Purpose:
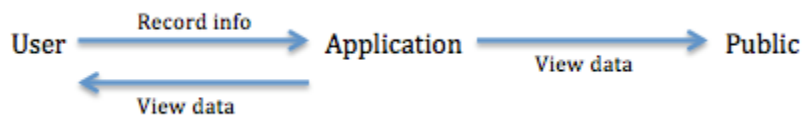
- Track workouts
- Motivate workouts
- Share/Compare workouts

Context:

Users are external agents who can record workout information onto the website. Users and the Public can view data from the application.
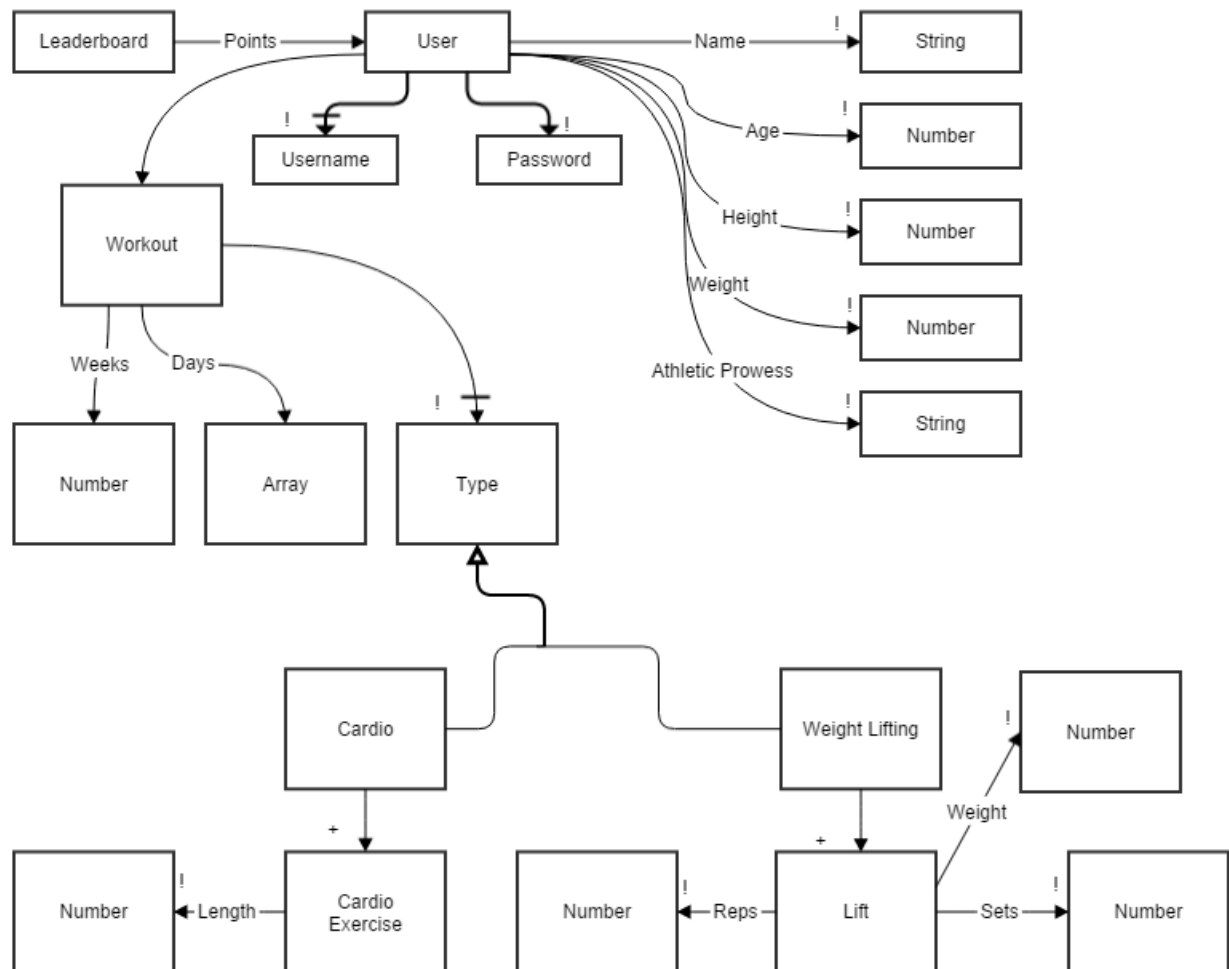

We rely on users completely for gathering data to display. Our application can't generate data, only organize and present data entered into it by users.

Concepts:
- Workout - fulfills tracking workouts (workouts have a date, progress can be graphed over time)
- User Performance - fulfill sharing/comparing workouts
- Leaderboard - fulfills the motivate workout and compare workout

Data Model:

Leaderboard —Points→ **User** —Name——→ String (!)

User →! Username
User →! Password
User —Age——→ Number (!)
User —Height——→ Number (!)
User —Weight——→ Number (!)
User —Athletic Prowess——→ String (!)

User → **Workout**

Workout —Weeks→ Number
Workout —Days→ Array
Workout —→ Type (!)

Type ← **Cardio**, **Weight Lifting**

Cardio —+→ **Cardio Exercise**
Cardio Exercise ←Length— Number (!)

Weight Lifting —+→ **Lift**
Lift ←Reps— Number (!)
Lift —Sets→ Number (!)
Lift —Weight→ Number (!)

Challenges:

Some challenges will be how we represent workouts. We could make every different type of exercise a different workout. Another option would be to break workouts into two major types: cardio and lifting. Then within each type, there is the specific name of the workout. This is the option we decided to go with because it gives the data more organization.

Another challenge with workouts is whether we will let the user type the name of the cardio/lift workout, or if we will have a set list of predefined cardio/lift workouts that they choose from. For example, do we let them type "Bench Press" or will we have them select "Bench Press" from a drop-down menu. I think having predefined workout name choices is better design. This way, everyone is choosing from the same set of workout names, and thus results and progress can be directly compared. The only downside is that it takes away some freedom from the user. For instance, they might do some obscure workout that isn't in the drop-down. However, this is a special case and will not be an issue for the vast majority of users.

Along the lines of comparing/sharing workouts, another challenge is what metric we will use to compare. Obviously, a 100 pound user will not be able to lift as much as a 200 pound user, so comparing their stats directly will be inconclusive. Instead, we will likely use the ratio of how much the user can lift compared to how much they weigh. This will make results more reliably comparable. In addition, we will have the option to compare to users who are in the same weight class and of the same "athletic prowess". The idea of filtering by weight class and athletic prowess is also directly applicable to our Leaderboard. We will make the leaderboard filterable by every attribute of a user (height, weight, age, athletic prowess, etc.). This leaderboard customization will allow the user to compare their stats over several different measures.

Another decision for the leaderboard is whether to show stats for all users, or for only the user's friends. Right now users do not have "friends", so our leaderboard with contain information on all users. Depending on how much progress we make, we could allow the user to only show the Leaderboard of their friend's stats.