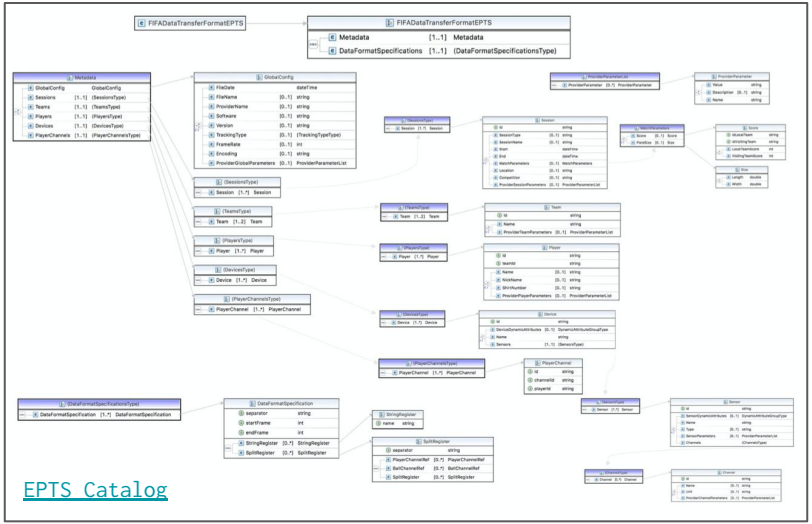
Tracking Data Analysis

February 2022

Overview

- ➔ Data
  - From an anonymous match provided by [Metrica Sports]
  - Stored in EPTS FIFA format
- ➔ Goals
  - Explore structure of tracking data
  - Visualize data (event & tracking) to offer realistic insights for tactical decision-making

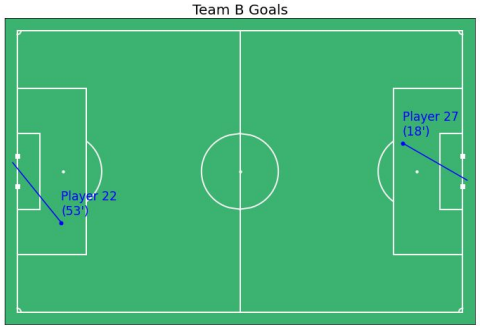


Before Reading...

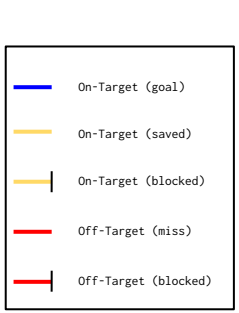
This report is exploratory in nature and is not meant to serve as a comphrensive analysis of the data at hand. Many of the visualizations are fairly simple and would typically not need to be calculated due to the generative nature of services like Wyscout. Rather this presentation aims to demonstrate an understanding of tracking data and show how coding can be used to create specific plots to fulfil the moew particular requests that would typically be made by coaching staffs.

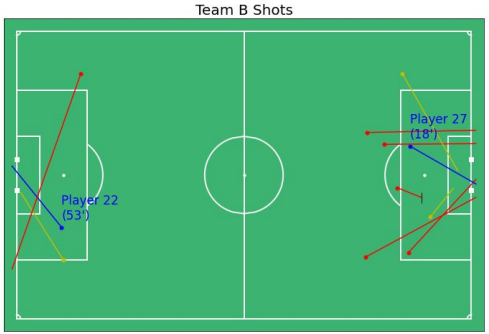
Analysis

- To start, let's look at the goals scored. In reading in the data, we see that 'Team B' scored 2 goals and 'Team A' scored none
- Player 27 scored in the 18th and Player 22 scored un the 53rd



- To provide more insight into their overall chances we can see all of Team B's chances…
- They took 11 shots - 6 off-target and 4 on-target.
  - 1 of the off-target shots was blocked
  - 2 of the on-target shots were goals

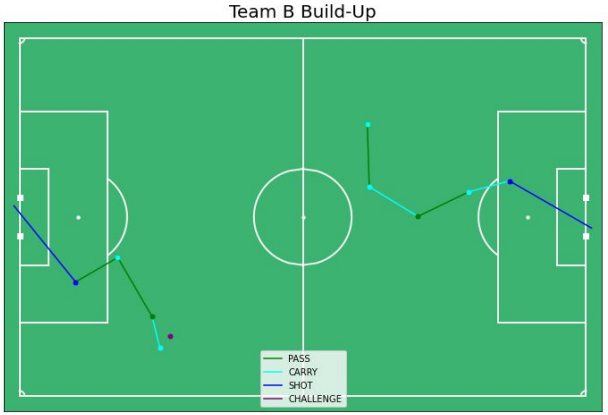




* These goals would typically be plotted going in the same direction (usually left to right), but were left on the actual side in which they occured to avoid overcrowding.

Analysis (continued)

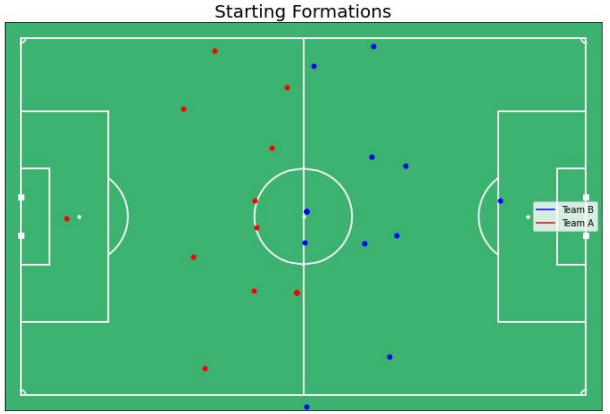
- ➔ Looking at just the goals again, it may be interesting to see the build-up play added on…
  - The first goal (right) started with a very brief carry followed by a lateral pass, an angled carry, a direct pass, ad ultimately a short run into the 18 with a shot into the right side of the net
  - Using the legend we can break the second goal down simiarly, but this time starting with a challenge in midfield



Analysis (continued)

- Additionally it would be valuable to see the positions of Team B (as well as the defending team) during the goals - this is where the tracking data comes into play
  - Unfortunately this tracking dataset only offers the first 100 frames (at 25 FPS) or 4 seconds of matchplay

- Instead let us look at how the teams lined up and try to derive their starting formations
  - Team A : 4 - 3 - 3 or 4 - 4 - 2
  - Team B : 4 - 4 - 2



* In fully recorded tracking datasets, we would be able to see many more instances of each teams shape especially in key moments such as a goal scored or conceded or on set-piece plays.

Applications

- **Tracking data** allows team data scientists to visualize movement patterns and formation in key moments in games without the added noise.
- It allows for a strictly positional perspective from an unobstructed aerial view which can help managers better understand their sides discipline in transition, while pressing, or in any other phase of play.
  - *Event data* is also very valuable by means of pass maps, expected goal plots, etc. but much of these insights can be harvested quickly through platform like Wyscout which offer fairly comprehensive (but generic) match reports
- Many more use cases are emerging with the likes of pitch control, defensive neural networks and possession value models; unfortunately, only more simple implementations were included in the report due to limitations, both in the data and in my current coding ability