1. Intro – title, team members
2. Background

Fédération Internationale de Football Association, commonly referred to as FIFA is a non-profit organisation and the international governing body of football. Founded in 1904, they initially oversaw international competition between  [Belgium](https://en.wikipedia.org/wiki/Royal_Belgian_Football_Association), [Denmark](https://en.wikipedia.org/wiki/Danish_Football_Union), [France](https://en.wikipedia.org/wiki/Union_des_Soci%C3%A9t%C3%A9s_Fran%C3%A7aises_de_Sports_Athl%C3%A9tiques), [Germany](https://en.wikipedia.org/wiki/German_Football_Association), the [Netherlands](https://en.wikipedia.org/wiki/Royal_Dutch_Football_Association), [Spain](https://en.wikipedia.org/wiki/Royal_Spanish_Football_Federation), [Sweden](https://en.wikipedia.org/wiki/Swedish_Football_Association), and [Switzerland](https://en.wikipedia.org/wiki/Swiss_Football_Association). Now their membership oversees 211 national associations and each member is part of one of the following six regional confederations: [Africa](https://en.wikipedia.org/wiki/Confederation_of_African_Football), [Asia](https://en.wikipedia.org/wiki/Asian_Football_Confederation), [Europe](https://en.wikipedia.org/wiki/UEFA), [North & Central America and the Caribbean](https://en.wikipedia.org/wiki/CONCACAF), [Oceania](https://en.wikipedia.org/wiki/Oceania_Football_Confederation), and [South America](https://en.wikipedia.org/wiki/CONMEBOL).

The World Cup has been held every 4 years, with the exception of 1942 and 1946 due to the second world war. All of the national associations are able to play to try and qualify for the World Cup tournament with the exception of the hosting country who automatically qualifies. The automatic qualification of the host country is a major advantage otherwise countries such as the United States in 1994, Japan in 2002 and Russia in 2018 would probably not have made it to the final stage. Those that qualify are split into groups which play further round robin matches to progress into the final series.

The FIFA world ranking system was only introduced in 1992. The calculation to determine the ranking is the number of points the team has at the end of the year multiplied by the number of points it earned during the year. The team with the highest index on this calculation received the award.

1. Story

FIFA has employed team JJA to create a dashboard for officials, teams and soccer fans around the world to investigate trends of successful teams to help with game strategies, future development of the sport and provide general knowledge. Successful teams for this exercise have been defined as those that have finished first, second, third and fourth in the tournament. The dataset we used contained information from 1930 to 2014 and world ranking data from 1992 onwards.

1. Factors
   1. Distance that the teams have to travel to compete in the World Cup
   2. Frequency of countries that hosted the tournament and the chances of them finishing in the top 4
   3. The FIFA ranking of the team before they enter the World Cup tournament and where they finished in the tournament
   4. Average number of goals kicked and conceded in matches to compare the impact of the attacking and defending strength of a team
   5. The nationality of the coaches and if that has any impact on the success of the teams they train
2. Design – as per slide and
3. Network topology
4. Demo
   1. MAP: Distance that the teams have to travel to compete in the world up. We chose using a leaflet map with the user being able to filter on the drop down menu to select the year with coloured markers to visually compare where the tournament was hosted and how close the successful teams were based. The limitations were we only had data from 1930 to 2014 and looked at teams finishing in the top 4 positions. We noticed there was an advantage that teams who were successful were based closer or were where the tournament was hosted.
   2. BAR CHART: The bar chart looked at the frequency of the likelihood of countries that hosted the tournament and the chances of them finishing in the top 4. We used plotly to create this graph and thought it was the appropriate chart to display this information. In the 20 world cups played between 1930 and 2014, 12 have finished in the top 4, which is 60% with 6 finishing first, which is 30%.
   3. SCATTER PLOT: The scatter plot compares the countries’ FIFA rank before entering the World Cup and if this influenced their success during the tournament. We made a scatterplot using plotly and the graph is interactive for the user as they can compare the overall standings in blue and overlay with average standing in orange if they choose. The limitation in this data is the rankings were only able to be obtained from 1992. The general trend was teams that entered the tournament with a higher ranking were more successful.
   4. LOLLIPOP: Our next graph looks at the average number of goals kicked and conceded in matches to compare the impact of the attacking and defending strength of a team. We chose to use a d3 lollipop graph with goals conceded in red and goals kicked in green. We chose to use the average amount of goals as not all the same teams qualified each year for the tournament. You can see the stronger teams such as Brazil and Germany kicked more goals than they conceded compared to Chile, Korea who conceded more goals than what they kicked. Countries such as Czechoslovakia and Poland broke even with the number of goals kicked and conceded.
   5. STACKED BAR CHART: In our final graph we looked at the nationality of the coaches to see if that has any impact on the success of the teams they train. We chose to use a stacked bar graph using plotly and colour coded the successful positions as you can see in the legend. Brazilian and German coaches dominated having the most successes, with Brazilian coaches having slightly more first place wins. Coaches from Italy and the Netherlands came an equal third, however teams trained by coaches from the Netherlands have never come first. It is some interesting data which would impact teams deciding who to hire as their coach.
5. Russia

2018 information is as follows:  
Played June-July 2018

1st place France coach is Didier Deschamps French FIFA rank May 2018 7th  
2nd place Croatia coach Zlatko Dalic Croatian FIA rank 18th  
3rd place Belgium Roberto Martinez Spanish FIFA rank 3rd  
4th place England Gareth Southgate English IFA rank 13th

Russia as Host coach Stanislav Cherchesor Russian FIFA rank 38th  
While being the host of the world cup increase the chances of Russia placing in the top 4, the country ranked at 38 in the FIFA rankings in May 2018, there are no Russian coaches in the historical top four placings in world cups and we are unable to analyze their goals scored against conceded since they are outside the top 20. All these factors make the likelihood of Russia placing in the top four to be reasonably low.

Speaking of Russia, although it did not finish in the four and they managed to be one of quarter finalists.

Top 8