

**Web-Based
Pedestrian Tour
for the Historic Wilmington Foundation**

Created by: Allison Rannels

<http://student.uncw.edu/ajr1899/WalkingTourFinal/index.html>

OVERVIEW

The Historic Wilmington Foundation (HWF) is a local, nonprofit organization with the mission to preserve the local architecture and keep the region's significant historical value intact. Their website features a section that links to data highlighting the HWF plaque program, but it is only designed to work with desktop computers. The HWF plaque program features plaques mounted next to the front door of historic homes throughout New Hanover County and contains historic information about each of the buildings' owners and occupants. These plaques have been a popular tourist attraction for years, and there are many walking tours that lead through the historic district. My interest in Wilmington's architectural history and discovery of this data set led to the creation of my capstone project for the Digital Art Major.

PROJECT DESCRIPTION

This project is an interactive, educational website for the Historic Wilmington Foundation website displaying the plaqued houses on a map for pedestrian use with mobile device. The Historic Wilmington Foundation website is due to be updated, so the new site is only loosely based on the current site's look and feel. On January 30th, I had a meeting with the Executive Director, Beth Rutledge, and she expressed to me the following features she would like for the new website to contain to make it easier for people to learn about and gain appreciation for historic architecture located in downtown Wilmington:

- Display the house, year, and plaque information for each pinned location
- Display the user's location on a visual, interactive map interface
- Create an overall theme that is classic but not dated (fresh and approachable)

- Easy to read/use for locals, tourists, and large range of ages
- Make the map pin's icon the plaque symbol

Purpose:

- This project will provide an interactive walking tour that will take place in downtown historic Wilmington, leading the users to different plaque locations and offering them detailed information about the historic structures surrounding them. Based on discussions with Beth Rutledge, I created an interactive webpage to serve as an educational tool that features information about the history and architectural style of the plaqued houses and buildings located in the Downtown Historic District in Wilmington, NC. It will guide the pedestrian user throughout the Historic District, almost like a tour, showing the nearby locations with years of history behind them. It is intended to be a fun, learning activity to do while walking in the town of Wilmington or sitting at a computer.

Site Access:

- Users will access this webpage from a tab on the Historical Wilmington Foundation website through a WIFI-enabled computer, tablet, or a mobile device. This webpage requires access to WIFI.

Features:

- Tab Titles/Functions:
 - Home
 - Home page with brief history and walking tour instructions
 - Map
 - Page that displays map with pinned locations and current location

- List
 - Lists the houses with their thumbnail picture, name, and address
- Map: Google Maps JavaScript API
- Pin: icon shaped like plaque symbol (figure 1)
- Location pin: displays user's current location (figure 2)
- House information: year, house style, plaque information



Figure 1 – Plaqued House Pins

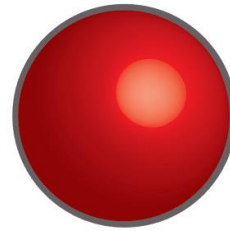


Figure 2 – Current Location Symbol

Audience:

- The intended audience is anyone ages 16 to 65. The plaqued houses are spread throughout the Downtown Historic District of Wilmington, so the user will most likely be walking to see them. It will be accessible on a mobile device, so the user's current distance to one will be evident throughout the interactive map. This will appeal to a younger generation; however, it will be easily accessible on a computer if the user intends to learn about the history and/or location of this architecture. This will also accommodate an older generation that are avid internet users.

Functional Specification:

- The website will guide pedestrians using straightforward design:
 - Navigation bar will contain three tabs:
 - Home Page: HTML/CSS to arrange images and information.
 - Map Page: Customized Google Maps JavaScript API and JSON data. Pins created on Adobe Illustrator. Dimensions fluid for all screens using CSS.
 - List Page: JSON data used to create a table of the picture, name, and address.
 - The user will be interacting with the map and their environment at the same time.

In order to accomplish this, the website tour will be very basic and not distracting!
 - The information will be clear, concise, and to the point.
 - Visual Design:
 - Classic and easy to read
 - Colors:
 - Light grey
 - Dark grey
 - Light sea green
 - Font: Arial
 - Visual Prototype: Created on Adobe XD (see figure 3)

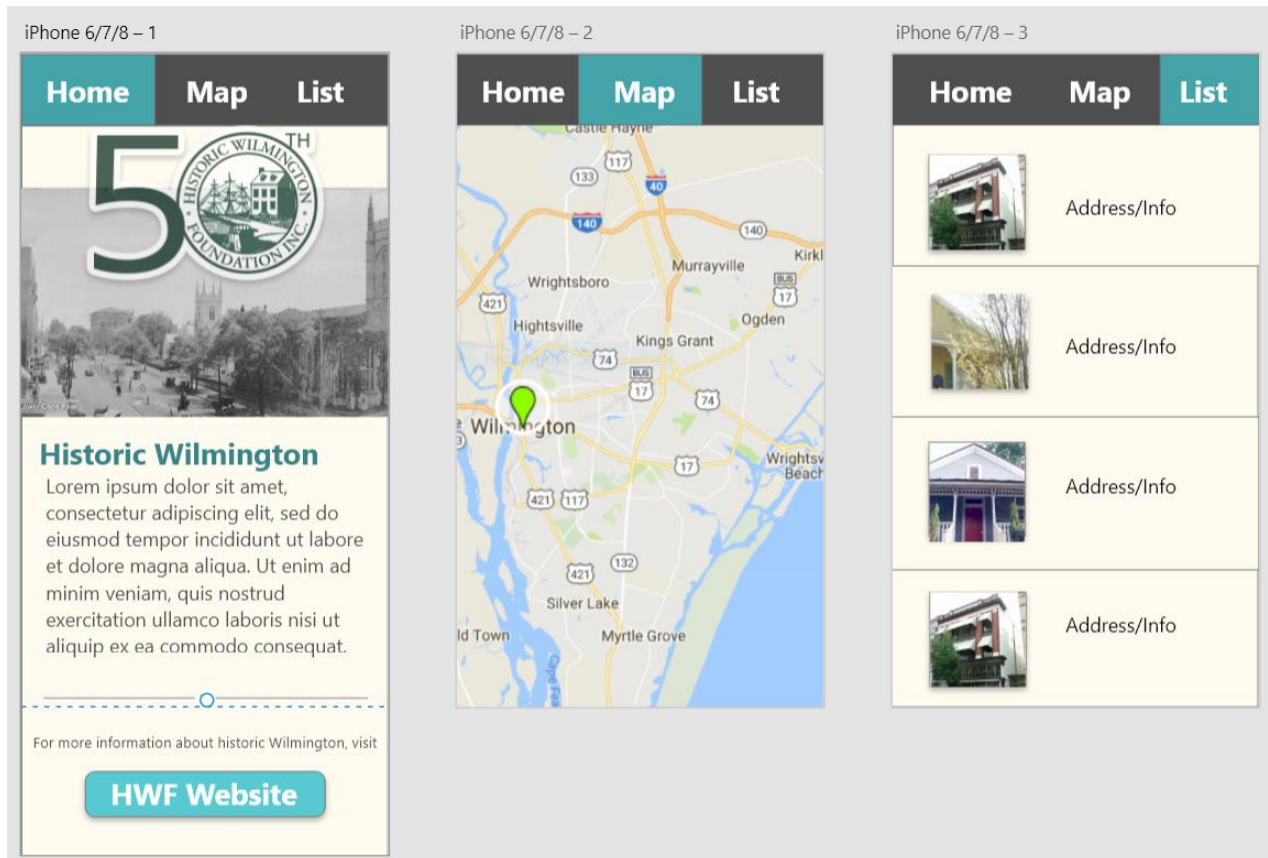


Figure 3 – Visual Prototype

Related Work:

Similar websites and mobile apps have been created with an interactive map and also walking tours of different towns. There is a New Jersey Easter hunt using an interactive map (1) and a Wilmington Art tour (9). I used two historic apps as a reference that involve seeing Historic LaGrange, Georgia (8) and Historic Albany, New York (2). Both use interactive maps on a mobile device.

Issues Encountered:

The challenges experienced during this project include:

- Deciding what to use to implement the map. First, Google My Maps was used, but it did not have a current location feature, and was not able to be altered through Javascript. BatchGeo was the second website used that allowed for the user's current location to be displayed; however, the pins could not be personalized. Again, this map could not be altered through JavaScript. Lastly, Google Maps JavaScript API was implemented, and allowed much more room for changes and personalization.
- Converting the data to JSON due the selective format it would accept. No apostrophes were allowed, and the ID's had to be changed into one word.
- CSS formatting was time consuming in order to ensure the correct amount of responsive design worked and was user friendly on each device to be used.
- Location services not working across HTTP except on Internet Explorer due to it being non-secure and easier for user's private location data to be obtained by network attackers. If the website can be transferred over to a secure context like HTTPS the location services will be usable.

Future Work:

The Historic Wilmington Walking Tour website could be improved by adding additional features that would increase its usefulness.

- These potential features include:
 - Adding links to the list page's addresses that pulls up that specific house on the map.
 - Displaying the list by the order of closest distance houses in reference to the user's current location.

- Adding all of the plaqued historic houses in the database instead of just historic downtown's houses.
- Transferring website to an HTTPS or localhost to use current location information.

Original Blueprints/ Wireframe:

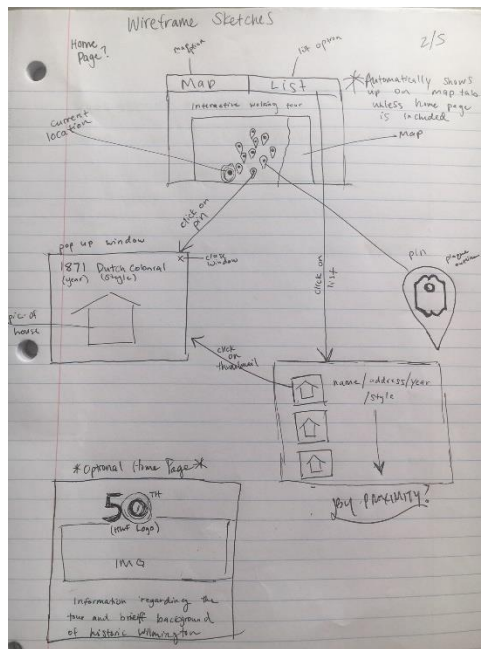


Figure 4 – Wireframe 1

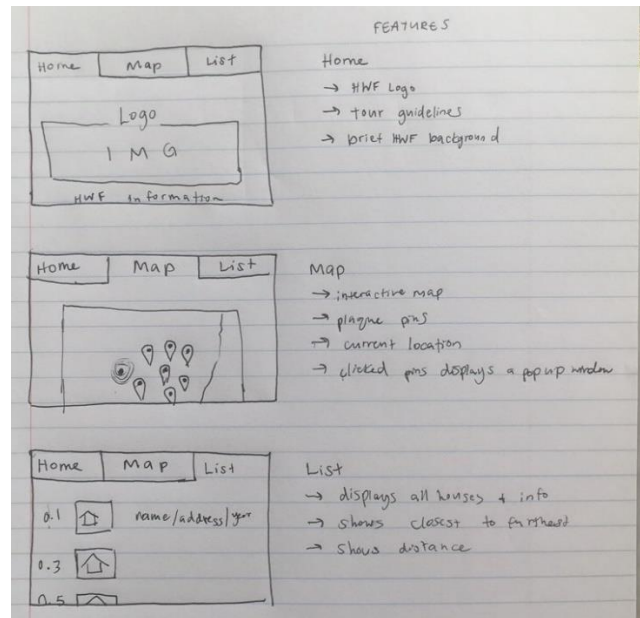


Figure 5 – Wireframe 2

Final Product Results:

- Mobile Device (see figure 6)
- Tablet (see figure 7)
- Website (see figure 8)

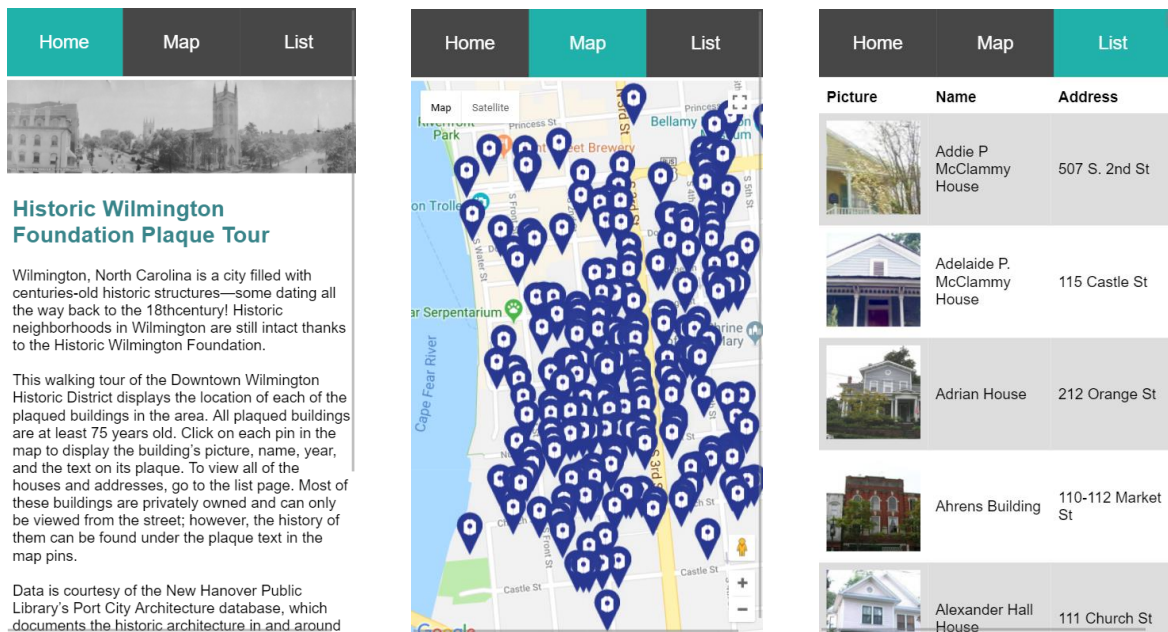


Figure 6 – Mobile Screen

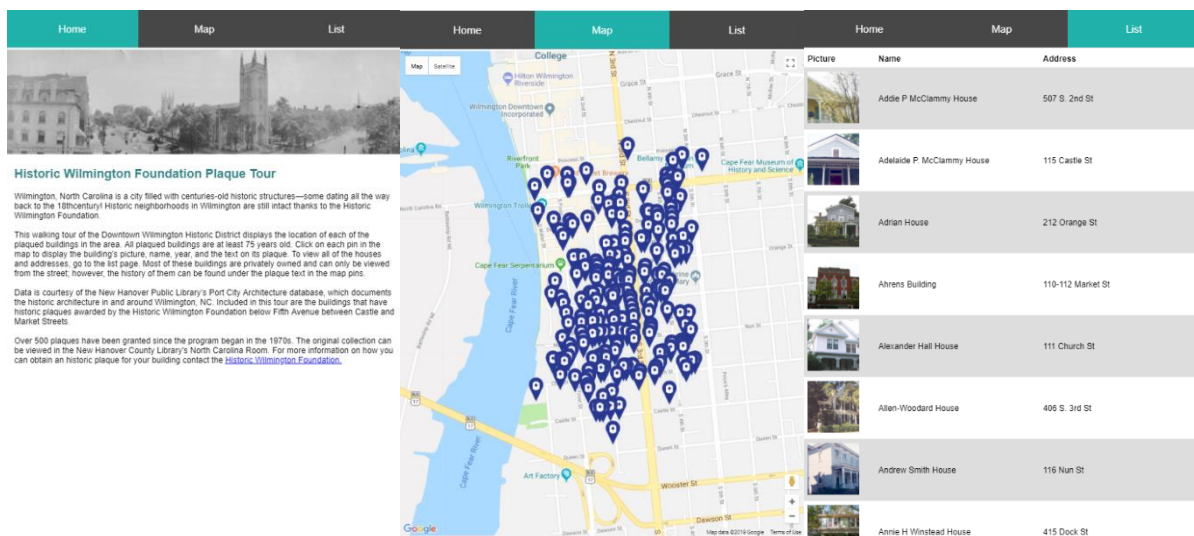
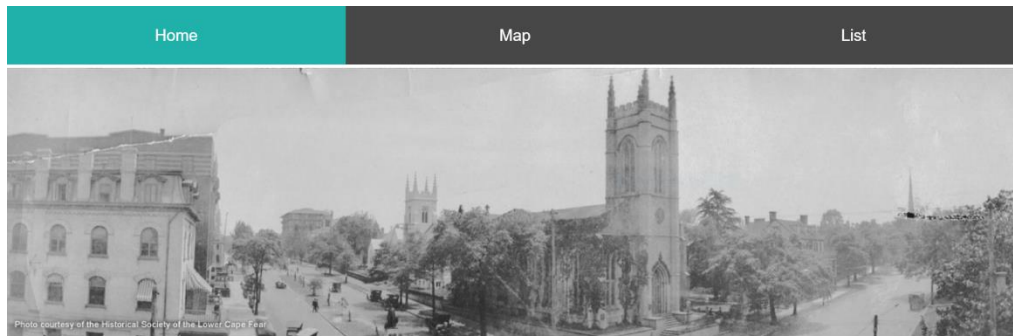


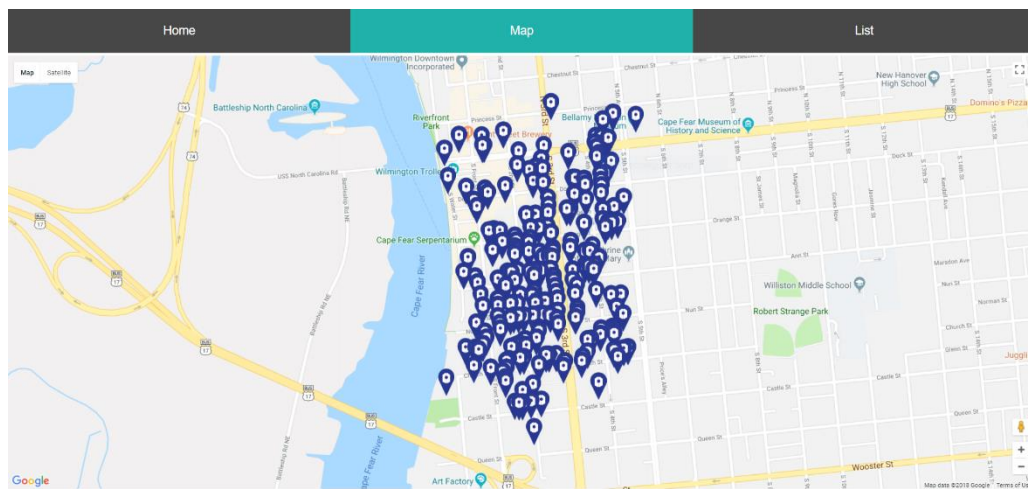
Figure 7 – Tablet Screen



Historic Wilmington Foundation Plaque Tour

Wilmington, North Carolina is a city filled with centuries-old historic structures—some dating all the way back to the 18th century! Historic neighborhoods in Wilmington are still intact thanks to the Historic Wilmington Foundation.

This walking tour of the Downtown Wilmington Historic District displays the location of each of the plaqued buildings in the area. All plaqued buildings are at least 75 years old. Click on each pin in the map to display the building's picture, name, year, and the text on its plaque. To view all of the houses and addresses, go to the list page. Most of these buildings are privately owned and can only be viewed from the street; however, the history of them can be found under the plaque text in the map pins.







Home Map List		
Picture	Name	Address
	Addie P McClammy House	507 S. 2nd St
	Adelaide P. McClammy House	115 Castle St
	Adrian House	212 Orange St
	Ahrens Building	110-112 Market St

Figure 8 – Computer Screen

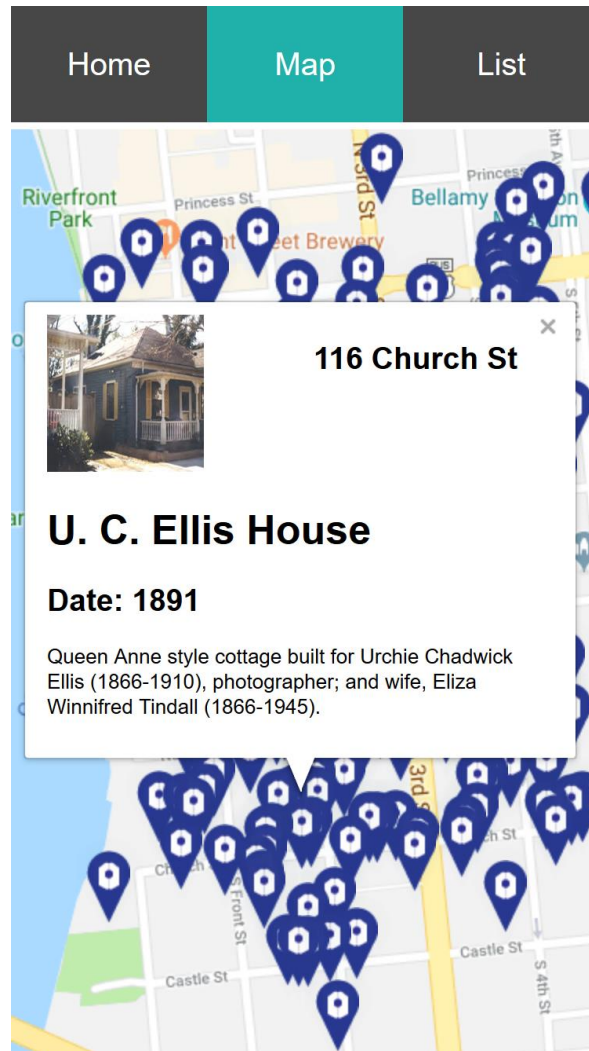


Figure 9 – Popup window



Figure 10 – Testing Prototype with Client 4/18/18

Works Cited

1. “2018 Easter Egg Hunts and Activities in New Jersey (with an Interactive Map)! ” *The Jersey Momma*, Blogger, 1 Jan. 2018, www.thejerseymomma.com/2017/03/easter-egg-huntsand-activities-in-new.html.
2. *Albany Historic Walking Tour*. McWhorter Communications, Inc, 2015. Vers. 1.2. *Apple App Store*, <https://itunes.apple.com/us/app/albany-historic-walking-tour-city-of-decatur/id533234474?mt=8>.
3. Alvarez, Camilo. “ITour: A System for Self-Guided Virtual Tours of UNCW.” *Annals of the Master of Science in Computer Science and Information Systems at UNC Wilmington*, UNC Wilmington, 2009, csbapp.uncw.edu/data/mscsis/annalspaper.aspx?v=3&i=2&p=6.
4. Ang, Brinley. “Address List to Longitude Latitude Geocoder.” *Unbolt It : Address List to Longitude Latitude Geocoder*, www.unbolt.net/geocode_convertor.php.
5. “Convert CSV to JSON.” *CSV to JSON Converter*, Data Design Group, Inc, www.convertcsv.com/csv-to-json.htm.
6. “Geolocation: Displaying User or Device Position on Maps.” *Google*, Google, developers.google.com/maps/documentation/javascript/geolocation.
7. “Historic Wilmington Foundation.” *Historic Wilmington*, Historic Wilmington Foundation Inc., www.historicwilmington.org/.

8. *LaGrange Historic Walking Tour*. POPULACE, INC, 2018. Vers. 3.0. *Apple App Store*,
<https://itunes.apple.com/us/app/lagrange-historic-walking-tour/id943973374?mt=8>.
9. "Mobile Audio Tour." *The Arts Council of Wilmington & NHC*,
artswilmington.oncell.com/en/index.html.
10. "Port City Architecture." *New Hanover County Public Library Digital Archives*,
CONTENTdm, cdm15169.contentdm.oclc.org/cdm/landingpage/collection/p15169coll2.
11. Rutledge, Beth. Personal interview. 30 Jan. 2018.
12. TechGuyWeb. "Google Geocode API & JavaScript Tutorial." *YouTube*, YouTube, 14 June
2017, www.youtube.com/watch?v=pRiQeo17u6c.
13. TechGuyWeb. "Google Maps JavaScript API Tutorial." *YouTube*, YouTube, 12 June 2017,
www.youtube.com/watch?v=Zxf1mnP5zcw.

Timeline Goal:

Week 1 (1/8)	Week 2 (1/15)	Week 3 (1/22)	Week 4 (1/29)
Begin brainstorming	Narrow ideas Project Description Questions	Draft Outline Description Compose questions for Beth Rutledge	Research/ Website outline
Week 5 (2/5)	Week 6 (2/12)	Week 7 (2/19)	Week 8 (2/26)
Draft including Research/Bibliography due Meeting with Beth Rutledge? _____	Research/ Website Outline	Begin Website code in Visual Studio	Draft including Functional Specification and Visual Design Prototypes due →
Week 9 (3/5)	Week 10 (3/12)	Week 11 (3/19)	Week 12 (3/26)
Spring Break	Continue Draft Continue Website design _____	Feedback?	→
Week 13 (4/2)	Week 14 (4/9)	Week 15 (4/16)	Week 16 (4/23)
Feedback	Continue Draft Website feedback	Create Presentation PowerPoint?	Finalized project documentation due Make sure website works correctly Proofread draft

Timeline Completed:

Week 1 (1/8)	Week 2 (1/15)	Week 3 (1/22)	Week 4 (1/29)
Begin brainstorming	Narrow ideas Begin Project Description	Edit first proposal draft Composed questions for Beth Rutledge	Meeting with Beth Rutledge (1/30) Continued proposal
Week 5 (2/5)	Week 6 (2/12)	Week 7 (2/19)	Week 8 (2/26)
Email Dr. Patterson Email Mr. Sheppard Draft including Research/Bibliography Create visual design for website usability	Edit proposal Fix up wireframe Work on functional specification	Work on functional specification	Begin Website coding
Week 9 (3/5)	Week 10 (3/12)	Week 11 (3/19)	Week 12 (3/26)
Spring Break	Website Coding Map configuration	Database storing Web Coding Documentation	Web Coding Documentation
Week 13 (4/2)	Week 14 (4/9)	Week 15 (4/16)	Week 16 (4/23)
Web Coding Documentation	Finish Website and publish it	Test run walking tour downtown Create PowerPoint	4/25 11:15 am Presentation



April 23, 2018

To Whom It May Concern,

It was with much delight that I listened as Allison Rannels presented her idea for a feature that could be added to the Historic Wilmington Foundation website. I am even more thrilled that it has been created and test-driven, and clearly is a benefit to this community.

Allison's invention maps out plaqued homes in the historic downtown district, and allows anyone just walking around or driving to navigate properties with plaques and read about them from the sidewalk. (Much preferred to folks who walk up on porches—yes, it happens.)

Not only was I thrilled that a young person has taken interest in her town's extraordinary character, but this piece of technology is sorely needed. Wilmington is unique for its eight historic districts, and plaques are visual reminders of how special each building is. Historic Wilmington Foundation's plaque program helps connect people to place, and Allison's program does exactly that, too, by allowing anyone with a smartphone to easily navigate and experience the history all around them.

We are revamping our website later this year, and hope to incorporate Allison's work into our site. It furthers our mission of protecting and preserving the irreplaceable in Wilmington and the Lower Cape Fear region.

Sincerely,

Beth Rutledge, Executive Director
Historic Wilmington Foundation
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Wilmington, North Carolina 28403
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