# Rowing Team Manager

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## What is the problem?

Rowing team management is currently expanding in a more technical and data-driven direction, as new systems are developed to gather data while on the water. However, much of the data is recorded by hand and stored in different places (Excel spreadsheets, paper notebooks, and smart phones), limiting its usefulness. Additionally, there is no system currently in place for a coach to keep track of all of his rowers and coxswains,

## Who are the intended users?

Rowers: Our system provides rowers with a way to follow workout results and see progression over time.

Coxswains: Rather than record workout results by hand and enter them into separate spreadsheets, coxswains would be able to use the mobile app to quickly enter results into our system. Coxswains can also more easily track rowers' personal records and progress.

Coaches: Coaches can use the mobile app to track lineups on the water and to sync practices with the built-in stopwatch and video features. Coaches can use our dashboard interface to easily make changes to lineups. They will be able to also be able to see custom data about their rowers, both individually and as a group.

## Design

The backend will be designed in Ruby on Rails, using a SQLite3 database and hosted on Heroku. The web app will be built in HTML, CSS, and JS/JQuery. The mobile app will be done in Java for the Android platform. Github will be used for the repository.

# Functionality

## Use Cases

Coach

The coach signs onto the site to create lineups for the day. He checks the previous few days' workouts and sees how different lineups performed. He pulls up the dashboard and drags and drops names into boats while our system makes sure that rowers are assigned to the correct side (port or starboard). As he prepares lineups, the coach can click rowers' names to see the rowers' profiles, featuring erg times and the coach's notes. During practice, the coach signs into the mobile app and uses the multiple stopwatch functionality to record times. These times are automatically synced with the database.  The weather conditions (wind, rain, etc.) are also linked to the workout. The coach can use the dashboard feature on the mobile app to make lineup changes by dragging and dropping rowers into different boats.These changes are automatically reflected in the workout's entry in the database.

Coxswain

Before a fitness test on the ergometers, a coxswain signs into the website to check rowers' past performances on the same type of workout. After practice, the coxswain uses the mobile app to enter times into our system. The mobile app's interface provides a scroll bar, which is initialized to the rower's previous time. This will allow the coxswain to enter times more accurately and more quickly. Rowers can then sign onto the system to see the workout's results.

Rower

A rower signs onto the web-app to look at his profile. He can see his progression for ergometer workouts as well as previous lineups for on-the-water practices. He can track his weight, allowing him to better prepare for weigh-ins. He can also see how his workout results compare to those of other rowers.

## Web App

- Manage a roster; For each athlete:
  - List of workouts
  - Basic information: name, gender, height, weight, side, birthday, age
  - Track weights over time -- low priority
  - Availability feature connected to scheduled workouts
  - Public/private notes
- Manage a calendar/schedule of workouts
  - on the water (dashboard interface for dragging and dropping names into lineups)
  - off the water (erg, bike, run, lift, tank, RP3)
- Display graphs and charts of workouts
- Email/text rowers  -- low priority

**Mobile App**

- Ruby will help
- Probably will do Android (deployment is easier)
- If things are running ahead of schedule, potentially port to iOS as well
- Functionality
    - Ability to enter scores (for coxswains)
    - Ability to conduct seat races (for coaches)
        - Make switches (change lineups)
    - Timing multiple boats
    - Add notes, tag a rower
    - Grab weather data

**Data Organization**

Our data will come from actual practices by Princeton's crew teams. Initially, we will input the data ourselves. Later, we will have the coaches and coxswains use our system during the beta test.

<u>Workout</u>

- Date (ID)
- Type (water, erg, lift, tank, etc.)
- Difficulty (AT, AT1, AT2)
- List of athletes not present
- Weather conditions for on the water
- Link to Results table

<u>Results</u>

- Athlete (ID)
- String of results (with a way to interpret)
    - Two differents types of text blob (one for on-the-water; another for off-the-water)
    - Field to indicate which type of blob it is.

<u>Athlete Profile</u>

- Name (ID), gender, height, weight, side, birthday, age
- Links to workouts the athlete has participated in

## Risks and Open Issues

- Mobile app approval could take extra, unexpected time (app store approval time, etc.). If this happens and we need to finish the mobile app earlier, we will remove low-priority functionality such as grabbing weather data.
- Heroku DB only allows 10k lines by default, so we need to be careful if site becomes wildly popular or there is more data than expected. If necessary, we could upgrade our

account.

- There may be too much functionality, and we might have to scale back. We've designated certain features as low priority for both the web-app and mobile-app and will only include these features when we have covered the more-essential ones.

## Milestones

- Create github/trello/googledoc, get everyone set up and ready to contribute
- Get web app up on Heroku
- Start the Android app
- Build the database and generate test data
- Get basic functionality (models of members, workouts, calendar, and line-up boards) working on web app
- Add the data entry feature to mobile app
- Add the timing feature to android app and allow it save to database
- Get Beta version working so Marty/coaches can use/critique it
- Get demo version working for submission
- Get final version ready for submission

### Timeline

We are using a Trello Project for our timeline.