Mines Strength & Conditioning Data Collection & Training Web Application

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Project

Colorado School of Mines has hundreds of athletes training in two weights rooms every day. Each athlete goes through at least 10 training sheets per year. That equates to thousands of pieces of paper, holding useful records, getting tossed, torn, and thrown away every year. I want to provide a paperless option for athletes to input the weights they used each training session. This app will ideally be able to create individual profiles for athletes, and automatically track, graph, and easily show improvements from month to month, and year to year. Preferably, I would like to be able to input each athlete's maximum weight lifted for a given exercise, and have the app automatically calculate a given percentage for that exercise to be performed that day. Moreover, each athlete will know the weights they are supposed to use before the training session, and record any variations after the training. These weights will be automatically updated to each player's individual profile.

This app will help tremendously in many areas. First and foremost, it will streamline our player evaluation process to make tracking improvements and deficiencies ten-fold easier. Second, we will save hundreds, if not thousands, on paper supplies each year. Finally, there will no longer be wasted time moving about the weight room to find individual training sheets to see what exercise is next. With this app, we will be able to post the training session on the televisions in Korell, and athletes will move seamlessly from exercise to exercise without stopping to check their sheets. After the training session, they will personally evaluate their performance, record their weights used on their app, and that data will be automatically sent to an online database for the strength coach to evaluate and sign off.

This year's team will take the work completed by last year's team, which completed much of the application functionality, and will overhaul the UI/UX with an emphasis on mobile-responsiveness and modern front-end development technologies. This year's team will also work with CCIT and CSM admin to get the application deployed and online using either the school's internal server or an external hosting service. In addition to these two primary objectives, the team should also develop the administrator portal to be easy to track athlete progress, update/modify/approve athlete data, and administer training regimens.

Specific Requirements

- Web based interface for strength coaches to provide training, for players to track training, and again for coaches to evaluate players' performances on an individual or team level
- Web application is deployed and online for beta testing by the end of this field session
- Mobile-responsive design that is extremely easy for athletes to pick up and use immediately

- Visualize athlete progress from athlete and admin perspectives
- Show training for a given day to the players
- Show each player's current max lifts, bodyweight, height,etc.
- Track each players progress in each lift, bodyweight, height,etc.
- Easy to use question asking service/forum for players of all sports to publicly or privately ask questions to strength coaches or collaborate on how to improve training Sessions
- Have a "Leaderboard" section to track records of teams and the whole school

Team Size and Location
The preferred size for this team is 2-4 students. At least a couple students should have experience developing web applications, and students must provide their own development platform (i.e., Mac).
Location is flexible