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

Executive Summary

The 2017-2018 Technology Clinic has been working on an interdisciplinary project focused on promoting activity and participation on the Delaware and Lehigh National Heritage Corridor (D&L) with the goal of improving and tracking health within the Lehigh Valley. Throughout the last year, we worked directly with St. Luke's University Health Network and the D&L on their joint "Get Your Tail on the Trail" (GYTOT) program. First semester we suggested a multifaceted approach: technological, social, and historical.

Our team has gone forward this semester working on implementing the solutions we suggested last semester in order to address the two original problems of our clients: creating an easier way to log miles and increasing community participation along the trail.

To create an easier way to log miles along the trail, our team created two apps to fit the population of our users (iOS and Android). Throughout the semester, we collaborated with GYTOT's the website development company Weidenhammer Creative to create an effective app that would serve users of the program efficiently.

To increase community participation along the trail, our team worked on current and future events that reach out to several different populations. To celebrate the fifth year of the GYTOT program, we planned a "5th Year Anniversary Celebration" at Hugh Moore Park. This event targeted dog walkers with a dog adoption event, as well as several other community groups.

The team also worked to increase youth population on the trail through the creation of the B.E.A.S.T program. This is a collaboration between Athlete's C.A.R.E and the Boys and Girls Club of Easton aims to get children out on the trail, foster positive relationships with student athletes, and learn the importance of living a healthy lifestyle.

Lastly, our team worked to increase the knowledge of the rich history that lies along the trail through implementation of artwork and informational signage. A 57-foot mural depicting the history of the canal has been approved by the city of Easton. Additionally, an informational sign is to be designed by our Tech Clinic and implemented at the Forks of the Delaware.

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MEET THE TEAM

Kamal Bookwala '20

Kamal is a Geology major and Classical Civilizations minor from Allentown, Pennsylvania. In addition to Technology Clinic, Kamal is secretary of the South Asian Students Association, an EXCEL scholar in the Geology Department, a member of the Lafayette College Ambassador Program, and an Orientation Leader on campus.

Olivia Grigaux '19

Olivia is a Neuroscience and Women's and Gender Studies dual degree from Orange County, California. In addition to Technology Clinic, Olivia is captain of the Lafayette College Dance Team, a Kaleidoscope Social Justice Peer Educator, a member of the Lafayette College Ambassador Program,and an EXCEL scholar conducting research in the Neuroscience Department. After graduating from Lafayette, Olivia hopes to work with kids with developmental disabilities, with a focus in autism spectrum disorder.

Claire Grunewald '20

Claire is an International Affairs and Math double major from Bel Air, Maryland. In addition to Technology Clinic, Claire is the News Editor for The Lafayette and a member of the Lafayette Initiative for Malagasy Education trip to Madagascar. Claire also works as a tour guide, on the marketing and media team for Recreation Services, and as a writing associate. She is also a member of Delta Gamma and Alpha Phi Omega.

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Joshua Kruczek '19

Joshua is an Economics major and Government and Law minor from the greater Pittsburgh, Pennsylvania area. He is also a member of the Division I Men's Soccer Team on campus and values making a difference in the community as a student athlete through the Oaks Leadership Academy and Athletes 4 S.E.R.V.I.C.E. In his free time, Joshua enjoys playing and mixing music, travel and adventure photography, hiking, and video games. He hopes to pursue a career in finance post-Lafayette.

Gabrielle Martone '19

Gabrielle is a Computer Science major from Ramsey, New Jersey. In addition to Technology Clinic, Gabrielle is a captain on the Division I Women's Soccer Team on campus. She is also involved in the Oaks Leadership Academy, the Student Athlete Advisory Committee, and is co-chair of Athletes C.A.R.E.

Christopher Mayer '20

Christopher is an Economics and Philosophy major from Montville, New Jersey. Beyond Technology Clinic, Christopher is the captain of the Lafayette Debate Team and a participating member of the Lafayette Speech Team. He also coaches high school speech and debate and is an EXCEL research assistant for the German department.

Dan Bauer

Dan Bauer is founder of (and a longtime participant in) the Lafayette Technology Clinic Program. His educational background is in Engineering, Journalism (BA San José State University), and Social Anthropology (PhD University of Rochester). He served in community development in the Peace Corps in Perú. He has conducted long-term anthropological research on community level economics and politics in Ethiopia and rural Mexico. He is a photographer and has a passionate curiosity for problem solving.

Lawrence Malinconico

Professor Malinconico is completing his 29th year as a faculty member in the Department of Geology and Environmental Geosciences at Lafayette and is the Director of the Technology Clinic. His research areas involve volcanology, tectonics and geophysics and this has taken him to over 20 different countries. Additionally he is currently working with a team of faculty and students developing Apps for tablets for the digital collection and display of geologic field data.

As Director of the Lafayette College Technology Clinic Professor Malinconico has been involved in over 20 different projects that have examined issues of urban ecology & food justice, pandemics, museum development, community planning and preserving historical records.

The Tech Clinic Team with Mayor Sal Panto and Councilwoman Sandra Vulcano (top right) at the 5th Year Anniversary Celebration at Hugh Moore Park.

BACKGROUND

The Charge: Creating a Culture of Health and History Along the D&L National Heritage Corridor

Lafayette College Technology Clinic was charged with the task of promoting the "Get Your Tail on the Trail" (GYTOT) program in order to promote health and enjoy the history and natural setting of the D&L trail system. The team was given direction by the Delaware and Lehigh National Heritage Corridor and St. Luke's University Health Network, the two clients for the project. This task involves finding a way to encourage members of the GYTOT program to log their miles onto the St. Luke's website; finding a way to evaluate the efficacy of the program from a health perspective; and promoting and preserving the D&L National Heritage Corridor (the old mills, locks, geology, wildlife, etc.). This project has been an intellectual challenge combining many areas including: computer science, history, economics, geology, and art.
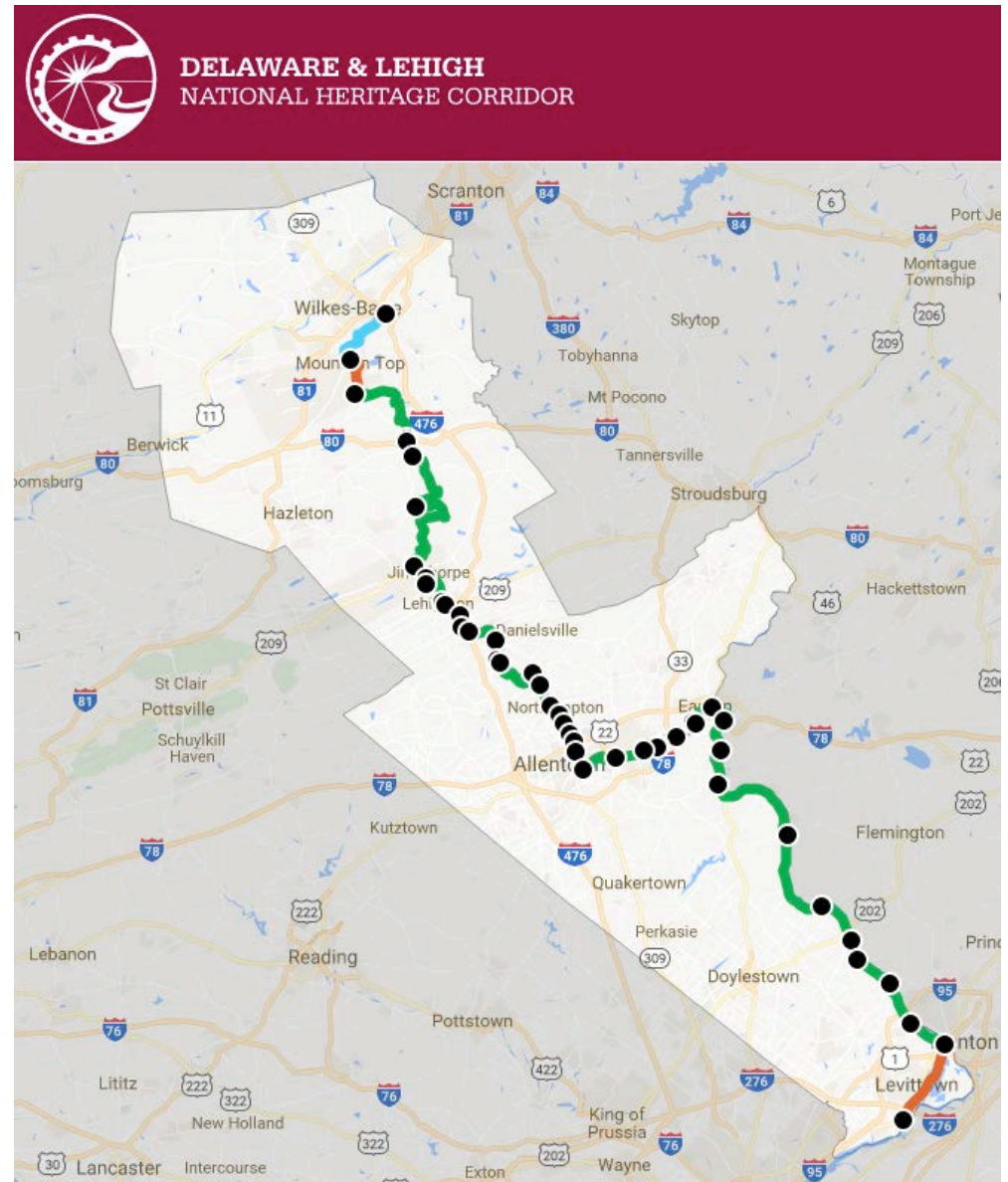
Clients

St. Luke's University Health Network: St. Luke's is a regional nonprofit health network located in Eastern Pennsylvania and in New Jersey. They strive to create care for the communities by administering top quality health care, promoting ideals and programs that promote a healthy lifestyle, and maximizing the satisfaction of their patients and employees.

Delaware and Lehigh National Heritage Corridor: Delaware and Lehigh National Heritage corridor, most commonly known as the D&L, is a 165 mile long stretch of a historical trail and national park that begins spans five counties from the Lehigh Valley and ends in Bucks County. D&L promotes a nature and history filled locations that is friendly for people and pets alike to enjoy.

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. There are two main challenges one can participate in: the *165 Mile Challenge* and the *30/30 Challenge.* The *165 Mile Challenge* occurs from May 1st to November 1st, and challenges you to walk, run, or bike 165 miles to obtain various prizes at the end of the challenge. The *30/30 Challenge* held in the winter months of February or March, strives to get people to continue to exercise throughout the winter.

Client Objectives

After our initial meeting with the clients at the start of the year we decided it would be best to divide the project into three separate sections and creating smaller teams within the teams to tackle problems on multiple fronts:

1. **Technological**
    i. Easier way to log your miles
        1. Creation of an app
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 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

The D&L Trail is a 165-mile long multi-use trail stretching from near Wilkes-Barre in the north, to Bristol in the south, following the Delaware and Lehigh River Valleys. The trail spans three distinct regions of Pennsylvania geography.

The first is the Anthracite Region, where the trail passes through Luzerne and Carbon counties. Anthracite coal, or hard coal, was extracted from this region, which helped stoke the American Industrial Revolution.

The second region is the Lehigh Valley Region, where the trail runs through Lehigh and Northampton counties. Running along the Lehigh river and the Lehigh canal, this portion of the trail is home to some of America's earliest industry, along with some of its most critical industrial cities, like Allentown, Bethlehem, and Easton.

The third region is the Delaware Canal Region and it lies along the Delaware canal, passing through Bucks County. The most historic segment of the trail, the D&L trail not only runs along the scenic Delaware Canal and river, but also passes hundreds of monuments, including the place where George Washington crossed the Delaware in 1776. Designated a National Heritage Corridor in 1988, the D&L Trail works diligently to both preserve and make accessible Pennsylvania's centuries-old heritage.

Project Significance

The **Get Your Tail on the Trail Program** has become an important initiative within the Lehigh Valley Community to promote daily exercise on the already established "free gym" that exists within the area: the Delaware and Lehigh Canal Trail. This program creates a connection between the health benefits of daily activity and outdoor exposure, the social importance of group interaction, and the historical importance of the region and the trail itself. While the program is currently serving as this bridge, the potential for its strengthened integration in the community is extremely important in increasing the program's sustainability. With a long-lasting, community-based and supported program such as Get Your Tail on the Trail comes the communal mindset of overall healthy living that will perpetuate participation in the program. Making participation easier through technological solutions to make logging activity easier will also provide more available and accurate information to demonstrate the health benefits associated with increased, daily exercise.

Our team has identified several overall community benefits that result from the maintenance, promotion, and increased accessibility of the Get Your Tail on the Trail program such as:

1. Health Benefits
2. Social Interaction
3. Community Engagement and Programming
4. Lehigh Valley Connectivity
5. Historical and Nature Education and Appreciation

FIRST SEMESTER AT A GLANCE

Methodology

1. Preliminary Discussion and Initial Client Meeting.

Familiarized ourselves with the project and scheduled our preliminary meeting with clients. The team met with the clients and gained a more detailed understanding of the client's' goals for our project by meeting together.

2. Identify Key Goals and Assigning Divisions:

Among the most significant were (1) tracking/logging mileage, health, and location data more easily, (2) increasing and sustaining engaged participation within the program, and (3) increasing the historical awareness of the D&L Trail of users along the Trail. Gabrielle, Josh, and Chris represents the Technical Division. The Social Division consists of Olivia and Claire. The final division, the Historical Division, represented by Kamal and Chris.

3. Quarterly Client Meeting:

Met with Kenneth Szydlow, Elissa Garofalo, Brian Greene and phoned in Todd Nemura and Catherine DeBoeser to review the goals and obtain feedback on ideas and propositions.

4. Create and Conduct Survey/Solutions:

This helped gain further insight into whether or not the current users would be interested if the Program had an app. Through the information gathered, we were able to correctly adjust our approaches and create feasible and presentable solutions.

Community Feedback*

"Love this program - such a great idea."

"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."

"Thank you for this great program."

"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."

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*Comments are from Online Surveys

Interactions with the Community

165 Mile Challenge Wrap-Up Event:

- Unexpectedly low number of people that turned out
- Facebook page said that 50 people were going to show up
  - Reality was closer to 10-15
- On going issue with inaccurate number of people showing up or not showing up to events
- Everyone that did show up though was very excited about the program, to be there, and to be walking together on the trail

D&L Half Marathon:

- Most participants were generally responsive and willing to respond to our survey, even though many did not necessarily know about the GYTOT program
- The D&L at the clean up for their Half-Marathon was grateful for any help that they could get and any extra hands
- Very clearly may need more people to volunteer and help out with tasks to relieve some of the stresses that large events can cause

Survey Data
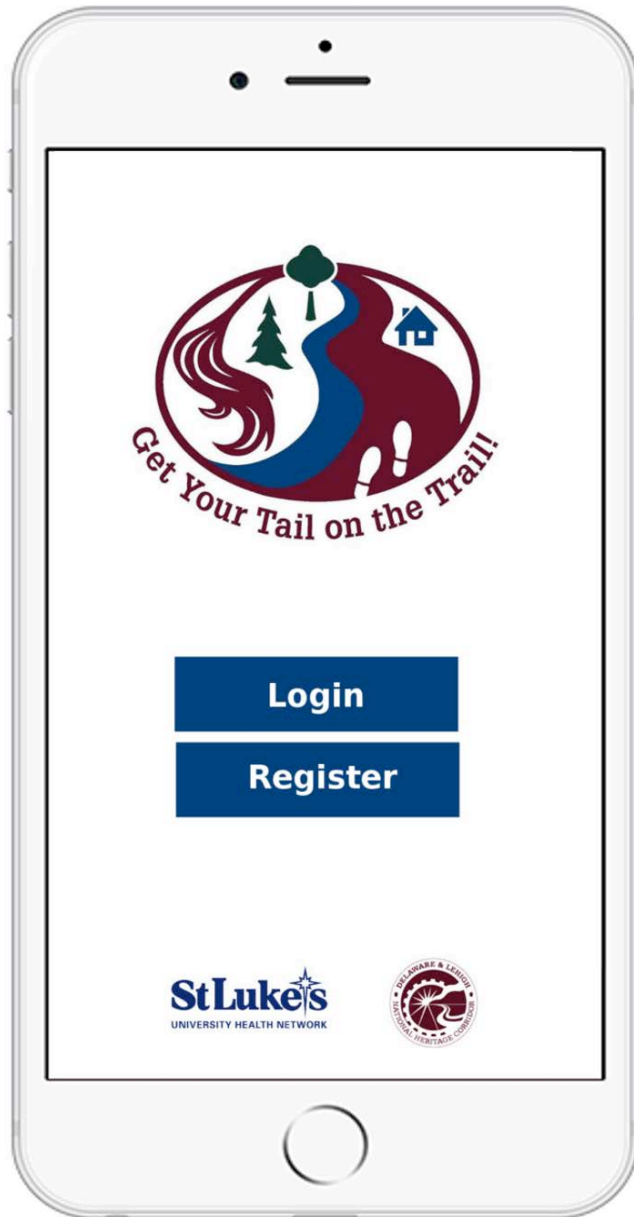
As we brainstormed ideas and approaches for a solution, we wanted to gather information to help us narrow our approaches. We thought that valuable information could be gathered from not only Get Your Tail on the Trail users, but also users along the trail in general. Their feedback of the program and trail via survey has proved to be very helpful and, in fact, supported a specific solution of ours: **Creating a Get Your Tail on the Trail app.**
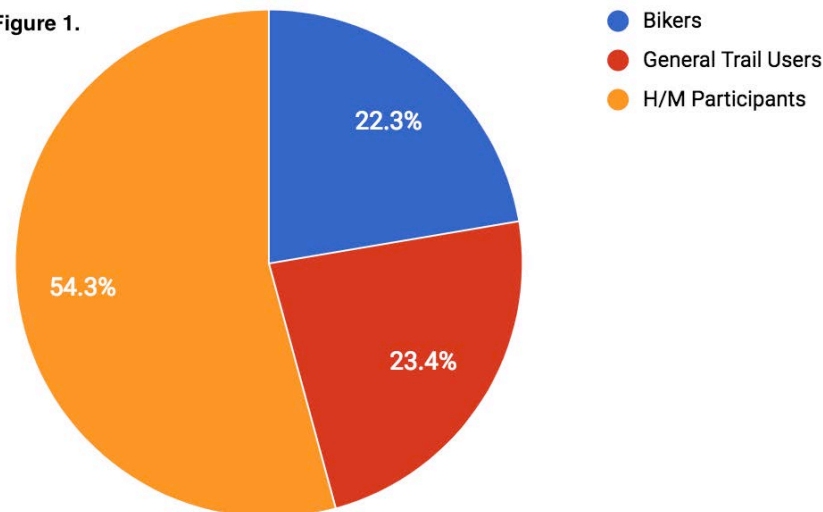
Initially, we created the survey and handed it out to users on the trail (see Appendix B). This sample of 94 subjects is referred to as the "Physical Group" since the surveys were distributed and completed physically on the trail. Because the surveys were distributed at three specific events to different groups of people (in terms of activity), this sample consists of three subgroups: Bikers, general users on the trail, and half marathon runners. The biker group consists of colleagues that Dr. Malinconico rides with on the trial. To gain this data from them, he distributed the surveys throughout the group one day during one of the group's rides. For the subgroup of general trail users, data was collected from both members and non-members of the Get Your Tail on the Trail Program during the Get Your Tail on the Trail's Program's 165 Mile Challenge Finish Event for 2017.

Although the event was affiliated with the Get Your Tail on the Trail Program, there were non-members participating at the event to whom the surveys were distributed as well. Therefore, this subgroup is referred to as consisting of general users on the trail. The third and final subgroup in this sample are the half marathon (H/M) participants and the surveys were distributed to them at the 2017 D&L Half Marathon Run and Walk. The makeup of the total sample is illustrated in Figure 1 below.

Although the data from the following questions in the survey are not separated in terms of these subgroups, it is important to note the activities that the subjects in this sample tend to perform. Moreover, before we continue, since the surveys were distributed at these events at our convenience (we distributed surveys to whoever was near and willing to complete it), it is essential that we acknowledge the possibility of convenience bias being induced in this sample which would confound the data.
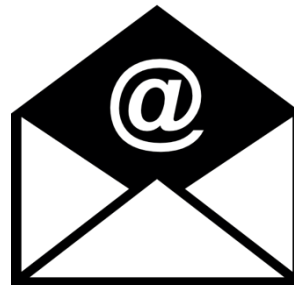
Subgroups within the Physical (Survey) Group

Figure 1.

Legend:
- Bikers
- General Trail Users
- H/M Participants

Pie chart values: 22.3%, 23.4%, 54.3%

DELAWARE & LEHIGH HERITAGE
HALF MARATHON
RUN/WALK
Slatington to Northampton, PA

As we analyze the results of the Physical Group, we will compare its results question-by-question with that of another sample we gathered, this time online via Google Forms. A Google Forms survey link was sent to people subscribed to the Get Your Tail on the Trail Program's email list and asked them to complete the same survey for a chance to win an Amazon gift card. By the deadline of the survey (a week later), 449 surveys were completed. Not only does this larger sample produce more consistent results, but it also illustrates the effectiveness of the Program's email list (which has not been used in a considerable amount of time). As we move on throughout this section, this sample will be referred to as the "E-Group" since the data was distributed and collected via email online. Since the survey was distributed at the same time, it does not consist of any subgroups like those of the Physical Group.

Despite the larger sample size of this group, it is essential to acknowledge the possibility of volunteer bias (only the most passionate users subscribed to the email list will complete the survey) confounding the data even though the sample size is larger than that of the Physical Group.
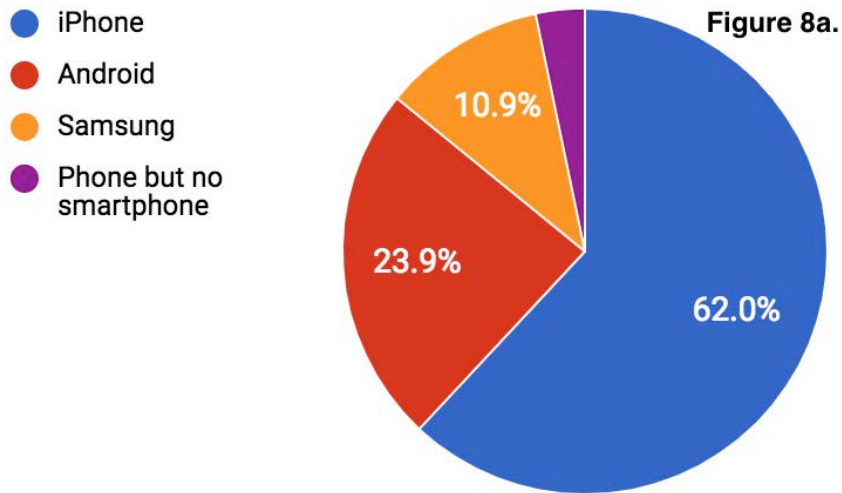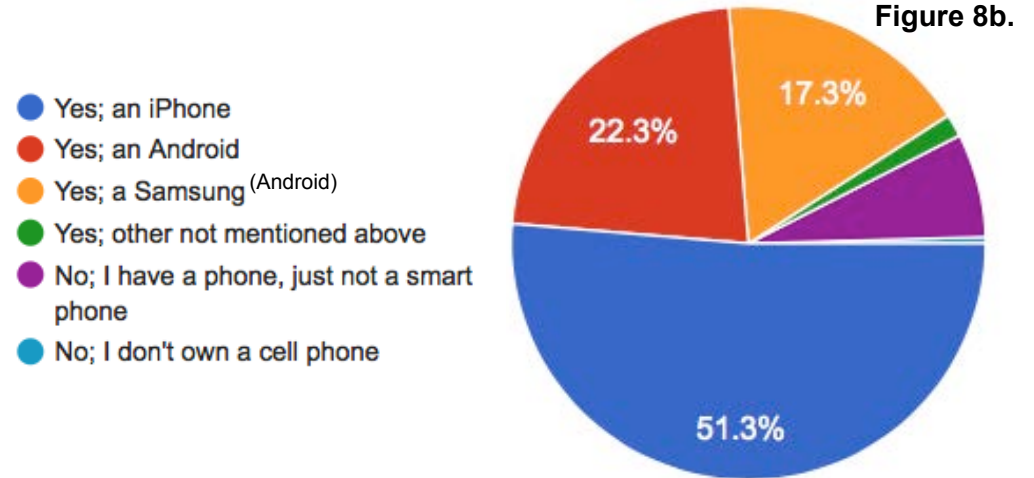
flaticon.com

Smartphone Results

Do you own a smartphone?

Physical Group

E-Group

- iPhone
- Android
- Samsung
- Phone but no smartphone

Figure 8a.

10.9%
23.9%
62.0%

- 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

Figure 8b.

17.3%
22.3%
51.3%

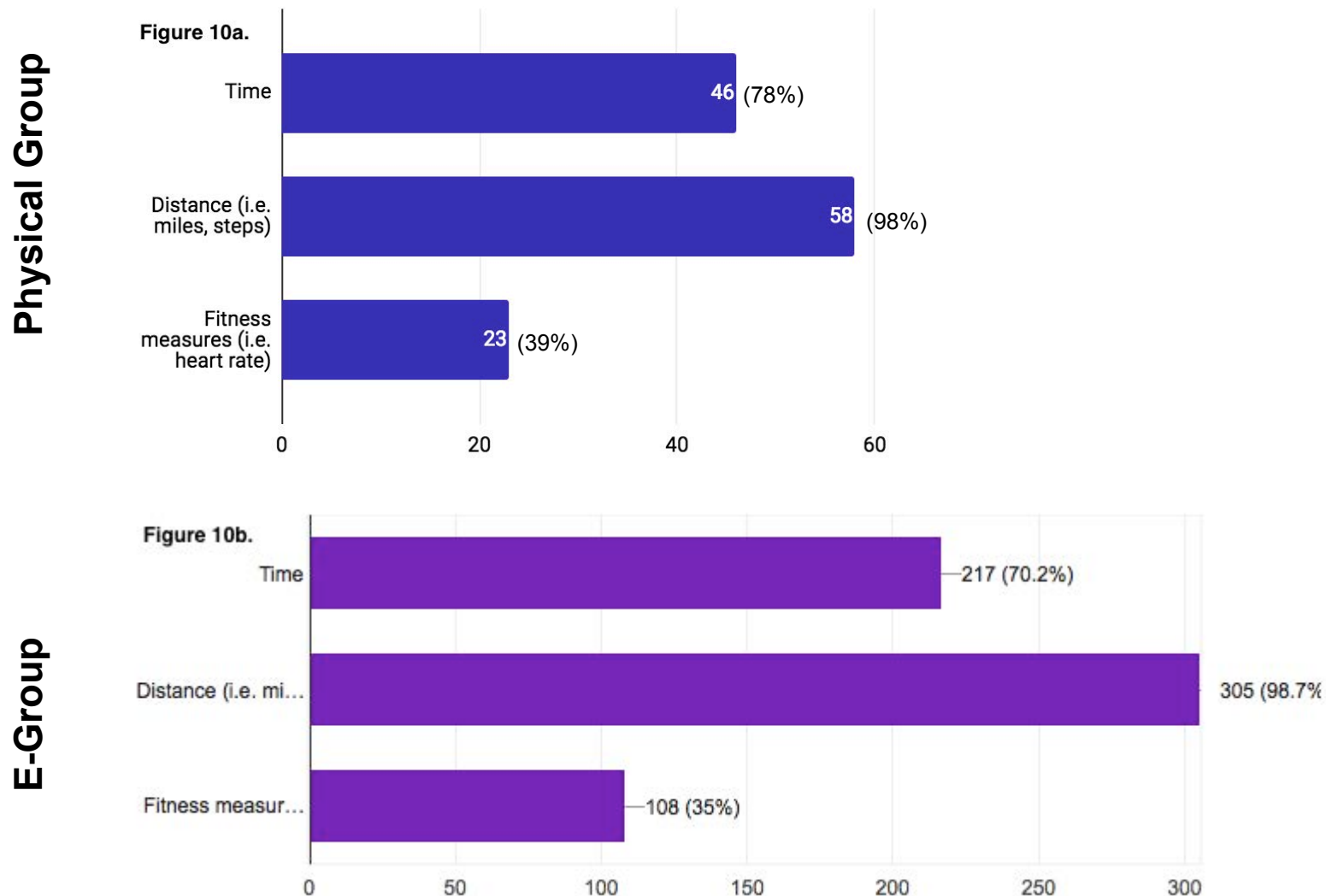**Conclusion:** The majority of our audience has iPhones.

These multiple choice questions (with an open-ended section in addition to the "Other" options) gave us a feel for the kinds of cell phones our audience is using. In both samples, the majority of subjects have iPhones while the majority of those remaining have Androids. It is important to note that Samsung smartphones are Android as well, so the total percentage of Android users in each sample is the sum of those two portions. However, this total in both samples is still smaller than the percentage of iPhone users.

support.apple.com

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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

Figure 10a.

Category	Value
Time	46 (78%)
Distance (i.e. miles, steps)	58 (98%)
Fitness measures (i.e. heart rate)	23 (39%)

E-Group

Figure 10b.

Category	Value
Time	217 (70.2%)
Distance (i.e. mi...)	305 (98.7%
Fitness measur...	108 (35%)

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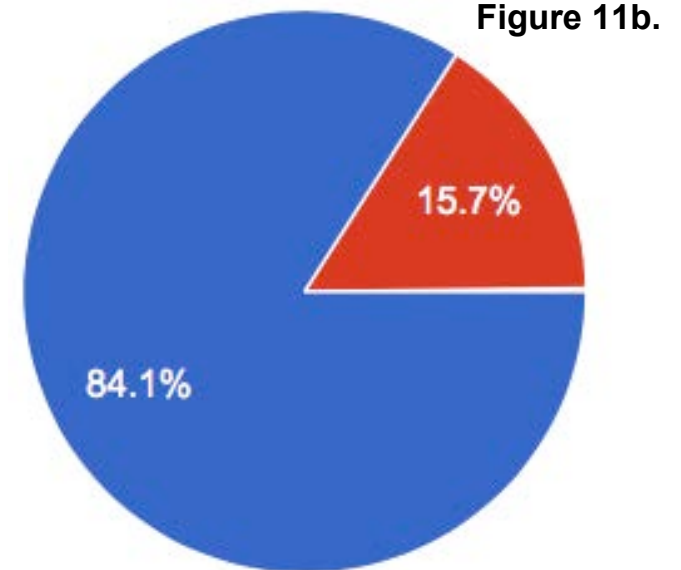
Yes

No

Don't participate in TotT program

Figure 11a.

25.8%

53.8%

20.4%
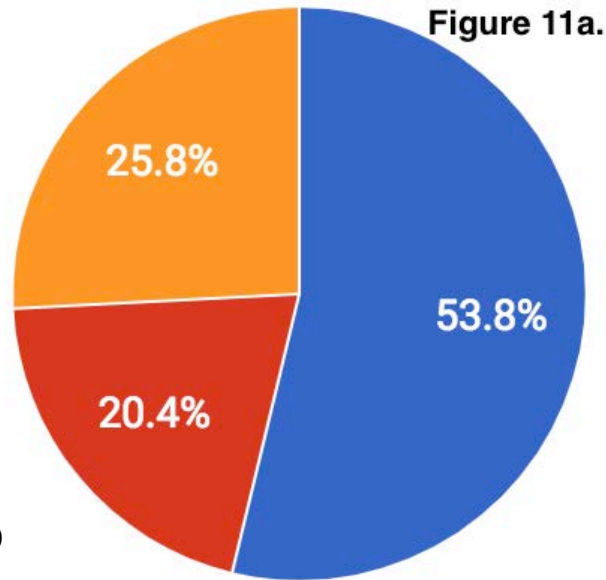
Physical Group

Yes

No

I don't participate in the Tail on the Trail program

Figure 11b.

15.7%

84.1%

E-Group

Conclusion: Distance and time (in that order) are the most popular variables our audience tracks while exercising. Furthermore, most of our audience is interested in the idea of an app that automatically logs miles to the program.

These questions were included in the survey to get a better understanding of what our audience is tracking while they workout. Figure 10a. and 10b., respectively, show what our audience tracks while exercising for the Physical Group and E-Group. Both figures produced similar findings: almost all subjects track distance while around three-quarters of subjects track time as well. Fitness measures, such as heart rate, are tracked considerably less. Moreover, we included the question above to see if this audience would like the idea of an app to make logging miles easier for the program as the creation of such an app is a current solution of ours. Both samples appear to support such an idea/solution, even though around a quarter of subjects in the Physical group answered that they do not participate in the program at all.

Technological

Designing an Application
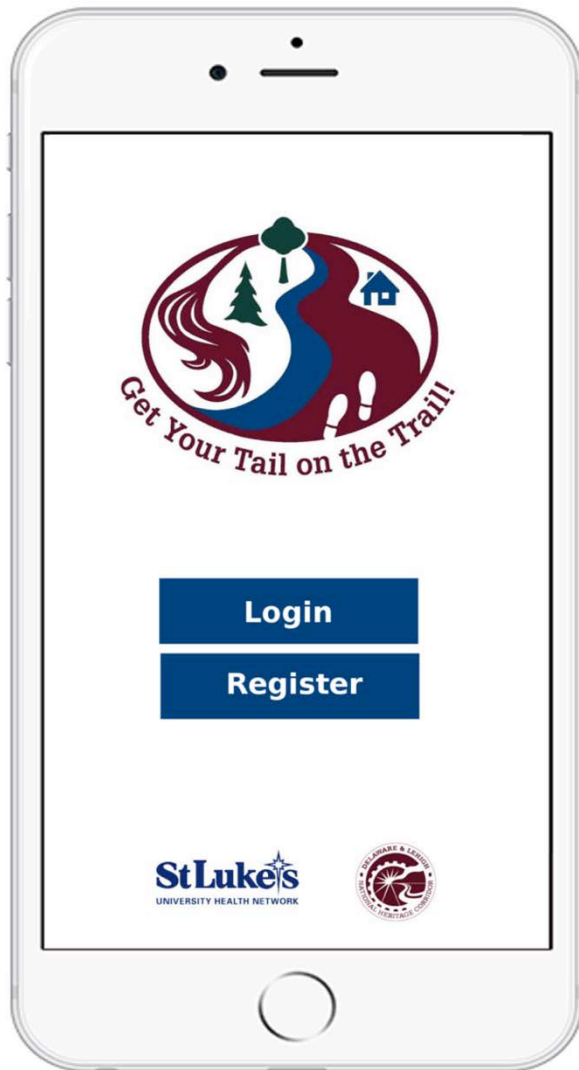
After considering various alternatives to track miles and reviewing the results of the surveys, we decided that the most efficient solution would be to create a mobile app. This app would use the GPS location services available on smartphones to locate the user while they exercise. The mobile app would sync to the database, keeping both the website and app up-to-date with the same data.

Since the majority of users range from 45-64 years old, we made sure the app follows a simplistic design. We created an illustrated prototype of the application to show how a user would use it to easily track miles, gather historical information on the trail, and interact with others. The smartphone to the left shows the initial screen the user would see upon opening the app.

Goal of Application
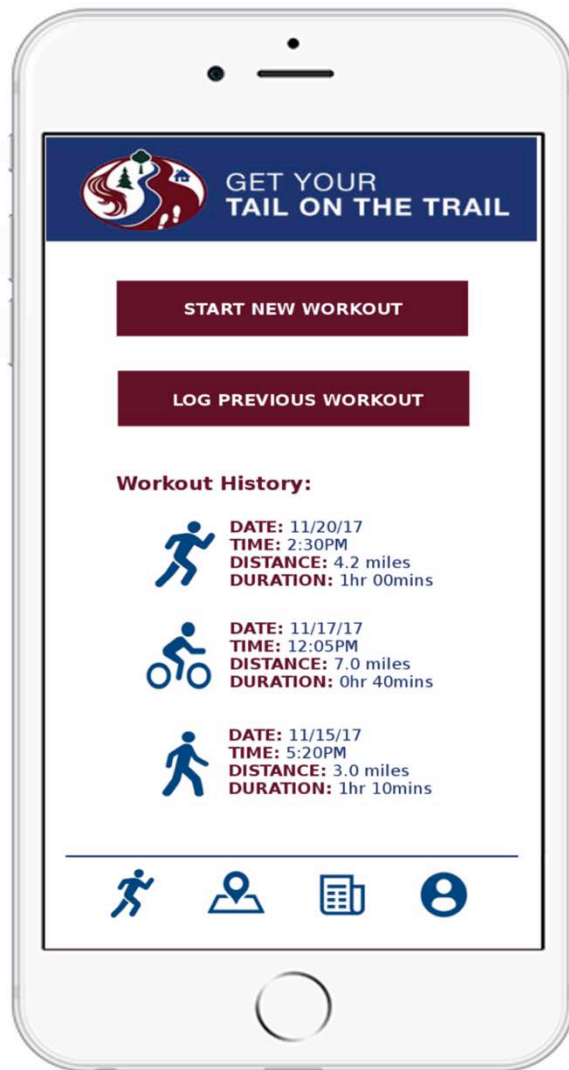
On the app, the user would be able to:
- Start a new workout that is automatically tracked and logged
- Log a previous workout manually
- View history of workouts
- View an interactive map of the D&L trail
- Interact with a community newsfeed
- View and edit personal profile
- View historical facts during loading screens

The goal of the application to allow for the user to be able to track their miles easier. The automatic tracking allows the user to set and forget while they workout. There is no need to log into the website and track manually. The rest of the functionality is additional features that help with the goals of getting more people on the trail (map of D&L) and getting more users to actively use TOT.

Desirable Additions

- Syncing Fitbit, Apple Watch, or other fitness trackers to automatically send the tracked activity to the Get Your Tail on the Trail app
- Map displaying historical locations along the trail via pins
  - When a user clicks on a pin, it will bring up a pop up window that displays the information, along with pictures if applicable
- Fast Facts will display based on either GPS location or geolocation of the user along the trail
- Miscellaneous features:
  - Using a different unit of measurement for activity
    - Steps
    - Miles
  - Adding back button which autosaves the information in the text fields for registration
  - Having an Edit profile page
  - Adding more information to the profile page
    - Amount of hours completed in activities in total
    - Average amount of miles per day or total miles
    - For challenges, have the distance still needed in order to complete the challenge

Social

5th Anniversary Celebration Event

The 5th Anniversary Celebration would be the prime time to elicit strong community involvement, help people sign-up in person, and show-off the new programs and features the team has been working on throughout the project. It would be a prime opportunity to advertise the new mobile application for the program as well, and have people download it and sign-up right at the event. It would also be a great opportunity to create awareness for the Get Your Tail on the Trail program while simultaneously creating a sense of community between participants. When there is a social component involved, people are more likely to stay committed. We thought Hugh Moore Park would be a good location for the event, considering it has both suitable amenities, land, and it's where the Canal Museum is located.

Preliminary Activities for the Event:
- GYTOT sign-up tabling
- Breakfast / social - meet other members!
- 5k/1 mile run
- Open museum history tour

Partnerships with Local Organizations

In order to increase interactions with all demographics in the Lehigh Valley and expose more groups to the trail, we feel it is important to take advantage of the several outreach organizations and universities in the Lehigh Valley. We have created a list of potential partners for the program, as well as local business to sponsor events. The list in Appendix A focuses mostly on partnerships within Easton, but there is ample opportunity with similar organizations along the trail.

One important connection we focused on which exemplifies the potential partnerships with LVAIC colleges is that of working alongside Athletes C.A.R.E and the Boys and Girls Club of Easton. Athletes C.A.R.E is a student athlete organization at Lafayette College that integrates Lafayette's Division I athletes with the Easton community. Through this partnership, volunteers of Athletes C.A.R.E would plan activities to increase daily physical activity, as well as involvement on parts of the trail. These volunteers could also run GYTOT account to log participant's weekly activity at the Boys and Girls Club. Other student-run organizations at Lafayette College such as the Running Club showed interest in organizing races on the trail in the Easton community.

Currently, only 10% of participants are ages 18 and below. Such partnerships will help the program reach the youth demographic in the Get Your Tail on the Trail program. Additionally, these programs could link with other programs focused on increasing education and participation about history on the trail.

Website Enhancements

The current website has been effective in providing a platform for participants to log their miles, keep track of ongoing challenges, and learn about the trail itself. However, we feel that there is more potential for the website to provide a social platform for participants to increase a sense of belonging, which is highly correlated with commitment in general.

People like to share what they are doing, and they like to see what their friends are doing. If people see their friends tracking their miles and completing challenges, they will be more inclined to do so as well:

- Newsfeed
- Activity Circles

This feature would also be available on the app, so people can easily share updates and RSVP while they are on the trail.

Additionally, we feel it is important to encourage that participants can log all their activity on the program, not only activity on the trail. There are several easy additions to the website that would help clearly encourage participants to record all activity.

Historical

Historical Solutions

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

    She recommended that we avoid placing signs on the park because they are very expensive (starting at $800) and they would need to be checked, cleaned, rid of graffiti, and would not be a sound investment for the Delaware and Lehigh National Heritage Corridor (or any or any of the member organizations that own the trail). She believed that it would make more sense to spend the money creating an augmented reality where people on the trail might see geo-referenced historical pictures as they progress throughout the trail. She really liked the idea of having rotating pictures/historical information though because she agreed that it would be really difficult to get people to want to learn more if they could only read the same information the first time they were on the trail and every subsequent time as well.
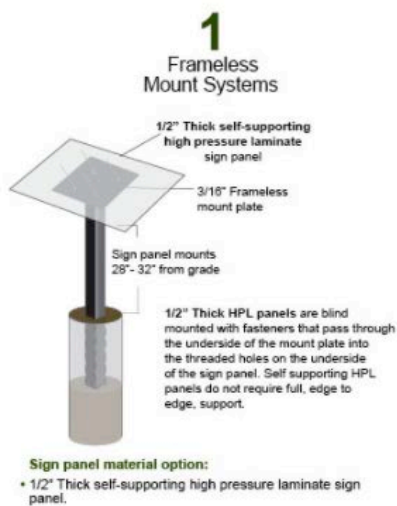
Possible Opportunities:

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:**


GETTING STARTED. . .
Understanding the Options

1 Frameless Mount Systems

1/2" Thick self-supporting high pressure laminate sign panel

3/16" Frameless mount plate

Sign panel mounts 28"- 32" from grade

1/2" Thick HPL panels are blind mounted with fasteners that pass through the underside of the mount plate into the threaded holes on the underside of the sign panel. Self supporting HPL panels do not require full, edge to edge, support.

Sign panel material option:
• 1/2" Thick self-supporting high pressure laminate sign panel.

2 Frame Mount Systems

Removable top rail

1/8" Thick non self-supporing sign panel (high pressure laminate or Tuff Panel) slides into channel at top of the frame.

Frame mounts 28"- 32" from grade

Frame provides full, edge to edge, support. Frame width is 3/4". Panel design should allow for 5/8" frame coverage around outside perimeter of sign panel.

Sign panel material options:
• 1/8" Thick non self-supporting high pressure laminate sign panel.
• 1/8" Thick non self-supporting Tuff panel.

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
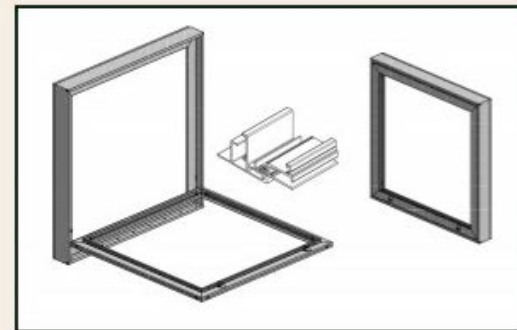
Completed: First Semester

<u>Completed:</u>

- Brainstorming period
  - Successfully split up the project into three separate entities: Technological, Social, and Historical
- Designed concepts of application
- Website supplements
  - Initial "Newsfeed" sketch-ups
  - Initial "Activity Circles" sketch-ups
- Conducted a successful survey with over 500 participants
  - Data supported our initial idea behind creating an application
- Brainstorming of ideas of who to pair with for social entities for next semester
  - Boys and Girls Club of Easton
  - Athletes C.A.R.E
- Brainstorming different ideas for the 5th Anniversary Celebration
- Trips to the Canal Museum to look more into the archives there and the history the trail has to offer
- Created three different ideas to satisfy the historical aspect of the project
  - Increased Signage
  - App
  - Scavenger Hunt

SECOND SEMESTER

Approach

Methodology

1.   **Mid-Year Meeting with our Clients:**

Reconvened with our clients about a month after our mid-year presentation to refine a focus for our goals of the project. At this meeting we prioritized our various solutions to best fit the needs of our clients: (1) Creating an app for easily tracking miles, (2) Increased community engagement in the program with the 5th Anniversary Celebration (3) natural and historical appreciation.

2.   **Meetings with Corresponding Groups for each solution:**

After speaking to our clients, the team decided to address our multi-faceted solutions head on. We did this by holding various meetings with groups and individuals that pertained to our two solutions. Below is a brief overview of each of the meetings that occurred:

- Weidenhammer Creative: Specified approach with app and website development.
- Dave Hopkins and the City of Easton: Discussed premise of mural, dog park, and 5th Year anniversary.
- The Humane Society of Lehigh County: Worked through specifics of adoption event.
- Meetings with Martha Capwell-Fox: Focused our research and revised sign content.
- Meeting with John Clark: Helped us identify ruins to use later in signage.

- <u>Weidenhammer Creative:</u> A portion of the team met with Devon Beck and Curtis Johnson of Weidenhammer Creative, GYTOT's web developer. This meeting consisted of specifying our approaches toward the app and website development. We discussed the feasibility of creating a fully operational app this semester and implementing website enhancements to GYTOT's website using WordPress.com, respectively.

- <u>Dave Hopkins and the City of Easton:</u> The team utilized connections with Dave Hopkins, Public Works Director of the City of Easton, to bounce ideas off of in regards to community engagement. Initially, the team met with him to discuss prospects of the mural project and the 5th Anniversary Celebration for GYTOT. During this meeting, he agreed to bring a sketchup of the mural to City Council for approval. Further, in regards to the 5th Anniversary Celebration, he proposed to our team the opening of his new dog park in Hugh Moore Park called "Hugh Moore Bark". With this in mind, Claire was able to bring forward her idea of an adoption event that would occur during the 5th Anniversary Celebration. With both of these ideas in mind, Hopkins was able to go forward with his implementation of the dog park and Claire with finding a shelter to have dogs up for adoption on the 5th Anniversary Celebration.

- The Lehigh County Humane Society: After the team's discussion with Dave Hopkins in regards to the dog park as well as the adoption event that is to take place during the 5th Year Anniversary Celebration, Claire and Olivia decided to contact local adoptions organizations in the Lehigh Valley to partner with. The team ended up connecting with The Lehigh County Humane Society, who will be coming to the 5th-year celebration to both participate in the walk, the adoption event, and the dog park ceremony.
- Martha Capwell Fox and John Clark: After deciding on a location for the new rotating signage, Chris and Kamal met with the archivist at the National Canal Museum, Martha Capwell Fox. Martha provided us with resources about historical landmarks along the trail and suggested possible sights to include on the scavenger hunt. Thereafter, we met with John Clark, the GIS librarian at Lafayette College, to help us identify ruins and sites along the trail.

3. **Meeting at Hugh Moore Park:**
This meeting consisted of the key players of the 5th Anniversary Celebration: Elissa Garofalo, Todd Nemura, Claire Sadler, Dave Hopkins, and Mary Beth Golab. During this meeting the team discussed an initial itinerary for the 5th Anniversary Celebration, and mapped out just how the morning would work.

4.   **Finalization Before the 5th:**
This meeting took place the week of the 5th Anniversary Celebration. This was used clear up any final questions and concerns about the event. Soon after this meeting the final itinerary for the event was sent out to all major players

5.   **5th Year Anniversary Celebration:**
The 5th Year Anniversary Celebration at Hugh Moore Park took place on the morning of May 5th. This event was important for both celebrating the importance of the Get Your Tail on the Trail program in the Lehigh Valley, instilling a sense of community among its participants, and creating excitement about the new application the Tech Clinic team has created over the past year.

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

After meeting with Weidenhammer and weighing our options of how to approach the idea of a GYTOT app within our given time frame, we decided to create prototypes for both iOS (iPhone) and Android. Because of the operational differences between the production processes of the two apps—i.e. which programs were used, slight technological differences, licensing for publishing, etc.—the workflow of the apps are slightly different; however, both apps significantly accomplish the same goal of making it easier for users to log miles. Prototypes, instead of fully operational apps, appeared the most feasible to develop in a semester. Moreover, we decided to have our prototypes focus on the most complex and important aspect of the app concept: using GPS technology to track users' workouts and send that data to GYTOT's database.

apple.com

android.com

IPhone

Application for iOS (iPhone)

The iOS prototype was written in Swift using Xcode, Apple's software for developing apps for its products using its operating system. It is important to note that the team worked with Jeremiah Kruczek, Joshua's father and software engineer, in developing this prototype. He was extremely instrumental in the production process by helping with coding and troubleshooting.

This prototype contains four tabs located at the bottom of the screen spanning right to left: **Track Activity**, **Workouts**, **Activity Type**, and **Sign In**. To log miles to the GYTOT database, a user must be signed into the app using his or her GYTOT account credentials. To do so, he or she must select the **Sign In** tab on the bottom-right corner of the screen; this tab is the default screen the user sees when he or she initially opens the app. From here, the user simply enters his or her GYTOT username and password and selects **Login**. If the username and password entered belong to a valid user, a notification will appear indicating that the user successfully logged into the GYTOT database and can therefore start logging activity automatically. By selecting **OK**, the user can now track his or her activity and automatically log it to the GYTOT database.
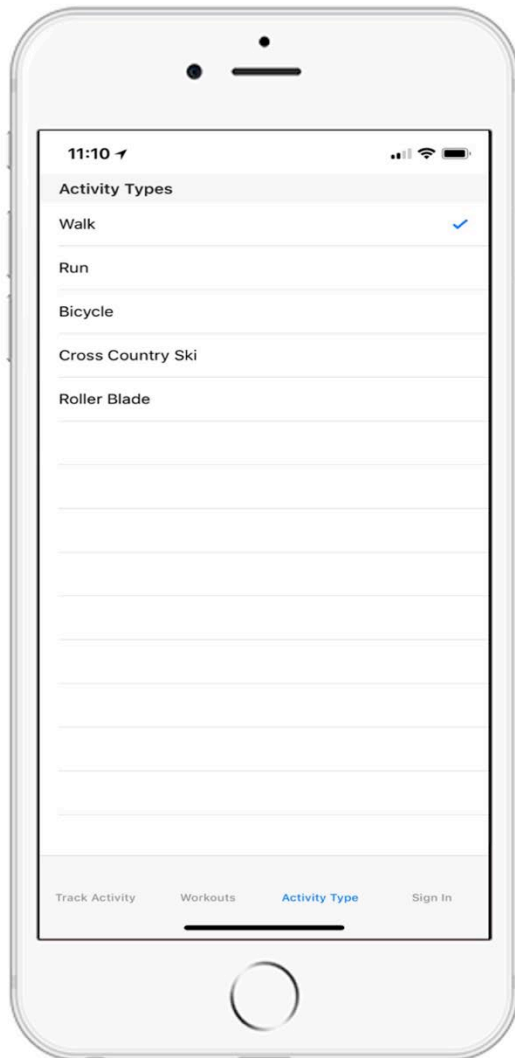
Sign In
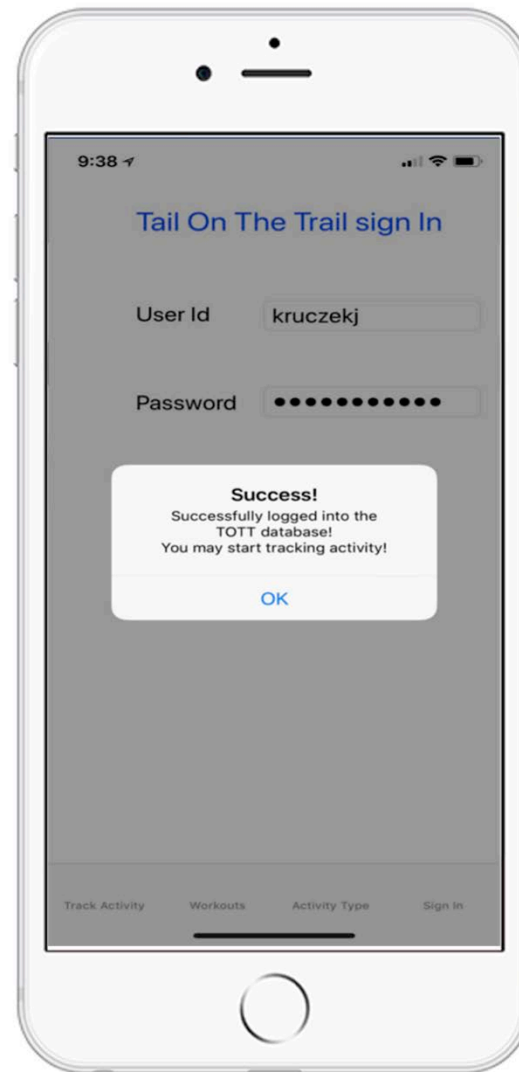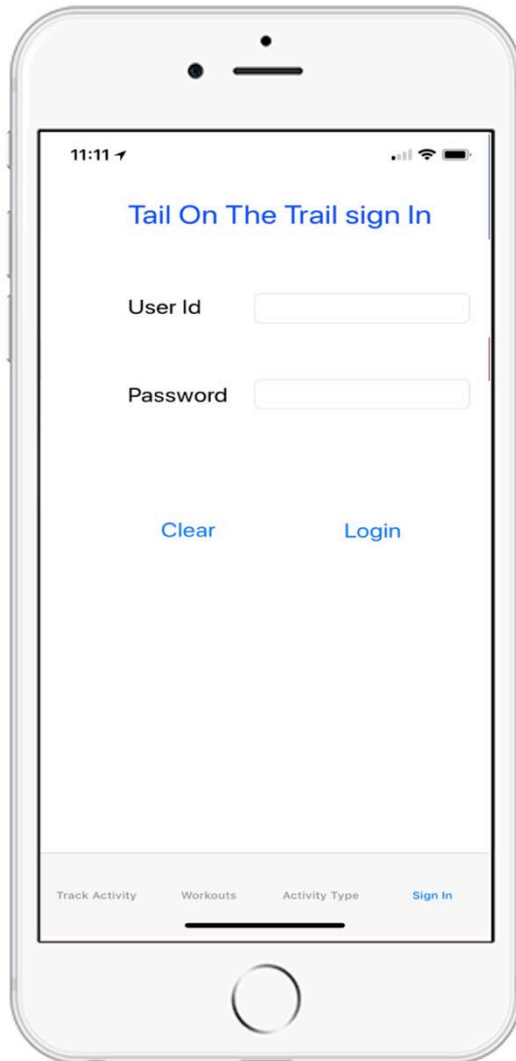
It is important to note that if a user does not decide to enter his or her credentials, he or she can still track activity as the data will be saved directly to the phone. However, the data will not be sent to the GYTOT database.

Selecting Activity

Before the user starts tracking activity, he or she can select the type of activity in which he or she is about to engage by selecting the **Activity Type** tab immediately to the left of the **Sign In** tab. The options available are **Walk**, **Run**, **Bicycle**, **Cross Country Ski**, and **Roller Blade**. If the user does not select an activity before starting a workout, **Walk** will be selected as it is the default activity type. From here, the user can finally begin his or her workout by going to the **Track Activity** tab on the bottom-left-corner of the screen.

Location Preferences

      Once the user goes the **Track Activity** tab, the app will ask if it can use the user's phone's location services to track the user. Allowing the app to do so is essential for workouts to be tracked successfully; if the user does not allow the app to use the user's phone's location services, the app will not be allowed to do its job. The user can change these settings at any time through general **Settings** app on his or her iPhone.

Settings → Privacy → Location Services

macsolutionsplus.com
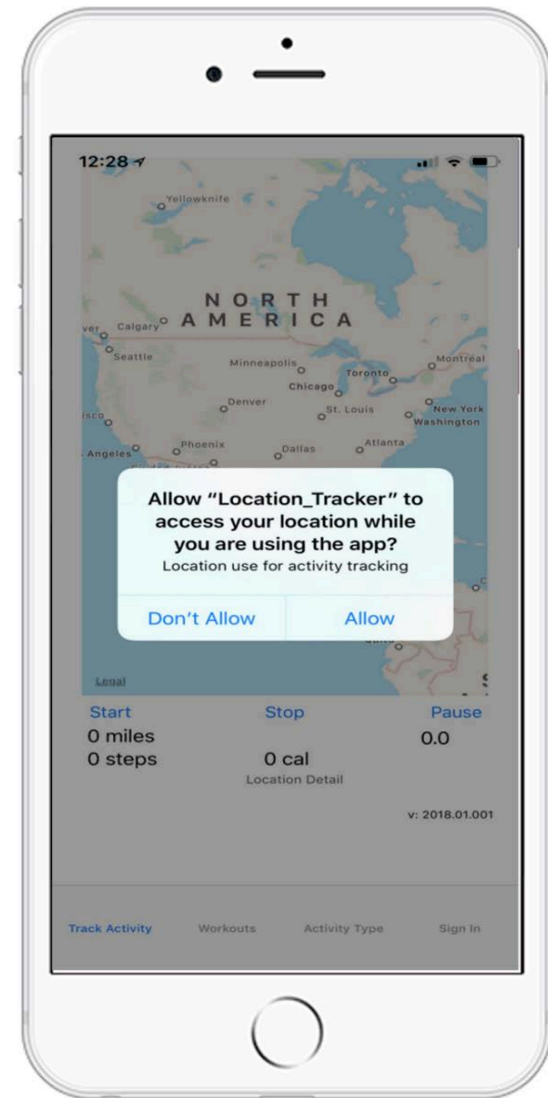
Motion & Fitness Preferences

After allowing the app to use the iPhone's location services, the user is now ready to start a workout. He or she can do so by selecting **Start** toward the bottom-left corner of the map. After making this selection initially, another notification will appear asking the user if the app can access the his or her iPhone's motion and fitness activity. This allows for the app to track steps taken and calories burned during workouts. This option can also be modified at any time through the general **Settings** app.

Settings → Privacy → Motion & Fitness
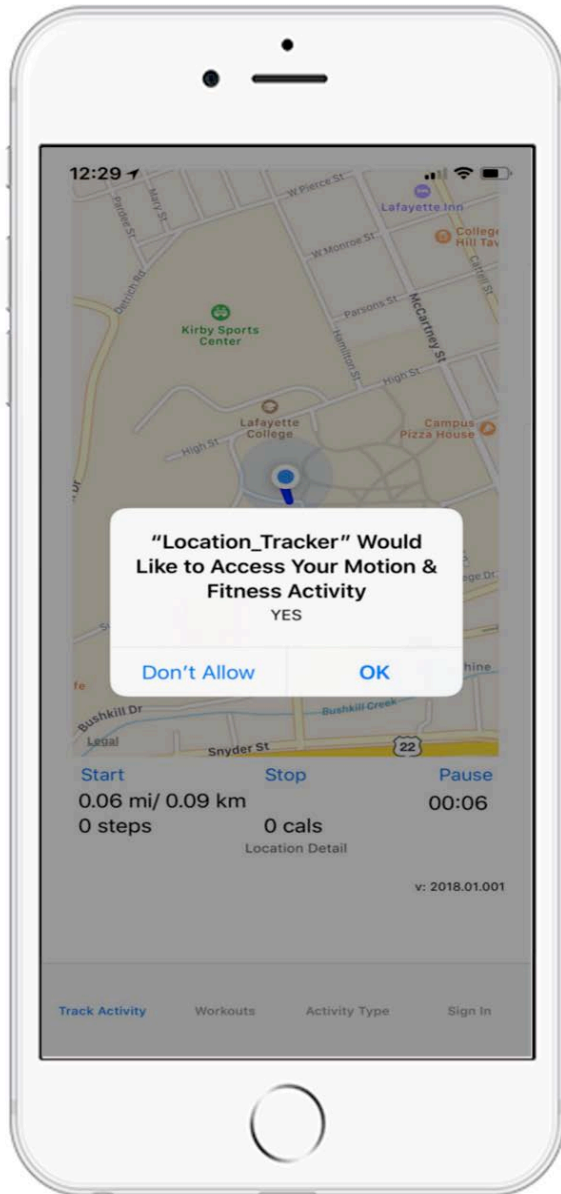
Logging Activity
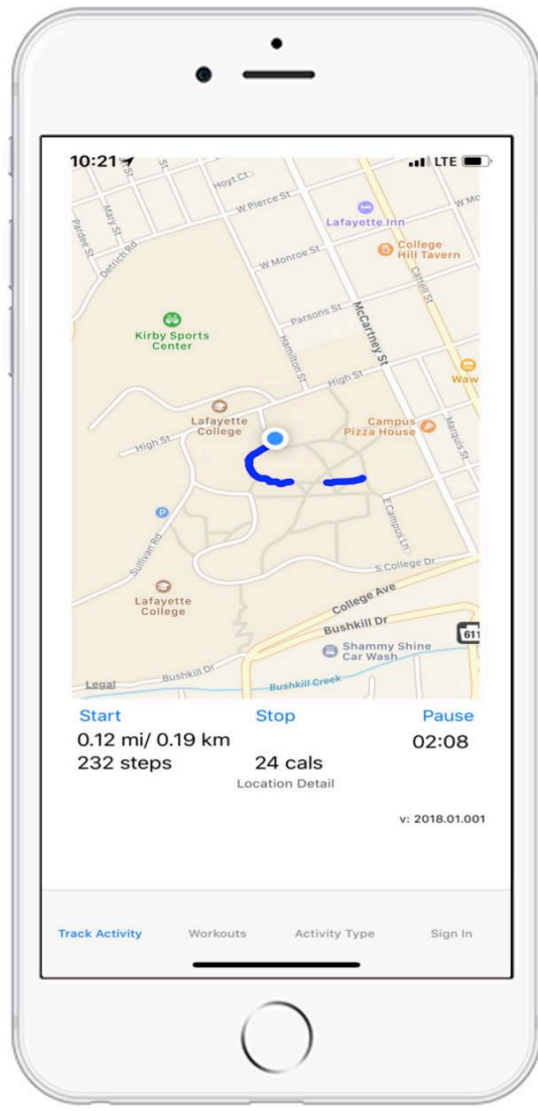
After the user selects **Start**, the iPhone's GPS technology will begin working through the app and track the location of the phone—indicated as a blue dot—as it moves. During the workout, a blue line will trace the path of the phone's movement along the map. Moreover, the following variables are tracked throughout the workout:

- Distance traveled (in miles and kilometers)
- Time elapsed
- Steps taken
- Calories burned (estimated)

If the user would like to pause the workout, he or she can do so by selecting **Pause** located above the timer. After doing so, the blue line tracing movement ceases until the user resumes the workout by selecting **Resume** —located in place of **Pause**.

When the user is finished working out, he or she can press **Stop**, located in the middle of **Start** and **Pause/Resume** right beneath the map. A confirmation notification will appear asking if the user would like to save the workout. By selecting **OK,** the workout will be logged to the GYTOT database and give the user credit for traveling those miles. Another notification will appear once the workout is successfully logged. After selecting **OK** once more, the user can view the details of the workout and previous ones by going to the **Workouts** tab located immediately to the right of the **Track Activity** tab.
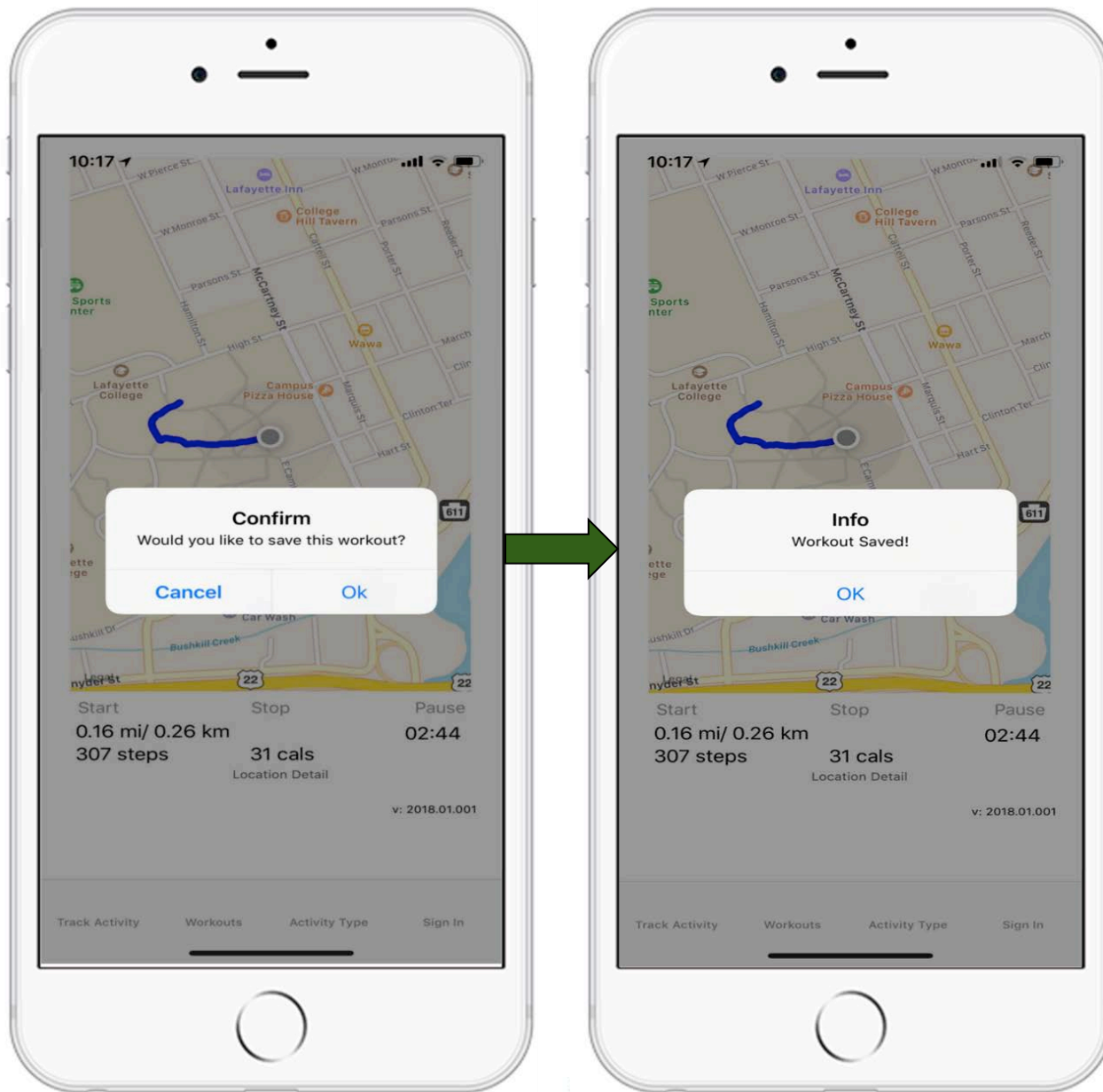
Workout History

Once the user selects the **Workouts** tab, he or she will be able to view the details of all workouts completed on the app. Such details include:

- Date
- Time of day
- Distance traveled (miles)
- Time elapsed
- Average speed (mph)
- Steps taken
- Calories burned (estimated)

If the users wishes to clean up the **Workouts** tab, he or she can delete workouts by swiping the archived workout left. A red **Delete** button should appear to the right of the workout; by selecting **Delete**, the workout will be deleted from the iPhone's memory. However, the workout's data will remain in the GYTOT database.
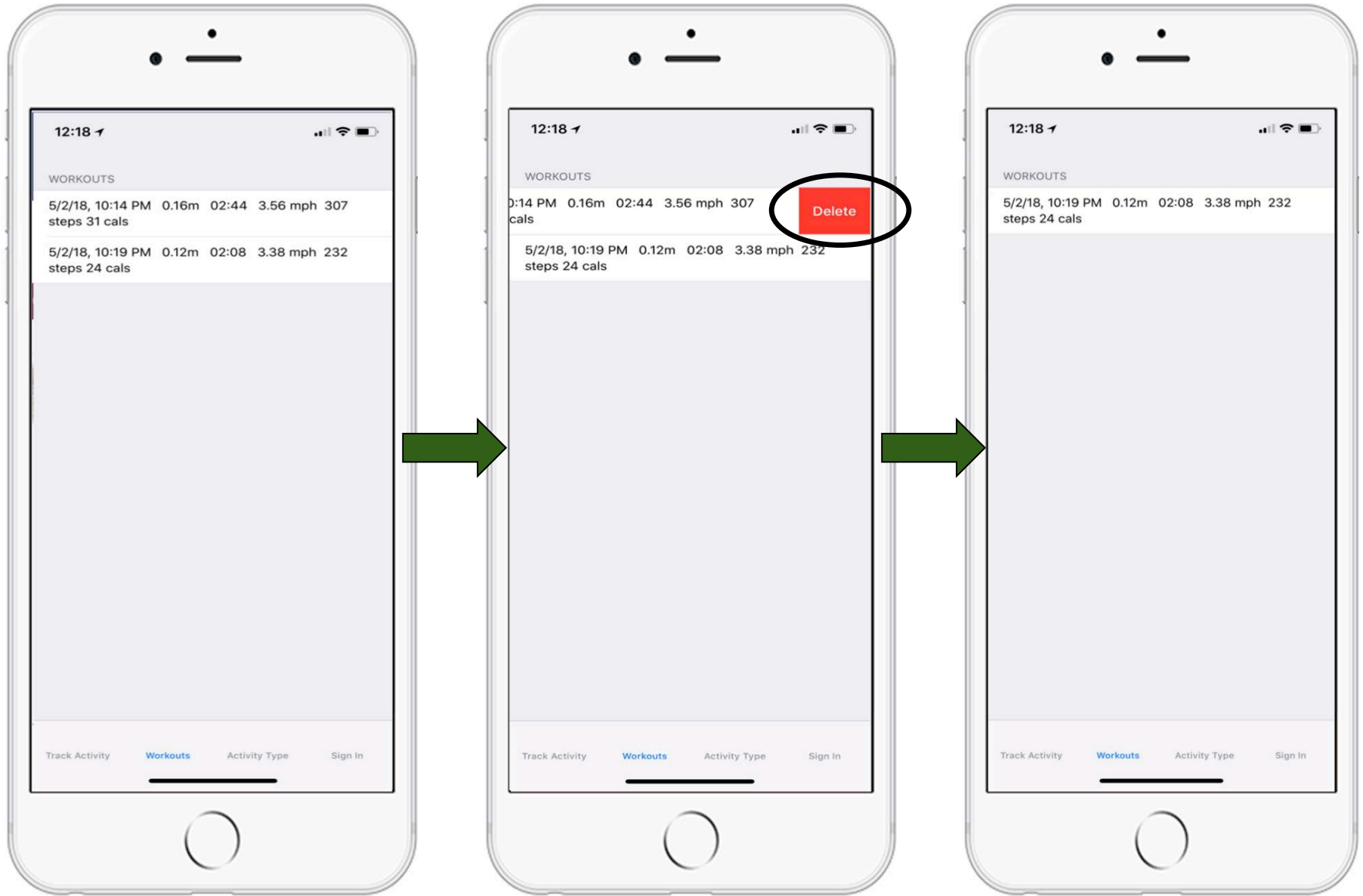
Moving Forward

As our project comes to an end with the Spring 2018 semester, the team will be passing the iOS app on to GYTOT's web developer, Weidenhammer Creative. Since the app's technology is already built, Weidenhammer will be responsible for the app's aesthetics, user-friendliness, security, and licensing for publication to the App Store.

hammer.net

For more on this project, contact:
Joshua Kruczek '19, Lafayette student and co-developer: kruczekj@lafayette.edu
Curtis Johnson, VP of Creative Services, Weidenhammer Creative: cjohnson@hammer.net
Lawrence Malinconico, Director, Lafayette Technology Clinic: malincol@lafayette.edu

Android

Application for Android
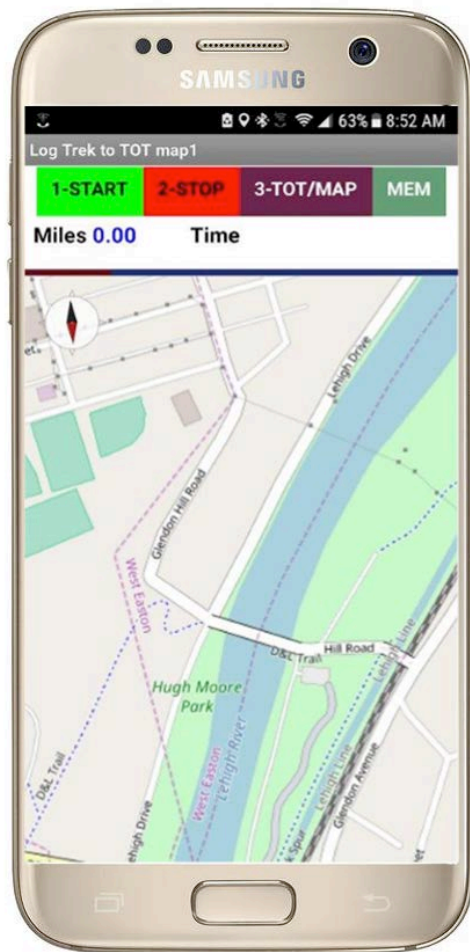
In contrast to the iOS app, the Android prototype is ready to download on the Google Play store; however, it is still a prototype. Titled *Log Your Tail on the Trail Trek*, the application will be maintained by its developer, Dan Bauer. The Android app tracks the phone's location every second and plots points on a map to create a line over the course of a workout. However, instead of automatically sending the data to the GYTOT database, the Android app calls the URL of the GYTOT's page where users log miles/workouts. A walkthrough of *Log Your Tail on the Trail Trek* is located within the description of the app on the Google Play store (see next page).

Log Your Tail on the Trail Trek

Dan Bauer   Health & Fitness

E 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!

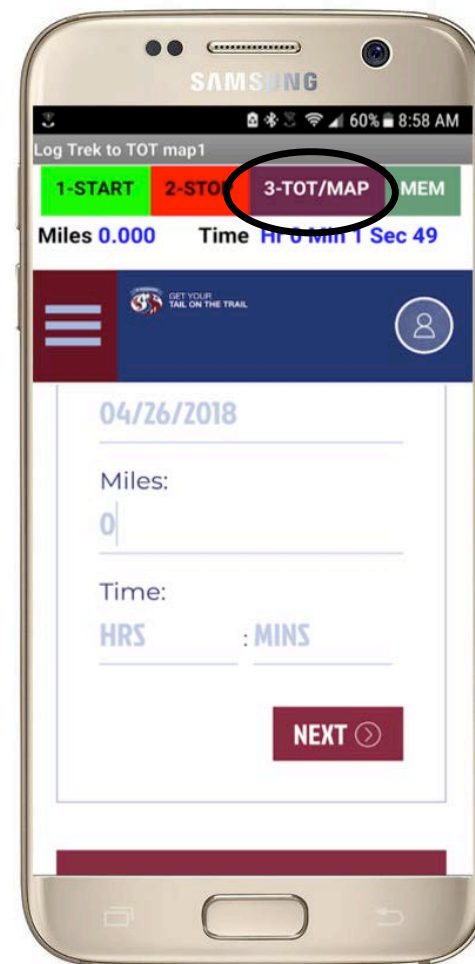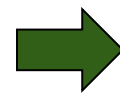If you do not already have a Tail on the Trail account, you may register at: https://tailonthetrail/org.

https://play.google.com/store/apps/details?id=appinventor.ai_danfranzbauer.LOGTREKtoTOT
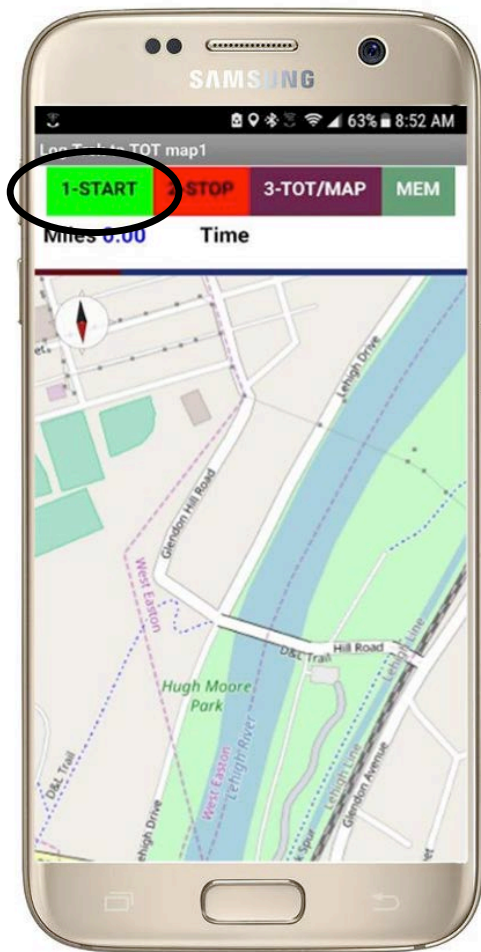
1-START: begins the workout, tracking distance on the map and time directly above.
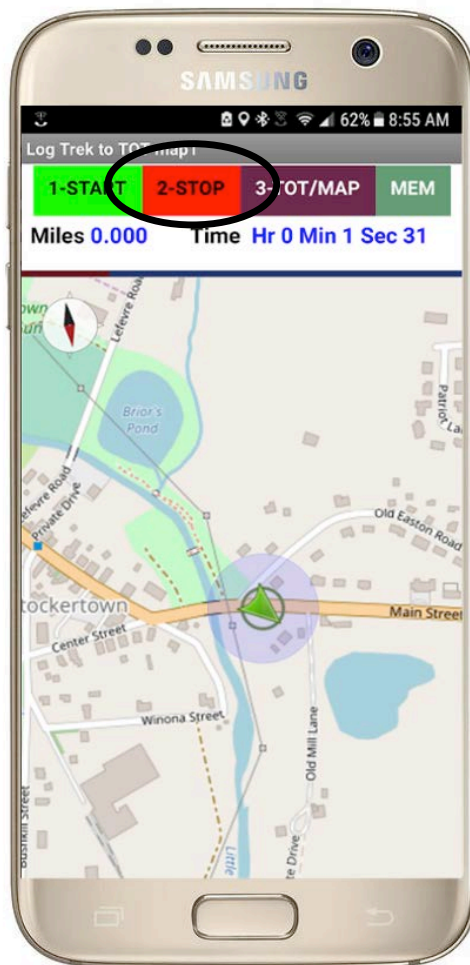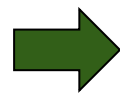
2-STOP: ends the workout and saves the distance and time to the phone.

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

For more on this project contact:
Dan Bauer, Founder and Associate Director of the Lafayette Technology Clinic: bauerdan@lafayette.edu

Increasing Community Presence on the Trail
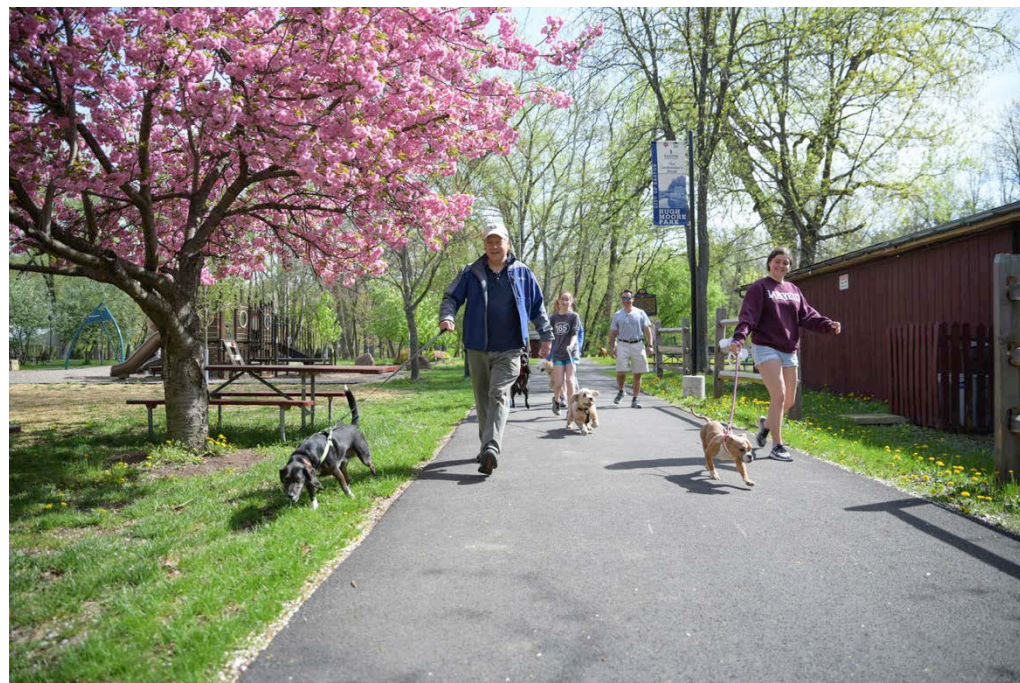
5th Year Anniversary Celebration

The 5th Year Anniversary Celebration event was a time to increase community interaction and get the community excited about the new apps for tracking miles. Overall, 65 members from the community signed in for the event and over $100 was raised for the Lehigh County Humane Society. Mayor Sal Panto and Congresswoman Sandra Vulcano were also in attendance, and the Mayor spoke about the program and the opening of Hugh Moore Bark.

At the event, we had several events including:

- 1 mile walk (with or without furry friends)
- A dog adoption even with the Lehigh County Humane Society
- The opening of "Hugh Moore Bark"
- GYTOT Program Sign-Ups
- Coloring pages advertising the new mural
- Printouts of "scavenger hunt" signage

Above: TC member, Olivia, and Kenneth Szydlow walk together.

Above: Vice President of Marketing and Public Relations, 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

Joshua and Gabrielle set up a monitor for members of the community to preview the new app for the GYTOT program. They gave a step-by-step demonstration of how the app will work to increase the ease of logging miles. The app is currently available for Androids in the Google Play store and will be available for iOS soon in the App Store.

Dogs and the Dog Park

As part of the 5th Year Anniversary Celebration, our team proposed a dog adoption/walk event. We reached out to several organizations in the area, and ultimately formed a relationship with the The Lehigh Valley Humane Society in Allentown. Claire and Olivia coordinated logistics with the event coordinator at the shelter, Stephanie Skyriotis, went to the shelter for training and were able to set up an adoption and dog walking event for the anniversary celebration.

Along with the adoption and walking event of the dogs from the Humane Society, Dave Hopkins informed us earlier in the spring about the idea to construct a dog park in Hugh Moore Park. Hopkins continued with this project, and it was approved by the city on April 11th. The team and Hopkins decided to include its grand opening in the 5th Year Anniversary Celebration.

With the creation of this event, and marketing it pet friendly, the team was hoping to see an increase in the number of people that were involved with the program--drawing from different parts of the community and increasing overall involvement in the program. The adoption event and dog park opening will hopefully encourage future activity on the trail and increase awareness of the trail in general.

For more on this project, contact:
Dave Hopkins, Public Works Director for the City of Easton: dhopkins@easton-pa.gov
**Stephanie Skyriotis**, Volunteer Coordinator at Lehigh Valley Humane Society: steph@lehighhumane.org
Claire Grunewald '20, Lafayette student and coordinator: grunewac@lafayette.edu
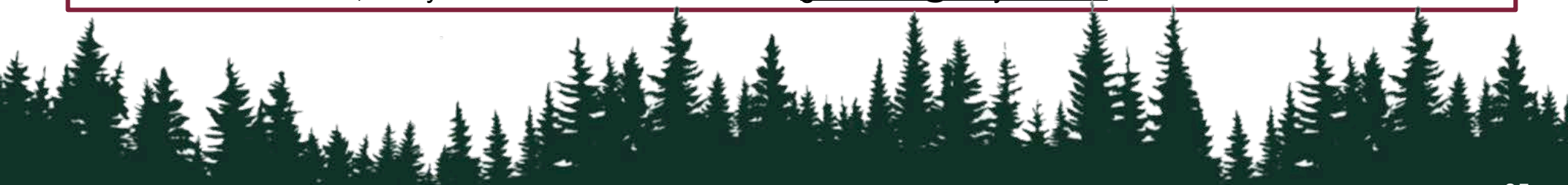
The Dog Walk turned into a successful event that got members of the community excited about GYTOT and exercise in general. We feel this dog walk could occur yearly in the first of second weekend of May to celebrate the warm weather and incite participation in the program throughout the summer. The walk could be coordinator with Bianca Falbo, a local professor at Lafayette College who is involved with dog walking groups in the area.

Contact:
Bianca Falbo,
falbob@lafayette.edu
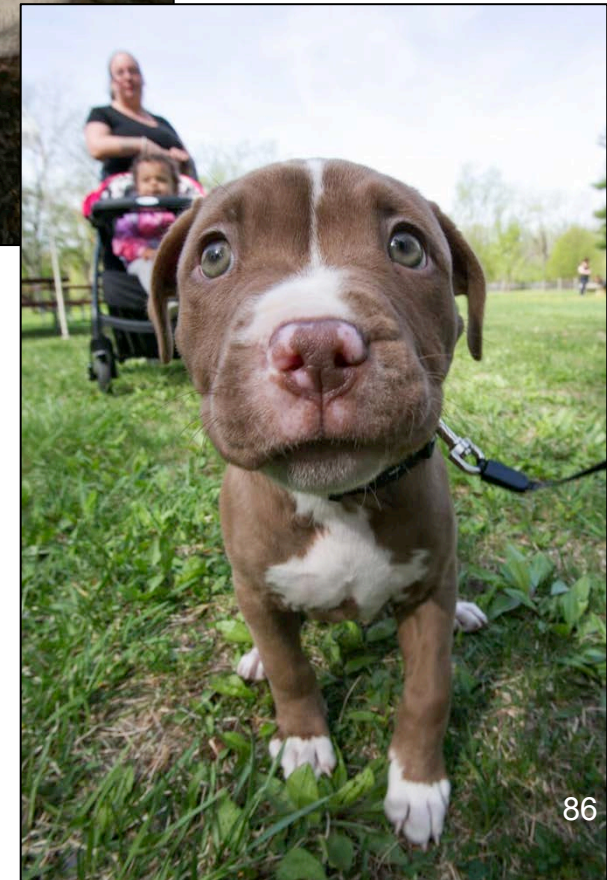
Some of our furry four-legged friends that attended the 5th Year Anniversary Celebration!

Design of a Mural

In order to increase community engagement on the D&L and tie in the rich history of the area, the team had hopes of implementing a mural along the trail. After speaking with Public Works Director of the City of Easton, Dave Hopkins, the prospect of the idea seemed feasible. The idea of the mural, crafted by Olivia, was to display the history of the D&L through artistic expression. To complete the actual artwork of the project, Olivia and Claire recruited a Lafayette art student, Regan Kinney '20, to create a sketchup and paint the mural along the D&L in Easton. After the mural was approved by the city on April 11th, Kinney made plans to paint in late August. The location agreed on by the Tech Clinic, Dave Hopkins, and the City of Easton by the third street bridge (pictured on the next slide).

At 57 feet wide and 18 feet tall, the mural will be a draw to the Lehigh Valley as a beautiful piece of art and a visual representation of the D&L and a representation of the broad historical importance for trade, commerce, and the booming Lehigh Valley.
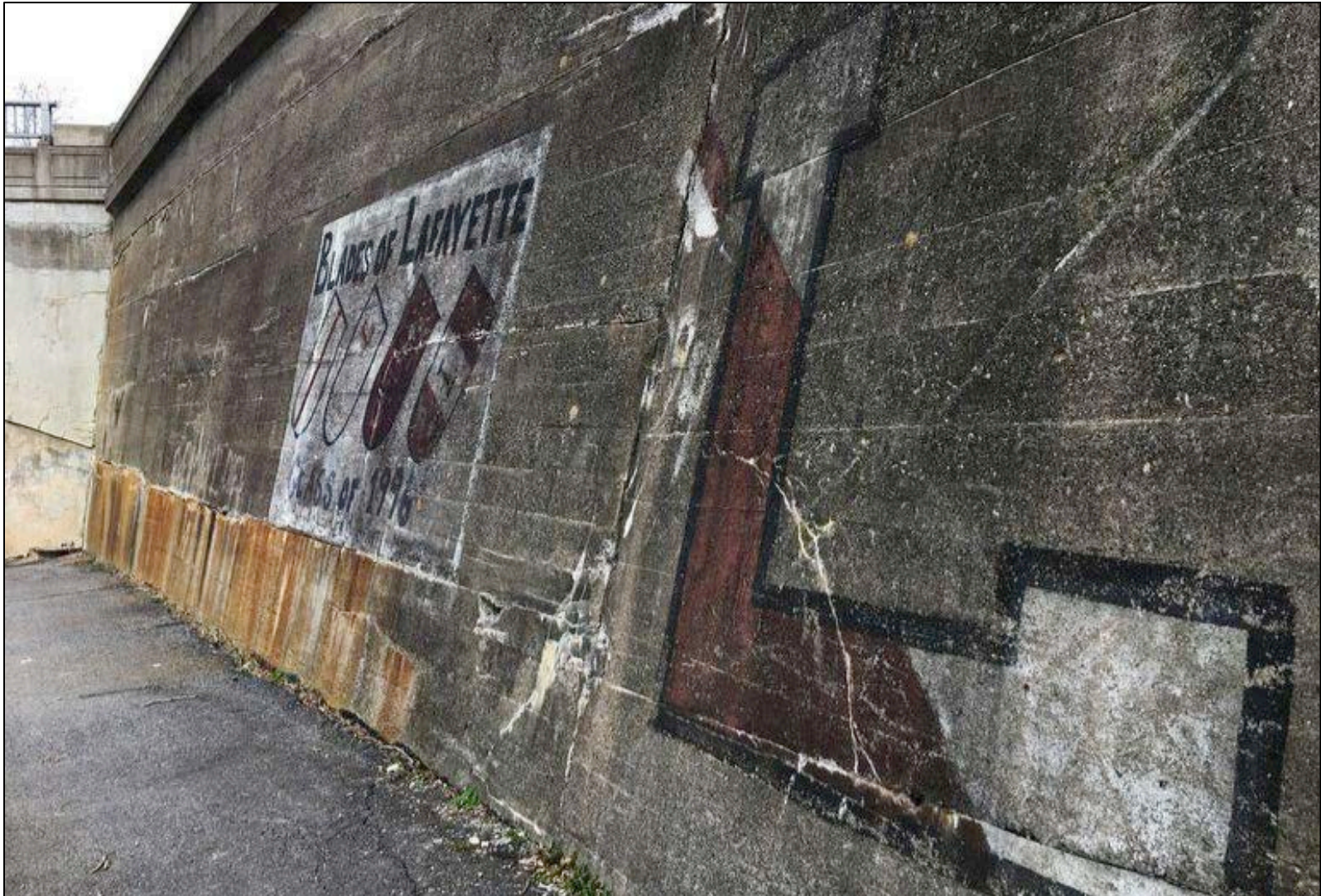
For more on this project, contact:
Dave Hopkins, Public Works Director for the City of Easton: dhopkins@easton-pa.gov
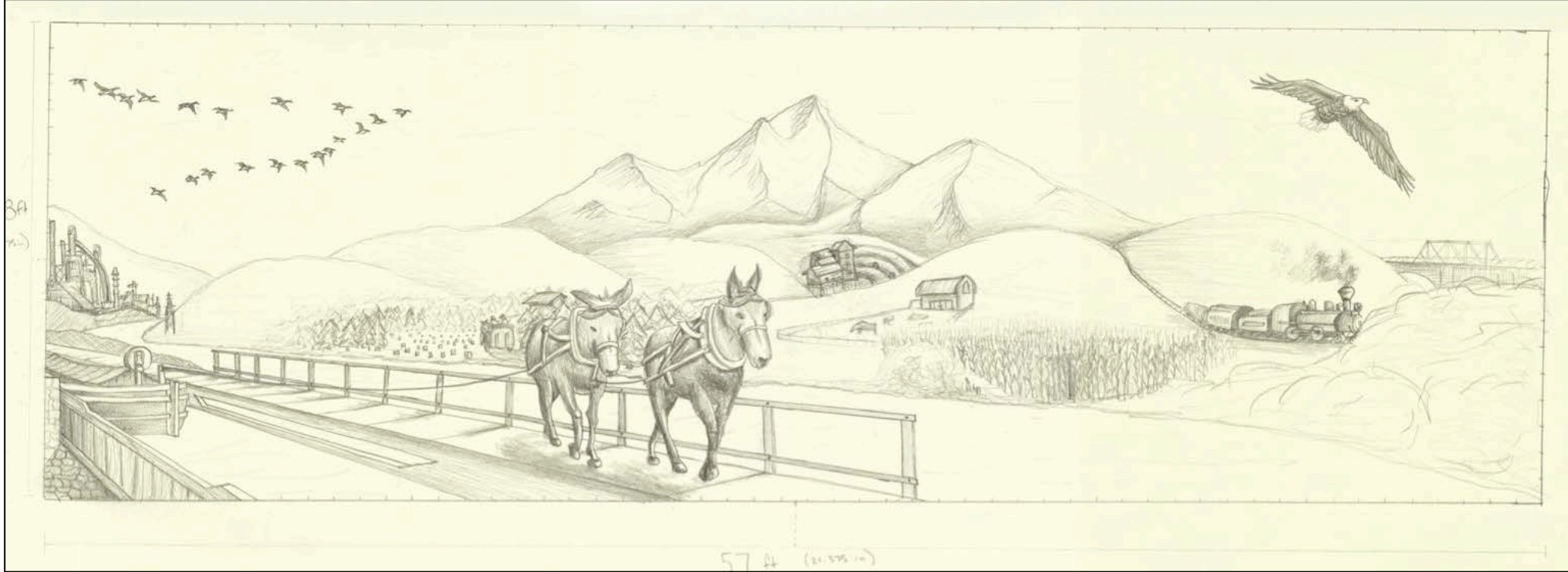**Regan Kinney '20,** Lafayette Student and artist: kinneyr@lafayette.edu
Olivia Grigaux '19, Lafayette Student and coordinator: grigauxo@lafayette.edu

The mural will be painted on the wall just west of the S. 3rd Street Dr. George S. Smith memorial Bridge along the canal trail in mid to late August by Regan Kinney '20.

"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.

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
geeja@athletes.care

Athletes C.A.R.E. (AC) hopes to increase their members presence in the community as well as continue to serve others by becoming involved with the GYTOT program. As AC has experienced students and seasoned athletes, the organization created a program where they can have a monthly event to take the kids out onto the trail. AC felt many student-athletes in the Easton community currently serve as great role models for both their peers as well as younger individuals seeking guidance. Through this fitness program we 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

Members of the Easton Boys and Girls club will be paired with an AC student athlete who has both volunteered and been approved to participate in the program. Participating members of the Easton Boys and Girls Club will need to have a B&GCE permission slip signed by a parent or guardian to ensure that they are allowed to take a bus down to the D&L trail, specifically at the Forks of the Delaware Trailhead with student volunteers and grant permission to allow their child to sign up for a GYTOT account under the Easton Boys & Girls Club organization.

Each AC student volunteer will organize the children on the trail to walk and will set up activities along the trail. Topics such as how to get active and how to eat right are the type of subjects that can be discussed. The goal is for the student volunteers to act as a role model and outlet that the participant can trust and look up to as well as seek guidance from. As student athletes, we are taught to tools on how to eat healthy and be active. This program aims to relay this knowledge for the youth in our community and get them out on the trail.

For more on this project, contact:
Monica Bowles, B&GCE Program Director: (610) 703-8575
Gabrielle Martone '19, Lafayette student and head of Athlete's C.A.R.E.: geeja@athletes.care

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:

(Interdisciplinary Internship between D&L and St. Luke's to facilitate joint challenges)

- 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

For more on this project, contact:
Claire Sadler, Director, Trails, & Conservation: claire@delawareandlehigh.org
Lawrence Malinconico, Technology Clinic Coordinator: malincol@lafayette.edu
Robert Cuyjet '19, Lafayette student and GYTOT intern: cuyjetr@lafayette.edu
Kamal Bookwala '20, Lafayette student and coordinator: bookwalk@lafayette.edu

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.

Signage

    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.

For more on this project, contact:
Martha Capwell-Fox, National Canal Museum: Archives@delawareandlehigh.org
John Clark, Lafayette College GIS Librarian: clarkjh@lafayette.edu
Chris Mayer '20, Lafayette student and coordinator: mayerc@lafayette.edu
Kamal Bookwala '20, Lafayette student and coordinator: bookwalk@lafayette.edu

Signage 1

Forks of the Delware

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.

Signage 2

Forks of the Delware

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: 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.

Signage 3

Forks of the Delware

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 "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.

Signage 4

Forks of the Delware

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 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.

Signage 5

Forks of the Delware

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 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.

Signage 6

Forks of the Delware

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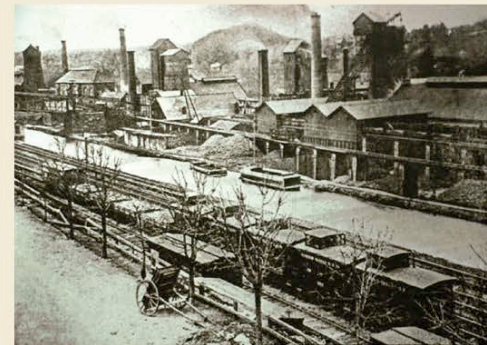
TRAVEL WEST: along the D&L Trail to find the ruins of the Glendon Iron Company

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.

LOOKING FORWARD

Application Design

Goal: Aesthetically pleasing and user-friendly concept for iOS
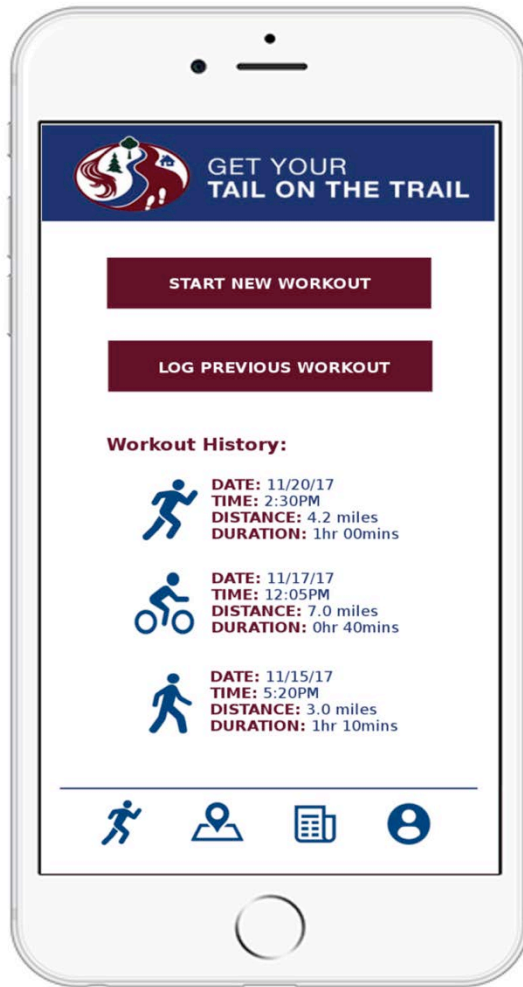
Since the app is currently a prototype and contains the technology for logging workouts automatically, future developmental ideas consist of (but are not limited to):

- Adding registration and sign-out features
- Logging a previous workout manually
- Viewing a history of *all* workouts
- View a more specified map of the D&L trail
  - Historical locations displayed via pins that show images and information when selected
- Interact with a community newsfeed
- View and edit personal profile
- Displaying historical facts during loading screens based on GPS location
- Making the app smartwatch-friendly (i.e. compatible with Apple Watches)

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
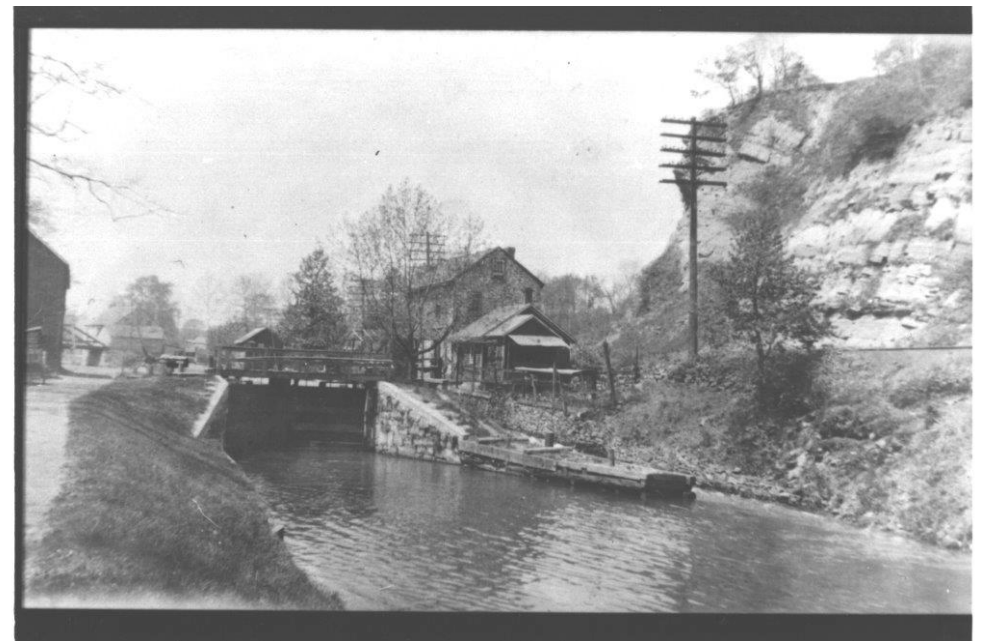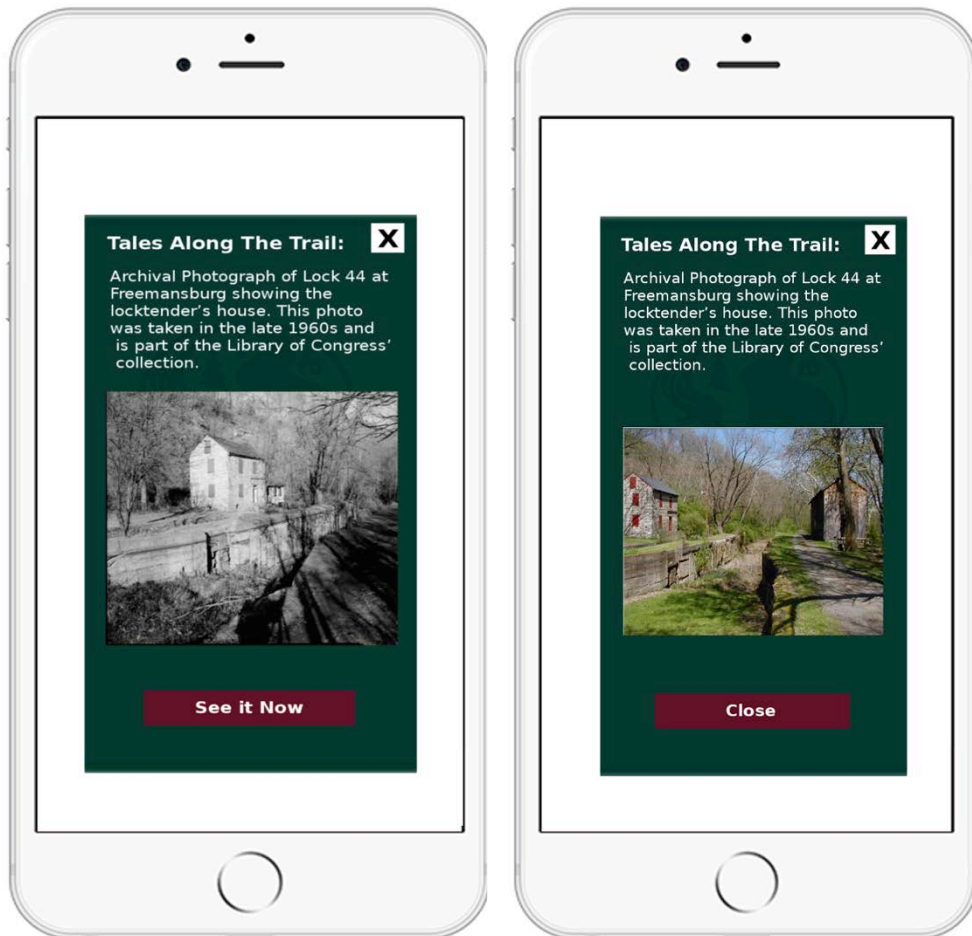
Website Enhancements

First semester, we explored the possibility of altering the current website to be an even more effective platform for participants to log their miles, keep track of ongoing challenges, and learn about the trail itself. 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, we also decided that there is still much possibility for adding features to the website to instill a greater sense of community and motivation through passive social features, a clearer calendar of events, and linking the Get Your Tail on the Trail Facebook page with the website. The Facebook page currently serves as a social platform, and does so effectively. Including this feature on the website would help create a sense of community around the program and increase interest in others' progress and activity on the trail.

CLAIRE'S DASHBOARD

ACTIVITY | COMMUNITY

Top 20% of your age group for total miles

Most preferred route: Easton to Freemansburg

Miles biked in March = entire Canal 3x

Top 30% of most frequent walkers in Easton

+ SEE ADDTIONAL STATS

Share f

facebook

Calendar of Events: April

April Challenge Leader Board

1. Todd Nemura — 175 Miles

The dual-design of the homepage with an "Activity" and "Community" tad helps facilitate a sense of community and personal dedication to health. The above graphic shows the Community Tab and includes features such as passive social statistics for the user in the top left corner which they could share to Facebook, the Tail on the Trail Facebook feed below it, a calendar of events in the top right, and a passive leaderboard below it. Users would have the option to "opt-in" to the leaderboard. Additionally, users could chose to display or hide any widget from their own Community tab.

Future Signage

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.

ACKNOWLEDGEMENTS

General Acknowledgement

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Technology Clinic Team

May 9th, 2018

D&L

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- **Genesis Bike Shop**: Local bike shop in Easton, PA: rob@genesisbikes.com
- **Mayor Sal Panto and Congresswoman Sandra Vulcano**
- **Anita Sergent:** St. Luke's Photographer at the 5th Anniversary Celebration
- **Douglas Kilpatrick:** Lafayette College Photographer for the 5th Anniversary Celebration

Thank You!

APPENDICES

Appendix A: Potential Partnerships

Community Organizations
- Boys and Girl's Club of Easton (stars@fast.net)
- March Elementary School (610) 250-2531)
- Lehigh Valley Live (events@lehighvalleylive.com)
- Lafayette Running Club (adamsev@lafayette.edu)
- Lehigh Valley Association of Independent Colleges (info@lvaic.org
  - Service groups within each

Bike Shops:
- Curt's Cyclery (Nazareth) (http://www.curtscyclery.com)
- Genesis Bike Shop (Easton) (https://genesisbicycles.com)
- Trek Bike Shop (Allentown, Bethlehem) (https://www.trekbikes.com/us/en_US/retail/allentown/)
- Cycle Funattics (Phillipsburg) (cyclefunattic@verizon.net)

Running shops/Other Sports Shops:
- Aardvark Sports Shop (sales@aardvarksportsshop.com)
- Easton Outdoor Company (http://www.eastonoutdoorcompany.com/contact-us.html)
- Strava running (https://www.strava.com)
- Lehigh Valley Road Runners Club (contact@lvrr.org)
- Emmaus Run Inn (emmaus@theruninns.com)

Appendix B: Survey

Do you own a smart phone/watch? *

○ Yes; an iPhone

○ Yes; an Android

○ Yes; a Samsung

○ Yes; other not mentioned above

○ No; I have a phone, just not a smart phone

○ No; I don't own a cell phone

Do you use an App to track...(check all that apply, if NONE apply skip the question)

☐ Time

☐ Distance (i.e. miles, steps)

☐ Fitness measures (i.e. heart rate)

Would you be interested in having an App that would automatically log your miles into the Tail on the Trail program? *

○ Yes

○ No

○ I don't participate in the Tail on the Trail program

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- **Icons:**
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  - https://goo.gl/images/WdoRNf (walking icon)
  - https://goo.gl/images/597Bxh (biking icon)
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  - https://goo.gl/images/EmWzfo (placeholder on map)
  - https://goo.gl/images/SJWvK4 (news icon)
  - https://goo.gl/images/sssUh7 (profile icon)
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  - http://www.americancanals.org/photo_gallery/Lehigh_Canal/lehigh_canal_photos.htm
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