

Foot Forecaster

The Foot Forecaster is a web application that provides forecasts for the performance of African football teams in the African Cup of Nations (AFCON) tournament. It includes various visualizations and a table displaying forecasted data.

Features

- Year Selection: The application allows users to select a specific year for which they want to see the performance forecasts.
- Performance Forecast Chart: A chart displays the forecasted number of wins for each participating team in the selected year's AFCON tournament.
- Team Wins Map: A map visualization shows African countries and their forecasted number of wins in the selected year's AFCON tournament.
- Top Countries Table: A table lists the top-performing countries based on their forecasted performance in the selected year's AFCON tournament.
- Back to Top Button: A button is provided to quickly scroll back to the top of the web page.

Usage

1. Year Selection:

- The user can use the year slider located at the top of the page to select a specific year for which they want to see the performance forecasts.
- As the user moves the slider, the selected year value is displayed next to the slider.

2. Performance Forecast Chart:

- The chart displays the forecasted number of wins for each participating team in the selected year's AFCON tournament.
- The chart is interactive and allows the user to hover over data points for more information.

3. Team Wins Map:

- The map visualization displays African countries and their forecasted number of wins in the selected year's AFCON tournament.
- The map provides a geographical representation of team performance.

- Users can hover over countries to view detailed information.

4. Top Countries Table:

- The table lists the top-performing countries based on their forecasted performance in the selected year's AFCON tournament.
- The table includes columns such as country name and forecasted number of wins.
- The table is styled with alternating row colors for better readability.

5. Back to Top Button:

- The "Back to Top" button appears when the user scrolls down the page.
- By clicking the button, the user is quickly scrolled back to the top of the page.

Technical Details

The "Foot Forecaster" web application is built using the following technologies:

- HTML: The structure and layout of the web page.
- CSS: The styles and appearance of the web page.
- JavaScript: The logic and interactivity of the web page.
- jQuery: A JavaScript library used for DOM manipulation and event handling.
- Plotly.js: A JavaScript graphing library used to create interactive charts.
- AJAX: Asynchronous JavaScript and XML is used to retrieve data from the server without reloading the entire page.

Class: FootForecaster

The `FootForecaster` class represents the main controller for the web application. It initializes various elements, attaches event listeners, and updates the dashboard based on user interactions.

Constructor: FootForecaster()

- Creates a new instance of the `FootForecaster` class.

- Initializes various elements and calls the `init` method.

Method: init()

- Initializes the web application by attaching event listeners, updating the dashboard, and checking the scroll position.
- Calls the `attachEventListeners()`, `updateDashboard(year)`, and `checkScrollPosition()` methods.

Method: attachEventListeners()

- Attaches event listeners to the year slider, back-to-top button, and window scroll events.
- When the year slider value changes, it updates the dashboard with the selected year's data.
- When the back-to-top button is clicked, it scrolls the page to the top.
- On window scroll, it checks the scroll

position and shows or hides the back-to-top button accordingly.

Method: updateDashboard(year)

- Updates the dashboard based on the selected year.
- Makes an AJAX request to the server to retrieve updated data for the selected year.
- Calls the `updateForecastChart(traces)`, `updateTeamWinsMap(trace)`, and `updateTopCountriesTable(html)` methods with the received data.

Method: updateForecastChart(traces)

- Updates the performance forecast chart with the provided traces (data).
- Uses Plotly.js to create an interactive chart with a custom layout.
- Sets the chart's title, font color, axis properties, and background colors.

Method: updateTeamWinsMap(trace)

- Updates the team wins map chart with the provided trace (data).
- Uses Plotly.js to create a map chart with a custom layout.
- Sets the chart's title, geo settings, and template.

Method: updateTopCountriesTable(html)

- Updates the HTML content of the top countries table with the provided HTML data.
- Replaces the existing table content with the updated data.

Method: checkScrollPosition()

- Checks the scroll position of the page.
- If the scroll position is greater than 20 pixels, the back-to-top button is shown.
- If the scroll position is less than or equal to 20 pixels, the back-to-top button is hidden.

Method: scrollToTop()

- Scrolls the page to the top using the `scrollIntoView` method with the `behavior` option set to `smooth`.

Getting Started

To use the Foot Forecaster web application:

1. Open the web page in a compatible web browser.
2. Use the year slider to select the desired year for performance forecasts.
3. Explore the performance forecast chart, team wins map, and top countries table to view forecasted data.
4. If needed, scroll down the page and use the "Back to Top" button to quickly return to the top.

That's a simplified overview of the "Foot Forecaster" web application and its features.