Run Finder

A solution for informed running.

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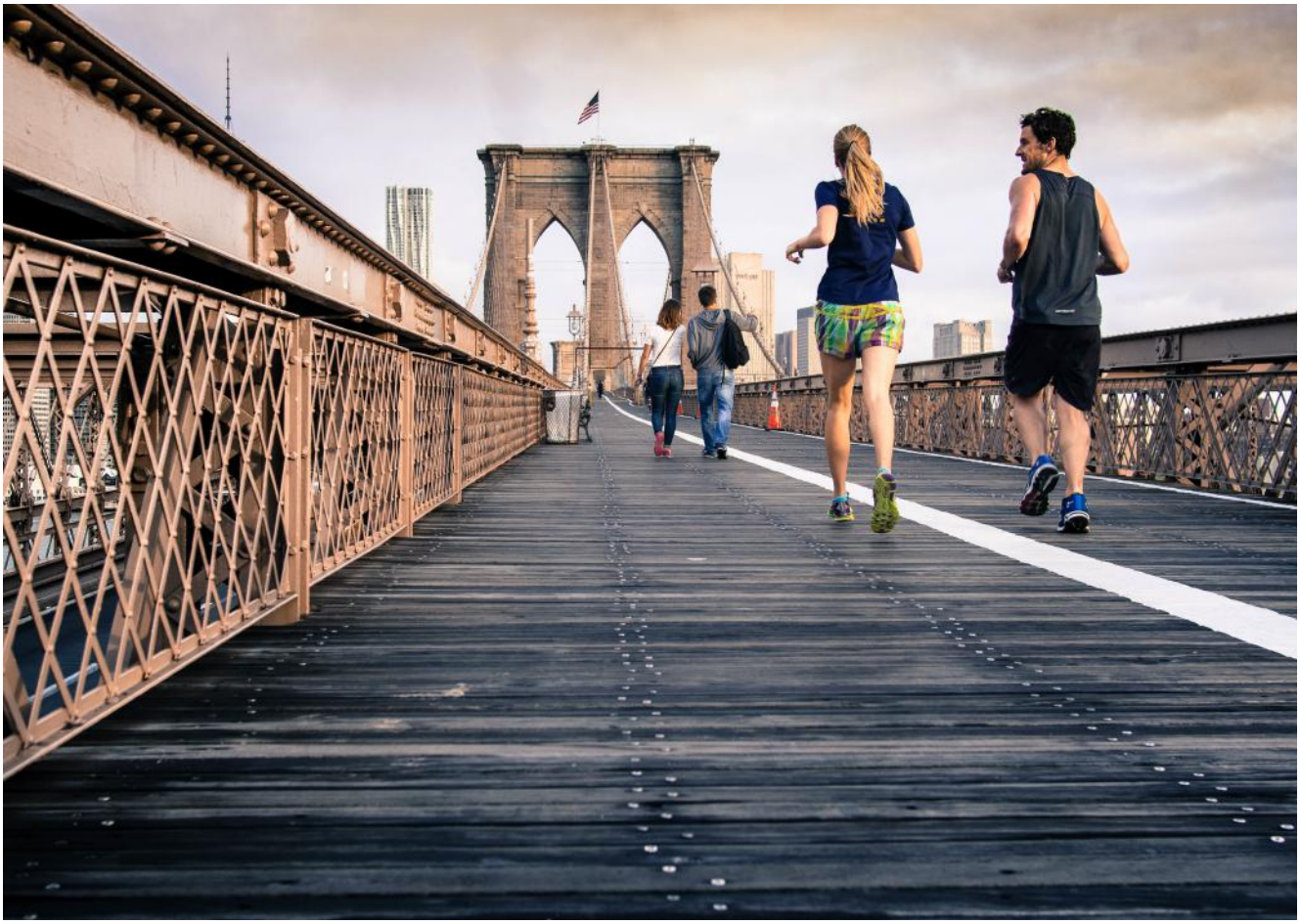

Problem Statement

To make running an informed experience for novice runners. There are numerous people around the globe who take up running as an activity to remain fit and healthy. It's majorly a solo exercise because of varying personal preferences and one can do it anytime and almost anywhere. But there are beginners and people who relocate; they constitute the community that I targeted. A person who has just begun running or relocated is all on their own without any proper guidance and motivation. They require relevant information such as the best as well as safe places to run, running plans to follow, proper gear to buy, etc.

Solution Overview

To address this problem most effectively, I decided to go for a smartphone application called Run Finder. After installing this application, a user can join the online community of runners, find predetermined tracks to run based on suitability, read the reviews of these running tracks and then rate these tracks for other users. The advantage of having predetermined running tracks is that new users do not have to worry about way finding during a run, this provides a distraction-free running experience. Secondly, predetermined tracks provide a better way to compare and analyze one's own progress with friends which can act as an incentive to run as found out from a user interview. And thirdly, a user can find a track of their most liking and run on it regularly to improve their performance.

Each track available on this application is divided into sections that can be analyzed individually and used to determine if a particular track is fit for a user or not. In a nutshell, predetermined tracks with section analysis and supported by peer reviews can provide an informed running experience to not only novice runners but also frequent runners.

The hi-fi prototype for Run Finder is available at https://invis.io/DE9OLVKU6.

The Interaction System

Appendix D shows various but not all hi-fi screens of the final prototype. Please note that the prototype is designed for an Android smartphone which has a back key to navigate to the previous screen in addition to the home key. Therefore, I did not put any back buttons on the screens. Overall, the system is divided into the following four parts which can be switched between from the bottom navigation bar:

1. Tracks
2. Friends
3. Challenges
4. Profile

Tracks

Once the user logs in, they are presented with the tracks screen. Please refer to Appendix D.1 for reference. I decided to make this the landing page because it was the key feature of the application and one of the big problem solvers since many new runners do not know where to run. This is further split into two parts, conquered and new, by the use of tabs that can be swiped across. The conquered tracks section hosts the tracks that a user has already ran on, this section also acts as a history of tracks ran by the user over time. Each thumbnail of a track on this screen contains the snapshot of the statistics accumulated on that particular track. In case of multiple runs on the same track, this will contain the best overall statistics. Although trivial, I deliberately used the word “conquer” to keep the user invested in the idea of conquering tracks and therefore remain motivated to keep running. The new tracks section contains the tracks that are available to run i.e. unconquered. This page also contains the average user rating of the tracks which can be utilized by the user to decide whether to run on this track or not. The total distance is also displayed to let the user know the commitment for this track. The entire thumbnail can be clicked to reveal the details page of the track, depicted in Appendix D.2.

The details page allows the user to analyze the various sections of that track and also view the reviews to get a better idea of this track. Appendix D.4 is the reviews screen which can contain valuable information for the user such as running conditions, comments about the safety of the neighborhood, overall experience and more. A novice user can look up to these reviews and decide whether this track is fit for them or not.

The analyze track screens shown in Appendix D.3 went through two iterations as discussed in The Process section of this document since it is one of the critical features of the application. The objective behind introducing this extra interaction for the user is to let the user highlight the sections and know about the estimated statistics expected from this section. The user can also know about the topography of the track which is whether the running surface is uphill, downhill or plain and is vital for runners since it can make or break a running experience. These factors can not only be used by novice runners but also by professional runners who constitute my secondary target audience. For now, I have not included the functionality of selecting multiple sections to keep things simple. In the future, this screen can also contain information about real-time "safety index" which can be a quantifiable unit for the safety of that section. This will be helpful for users running in the night or for users who are wary of shady neighborhoods. I did not implement this feature because the logistics to predict this index were complicated and posed a concern of reliability on this index. This can be definitely considered in the future roll-outs of this application but for now it is still a work in progress and needs further research.

The running screen depicted in Appendix D.5 is fairly straightforward and lets the user track their progress for a particular track. It also contains various statistics important to a runner such as the average pace, calories burned, distance travelled and time taken. As the user runs, the GPS pointer moves accordingly in the top map section of the screen. As the user completes a section of the track, the details of that section are displayed as a snapshot below the cumulative stats. Two buttons on the bottom of the screen can be used to pause or end the run. It is worthwhile to note that the map section is collapsible when the user scrolls up to view the section snapshots. When the user decides to end the run, the summary of their run is displayed as in Appendix D.6. I decided to show this summary against the average stats of that track so the user can know how they performed. Next, the user is asked to write an optional review of the track which can prove helpful to some other user running on this track for the first time.

Friends and Challenges

This section displays a news feed of a user's friends' activity such as the tracks they completed and the challenges they sent to each other. From this screen, the user can view their friend's profile and also find tracks to run which their friends have conquered. This was

not an important feature of my application so I did not make a hi-fi prototype screen for it. This feature was requested in one of my user interviews where the interviewee wanted to be able to send challenge requests to friends. Before this request, the application was going to be just a track aggregator. Introducing challenges also led to the introduction of the friends feature. The challenges section contains all the challenges that are completed by the user as well as any new challenges sent to the user by their friends.

Profile

The user profile screen shown in Appendix D.7 gives an opportunity to the user to keep track of their activities and also to have a more personalized experience. The user can view the news feed of the various tracks conquered or friends made in the running community. This is the same screen when viewing another runner and can be re-used as a screen to send a request to join their network.

Tools and Techniques Used

While researching on this project, I came to realize that even the simplest of materials such as sticky notes, sharpies and whiteboard can be used to stimulate an effective brainstorming session. I used the technique of brainstorming to evaluate the possible solutions with some of my peers. I tried to utilize the seven secrets of brainstorming by Tom Kelley in his book, The Art of Innovation, to conduct an effective brainstorming session. Personas also proved very helpful in anticipating my future user's actions. I especially liked the idea of devising an anti-persona (Appendix B) to keep me on track and not reinvent the wheel. I found that an anti-persona also provides a check on the desirability of the features of a solution. For lo-fi prototyping, I used paper and sticky notes. My doubts about this technique of using paper to create a low fidelity mockup of the application were quickly erased when I saw the amount of valuable feedback it generated in the usability study. I found this technique to be very flexible and adoptable too. I used Axure RP to design the hi-fi prototype and used InVision, which is a web application, to create the macro-level interactions for the application. This hi-fi prototype was my first experience and Axure proved to be a tool that was fairly easy to use and learn. I also followed Android Material Design standards to make the application look more refined and close to the final product.

The Process

The decision to design a technical intervention for the problem statement was not a straightforward one and it involved a lot of analysis and locating the exact needs of my target audience. Although I had an inherent inclination towards a smartphone app, I was encouraged to explore other possible solutions through sketching. Personally, I found sketching to be a very useful technique to think outside the box. The initial sketching exercise for this project has been depicted in Appendix A. Other possible solutions like road signs that give user directions regarding which direction to go in a run, shoes equipped with GPS that provide haptic feedback to the user regarding which direction to turn during a run, daily/weekly running events, a running guidebook and others were some of the ideas that would not have come across my mind easily had I not performed sketching. Storyboarding helped me to think about the feasibility of some of the solutions as I could predict the amount of effort expected from the user to complete their task of running.

From the start, I was aiming for a user-centered design approach and the process I followed, or rather discovered, enabled me to move in that direction. My design philosophy changed radically when I came across the term "The User Is Not Like Me" in Jon Kolko's book, Thoughts on Interaction Design. This phrase has become my mantra for designing effective solutions in the future. This phrase also emphasizes on the importance of ethnography in user experience research. I also came to realize the importance of finding the needs of the user rather than assuming them. There are no safe assumptions in user-centered design approach as highlighted by Patnaik and Becker in their article on Needfinding. The involvement of the target user in the process is crucial and paves the way for designing something that is useful, usable and desirable. Usability studies are a great way to implement this notion. As an example, when designing the interactions for the track analyze feature, initially, I designed a drag-and-drop interaction to let the user analyze which ever sections they wanted to by dragging and dropping two pointers along the track which is highlighted on a Google Maps interface, refer Appendix C. During usability study, the user was confused and asked me how to perform the interaction. When the study ended, I told the user how it was intended to be used and he replied that it was not that intuitive. I asked for suggestions and I was told that a tap-and-select interaction would be much easier to user. So, I redesigned this feature, this time as a hi-fi prototype (Appendix D.3). I decided to highlight the track on the map and used nodes (circular pointers) as static indicators of the start and end of a

section. The user can now select a section by tapping on it and the corresponding details are updated in the bottom. Had this feedback been discovered after the application was deployed, it would have caused some serious repercussions in terms of cost and efforts. I revisited the same user and showed this new version of the track analyze feature and it was well received.

User research also helped me in offloading certain features and aspects that were not part of the problem I was trying to solve. Initially, I wanted to incorporate an online market in the application where a user could look for and buy running gears like shoes, headbands, smartwatches, etc. I didn't include this since these equipments are not necessarily required to have a good running experience. I also offloaded the feature of weather alerts upon my mentor's advice since it seemed very off-topic and I did not want the user to feel distracted from the underlying objective of running. Reflecting on the entire experience, I can say that I have transitioned from a developer who builds to a designer who analyses. I have come to know that just because one has the capability to create something and the resources to back it up, one should not simply go on to implement an idea. An idea needs to be viewed as an opportunity to solve a real problem. I believe that powerful ideas solve problems. I also got to know that quantity of features do not make an application accepted by the users, rather the quality does. I have also learned that feedback and iteration are important components of user-centered design and a designer should be proactively seeking feedback and then acting on it.

Throughout the process, I made sure that I did not design for myself, a mistake that I had committed in the past. It was my duty to understand my targeted community which in turn was not that simple since everyone is different from one another. The interviews and usability studies I conducted provided me great insight into their minds but I am ready to listen for any shortcomings of my solution and then fix them. Having an open mind when interacting with the target audience also proved very beneficial. I appreciated every input from my community, gathered feedback and then acted on it. I also revisited my target user to ask for feedback on the track analyze feature and it helped me a lot. I think critique received from the users must always be appreciated and not seen as an indication of one's ability to do something, it should be viewed as an opportunity for improvement. In the end, I wanted to provide a non-distracting and engaging running experience to a user that benefits them holistically and I hope this solution does that.

Impact

I am pretty sure that my design solution will bring a positive impact on my targeted audience. By providing a way for informed running, Run Finder is promoting a healthy lifestyle among the users since running has physical health benefits as well as mental benefits. A user who has not tried running as an exercise before can use this application to enter the healthy world of running. Run Finder also provides motivation to the users by comparing their statistics with the average statistics of a particular track, a feature that is not available in other competitor applications. For the future, I would want to crowdsource the track creation process in which users would be able to create and submit their own tracks. This will not only free the developers/admins of Run Finder from adding new tracks regularly but will also promote a sense of community among the users. A user would be able to make their own track fitting to their own needs and then either practice on it or run on it. The ability to share and earn points and reputation for it can act as an incentive for the users to use Run Finder. Overall, I believe Run Finder has a great potential and since it solves a problem, it would not take much effort for it to be adopted by my users.

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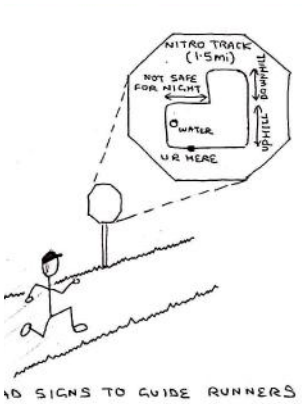
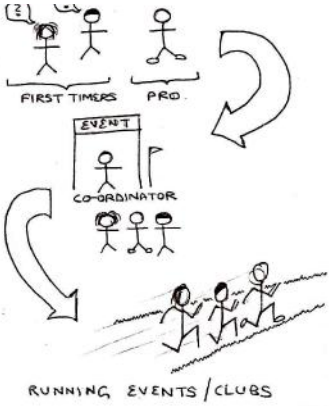
Appendix A - Sketches

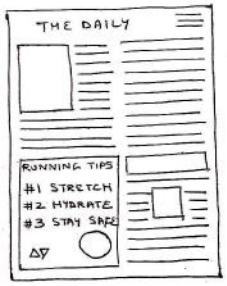
A.1 - Possible solutions



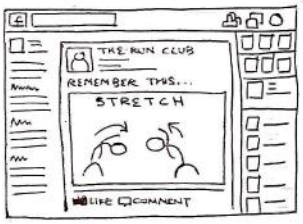
ID SIGNS TO GUIDE RUNNERS



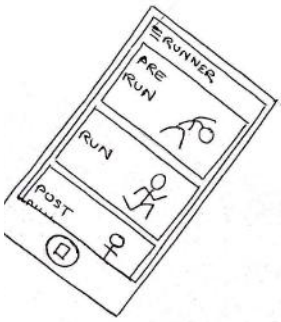
RUNNING EVENTS/CLUBS



NEWSPAPER ARTICLES

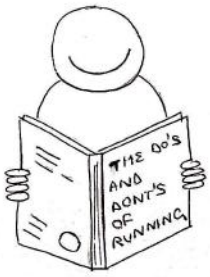


FACEBOOK POST

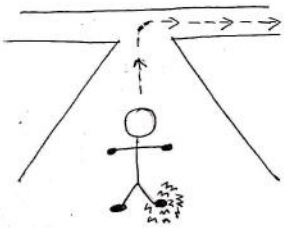


SMARTPHONE APP

SAFETY ALERTS VIA TEXT

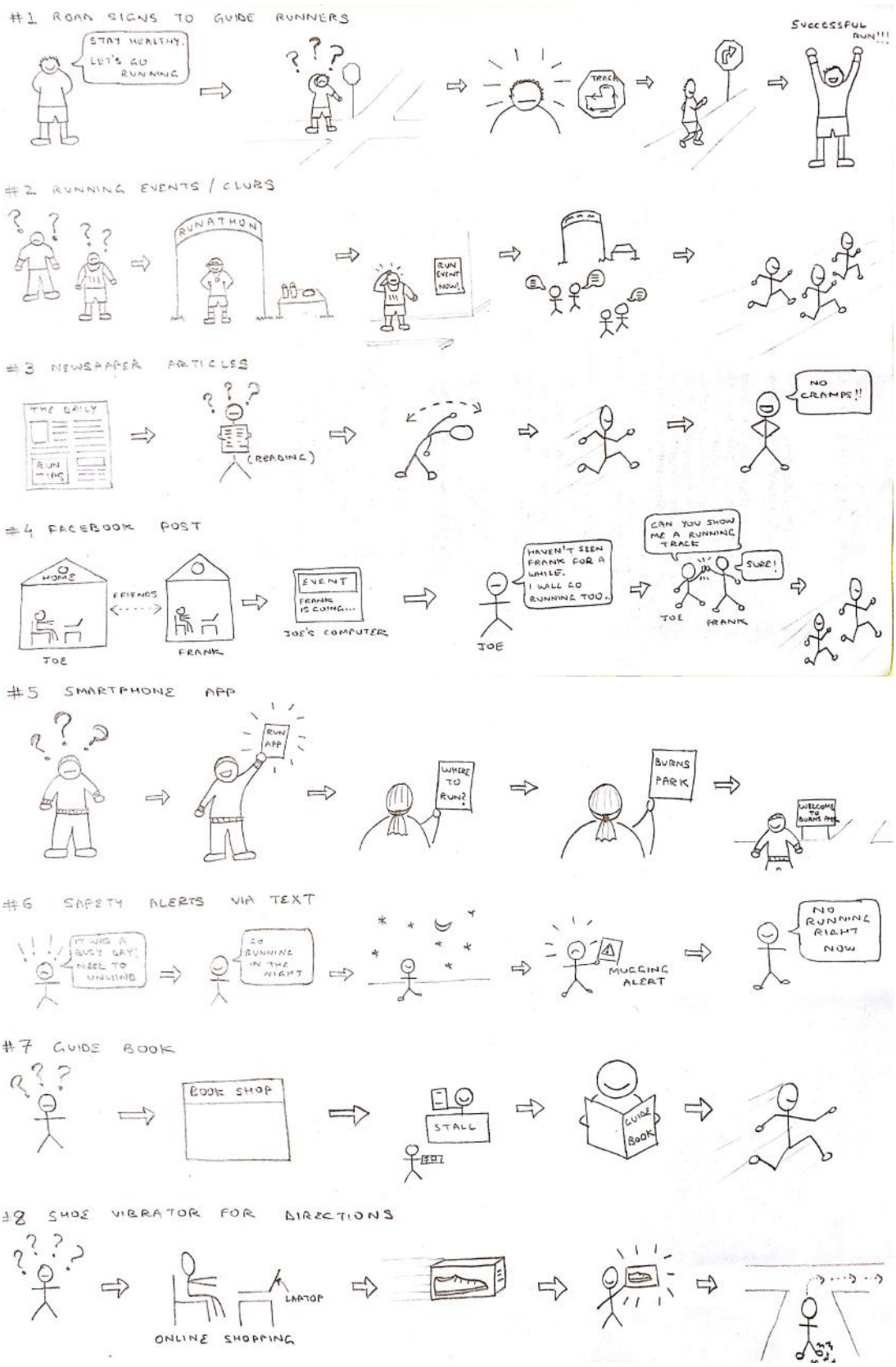


PRE-RUNNING GUIDEBOOK



SHOE VIBRATOR FOR DIRECTIONS

A.2 - Storyboarding



Appendix B - Personas

B.1 - Pro persona

Jonathan Oaks

"I'd love to know where to run."

Age: 32
Sex: Male
Family: Single
Location: Ann Arbor, MI

Personality

Introvert	Extrovert
Analytical	Creative
Conservative	Liberal
Passive	Active

Relocator | Active | Tech-friendly

Goals

- Know the running track beforehand.
- To run solo.
- Not having to ask others about places to go running.
- Have minimum distractions through a smartphone.
- Optimal need of technology.

Frustrations

- Finding places to run in a new city.
- Not knowing the topology of the place.
- Having to look for directions on a smartphone back home.
- Smartphone safety.

Bio

Jonathan works in the sales department of a large pharmaceutical firm and as a part of his job, he has moved from San Francisco to Ann Arbor just a week ago. Back in SF, where he was also born and raised, he used to run in the mornings as a daily exercise. Since he is new to AA, he does not know about his neighborhood.

He likes to follow a plan and therefore, wants to know a running track beforehand so he can focus on running and not finding the way. He is tech-friendly and the smartphone is a pretty important part of his life.

Expected Features

- Directions to be conveyed if running on an unknown track.
- Getting appropriate weather alerts to decide whether to run or not.
- Knowing the topology of the place i.e. uphill or downhill, density of the foliage.
- Ability to navigate back home easily.
- Ability to find parks to run along with their opening/closing times.

Preferred Channels

Smartphone app
Online & Social Media
Wearable Technology
Traditional Ads

B.2 - Anti persona

Elizabeth Strong

"Running rejuvenates me."

Age: 23
Sex: Female
Family: Single
Location: Ann Arbor, MI

Personality

Introvert	Extrovert
Analytical	Creative
Conservative	Liberal
Passive	Active

Pro | Frequent runner | Local

Goals

- Stay healthy and happy.
- Do long runs.
- Enjoy each run.
-

Bio

Elizabeth has taken running as an exercise for quite a while now. She can run for miles without feeling tired and knows all the best practices for an effective run. She is also aware of her neighborhood, know where the parks are and when they open or close. Having lived in the same place since birth, people know her and often let her know about any significant events happening around; this also includes any crime alerts or something shady happening. She uses her smartphone to listen to navigation directions through Google Maps.

She also owns a smart watch that lets her measure her heartbeat and get detailed statistics about her run like the distance traveled, the number of steps taken, average pace of the run, etc. She uses these numbers to motivate herself for the next run. She tries to beat her previous bests and and runs almost daily.

She is the ideal runner and needs minimum intervention for daily runs. She checks for weather alerts beforehand and likes to run solo as well as in groups.

Expected Features

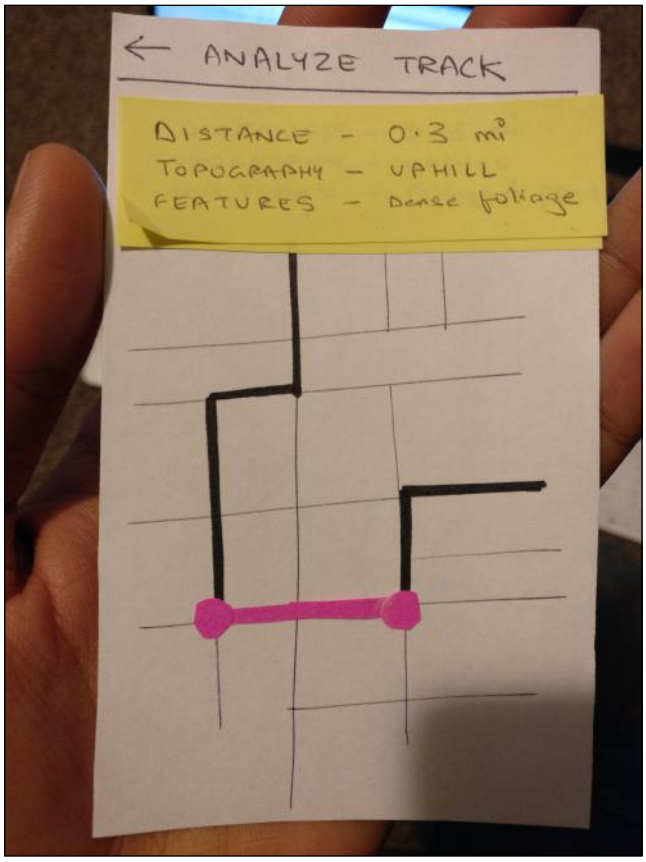
- N.A.

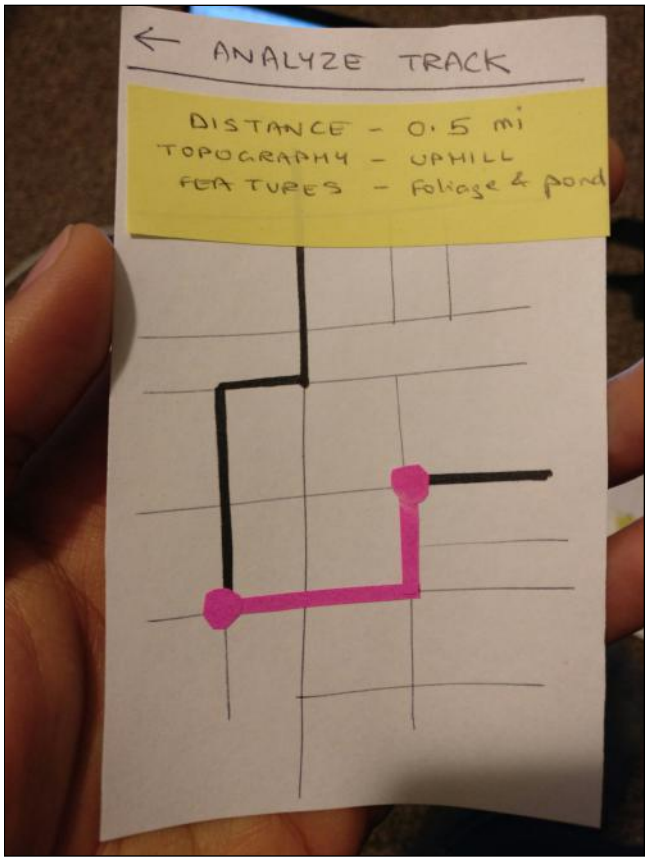
Preferred Channels

Smartphone app
Online & Social Media
Wearable Technology
Traditional Ads

Appendix C - Lo-fi prototypes

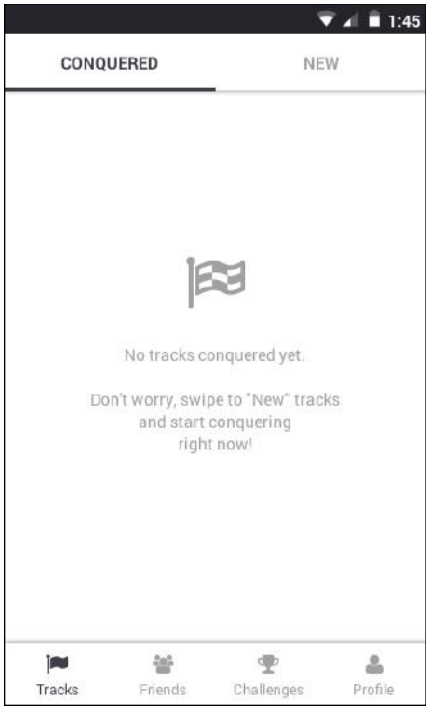
C.1 - Track analyze screen

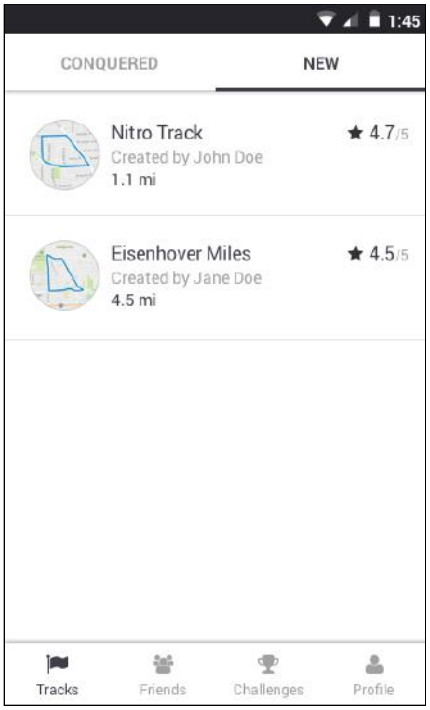


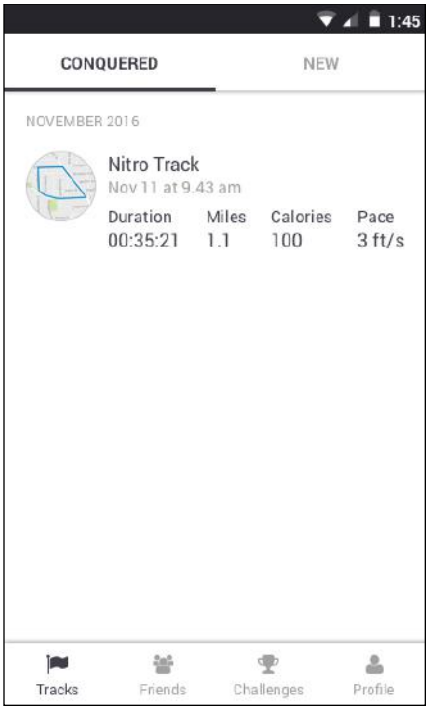


Appendix D - Hi-fi prototypes

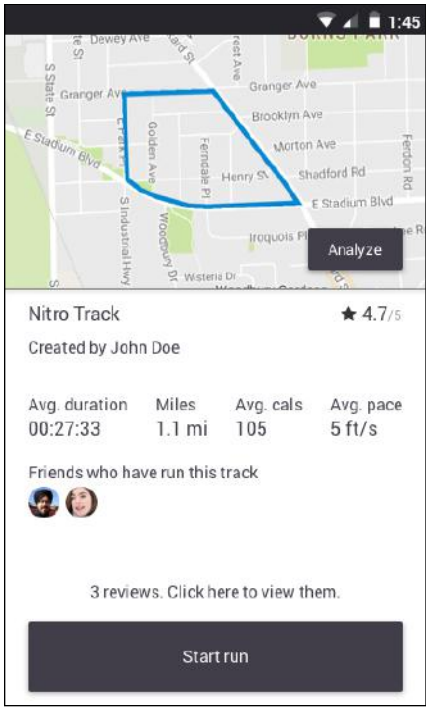
D.1 - Tracks



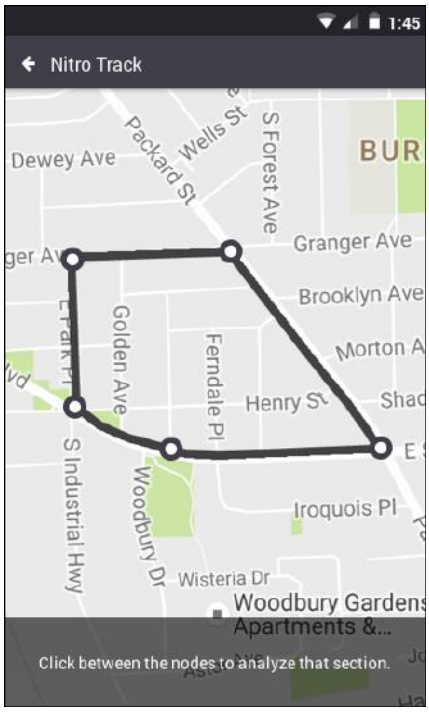


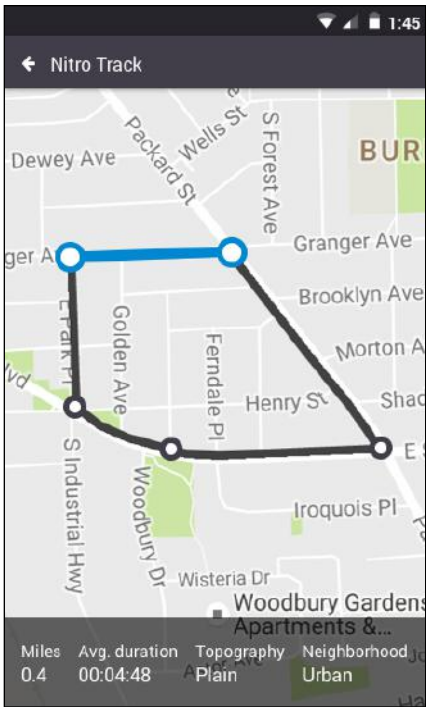


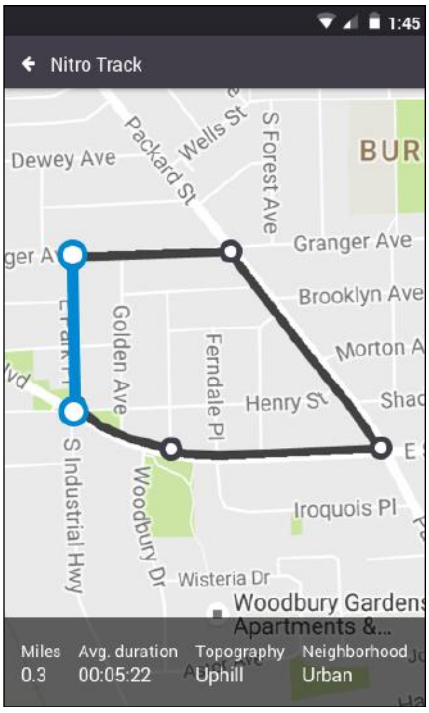
D.2 - New track details



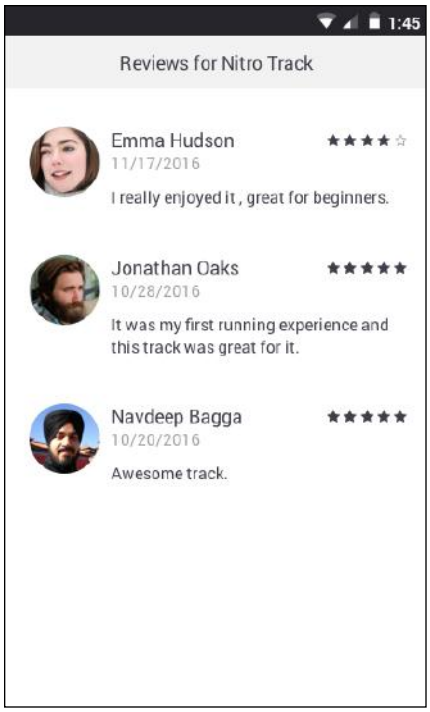
D.3 - Analyzing a track



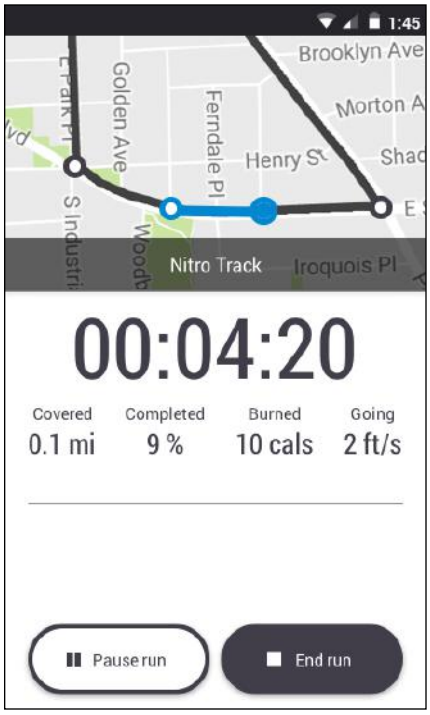


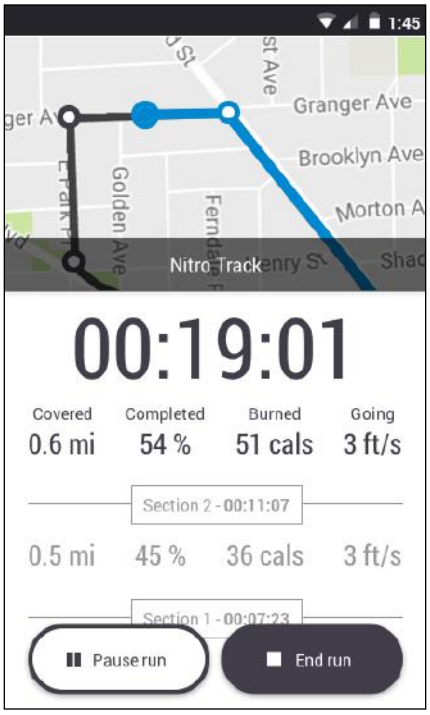


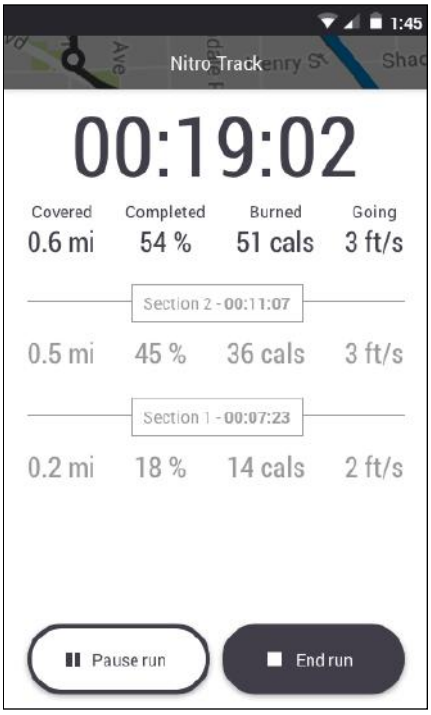
D.4 - Track reviews



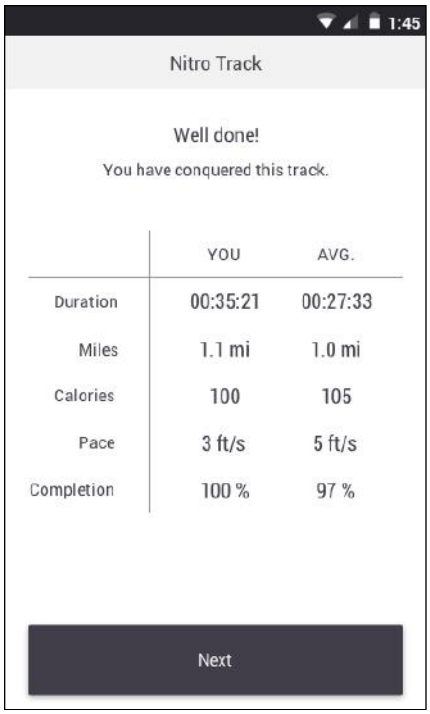
D.5 - Interface during a run







D.6 - Run completion



D.7 - User profile