets to attend because when she sees the poster she doesn't put it in her scheduler

## Young Professional

- Wants to join a league for fitness
- Doesn't know how to get involved
- Has a Blackberry that he uses a lot for work
- Isn't able to get information off searches for leagues in Syracuse in web browser

## **Optimal Coding**

The application was developed with jQuery, JavaScript, HTML5, and CSS3.

**HTML5**- There is some HTML5 being used to create the layout of the mobile web application. It is mainly used in the background to make the jQuery Mobile more responsive to mobile devices.

**JavaScript-** Many of the original blocks that are pulled dynamically from the current webpages are called through JavaScript. The mobile detection that is built in to the website is also built through JavaScript. This is key for calling blocks and obtaining information about the device to help the mobile web application appear.

**jQuery**- Jquery Mobile was instrumental in developing the look and feel of this application. It helps to develop out simple HTML to make it "wrapped" with mobile friendly themes. Without the use of the jQuery Mobile template, the mobile web application would not be as well themed.

**CSS3**- The CSS formats the structured content to help create the mobile web application. There is a "Cascading Style Sheet" that helps to run the mobile web application and allows for the content to be formatted.

## **Application Requirements**

#### **Usability Constraints and Requirements**

- The mobile web application has to be user friendly. This means that the user should inherently understand how to interface with the mobile web application to find the information that they are looking for. The user should understand the structure of the mobile web application because of its simple layout. Keeping this in mind, the user should have multiple ways to navigate the mobile web application.
- The interface should be streamlined to not only allow for a pleasant user experience but to help display the content in the most effective way possible. It is important to convey contact information, social media information, and various other updated sources to help create a streamlined experience for the user.
- The design should also convey the message of Healthy Monday. This is why the mission is right on the homepage of the mobile web application and the various components of the website are displayed in two different ares so that the users understands the design immediately.

 In order to expand Healthy Monday, it is imparitive that members of Syracuse are engaged as well. This means that the Healthy Monday mobile web application should allow for users to access information more conveniently so they are more likely to participate in these activities. For example, the Monday Mile is properly displayed to bring up all the current maps, where before it was buried in other menus so that it was difficult to navigate on a mobile device. By making the mobile web application more streamlined this opens up the possibility for more users to become actively engaged in Healthy Monday.

## **Scenario Analysis**

*Meatless Monday*: This feature is for the average user who wants to see what restaurants are participating in Meatless Monday and what they are serving as well as where their location is. This is useful information for the user who wants a restaurant guide.

*Move it Monday*: This feature is for the user who wants to find a local fitness class or Monday mile that fits into their busy workout schedule. This user is interested in seeing a wider variety of options and the details of these classes.

*Map feature*: This feature is for the user to find out the exact location of fitness classes, running routes, and restaurants.

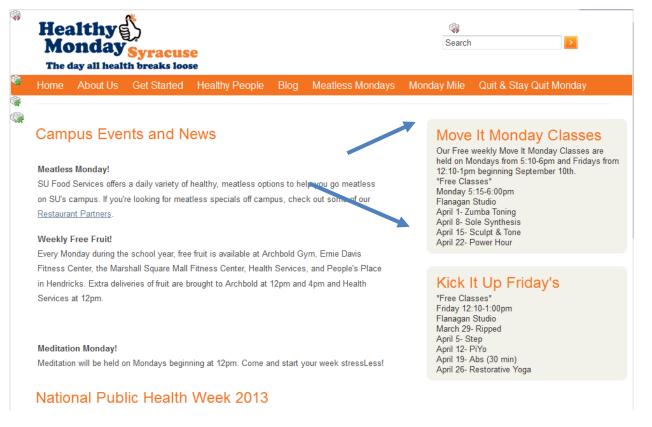
*Blog*: This feature allows users to view a mobile version of the Healthy Monday blog for more tips and advice.

## Architecture of the Application

#### **Organization of A Webpage**

The webpages are organized in blocks, with each block curating content from the Healthy Monday website. Each webpage has content blocks for the header and mobile navigation and main content blocks. This is what the structure of the webpage looks like in the original website with arrows to blocks, Cascade with how the blocks are laid out on the interface, and how that translates into the

Mobile Application:



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Syracuse University Cascade Server Content Management System	Cascade Server v7.0.5   💦   Home   Menu   I



Contact Us If you have questions about the Movelt schedule, contact person's name via email at person rabostwi@maxwell.syr.edu

Kick It Up Friday's \*Free Classes\* Friday 12:10-1:00pm Flanagan Studio March 29- Ripped April 5- Step April 12- PiYo April 19- Abs (30 min) April 26- Restorative Yoga

Move It Monday Classes \*Free Classes\* Monday 5:15-6:00pm Flanagan Studio April 1- Zumba Toning April 2- Sole Synthesis April 15- Sculpt & Tone April 22- Power Hour

	Home	Meatless	Move It	Mile
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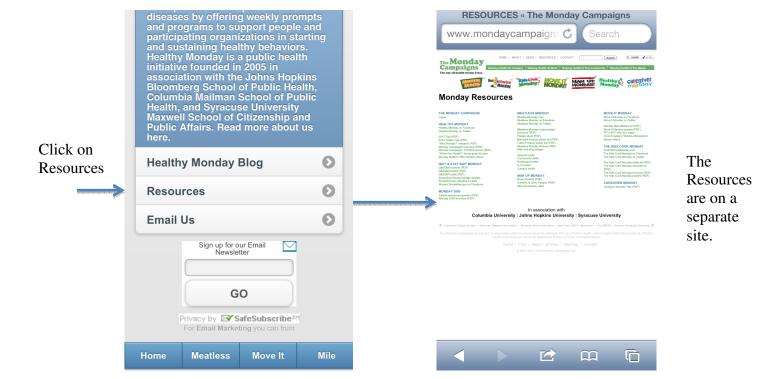
#### **Relationship Between Main Website and Mobile Web Application**

All content blocks pictured above are being dynamically pulled from the main website. Therefore, as the main website is updated in Cascade, so is the mobile web application simultaneously. There is no need to update the mobile web application separately. This makes the mobile web application responsive to all changes and allows for little to no upkeep from Healthy Monday.

The current design of the mobile web application uses select content blocks from the website. If additional blocks are created, the architecture of the mobile web application makes it easy to add that content, or to create a new page topic and include it in the mobile web application.

#### The user can flow through this interface for separate needs. See below. To view blog go to: Go to healthymonday.syr.edu from mobile device change picture Healthyg Healthy Monday Syracuse Monday 'racuse' The day all health breaks loose The day all health breaks loose Blo What is Healthy Monday? Healthy Monday is a national initiative to help end chronic preventable diseases by offering weekly prompts and programs to support people and participating organizations in starting Man Up Monday Comes to and sustaining healthy behaviors. **Svracuse** Healthy Monday is a public health initiative founded in 2005 in association with the Johns Hopkins February 18, 2013 Did you know that young people ages 15-24 account for nearly half of all new STD infections, even though they only account for 25% of those who are sexually active (Centers Bloomberg School of Public Health, Columbia Mailman School of Public Health, and Syracuse University Maxwell School of Citizenship and for Disease Control). **Read More** Public Affairs. Read more about us Click on Box here. Nature with Everton Hibbert, **Healthy Monday Blog** Θ **Episode 1** Home Meatless Move It Mile February 11, 2013 We are excited to introduce you to "Nature, with Everton

### To view other Healthy Monday resources go to the home page (m.healthymonday.syr.edu)



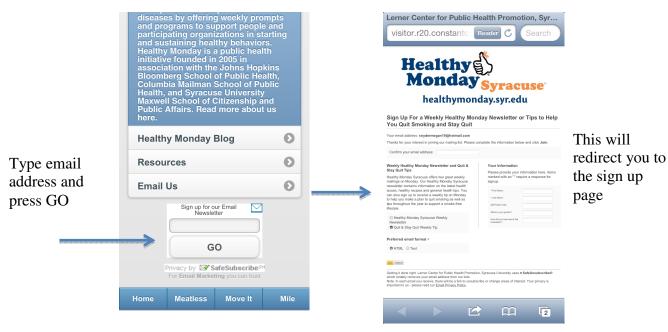
# **User Interface**

### To email Healthy Monday:

Click	diseases by offering weekly pro and programs to support people participating organizations in st and sustaining healthy behavior Healthy Monday is a public heal initiative founded in 2005 in association with the Johns HopJ Bloomberg School of Public Hea Columbia Mailman School of Pu Health, and Syracuse University Maxwell School of Citizenship a Public Affairs. Read more about here.	e and arting S. th kins alth, blic nd	Cancel New Message Send   To: healthymonday@syr.edu   Cc/Bcc, From: snydermegan19@gmail.c   Subject:
Email Us	Healthy Monday Blog	0	Sent from my iPhone please excuse $\Gamma$
	Email Us	0	typos a
	Sign up for our Email Newsletter GO Privacy by SafeSubscribe <sup>5N</sup> For Email Marketing you can trust		QWERTYUIOP ASDFGHJKL ~ ZXCVBNM <2
	Home Meatless Move It	Mile	123

The Mail application will open on the mobile device.

#### To subscribe to the Email Newsletter:





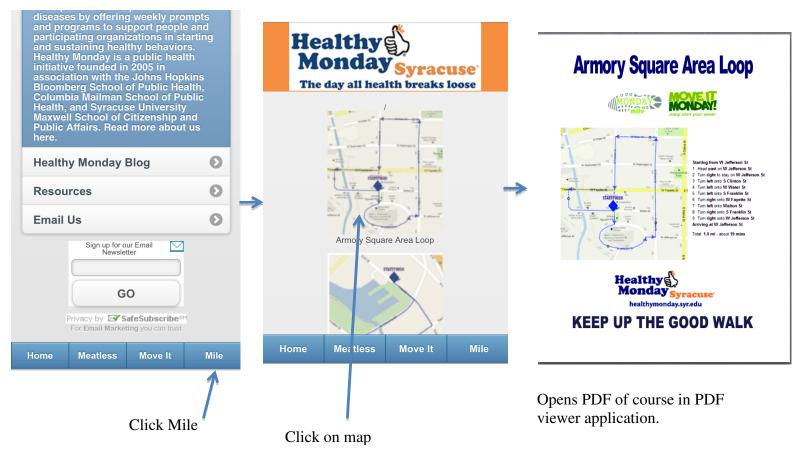
#### To view information about a Meatless Monday Restaurant Partner:

#### To view Move It Monday Class information:



Click Move It

#### To view Monday Mile courses:



# Website Organization

The website for the mobile web application is a subset of the original Healthy Monday website on the Web03 server that is currently managed by Advancement. The folders are held under the Healthy Monday directory in Cascade. The folder of the app is labeled app.

# Mobile Web Application Management

There are little to no updates needed to the mobile web application for Healthy Monday individually. The mobile web application will continue to be updated as the normal website is updated so the team has to take no extra steps to have the mobile web application updated. However, the mobile site will grow in new directions in the future, as do all websites. Marcello Prattico, Director of Web Services at Advancement, manages the Healthy Monday website as one of many Syracuse University websites under his supervision. I have provided Marcello with documentation so he can understand how I structured the mobile web application. One of the challenges in developing any type on online content system is to make it possible to hand it off to others who can maintain it.

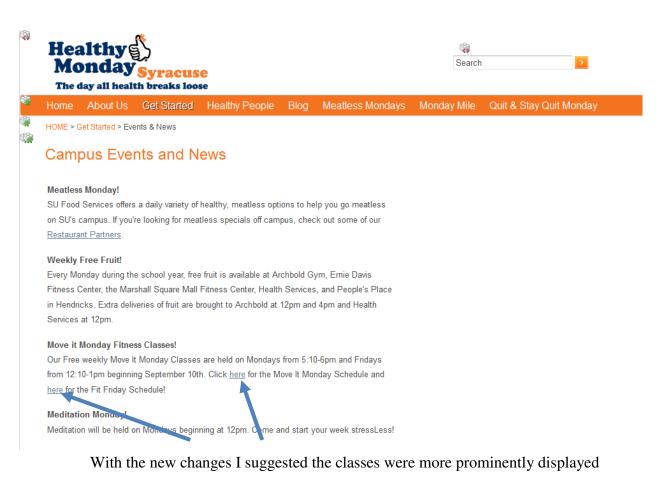
## Accessibilty

In an attempt to make the Healthy Monday mobile web application available to all audiences a test was performed on the accessibility of the application. The mobile web application is both hearing and visually accessible when tested with the current accessible software available to both Apple and Android users. This means that all jQuery, HTML, CSS, and various other coding components are accessible.

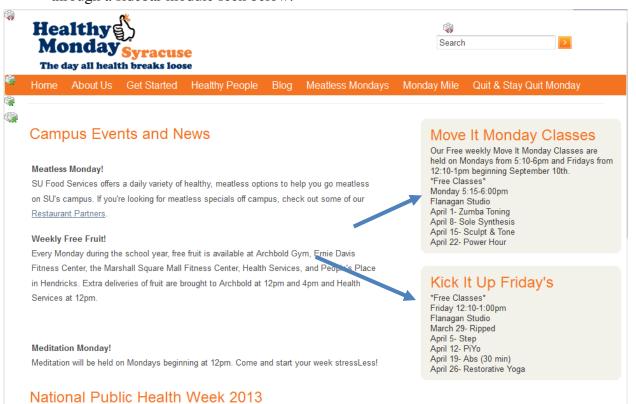
## **Summary of Capstone Project**

Healthy Monday is a local and national initiative that helps people start their Monday off with healthier alternatives so that they may continue this behavior throughout the week. Healthy Monday's website states: "Healthy Monday is a national initiative to help end chronic preventable diseases by offering weekly prompts and programs to support people and participating organizations in starting and sustaining healthy behaviors. Healty Monday is a public health initative founded in 2005 in association with the Johns Hopkins Bloomberg School of Public Health, Clumbia Mailman School of Public Health, and Syraucse University Maxwell School of Citizenship Affairs."

As my project, I helped Healthy Monday create a mobile-friendly version of their website for ease of access from mobile devices and that is converted into a mobile application. The mobile web application provides information that focuses on the Syracuse area including Syracuse fitness classes and restaurants promoting Healthy Monday. The components of this website are a pared down version of the original website. While I was going through each component of the website I found items that could be improved and suggested changes that needed to be made to the original website, so along with converting this website to mobile pages, I helped improve their existing website. One of the changes I suggested was moving the Fitness Classes to a more prominent location on their Events page then it was currently. Before you had to click at the arrow below to open a pdf to view the classes:



through a sidebar module seen below:



These changes helped to make the mobile web application able to be linked to the current website so no further updates are needed. This change also helped to make the current website more user friendly.

It was important to keep the mobile site completely operable without any maintenance. Therefore, all components of this mobile site are connected to the main website. This means that whenever an event is updated on the main website the change will be reflected on the mobile site immediately as well with no extra steps. This is valuable to Healthy Monday because they do not have enough IT resources within their department that can help update this mobile site.

The mobile site was built in Cascade, which is a content management system that is widely used on Syracuse's campus. This is a useful tool that I am very familiar with so it made most sense to employ this mobile site on Cascade and as a subset of the current Healthy Monday website which is also housed on Cascade. In order to convert the mobile site into a mobile application downloadable on Android and Apple smartphones, I have partnered with the Syracuse University mobile application initative so that the mobile web application is included in the future Syracuse University application.

I employed the use of jQuery, HTML5, CSS3, and JavaScript because the mobile web application needed to be compatible with current technologies being used for mobile web applications that are already in place on campus. Basically, this coding was implemented so that it would mirror other mobile web applications for easy diagnostic and maintenance in the future. As mobile development changes very quickly, the technology for this mobile web application will eventually have to change as well. By employing coding that many other users on campus understand, in the future, the mobile web application can be updated as necessary.

This is an important project for Healthy Monday because they are focusing on becoming more connected online. By having a mobile version of the site, the important components of Healthy Monday are marketed more efficiently. When a user has a smartphone, the site will automatically detect that and redirect the user to the mobile version of the website. By making the site more mobilefriendly Healthy Monday can better display their programs. This will help market Healthy Monday to a larger audience in Syracuse who may use their mobile devices for information and have found the classic website hard to navigate on a mobile device.

Overall this process involved a lot of design work. I had to spend an ample amount of time designing the application so that it was friendly to the user, included the important content components, could be linked to the original website, and was able to convey the message of Healthy Monday in the most mobile-friendly process. With all of these considerations, the strategy employed was the best outcome I could have conceived given the constraints of the project. In the future, I hope to see Healthy Monday continue marketing itself and this mobile web application being a helpful tool to receive Healthy Monday blog posts, Monday Miles, Restauraunt Partners, and Move It Monday class schedules.