

C_Scores

Summary

All HMC students taking Software Development or the Clinic program take Parker Team Player Score survey at the start of these courses. The C_Scores app aims to help users learn more about what makes a good team and construct better teams.

Architecture

We used Ruby on Rails to create the web application. Important technologies and their roles are:

- D3 – JavaScript library responsible for creating graphs
- Devise – Ruby gem used to create user accounts and security
- Python – Prediction is handled by a python script. SQLite Database
- Bootstrap – For CSS styling

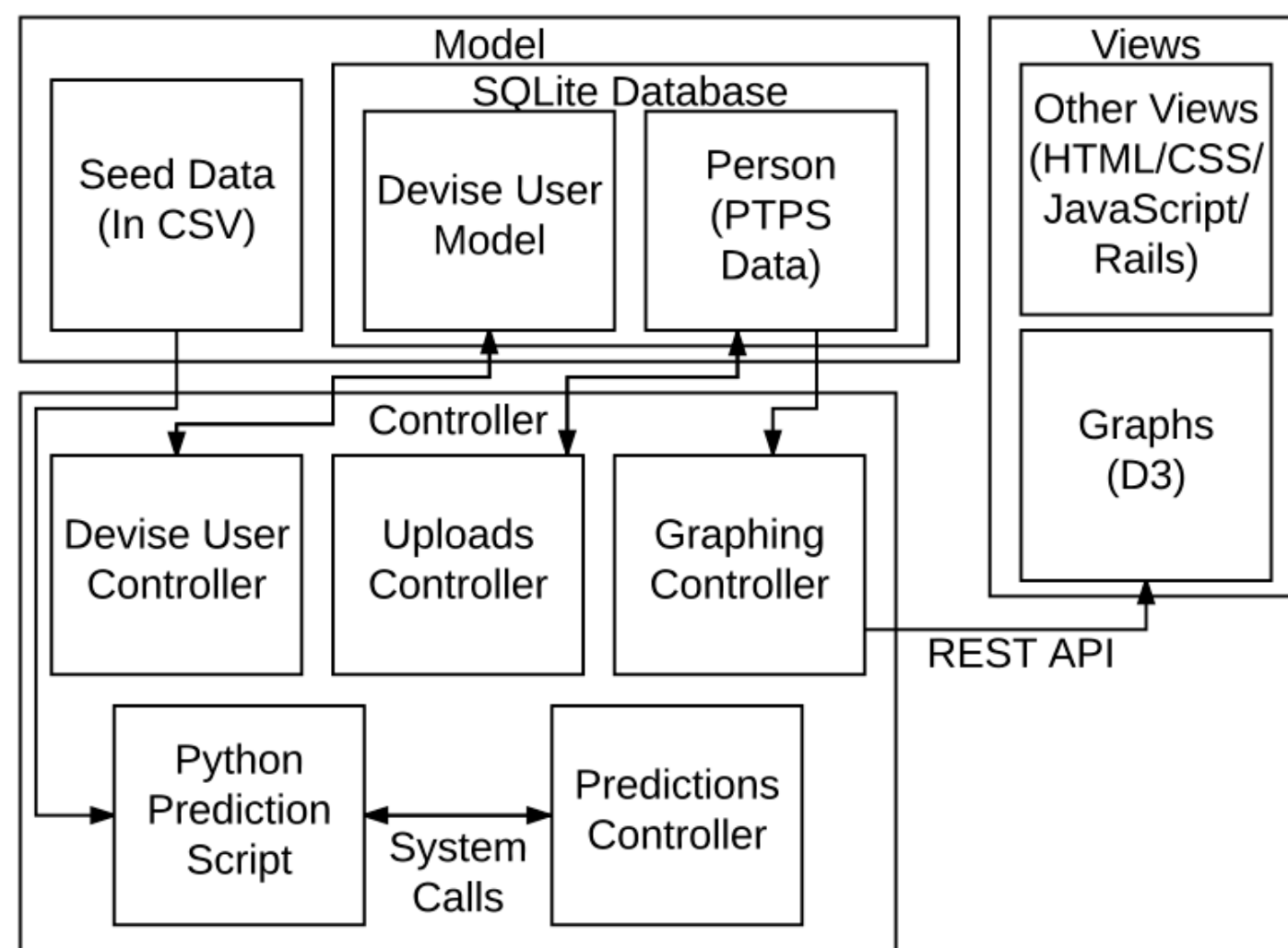


Figure 1.
Architectural model.

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Client:
CS 121 and Clinic Staff

HARVEY
MUDD
COLLEGE

Functionality

Insights

After uploading data, the user can view two graphs and statistics. –

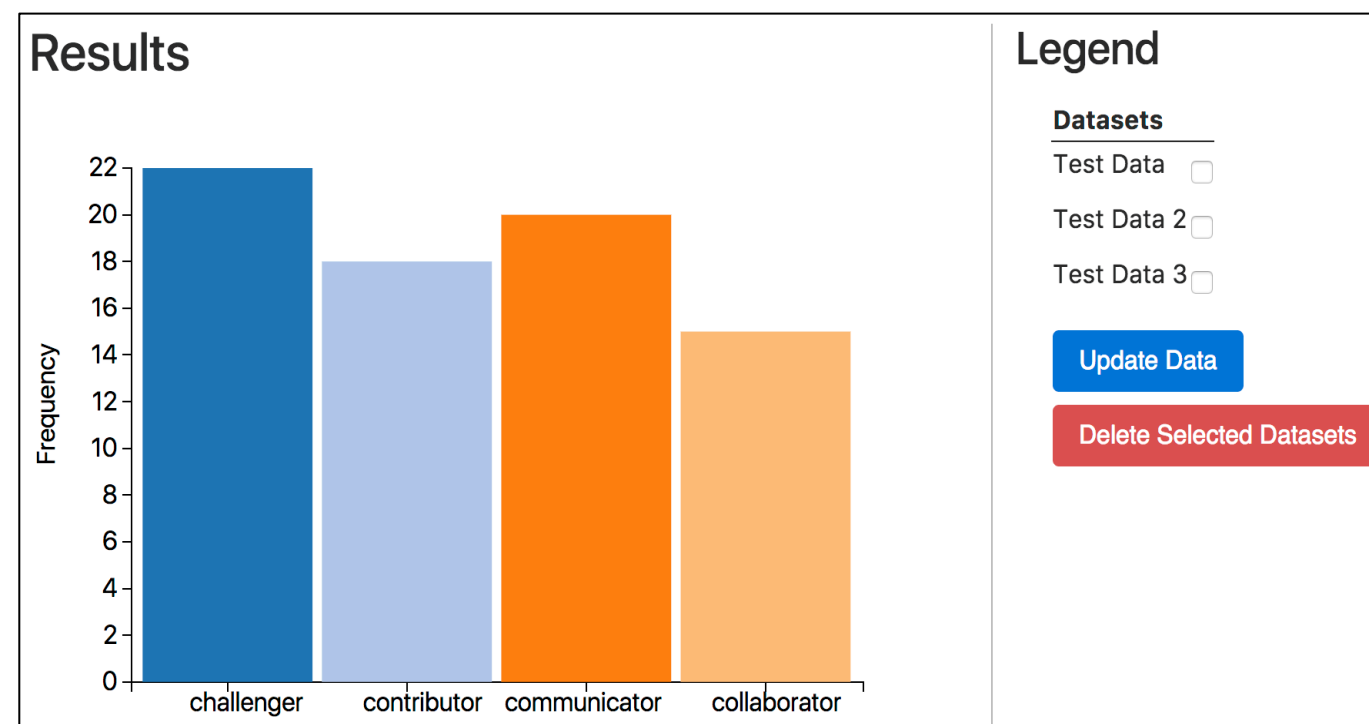


Figure 2.
Bar graph displays team player style distribution.

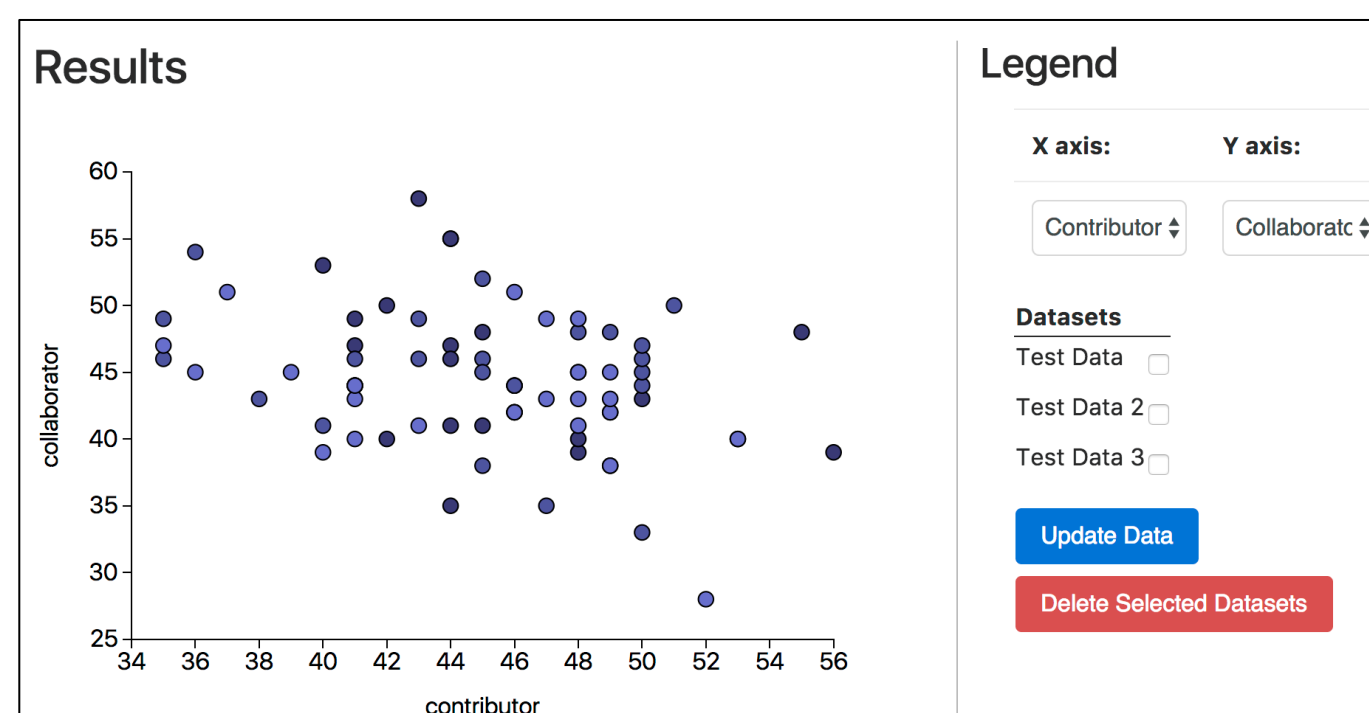


Figure 3.
Scatter plot allows the user to look for correlations between style scores.

Available statistics include:

- Survey questions answered similarly by people of each style.
- Most popular secondary style for people of each style.

Prediction

A clustering algorithm classifies hypothetical teams using past data to make predictions about team success.

Predictions	
Work distributed fairly and effectively:	3.0/5.0
Learning effectively from team:	34.0/5.0
Significant contributions from team to product:	3.0/5.0
Team has same goals for project:	1.0/5.0
Positive attitude:	2.0/5.0
Lack of interpersonal conflict:	3.0/5.0
Effective management of problems that arise:	4.0/5.0
Feelings of pride toward the product:	5.0/5.0
Respectful and effective teammate communication:	4.0/5.0
Effective management by PMs:	4.0/5.0

Figure 4.
Predictions in ten success categories.

What is the PTPS?

The PTPS asks questions about how one functions in a team, and assigns scores in 4 areas, called 'team player styles': Challenger, Contributor, Communicator, and Collaborator.

Future Work

- Add additional insights
- Use future data to improve predictions algorithm
- Add to types of predictions made
- Add trendline to the scatterplot