

Final Demo

Team On A Cob





Photo: Dr. Liu, Student Research Expo

Introduction

- The Personal Performance Application (temporary name), is a web based application designed with the idea of data collection and analyzation for sports teams.
 - The application allows athletes to enter in daily workout data, which can then be viewed and analyzed at a later date.
 - Coaches will be able to view data from every athlete on their team in a variety of ways
 - Raw data
 - Graphs
 - CSV download

Tools used in Development

- Node.js - backend framework
 - Npm package manager - <https://www.npmjs.com>
 - Express.js sessioning tool - <https://expressjs.com>
 - Passport.js authentication tool - <http://passportjs.org>
 - MySQL.js mySQL interface tool - <https://github.com/mysqljs/mysql>
- Slack - Communication tool - <https://slack.com>
- Github - Version Control - <https://github.com>
- Amazon Web Services - hosting - <https://aws.amazon.com/free>
- Cloud9 - remote development environment - c9.io

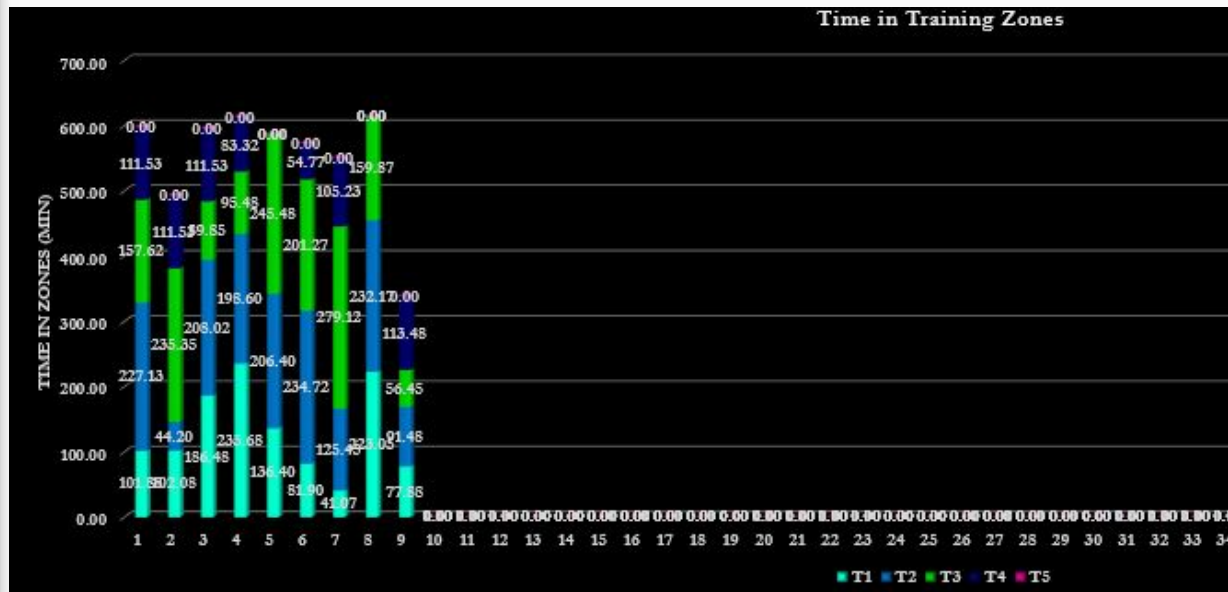
System Requirements

- Original method of collecting user data was through Excel sheets.
- Sheets had to be emailed around to each user and compiled weekly.
- This is a reasonably effort-intensive task for both the users and researchers.
- Thus, the system should allow users to enter data online and allow researchers to access that data online.

September					
Day	Training Notes			RPE (6-20)	Time
1	# Hours of Sleep				
Health Status	Illness	Injury	% of Full Health		
Healthy					
Notes	0	Start of Cycle?			
2	# Hours of Sleep				
Health Status	Illness	Injury	% of Full Health		
Healthy					
Notes		Start of Cycle?			
3	# Hours of Sleep				
Health Status	Illness	Injury	% of Full Health		
Healthy					
Notes	0	Start of Cycle?			
4	# Hours of Sleep				
Health Status	Illness	Injury	% of Full Health		
Healthy					
Notes	0	Start of Cycle?			
5	# Hours of Sleep				

System Requirements

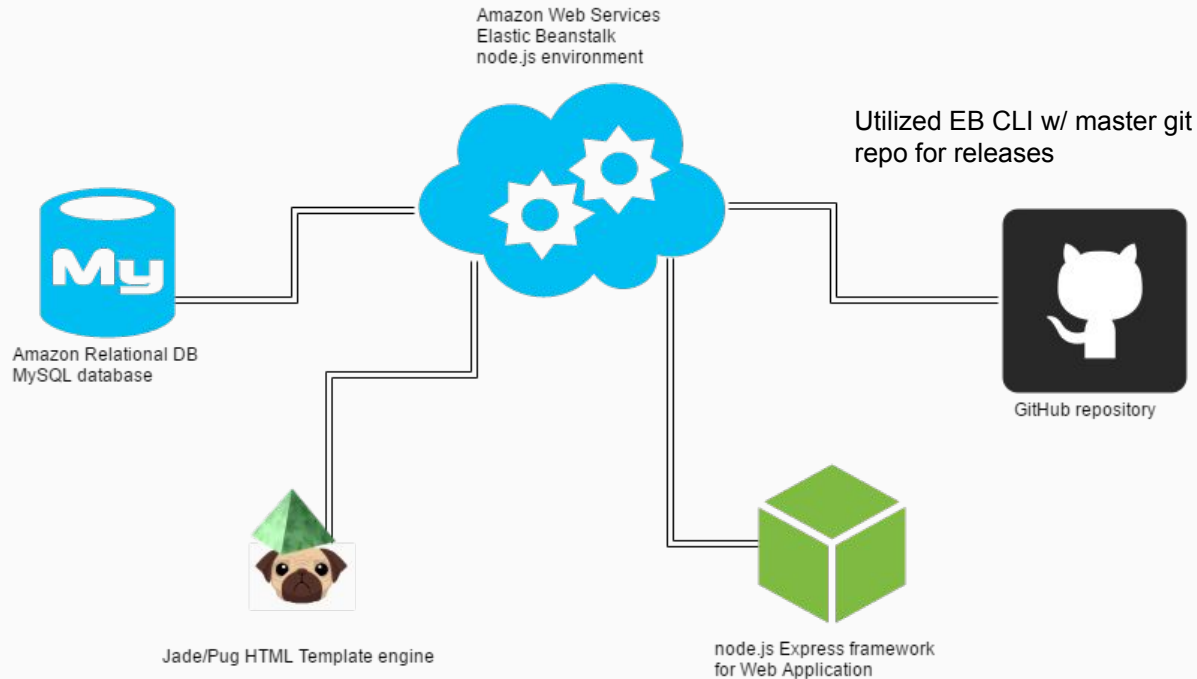
- The original version of this system allowed researchers to view many different representations of the data
- Ideally, this web application should also allow the administrators to view statistics and representations of the workout data.
 - We realized pretty early on that it would be difficult to build this into the system while also building the data collection system.



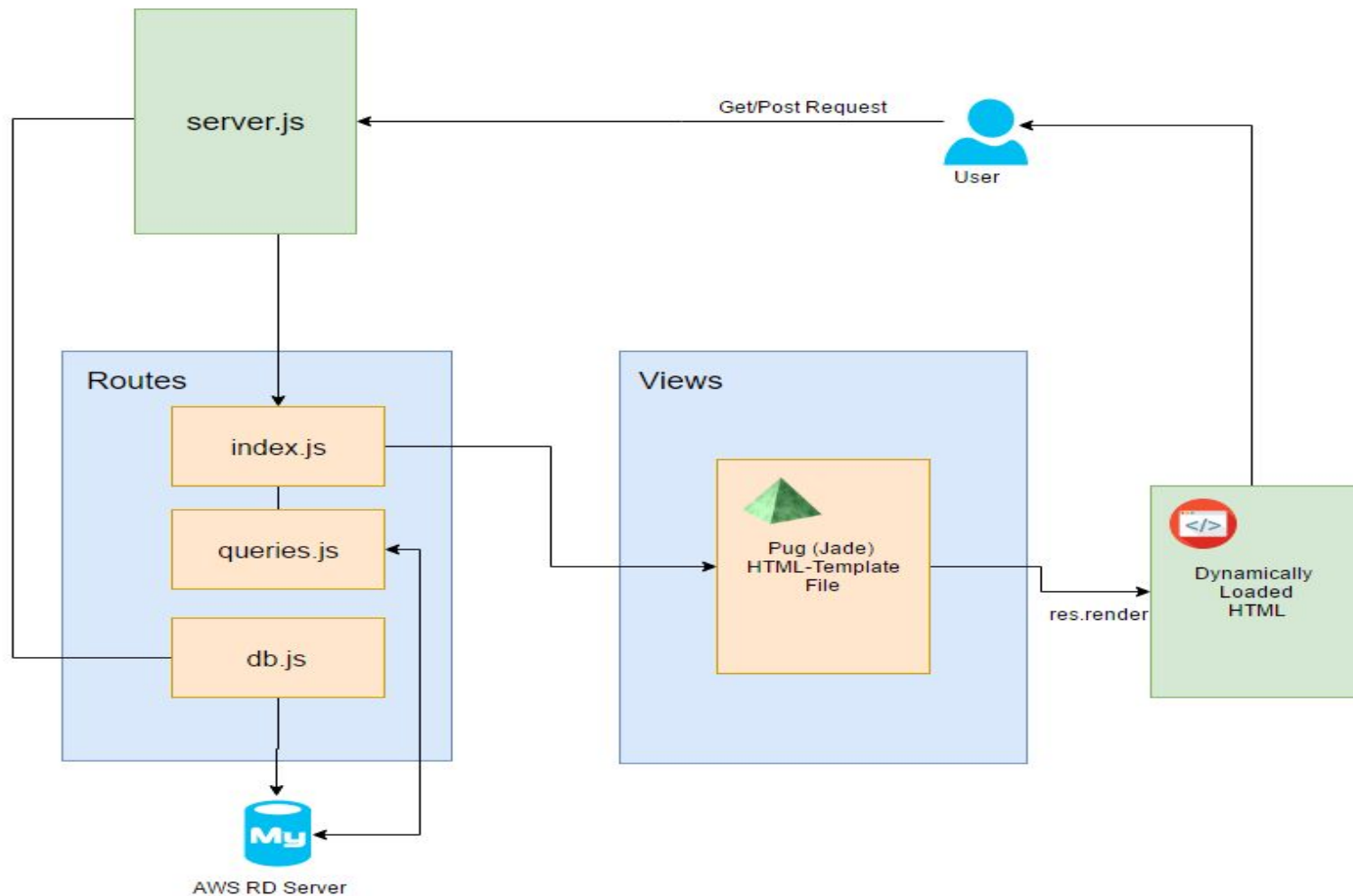
System Requirements

- This is a web application hosted on an Amazon Web server
 - Theoretically should work on any device with internet Access
 - Has been tested in Safari, Chrome, Firefox, and Microsoft Edge browsers
- Scaling provided for mobile devices to provide better user experience regardless of device.

Technology Architecture



Code Architecture



System Implementation

- Node.js - Although none of us had experience Node.js works well with AWS
 - Popular framework, npm package manager is easy to use and has many libraries
 - Alternatives: Python, Java, PHP
- AWS - Free tier hosting is easier to set up than building our own server
 - Alternatives: Heroku, self managed server
- Express.js - provides a web framework that is easy to work with
 - Alternatives: Koa, Hapi, sails.js
- MySql - Relational database which we had experience with
 - Falls in the free tier of AWS
 - Alternatives: MongoDB, postgresql, nosql

System Implementation contd

- Passport.js - Middleware to provide authentication
 - Fairly simple to work with, can be dropped in any express based application
 - Free
 - Alternatives: Stormpath, EveryAuth
- Google Analytics with universal-analytics library
 - Extremely simple to use, keeps track of a lot of information out of the box
 - Most popular Analytics engine
 - Alternatives: Segment.io
- Pug HTML Template Engine
 - Allows dynamic rendering of HTML with data being passed in from server easily

Sprint 1

- Sprint 1 consisted of bug fixes, allowing users to change password, and getting interval workout capabilities.
- There was a change in requirements from the client
 - Instead of focusing on just Cross Country athletes, we changed the application to take generic workout entries (wrestling, running, etc).

Static Analysis

- Each ran static analysis on portions of the code
 - Database code had some issues with common javascript practice e.g. == vs. ===
 - Mostly small, quick-fix errors as a result of our collective inexperience with Javascript
- Pug files didn't generate any HTML errors (shows that Pug templates output valid HTML files).

Sprint 2

- Much of Sprint 2 was focused on preparing the site for beta testing
 - This involved working on password hashing (as we didn't want to be able to see user passwords in database) and considering what functionalities the client needed as an administrator to control testing without our involvement.
- We also implemented Google Analytics at this point
 - Data sent to analytics engine on every page visit
- Added edit workout page using Materialize modals.

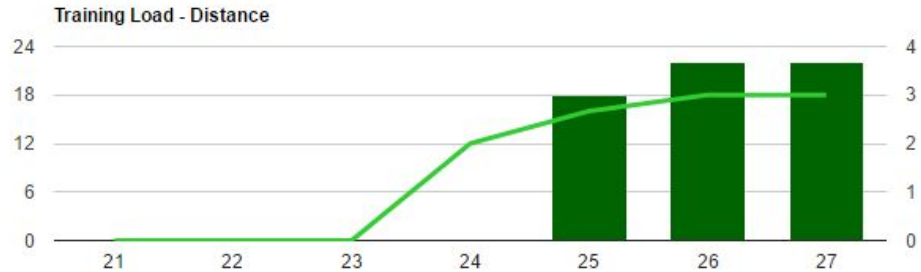
Conclusions from Analytics

- Users spend under a minute on the workout entry page, (should be most used page on application)
- Users are going to spend more time viewing data, and less time entering data

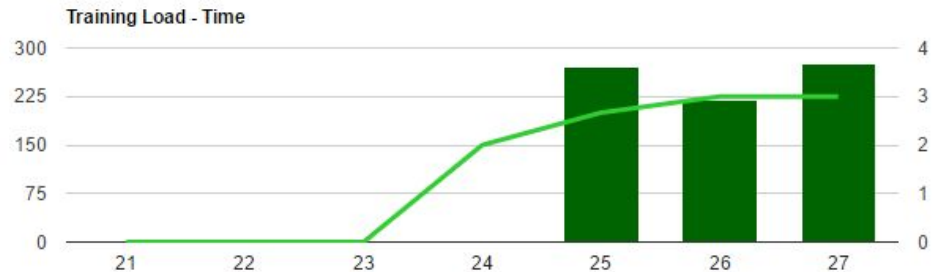
Sprint 3

- Sprint 3 consisted of the implementation of a newly requested feature (acute:chronic ratio line on charts) as well as making some more changes to prepare for beta testing.
 - Included many new pages for administrator actions
 - Create team
 - Link user to team
 - Remove user
 - etc

TRAINING LOAD - DISTANCE



TRAINING LOAD - TIME

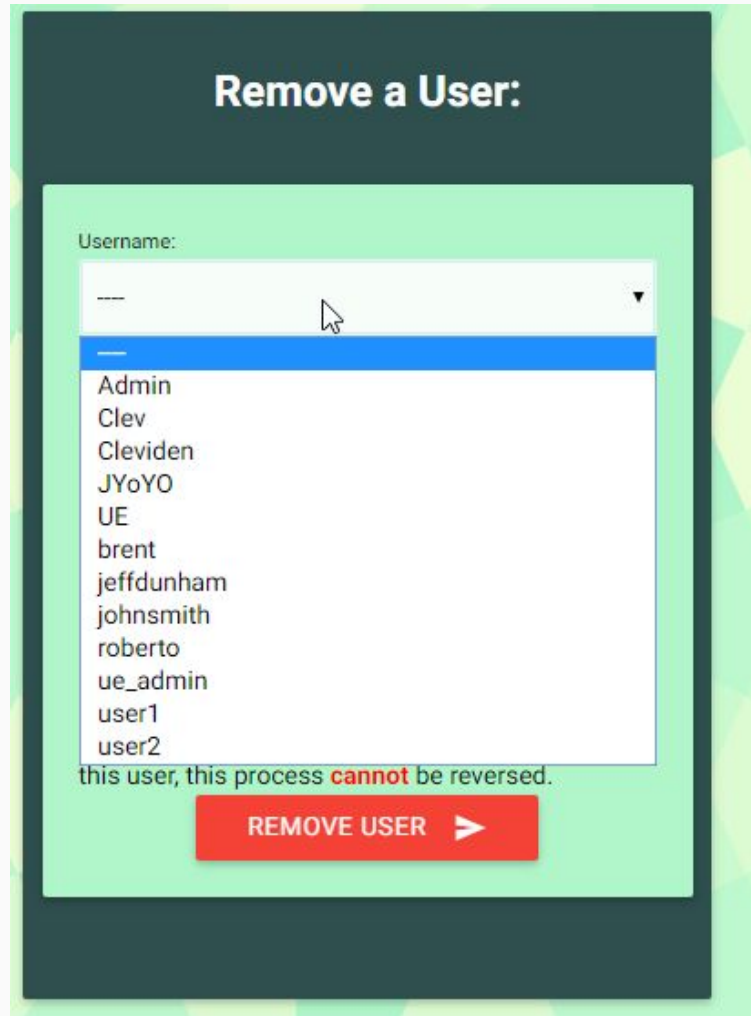


Preliminary Testing

- The client and one other user tested the application for about a week long period during the spring break time frame.
- Feedback seemed positive, client enjoyed the ability to use on mobile
- Testing found some confusing terminology, and led to some more useful information being shown in charts such as a 30 day rolling average.
- No reported showstopper bugs were found

Sprint 4

- During Sprint 4, we made some small changes related to client feedback from beta testing.
- We also finished the dynamic drop down selections
- We also changed the aesthetics of the application quite a bit.



Sprint 5

- Because time was running out in the semester, we did not work on any new features during this sprint
- Instead, we worked on cleaning up and documenting the codebase
- We also fixed a few security issues that would be bad for a live deploy
 - SQL injection
 - Database login info on public repository on Github.

User Experience

- We found that the functionality of the website is dependent on special knowledge of the user base, which will be controlled by the admins.
 - Vernacular of website is specific to the group of users that it is intended for
 - So other than aesthetics, hard to get judgement on actual user experience.

Future plans of project

- Client now has his own AWS account where he can manage the application.
- Application is expected to go into preliminary use this summer for the women's cross country team in order to collect training data
- The client has indicated that there is interest in moving forward with this project for further development

Demo/Links

<http://ohioperformanceprogram.us-west-2.elasticbeanstalk.com>

[Video Backup](#)


[Project Documentation \(requirements/implementation/etc\)](#)


[GitHub repo w/ README and Build instructions](#)


Screens


Log in

Personal Performance Application


Username


Password

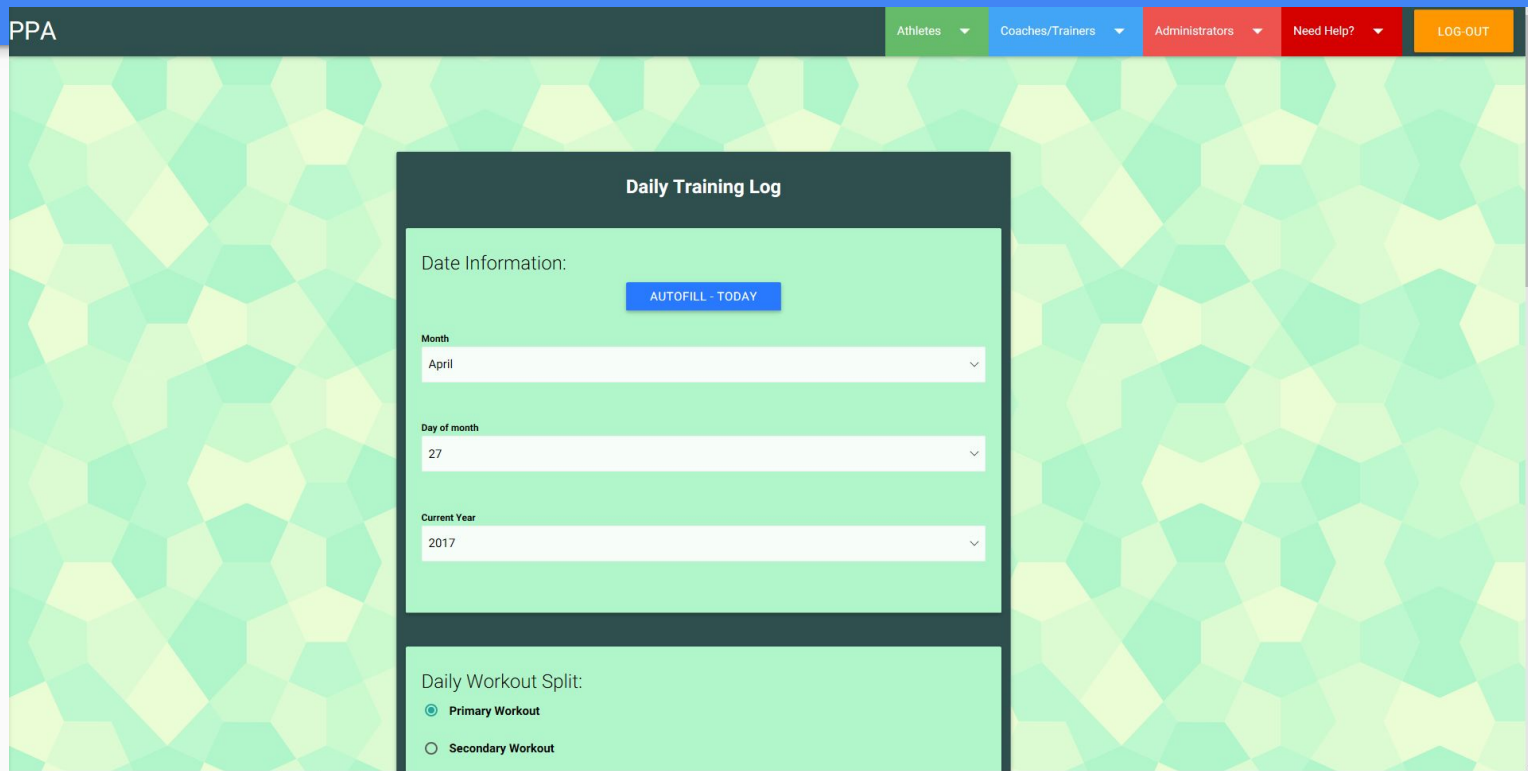
LOG IN 

FORGOT PASSWORD 

Team on a Cob 2017

Screens

Entering Workouts



The screenshot shows a web application interface for entering workouts. At the top is a dark green navigation bar with the text 'PPA' on the left and four menu items on the right: 'Athletes' (green), 'Coaches/Trainers' (blue), 'Administrators' (red), and 'Need Help?' (red), each with a dropdown arrow. A yellow 'LOG-OUT' button is located at the far right of the navigation bar. The main content area has a light green background with a hexagonal pattern. A dark green modal window titled 'Daily Training Log' is centered on the screen. Inside this modal, the 'Date Information:' section contains a blue 'AUTOFILL - TODAY' button and three dropdown menus for 'Month' (set to 'April'), 'Day of month' (set to '27'), and 'Current Year' (set to '2017'). Below this, the 'Daily Workout Split:' section has two radio button options: 'Primary Workout' (which is selected) and 'Secondary Workout'.

PPA

Athletes ▾ Coaches/Trainers ▾ Administrators ▾ Need Help? ▾ LOG-OUT

Daily Training Log

Date Information:

[AUTOFILL - TODAY](#)

Month
April ▾

Day of month
27 ▾

Current Year
2017 ▾

Daily Workout Split:

☒ Primary Workout

☐ Secondary Workout

Screens

Viewing

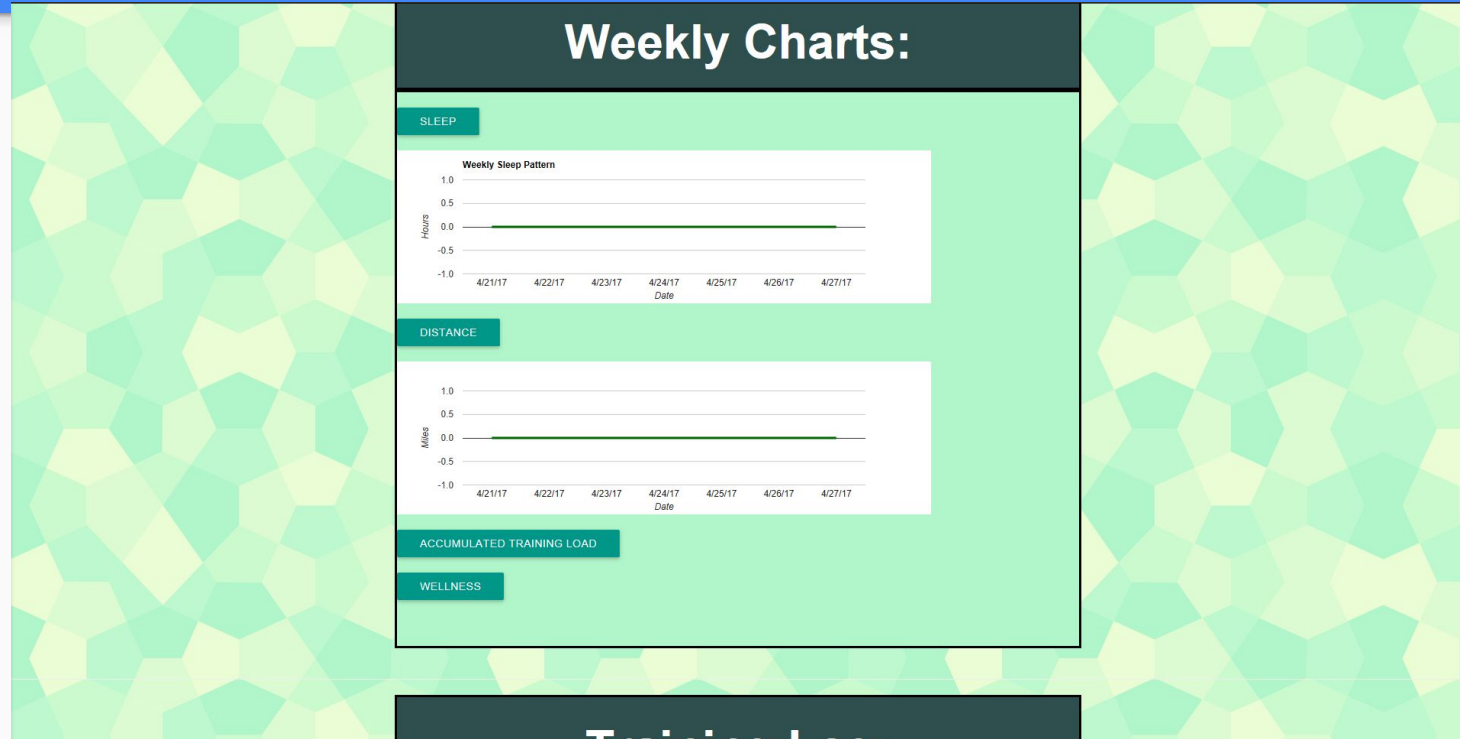
Workouts

Training Log:

Date	Hours Slept	Illness	Injury	Percent Health	Cycle	RPE	Time	Distance	Notes	
Tue Feb 28 2017 00:00:00 GMT+0000 (UTC)	13	n/a	n/a	100	no	11	15	1		EDIT REMOVE
Thu Mar 02 2017 00:00:00 GMT+0000 (UTC)	12	n/a	n/a	100	no	13	30	3		EDIT REMOVE
Sun Mar 12 2017 00:00:00 GMT+0000 (UTC)	12	n/a	n/a	100	no	12	12	1		EDIT REMOVE
Tue Mar 14 2017 00:00:00 GMT+0000 (UTC)	12	n/a	n/a	100	no	13	16	2	dwrfgsdgfdg	EDIT REMOVE
Wed Mar 22 2017 00:00:00 GMT+0000 (UTC)	13	n/a	n/a	100	no	14	26	3		EDIT REMOVE
Thu Mar 23 2017 00:00:00 GMT+0000 (UTC)	13	n/a	n/a	100	no	13	26	3	asdasd	EDIT REMOVE

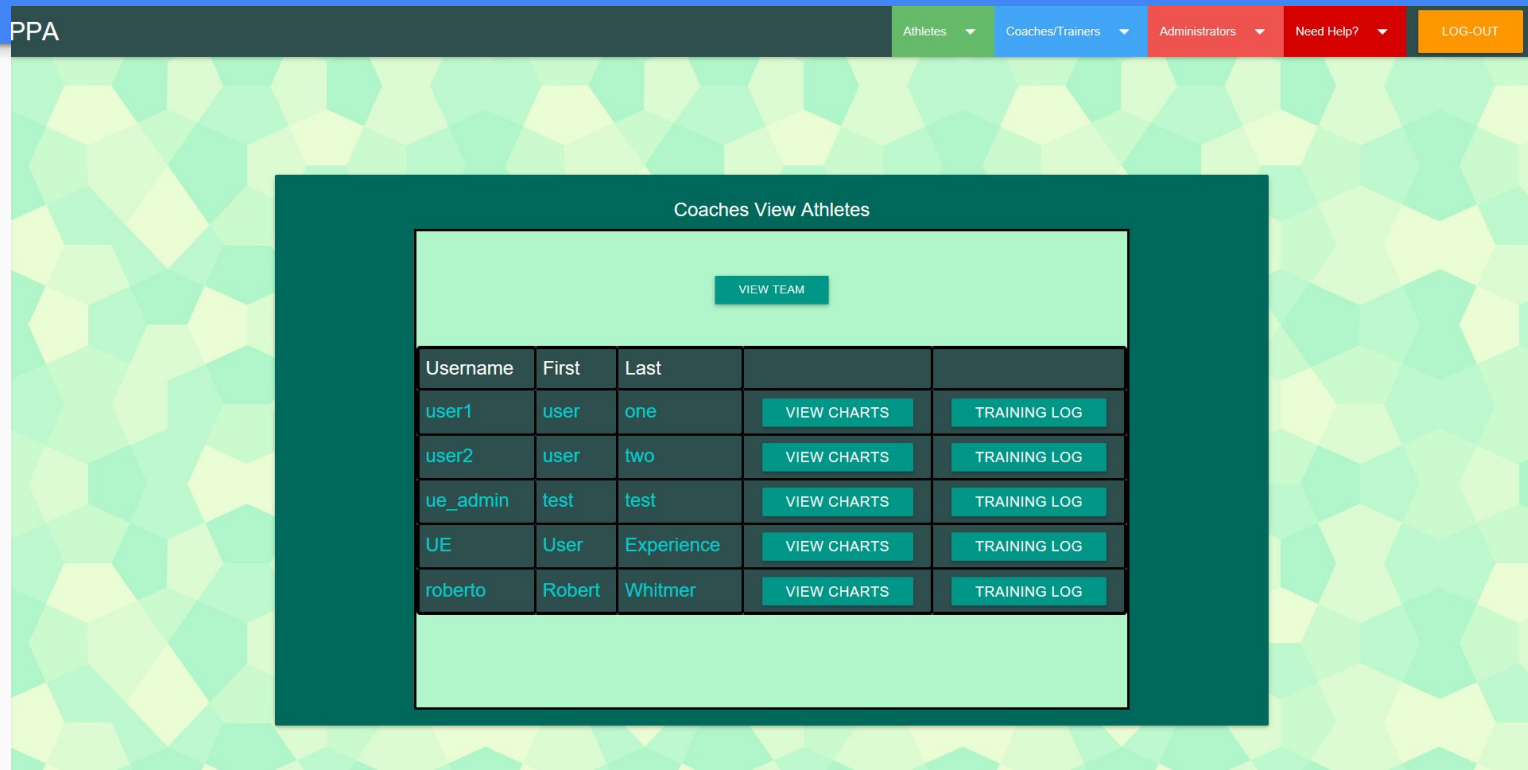
Screens

Charts



Screens

Viewing Teams



The screenshot displays a web application interface for viewing athletes. At the top, a dark grey navigation bar contains the text 'PPA' on the left and a series of dropdown menus on the right: 'Athletes', 'Coaches/Trainers', 'Administrators', 'Need Help?', and a yellow 'LOG-OUT' button. The main content area has a light green background with a hexagonal pattern. A dark green modal window titled 'Coaches View Athletes' is centered on the screen. Inside this modal, there is a light green header bar with a 'VIEW TEAM' button. Below the header is a table with five columns: 'Username', 'First', 'Last', 'VIEW CHARTS', and 'TRAINING LOG'. The table contains five rows of data. Below the table is a light green footer bar.

Username	First	Last	VIEW CHARTS	TRAINING LOG
user1	user	one	VIEW CHARTS	TRAINING LOG
user2	user	two	VIEW CHARTS	TRAINING LOG
ue_admin	test	test	VIEW CHARTS	TRAINING LOG
UE	User	Experience	VIEW CHARTS	TRAINING LOG
roberto	Robert	Whitmer	VIEW CHARTS	TRAINING LOG

Screens

Data export - individual

Individual Data Export:

Select User:

▼

DOWNLOAD CSV FILE

📄

Screens

Data export - team

Team Data Export:

Select a Team:

DOWNLOAD CSV FILE 

Screens

Adding
users

PPA

Athletes ▾ Coaches/Trainers ▾ Administrators ▾ Need Help? ▾ LOG-OUT

Create a New User:

New username:*

New user's password:
This is the unchangeable, default password for all users.

New user's email:

New user's first name:*

New user's last name:*

Note: Fields with * are a required field.

Screens

Removing a user

Remove a User:

Username:

UE

Username:

UE

First Name:

User

Last Name:

Experience

Email:

UserExperience@PPA.com

Role Level:

Admin

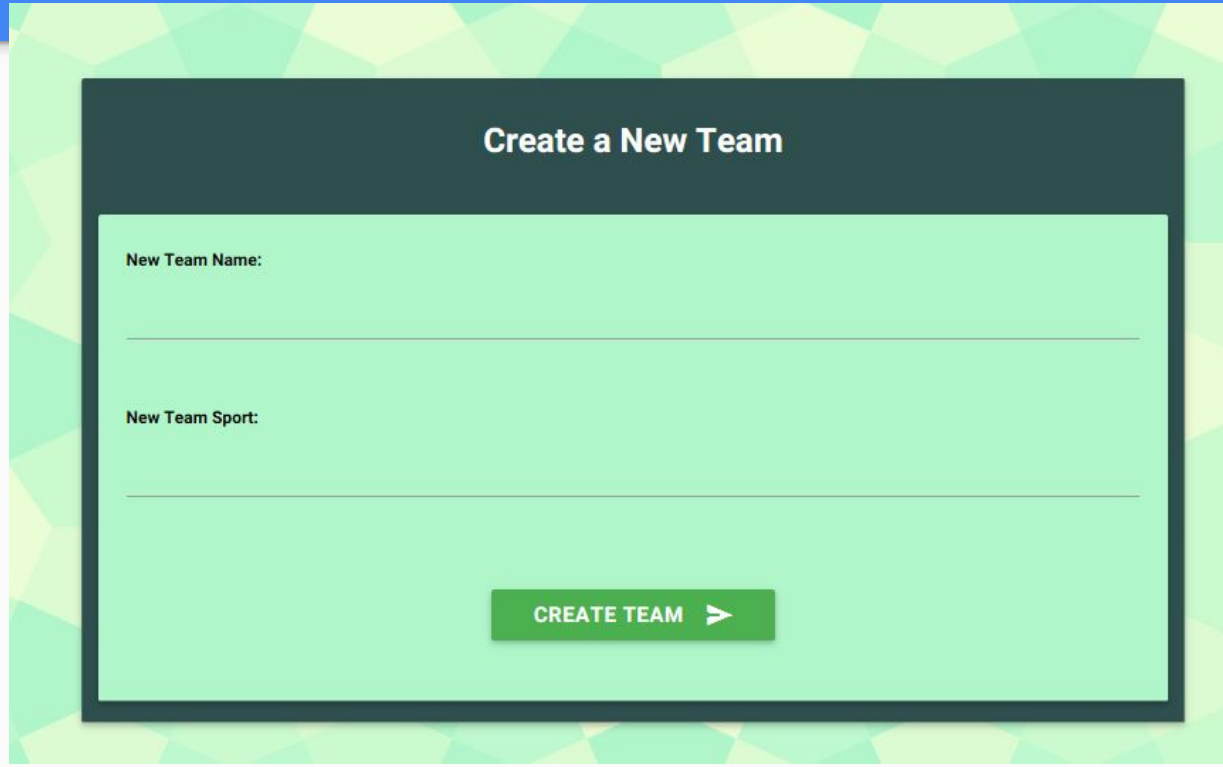
Note:

Please ensure you want to permanently remove this user, this process **cannot** be reversed.

REMOVE USER ▶

Screens

Creating a new team

A screenshot of a web form titled "Create a New Team". The form is set against a light green background with a dark green border. It features two input fields: "New Team Name:" and "New Team Sport:", each with a horizontal line for text entry. At the bottom right, there is a green button with the text "CREATE TEAM" and a right-pointing chevron icon. The entire form is overlaid on a larger background with a green and yellow geometric pattern.

Create a New Team

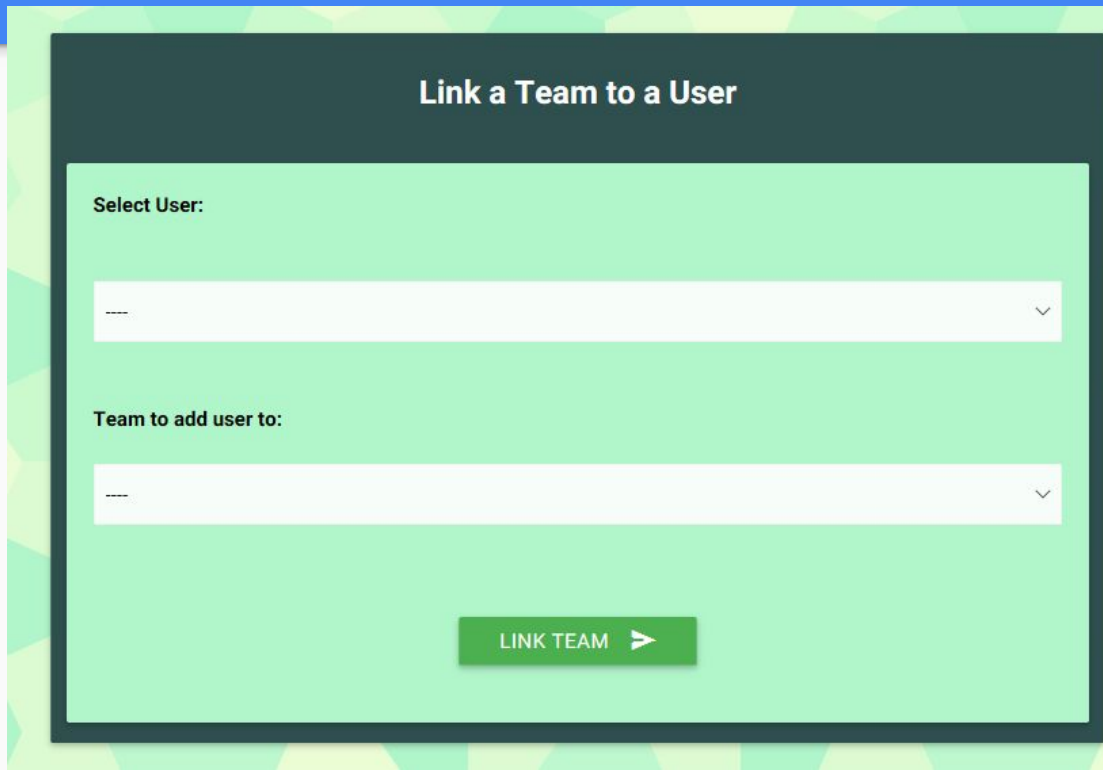
New Team Name:

New Team Sport:

CREATE TEAM ➤

Screens

Adding users to teams



The screenshot shows a web form titled "Link a Team to a User" with a dark green header. The form body has a light green background. It contains two dropdown menus: "Select User:" and "Team to add user to:". Both dropdowns currently show "----" and a downward arrow. At the bottom right is a green button labeled "LINK TEAM" with a right-pointing arrow.

Link a Team to a User

Select User:

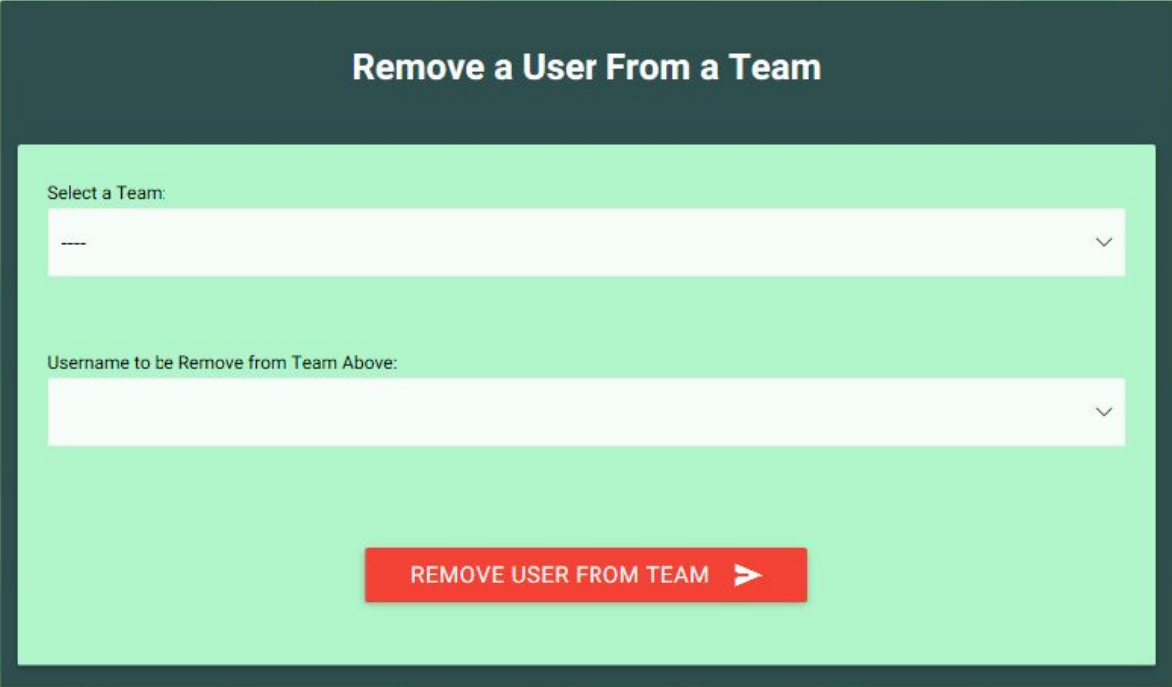
Team to add user to:

LINK TEAM ➤

Screens

Removing users

From teams



The screenshot shows a web form titled "Remove a User From a Team" in a dark header. The form body has a light green background and contains two dropdown menus. The first dropdown is labeled "Select a Team:" and the second is labeled "Username to be Remove from Team Above:". Both dropdowns are currently empty. At the bottom of the form is a red button with the text "REMOVE USER FROM TEAM" and a right-pointing arrow.

Remove a User From a Team

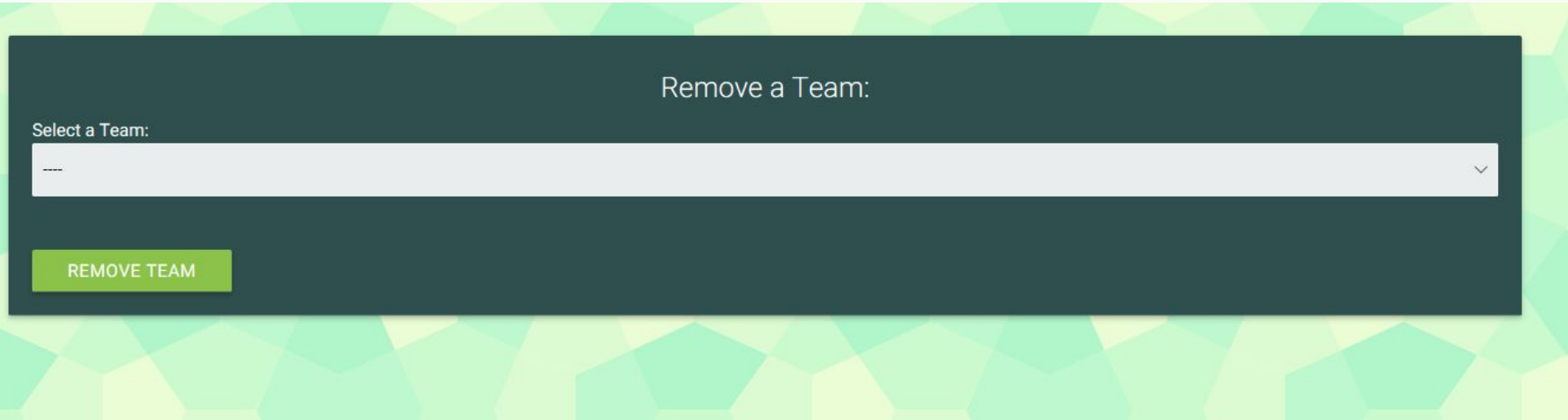
Select a Team:

Username to be Remove from Team Above:

REMOVE USER FROM TEAM ➤

Screens

Removing an entire team

A screenshot of a web application interface showing a modal dialog box for removing a team. The dialog has a dark teal background. At the top, it says 'Remove a Team:'. Below this, there is a label 'Select a Team:' followed by a light gray dropdown menu. The dropdown menu is currently empty, showing only a small downward arrow icon on the right. At the bottom left of the dialog, there is a green button with the text 'REMOVE TEAM' in white capital letters. The background of the slide features a green and yellow geometric pattern.

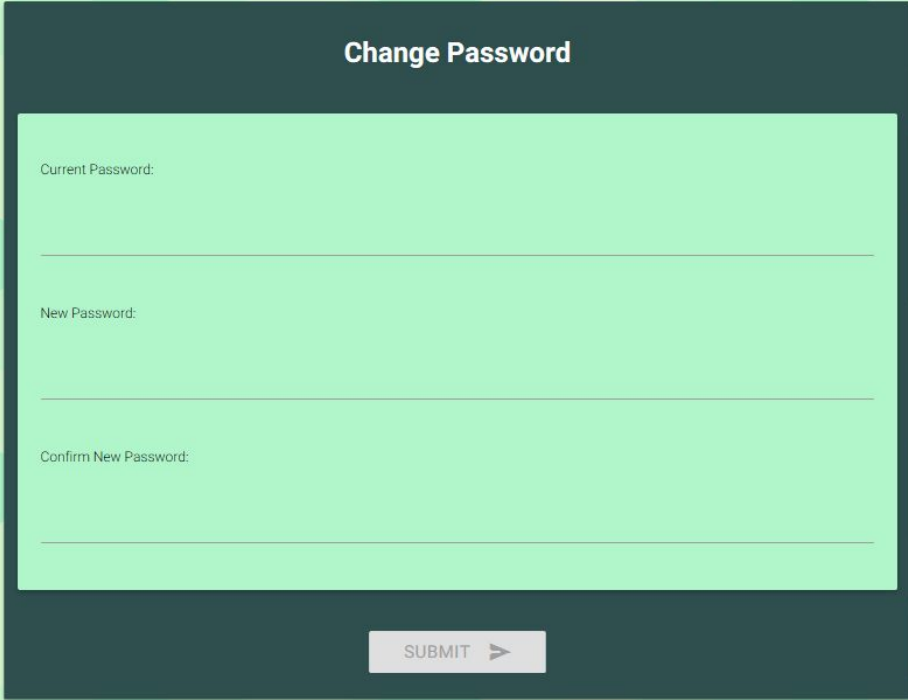
Remove a Team:

Select a Team:

REMOVE TEAM

Screens

Changing your password



A screenshot of a 'Change Password' form. The form is titled 'Change Password' in white text on a dark teal background. Below the title, there are three input fields with light green backgrounds and dark teal borders. The first field is labeled 'Current Password:', the second 'New Password:', and the third 'Confirm New Password:'. Each field has a horizontal line indicating where to enter text. At the bottom right of the form, there is a light gray button with the text 'SUBMIT' and a right-pointing arrow.

Change Password

Current Password:

New Password:

Confirm New Password:

SUBMIT ➤