



Getting Tails Back on the Trail

Creating a Culture of Health and History
Along the Delaware and Lehigh National
Heritage Corridor

Final Report

Lafayette College Tech Clinic Spring 2018



BACKGROUND

The Charge

- **The Goal:** Creating a culture of health and history along the D&L National Heritage Corridor
- **Objectives:**
 - Finding a way to encourage members of the GYTOT program to log their miles onto the GYTOT website
 - Increase overall community participation
 - Finding a way to help the clients assess the efficacy of the program from a health perspective
 - Promoting and preserving the D&L Trail



Clients



St. Luke's University Health Network: St. Luke's is a regional nonprofit health network located in Eastern Pennsylvania and in New Jersey.



Delaware and Lehigh National Heritage Corridor: More commonly known as the D&L, is both a multi-faceted organization and a 165 mile-long national and historic multi-use trail.



Get Your Tail on the Trail Program: St. Luke's partnered with D&L to form the "Get Your Tail on the Trail Program". This program strives to get people out and exercising through a program that allows you to log your miles and earn prizes for reaching a mileage goal.



Client Objectives

1. Technological

- i. Easier way to log your miles
- ii. Creation of an app to automatically or more easily log miles

2. Social

- i. Increased participation on the trail
- ii. Increased youth population on the trail (i.e creating programs through youth organizations)
- iii. All activities can be logged regardless of location

3. Historical

- i. A better representation of the rich history the trail has to offer
- ii. Complete this through increased signage, an app, or a scavenger hunt



D&L National Heritage Corridor

- 165 miles that follows the Delaware and Lehigh river valleys, and runs from Wilkes-Barre to just north of Philadelphia, spanning five counties
- **Three distinct regions:**
 - Anthracite Region
 - Lehigh Valley Region
 - Delaware Canal Region
- National heritage corridor is rich in history and marks important sights in history along the trail
- 1988 the trail was designated as a National Heritage Corridor



Project Significance

Health Benefits

Social
Interaction

Community
Engagement and
Programming

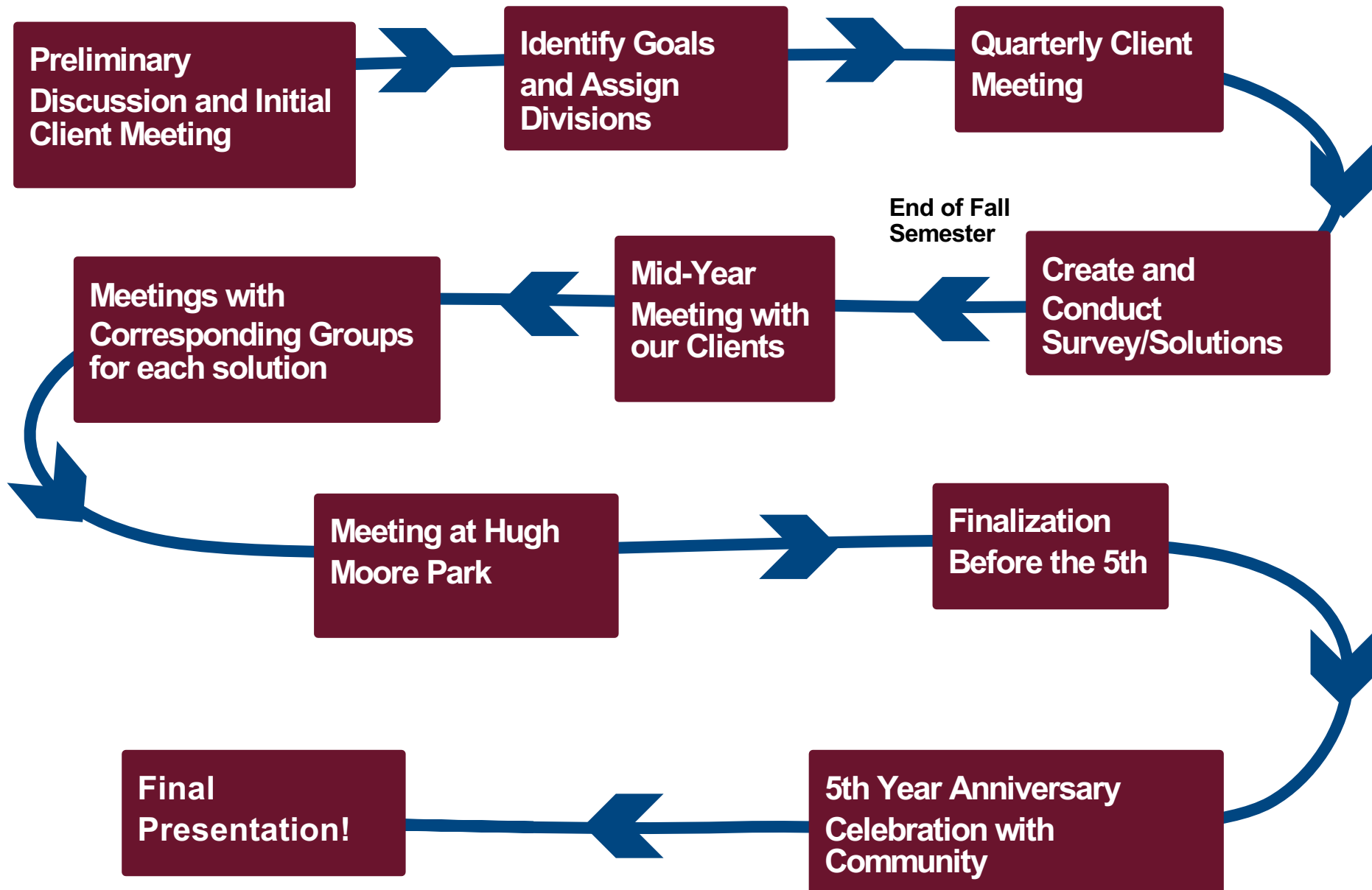
Historical and
Nature Education
and Appreciation

Lehigh Valley
Connectivity



APPROACH

Methodology

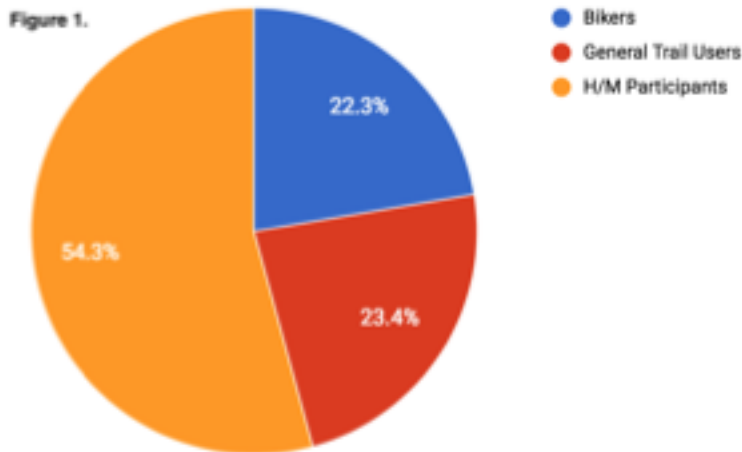


FIRST SEMESTER AT A GLANCE

Survey Data: Collection Process

- Two samples
 - Physical Group - passed surveys out to users along the trail
 - Three different events
 - Convenience bias
 - E-Group - sent survey link (via Google Forms) to everyone on GYTOT's email list
 - Volunteer bias

Subgroups within the Physical (Survey) Group



Smartphone Results

Do you own a smartphone?

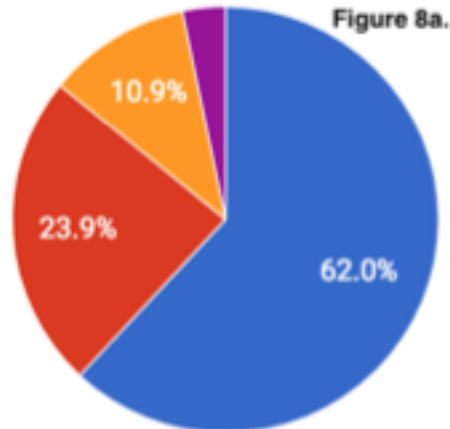
Conclusion: The majority of our audience has iPhones.



support.apple.com

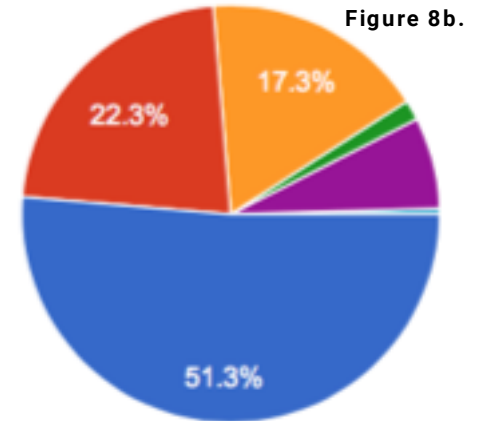
Physical Group

- iPhone
- Android
- Samsung
- Phone but no smartphone



E-Group

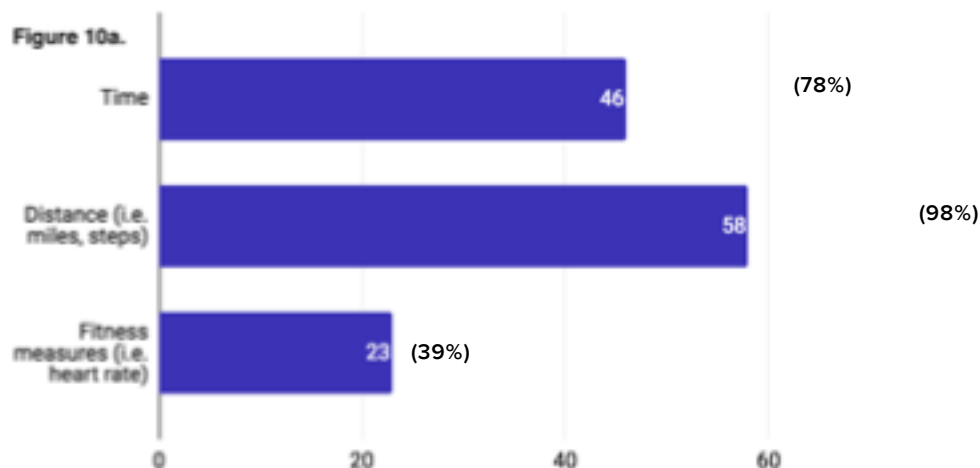
- Yes; an iPhone
- Yes; an Android
- Yes; a Samsung (Android)
- Yes; other not mentioned above
- No; I have a phone, just not a smart phone
- No; I don't own a cell phone



App Results

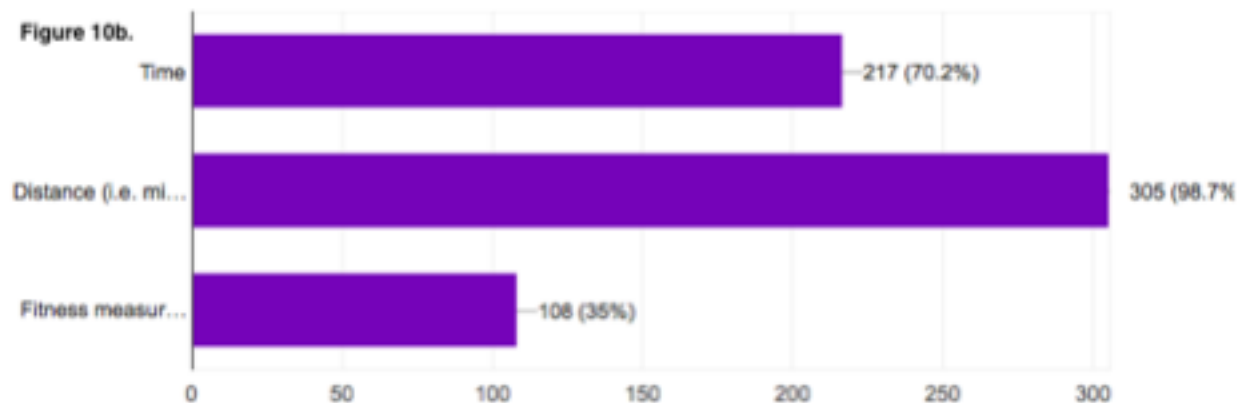
Do you use an app to track your activities (i.e. steps, miles, etc.)? If so, circle all that apply. If not, skip the question.

Physical Group



- **Conclusion:**
 - Distance and time (in that order) are most popular variables

E-Group



App Results

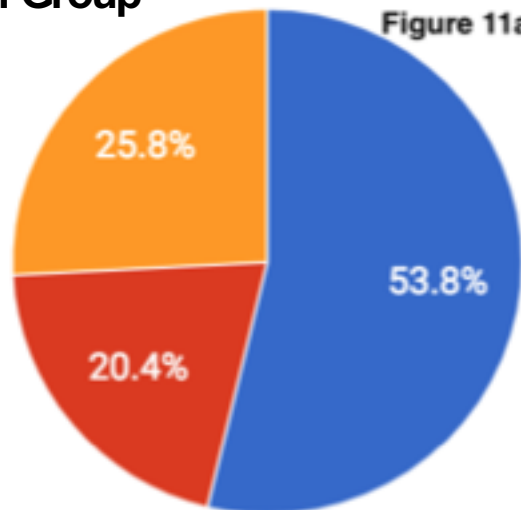
Would you be interested in having an app that would automatically log your miles into the Get Your Tail on the Trail Program?

- **Conclusion:**

- The majority is interested in such an app

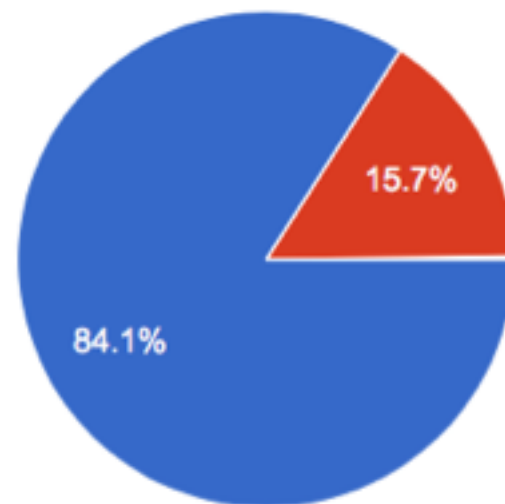
Physical Group

● Yes
● No
● Don't participate in TotT program



E-Group

● Yes
● No
● I don't participate in the Tail on the Trail program



“Love this program - such a great idea.”

“Thank you for this great program.”

“Keep doing what you’re doing. It’s great!”

“I enjoy the Tail on the Trail Program because it motivates me to go on the trails.”

Community Feedback*

“Love it ! Very motivating.”

“Thanks for the program! I’ve enjoyed being a part of it.”

“Great program...it motivates, sets goals and tracks progress.”

Interactions with the Community

165 Mile Challenge Wrap-Up Event:

- Unexpectedly low turnout
- Everyone that did show up though was very excited about the program

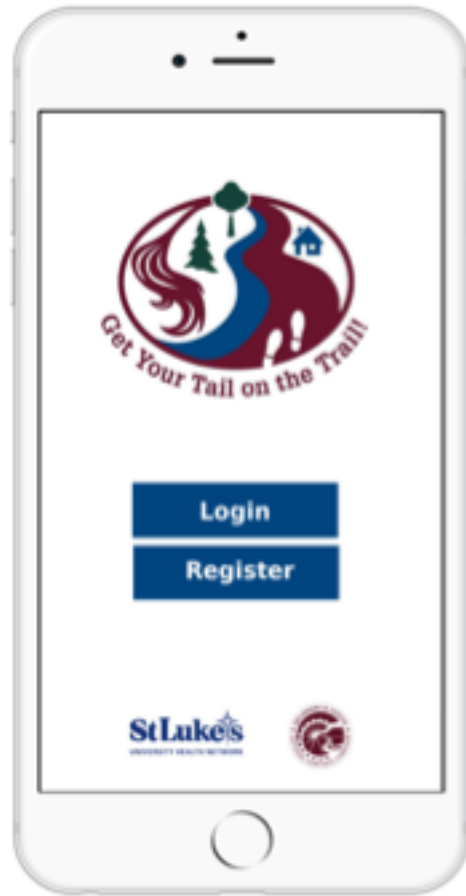
D&L Half Marathon:

- Most participants were willing to respond to our survey, even though many did not necessarily know about the GYTOT program
- At the half-marathon clean-up, the GYTOT team was grateful for extra hands
 - Need more people to relieve the stresses large events can cause



Technological

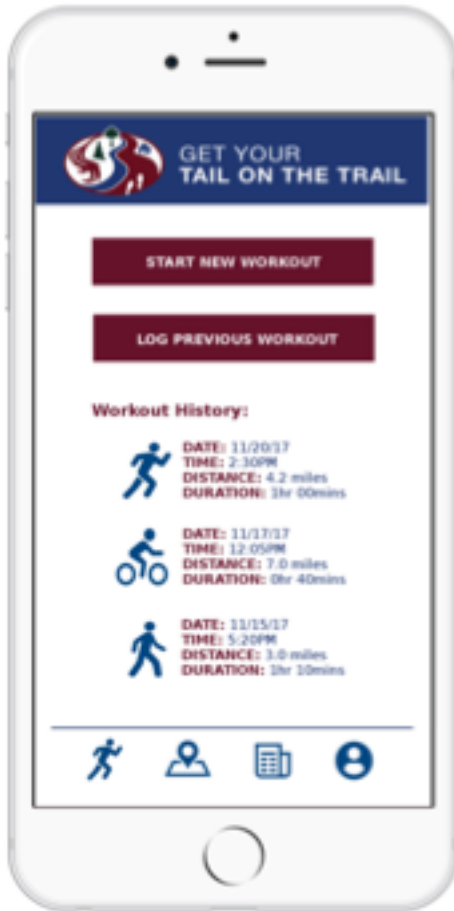
Designing an Application



- Mobile app = most efficient solution
- GPS location services
- Sync to database
- Simplistic design
- Illustrated prototype designs



Goal of Application



On the app, the user would be able to:

- Start a new workout that is automatically tracked and logged
- Log a previous workout manually
- View history of workouts
- View an interactive map of the D&L trail
- Interact with a community newsfeed
- View and edit personal profile
- View historical facts during loading screens

“Set and forget.”



Desirable Additions

- Syncing Fitbit, Apple Watch, or other fitness trackers
- Map displaying historical locations along the trail via pins
- Historical facts based on GPS location
- Miscellaneous features:
 - Different unit of measurement
 - Back button for registration
 - Edit profile page
 - More information on profile page
 - Amount of hours of completed
 - Average amount of miles per day
 - Distance remaining for challenge



Social

5-Year Anniversary “Kick-Off” Event

- Integral event to elicit strong community involvement:
 - Help people sign up
 - Show-off the new programs and features
- Advertise the new mobile application
 - Download
 - Sign-up

Ideas for the Event:

- Hugh Moore Park
 - Suitable amenities, land, Canal museum
- GYTOT sign-up tabling
- Breakfast/social- meet other members
- 5k/1 mile run
- Open museum history tour



Partnerships with Local Organizations

Goal:

- Increase participation with all demographics in the Lehigh Valley
 - Use outreach organizations and areas of higher education

Outreach organizations and Universities in the Lehigh Valley:

- Athletes C.A.R.E and Boys and Girls Club of Easton
- Student-run organizations
 - Running Club

Importance:

- 10% of participants are ages 18 and below
- Increase youth demographic within the program
- Link with programs focused on increasing historical education



**ATHLETES
C.A.R.E.**



**BOYS & GIRLS CLUB
OF EASTON**



Website Enhancements

The current website has been **effective** in providing a platform for participants to stay involved in the program. However, we feel that there is more **potential** for the website to provide a **social platform**.

How people can share what they are doing:

- Newsfeed
- Activity Circles

Additionally, we feel it is important to encourage that participants can log all their activity on the program, not only activity on the trail.



Historical

Historical Solutions

Meeting with Martha Capwell-Fox (Archivist at D&L):

We discussed overall plans regarding the implementation of signage on the D&L Trail.

- Signs are expensive
- Rotating signs were a plus
- Needed to plan for possible destruction of signage (graffiti)

Possible Opportunities:

1. Signage
2. App
3. Scavenger Hunt



Sign Implementation

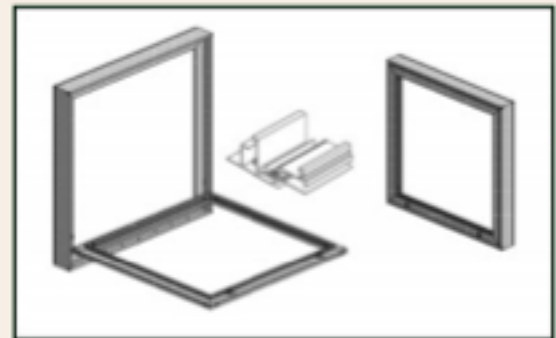
To get the most mileage out of trail-side signs, we suggest transitioning to a new signage system, one that focuses on rotating information seasonally to keep trail users engaged and interested in learning about the trail. **Some options:**



Bulletin Cases

Our bulletin cases are constructed with the same high quality aluminum extrusions and craftsmanship as our other exhibits, frames and pedestals. Available in 18"x24", 24"x36" and 36"x48", bulletin cases can be outfitted for wall, post or kiosk mount and include the following:

- All aluminum construction
- Clear acrylic face
- Keyed-alike locks
- Galvanized steel back for use with magnets
- Continuous piano hinge



Second Semester

SOLUTIONS

Overview of Solutions

1. Logging Miles with Ease
 - a. iOS app
 - b. Android app
2. Increasing Community Presence on the Trail
 - a. 5th Year Anniversary Celebration
 - b. Dogs and the Dog Park
 - c. Implementation of the Mural
 - d. Athletes C.A.R.E. Partnership
3. Internship
4. Signage Along the Trail
 - a. Teaching History
 - b. Scavenger Hunt
 - c. Signage



LOGGING MILES WITH EASE

App Development

- Prototypes for both iOS (iPhone) and Android
- Workflow of apps are slightly different
- Prototypes = most feasible to develop in a semester
 - Focus on most complex and important aspect of the app concept



apple.com



android.com



Application for iOS (iPhone)

- Swift
 - Xcode
 - Worked with Jeremiah Kruczek
-
- Four tabs
 - **Sign In**
 - Default screen
 - Notification
 - No credentials = no automatic logging
 - Saved to phone



Sign In



Selecting Activity



- **Activity Type** tab
- **Walk** = default activity type



Location Preferences

- **Track Activity** tab
 - Ask to use iPhone's location services
 - Can change option in the iPhone's general **Settings** app

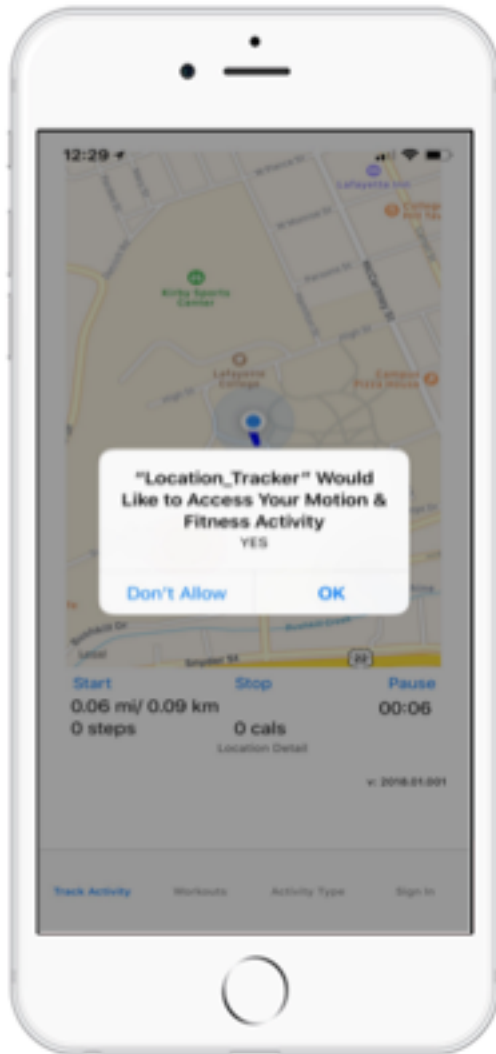
Settings → **Privacy** → **Location Services**



macsolutionsplus.com



Motion & Fitness Preferences

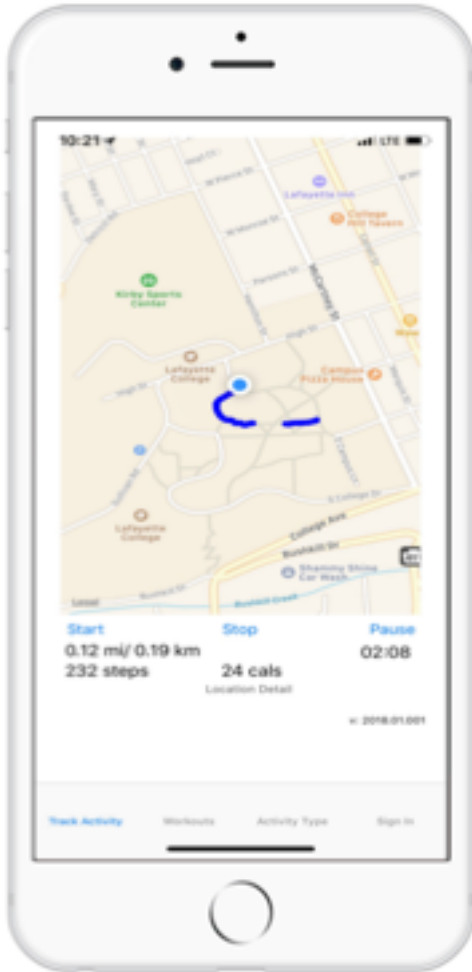


- Select **Start**
 - After initial selection
 - Ask to access iPhone's motion and fitness activity
 - Can also be modified in the iPhone's general **Settings** app

Settings → Privacy → Motion & Fitness



Logging Activity



- After selecting **Start**
 - GPS technology commences
 - Variables tracked:
 - Distance traveled (in miles and kilometers)
 - Time elapsed
 - Steps taken
 - Calories burned (estimated)
- Ability to **Pause/Resume**



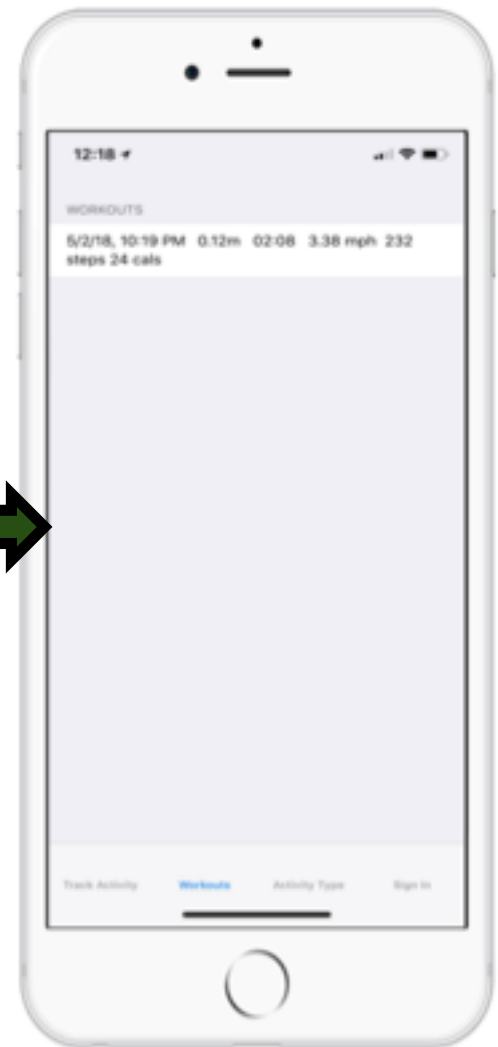
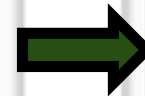
- **Stop** when finished
 - Logging notification
 - Confirmation notification
- **Workouts** tab
 - Workout history



Workout History

- Details of **Workouts** tab:
 - Date
 - Time of day
 - Distance traveled (miles)
 - Time elapsed
 - Average speed (mph)
 - Steps taken
 - Calories burned (estimated)
- **Delete** option
 - Data will remain in GYTOT database





Moving Forward

- Weidenhammer Creative
 - Aesthetics
 - User-friendliness
 - Security
 - Licensing for publication to the App Store



Application for Android



- Ready to download on the Google Play store
 - *Log Your Tail on the Trail Trek* by Dan Bauer
 - Maintenance
- GPS location services
 - Calls the URL of the GYTOT's page
 - Main difference from iOS app





Log Your Tail on the Trail Trek

Dan Bauer Health & Fitness

 Everyone

 You don't have any devices.

 Add to Wishlist

Install

With this app, users of the Delaware and Lehigh National Heritage Corridor trail system can easily measure each walk, run, or ride along the trail system and log onto their Get Your Tail on the Trail Dashboard. St Luke's University Hospital System and the D&L encourage people to log their time and miles with the aim of improving public health.

The process is simple: Start, Stop and Log. Click START when you begin your trek - miles, time, and your route will be displayed as you go. Click STOP when you are at your destination - your miles and time will be saved to your phone. Click TOT/MAP to open your TOT Dashboard - enter your miles and time. If you wish to return to the map, LongClick TOT/ MAP. At any time you may see your last miles and time by clicking MEM. Open a Get Your Tail on the Trail account. Be in good health!

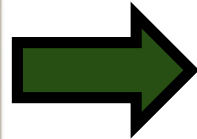
If you do not already have a Tail on the Trail account, you may register at: <https://tailonthetrail/org>.

https://play.google.com/store/apps/details?id=appinventor.ai_danfranzbauer.LOGTREKtoTOT

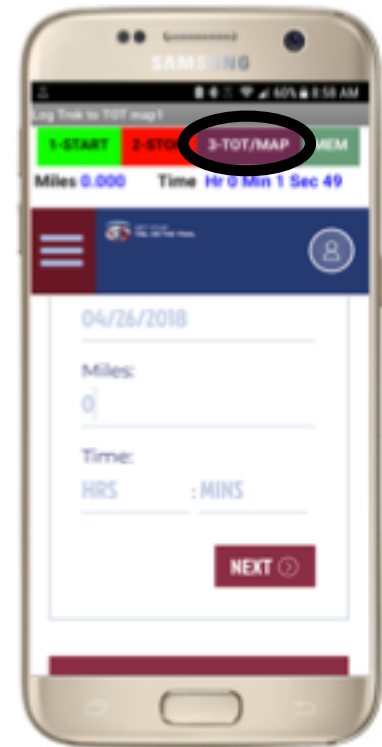
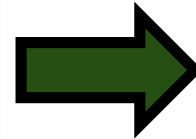




1-START: begins the workout, tracking distance on the map and time directly above.



2-STOP: ends the workout and saves the distance and time to the phone.



3-TOT/MAP: toggles between the GYTOT logging page and the map.



INCREASING COMMUNITY PRESENCE ON THE TRAIL

5th Year Anniversary Celebration



Overall:

- 65 members from the community signed in
- Over \$100 was raised for the Lehigh County Humane Society
- Mayor Sal Panto and Congresswoman Sandra Vulcano were also in attendance

At the event, we had several events including:

- 1 mile walk
- A dog adoption event
- The opening of “Hugh Moore Bark”
- GYTOT Program Sign-Ups
- Coloring pages advertising the new mural
- Printouts of “scavenger hunt” signage





Above: Kenneth Szydlow talking about GYTOT and the 5th Year Anniversary Celebration.



Above: Dog owners and walkers during the 5th Year Anniversary Celebration.

Preview of the New GYTOT App



Josh giving an explanation of the apps. At the 5th Year Anniversary Celebration.

Dogs and the Dog Park

Dogs at the 5th Year Anniversary Celebration:

- 5th Year Anniversary Celebration, our team proposed a dog adoption/walk event
 - Relationship with the Lehigh County Humane Society
 - Stephanie Skyriotis
- Pet friendly event to increase number of people involved in the program
- Encourage future activity with or without dogs on the trail

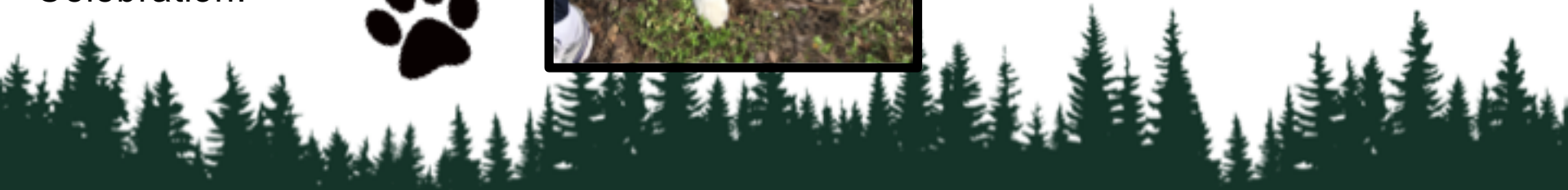
Hugh Moore Bark:

- Proposed by Dave Hopkins
- Opened during the 5th Year Anniversary Celebration





Some of our furry
four legged friends
that attended the 5th
Year Anniversary
Celebration!



Design of a Mural

Goals for the Mural:

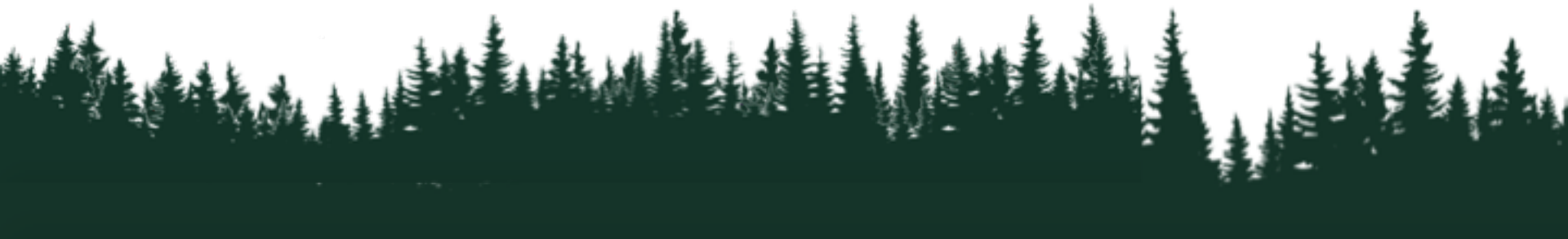
- Increasing community engagement on the D&L
- Tying in the rich history of the area

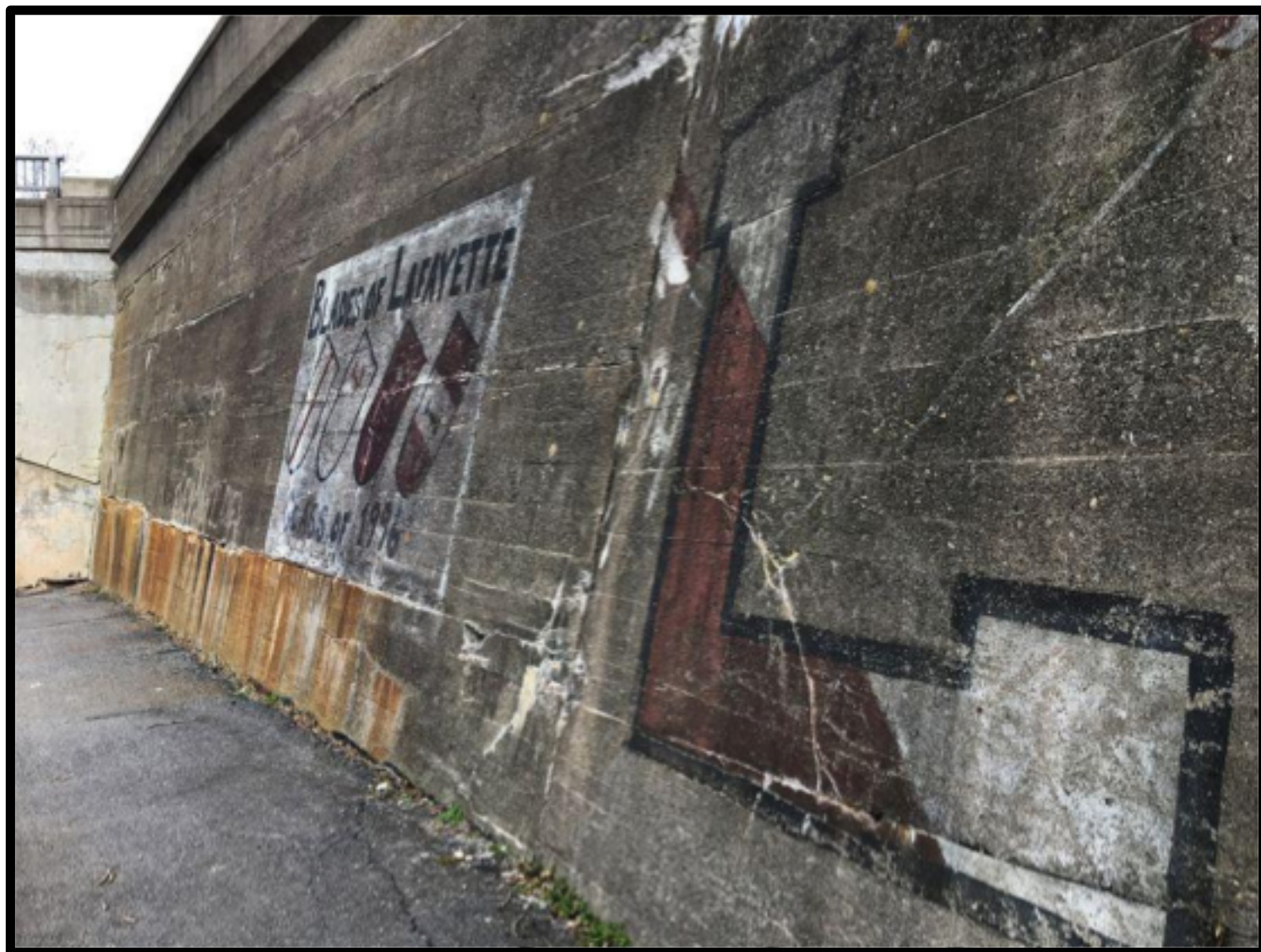
Idea Formation:

- Idea proposed by Olivia to Dave Hopkins
- Claire and Olivia recruited Lafayette art student Regan Kinney
 - She created a sketchup of the mural

Logistics:

- Location: West of the S. 3rd Street Dr. George S. Smith memorial Bridge along the canal trail
- 57 feet wide and 18 feet tall
- Representation of the broad historical importance for trade, commerce, and the booming Lehigh Valley







“The compositional design of the mural commemorates the profound impact the canal system had on the economic growth of the Lehigh Valley. The mural’s focus is on the canal itself, as well as the major industries, such as steel, lumber, and coal, that depended on it.”

- *Artist Regan Kinney*



Athletes C.A.R.E. Partnership: B.E.A.S.T.

Bridging Exercise & Athletes with Students on the Trail



Goal:

- Presence in community
- Mentorship
 - 30 B&GCE members with 15 AC student volunteers
- Take students to Forks of Delaware Trailhead one a month on Saturdays
 - AC members will log students mile on GYTOT under B&GCE



BOYS & GIRLS CLUB
OF EASTON

Hope to achieve:

- A closer bond with the surrounding communities
- Positively affect kids lifestyle by promoting them to get active
- Serve as an outlet to track the miles for the kids
- Be a role model for impressionable youth





B.E.A.S.T.

Bridging Exercise & Athletes
with Students on the Trail

30 B&GCE members will be divided into groups of two and paired with an Athletes CARE volunteer. A B&GCE permission slip is required for participation.

Ages: 9-12 years old

Dates/Times: TBA (dates will range Sep.-Nov.)

B&GCE Address: 210 Jones Houston Way on
Southside Easton, PA 18042

Trail: Forks of Delaware Trailhead, 210 S
Delaware Dr, Easton, PA 18042

Benefits:

- Learn how to develop healthy living habits
- Gain a mentor
- Get active



**BOYS & GIRLS CLUB
OF EASTON**

Each volunteer athlete will be a mentor for the pair of students and will take them out on the trail once a month, transported by the B&GCE, along with meeting with them every Saturday afternoon.

For more info, contact:

Monica Bowles-B&GCE Program Director
(610) 703-8575

Geeja Martone-Head of Athlete's CARE
geejaeathletes.care



INTERNSHIP

Internship

Meet our Intern:

- Meet: Robert Cuyjet '19
 - B.A. Government and Law; Economics minor

Logistics for this Position:

- **Cost:** Full-time summer internship supported by St. Luke's

Roles for the Intern:

- Manage email lists and send out email blasts
- Organize challenges and make sure people get onto next challenge
- Keep track of how often people are logging miles
- Update the calendar of events, Facebook, etc.
- Help run and plan GYTOT events
- Create scavenger hunt signage



SIGNAGE ALONG THE TRAIL

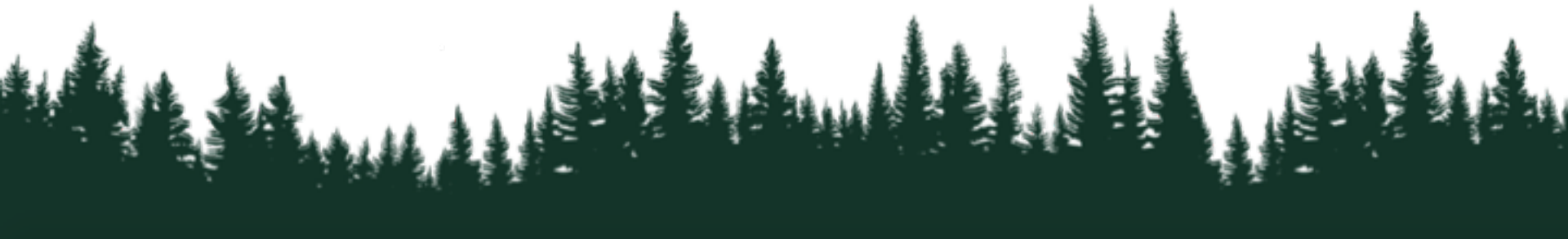
Teaching History on the D&L National Heritage Corridor

Using nature and history to develop new interest in and strengthen old ties to the trail.

Meeting with Martha Capwell-Fox (Archivist at D&L):

Met with Martha on numerous occasions to discuss the implementation of additional signs on the D&L trail. Benefitted from her expertise (and resources) in order to create the rotating signs of historical information near the Forks of the Delaware.

To get the most mileage out of trail-side signs, we suggest transitioning to a new signage system, one that focuses on rotating information seasonally to keep trail users engaged and interested in learning about the trail.

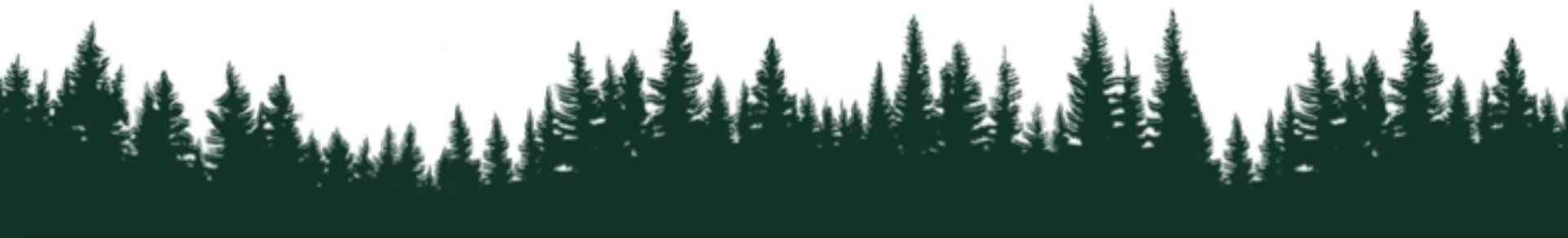


Scavenger Hunt

There is so much history on the D&L Trail that putting up signs for each historically significant site is not feasible. Moreover, interactivity is a key component of engagement, especially when engaging with something static, like history. Therefore, we propose adding an interactive scavenger hunt component to our signage.

Implementation:

- Hunt would include historical sites along the trail
- The signs would be rotated out of the Forks of the Delaware spot on a monthly basis
- Users would take pictures of objectives with themselves in the picture (selfies)
- Winning users would be entered into a raffle for prizes like regional gift cards.



Forks of the Delaware



A spectacular convergence of railroads, canals, and rivers stand before you. Here, the Lehigh river flows into the Delaware river, and here marks the end of the Lehigh Canal and the beginning of the Delaware Canal.

We encourage you to join us on a scavenger hunt of the following location on the Delaware and Lehigh National Heritage Corridor. Send us a selfie on Twitter (@DLHeritage) or Facebook (Tail on the Trail) to be featured on the D&L Website. Check back in next month for the next scavenger hunt site.



TRAVEL SOUTH: along the D&L Trail to find the hydroelectric power plant near Raubsville

This hydroelectric power plant, built at Groundhog lock, provided power for two local businesses, the Raubsville Paper Company and the Philadelphia and Easton Transit Company.



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TRAVEL SOUTH: along the D&L Trail to find the "Ground Hog" lock near Raubsville

Named the "Ground Hog" lock after the "Ground Hog Rift," a set of rapids on the Delaware River nearby, this lock was the highest lock on the 60 mile canal system at 17.5 feet.



Forks of the Delaware



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TRAVEL WEST: Along the Lehigh River and Canal to find the EASTON AND NORTHERN RAILROAD BRIDGE

The Lehigh Canal was one of the most important commercial routes in the 1800s. The canal transported a variety of goods, but by far its most important cargoes were anthracite coal and pig iron. The canal was in operation until the 1930s, and today stretches of the towpath have been converted to trails.



Forks of the Delaware



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TRAVEL WEST: Along the Lehigh River and Canal to find the ABBOTT STREET INDUSTRIAL PARK

The Abbott Street Industrial Park was the most important early industrial site in South Easton. Located near the junction of the Delaware and Lehigh Canals, the industrial park was advantageous both for its access to major cities, like Philadelphia and New York, and for its abundance of water power.



Forks of the Delaware



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TRAVEL SOUTH: to the Delaware Canal towpath into the Delaware Canal State Park to find LOCK 24

The Delaware Canal was, at its completion, approximately 68 miles in length. This Canal system links together most of the Commonwealth and carried a large percentage of the coal traffic to Philadelphia.



Forks of the Delaware



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TRAVEL WEST: along the D&L Trail to find the ruins of the Glendon Iron Company

The Glendon Iron Works (1842-1896) was the second iron furnace in the Lehigh Valley to be fueled by anthracite. The company used the Lehigh Canal, and the Morris Canal, to export the iron. One of the largest industries in the Lehigh Valley, the Glendon Iron Company had five furnaces and was the most productive of the furnaces owned by the Glendon Iron Company.



Future Signs

Other locations (along with the aforementioned 6 signs) that may be added to the Forks of the Delaware post

- Lock 47 (only functioning lift lock remaining in the entire D&L Trail system)
- Coal pockets above Canal St.
- Vault of the Toll Collector's House under the Eastern & Northern Trestle
- Guard Lock 8
- Locktender's House

We look forward to implementing the concept of rotating signage throughout the D&L Trailways



LOOKING FORWARD

Application Design



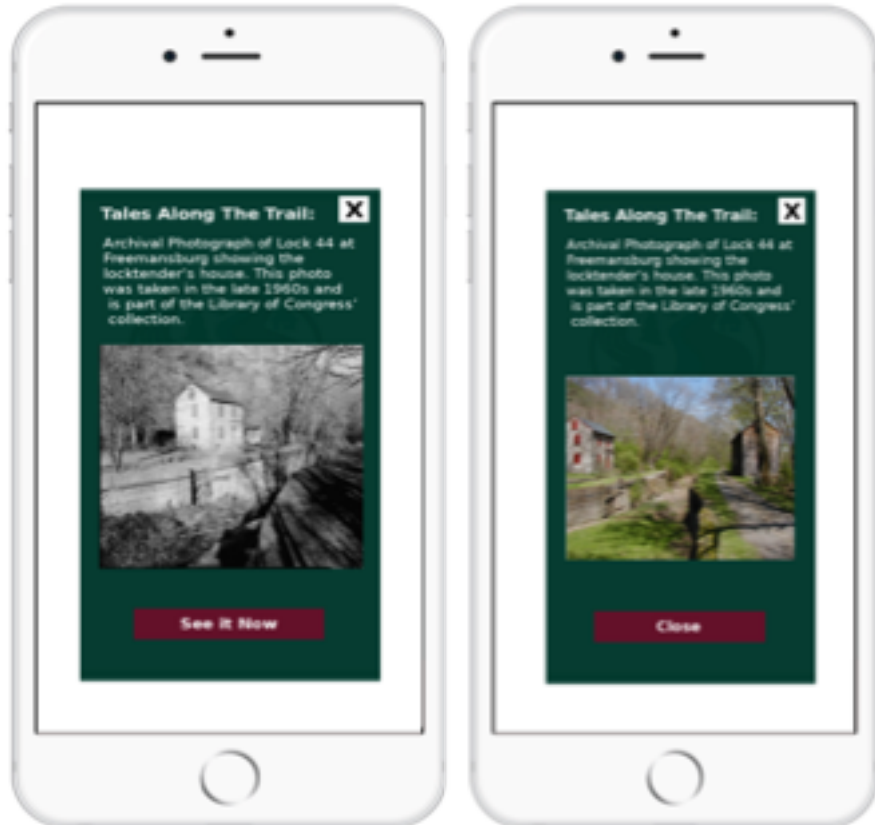
- Future developmental ideas
 - Registration and sign-out features
 - Logging a previous workout
 - History of *all* workouts
 - More specified map of the D&L trail
 - Historical locations displayed via pins
 - View and edit personal profile
 - Historical facts during loading screens
 - Based on GPS location
 - Smartwatch-friendly

Goal: Aesthetically pleasing and user-friendly concept for iOS

History on the App

Opportunities for future development:

- Place markers at important historical sites on the app's map.
- Display a random historical fact while the app loads, displaying a historical photo and a contemporary photo of the site



Website Enhancements

After our meeting with Weidenhammer at the beginning of the semester, we decided that it would best serve the program to focus energy on creating an app. However, there is still much possibility for adding features to the website to instill a greater sense of community and motivation.

Possible Features:

- Separate “Community” Tab
- Passive Social Features
 - Personal Statistics
 - Leaderboard
- Calendar of Events
- Facebook Widget





MENU

GET YOUR
TAIL ON THE TRAILClaire Grunewald 0 Miles | [Dashboard](#) | [Logout](#)

CLAIRE'S DASHBOARD

ACTIVITY

Top 20% of your
age group for
total milesMost preferred
route: Easton to
FreemansburgMiles biked in
March = entire
Canal 3xTop 30% of most
frequent walkers
in Easton

+ SEE ADDITIONAL STATS

Share

facebook

COMMUNITY

Calendar of Events: April

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Your Activity	2	3	4	5 Your Activity	6 Walk with a Bear at Hough House Park
7 Your Activity	8	9 Your Activity	10	11 Your Activity	12	13
14	15	16	17	18 Your Activity	19	20
21 Walk on the Trail! Stop Working Out in the Forest	22	23	24	25	26	27
28	29	30				
						MONTH

April Challenge Leader Board

1 Todd Nemura

175 Miles

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- Catherine DeBoeser
- Mary Beth Golab

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- Elissa Garofalo
- Brian Greene
- Claire Sadler
- Loretta Susen
- Martha Capwell-Fox

Community Members:

- David Hopkins
- MaryAnn Malinconico
- Genesis Bike Shop
- Athletes C.A.R.E
- Lehigh County Humane Society
- Regan Kinney

App Contributors:

- Jeremiah Kruczek
- Dan Bauer



Thank You!