Introduction

Historically, the player personnel decisions that go into composing a professional basketball team have been largely based on the “eye test.” That is, National Basketball Association team executives have primarily chosen players for their team by watching each player play and making a largely qualitative assessment of their skill level. However, in recent years there has been a movement in the NBA toward complementing this qualitative approach with a quantitative one. All 30 teams now employ analytics staffs to help gain more holistic views of the players being evaluated. Those familiar with the sport all agree that a purely quantitative approach would be ineffective, as basketball’s fluid nature make its intricacies impossible to capture with solely numbers. Thus, “scouts,” the team employees tasked with watching players and making qualitative assessments of them will always have a place in the NBA. However, despite the nature of basketball necessitating qualitative judgments, these judgments themselves should not be invulnerable to quantitative assessment.

I plan to create a web application (as detailed below) that will allow scouts and executives to better evaluate the merit of their past assessments of college players. The primary goal for this project is to learn the technologies that I will be using next year at my job with the Boston Celtics. These technologies include React, Flux, webpack, and React Router.
Preparation

Before I can begin this project I have a great deal of work to do to familiarize myself with the React ecosystem. My plan is to start with the React documentation, the Redux documentation, and the React Router tutorial. Then I'll move onto Jean-Pierre Sieren’s tutorial as he builds a simple app using a very similar stack before beginning my application.

Deliverables

My deliverable will be a website in which I outline the process of creating my application as well as feature a screencast of the application being used. The actual application and its source code will be available to my advisor, Professor Rushmeier, but not to the general public, as I believe the site will have proprietary value.

My web application will have two user roles: executives and scouts. Scouts will be able to rank college players and track how their personal rankings of individual players have changed through time. The scouts ranking of each player will become read-only on the day of the NBA draft when the teams select the college players who will join their team. Executives will be able to view each of their scouts’ rankings and additionally they will maintain a ranking of how each draft class actually performs through time. In other words, they will use the players’ NBA performance to maintain a ranking of the order the players should have been drafted in if the team had possessed perfect foresight on the day of the draft. Scouts will then be scored on how closely their original predictions came to the actual, executive-determined order.
Weekly Goals

February 8th – Git tutorials, Redux tutorials, React tutorials

February 15th – React router tutorial, toy/practice app with video and routes

February 22nd – Get data sources ready: Celtics API and create own database/API

March 1st – User roles and database tie-in to web app

Spring Break in Europe

March 29th – Minimal product on scout’s use of app

April 5th and April 12th – Basics of executive role and scoring of scouts

April 19th – Improve UI

April 26th – Finishing touches and, if possible, extensions

May 3rd – Completed project

Extensions

Although I believe learning the React ecosystem and creating the scout ranking system will keep me plenty busy this semester, in the event that I find myself with extra time, my application could be extended in the following ways:

- Draft board: a war room style dashboard in which player rankings, data visualizations, and team contract information could be pulled up on the fly. The layout library Golden Layout would be perfect for this.

- Scouting reports: allow scouts to write written reports on players which would then be viewable by executives in addition to that scout’s numerical ranking.