1. Introduction

1.1. Problem Statement

As technology progresses, so does every industry alongside it, including the way that we train. Learning how different environments and factors can affect performance is imperative to athletes. Learning what small day-to-day habits affect the power they produce can and will influence how they perform. However, there is no exact science behind how these factors can affect us as everyone is biologically different. Therefore, the best way to measure an athlete's power output is to personalize their workouts. This, compared to other competitors on the market, utilizes the power and training a person has, rather than only being driven by personalized inputs such as weight, height, and calorie intake. TrueForce Technologies is built around the idea of athletes as individuals and testing their power to produce the best workout possible for each athlete every day. This way, the athlete can understand where they are at in their journey in order to perform the best they can and reach their goals. This technology can also prevent injury by not pushing an athlete past their breaking point on an "off" day; as this is where most injuries occur. Thus it is most important that the application is designed in the idea of the coaches and athletes.

Currently, TrueForce Technologies has an existing application embedded into a tablet, but the application can't be downloaded from any other device. This is an issue as multiple coaches might want to look at the output of their athletes on their own devices rather than sharing one tablet for a whole team or program. To address this issue, our team will create an Android and iOS application, using their native languages, that will be published on the Google Play and Apple App Store. This will allow any user to be able to download it on their preferred device. They will then be able to easily log in to view the data for their athletes or connect to any TrueForce rack and record a lift. The current tablet application includes many bugs that affect the user's navigation throughout the app. It does not currently meet our users' standards and needs to effectively use this application. Our team will address these bugs when developing the new applications in order to successfully satisfy our user's and client's needs as well as meet industry security standards.

1.2. Intended Users

The intended users of our project include student-athletes and coaches (athletic and positional). The athletes are split into two categories, in-season and off-season. One persona of our project is an in-season athlete (Appendix 1.1). An in-season athlete needs an easy and accurate way to measure their maximum strength for the day because they want to perform and train at their best. They also do not want to spend their energy on training instead of their sport. They are less concerned about increasing their strength and more concerned about maintaining it. The in-season athletes are busier than off-season athletes so using this product will help them decide what training to do for the day and how heavy to lift. By using this product, they are able to decrease the amount of time they worry about what to lift and how much. Using the product would also decrease their risk of injury because the athletes would know what their maximum force output for the day is and wouldn't overexert themselves during workouts. These benefits connect to the overarching problem because by using the product, they get the answer they need from how they perform to what they need to do to increase their strength. Using the product will allow this user to be a standout in their sport and become an overall better athlete. The product will allow for better availability of their personalized data. The athletes will be able to see their data from any device which will allow them to train correctly during their season without having to use the hard coded tablet.

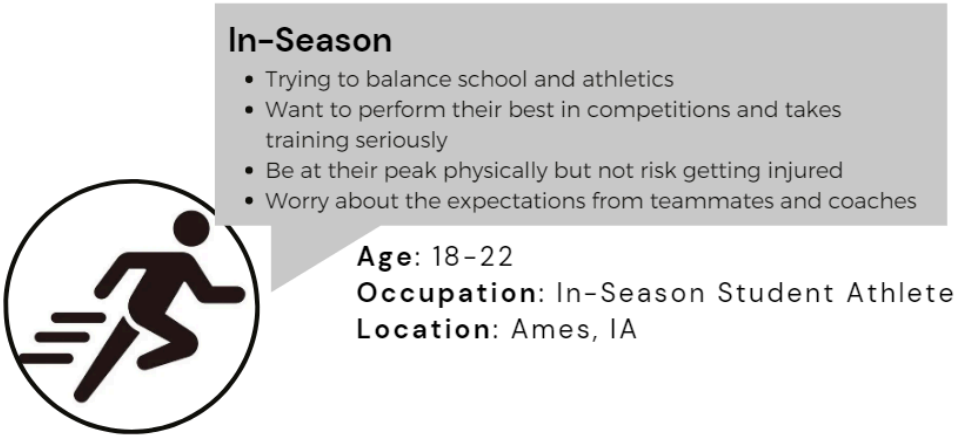
Another persona we created for our project is an off-season athlete (Appendix 1.2). An off-season athlete needs an easy and accurate way to measure their metrics to gain strength and reach their off-season goals in a healthy way. They are not as busy as in-season athletes, and they would use the product to measure their metrics over time to help gain strength and prepare for their upcoming season. A benefit would be that during the off-season, athletes would be able to clearly see the progress they're making with the data tracking and see how well they are meeting their strength goals. The benefits relate to our main problem statement concerning personalized workouts for each athlete, and data tracking that monitors athlete performance and progress. The product will allow for better availability of their personalized data. The athletes will be able to see their data from any device, which will allow them to train correctly when preparing for their season without having to use the hard-coded tablet.

Our final user is the coach (Appendix 1.3). The coach can be an athletic trainer whose job is to oversee athlete strength progression or it can be a positional coach such as head/assistant coaches. Both types of coaches are interested in their athletes' progression in strength to improve their overall performance. Coaches need a way to monitor and track the strength and progress of all of their athletes because it will allow them to help each player perform their best. The coach would use this application to track individual athlete progress and design workouts around their progress. This results in coaches being able to keep track of each individual athlete's needs, making sure that they're provided with workouts that are best suited for them, which also reduces the coach's worry about athlete injuries. These benefits are accomplished by the product's availability and mobility, allowing multiple coaches to monitor data for multiple athletes across multiple teams.

Appendix

1 User Personas

1.1 In-Season Athlete



1.2 Off-Season Athlete

1.3 Coach