WSOA3029A: ASSIGNMENT 2

CRITICAL ANALYSIS ESSAY

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Project Overview

Project:https://www.news24.com/news24/elections/map/nnpe?year=2024&level=ward&provid=3&munid=3003&wardid=79800010

The chosen case study that we will analyze in this essay is sourced from the South African based website, news24. The article was published in collaboration with the Electoral Commission of South Africa and details in-depth results of every national election since 1999 across the country. This article focusses primarily on the results of the national and provincial ballots. In South Africa, national elections are held every five years and as such, the article is continuously updated upon the official declaration and confirmation of the results by the Election Commission.

The purpose of the article is to concisely display the official results of each general election since 1999 and provide the public with extensive insights into which political parties performed the best or worst either on a national, provincial or local scale.

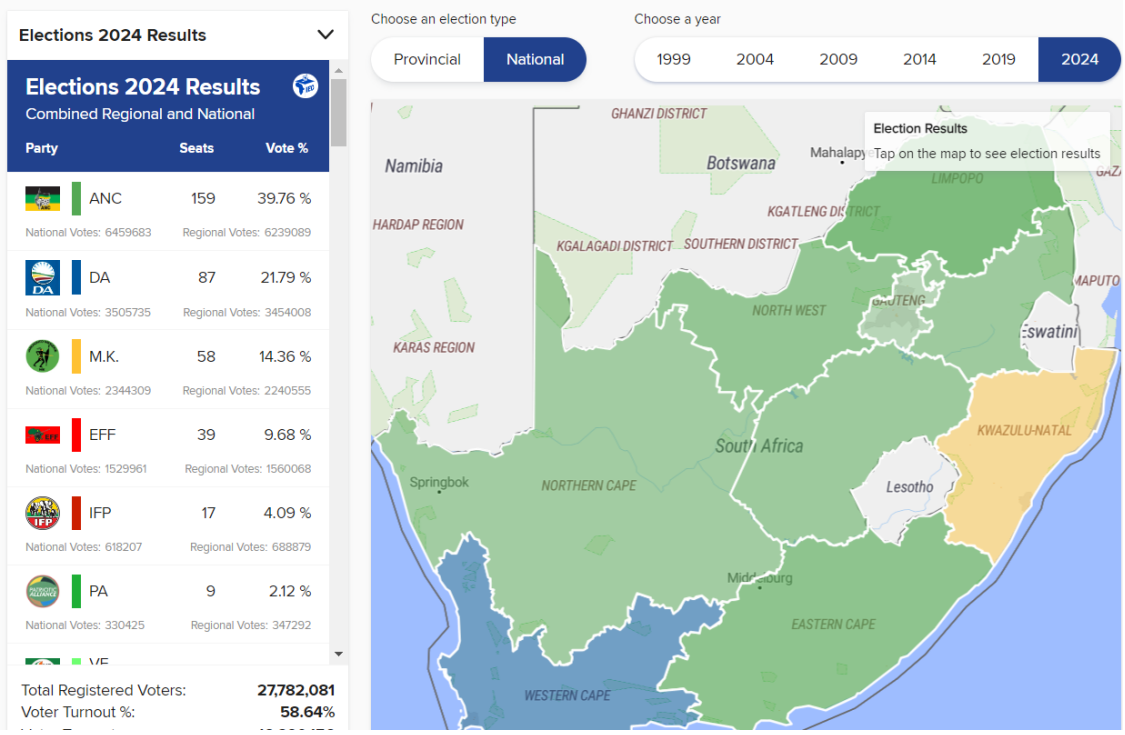

Figure 1- Election map of South Africa.

Data Visualization Techniques

Data visualization is the creation and presentation of complex data in a visual representation that is easier for users to understand compared to reading raw data(Knaflic, 2015). The complex data that the case study presents to the user is the general election results and is visualized as a map across South Africa and divides according to the nine provinces. This is the method of data visualization is common across the political world.

American Election Results: https://edition.cnn.com/election/2020/results/president

UK Election Results: https://www.bbc.com/news/election/2024/uk/results

An electoral map divides the voting area according to the various political parties that garners the most votes by constituency(*THE ELECTORAL MAP | Collins English Dictionary*, no date). These areas are color coded to represent the political party with the most votes, therefore allowing geographic and demographic trends and outliers to be identified and for direct comparisons across political parties to be drawn. The colors of these areas also have varying shades. The darker the shade of a political party's respective color, the larger the win margin. E.g. The shade of green of Limpopo indicated the ANC's strong win margin (+70%) but the lighter shade of Gauteng indicates a weaker (+- 35%) By shaping the map according to the respective country, it allows for the user to recognize spatial patterns in voting behavior across the country.

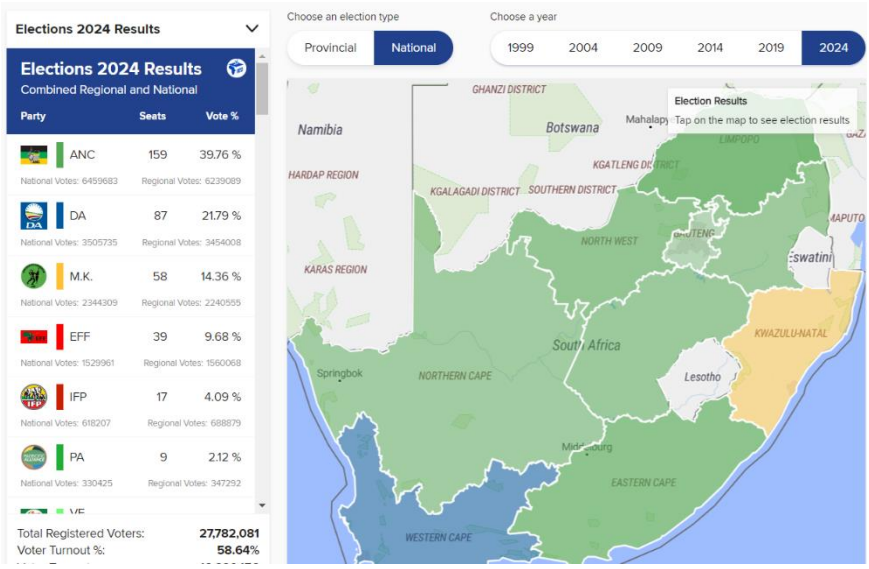

Figure 2-Results for 2024 general elections

The data piece portrays the results on a national scale and affords the user the ability to view comprehensive results on a local scale as well. Each province consists of municipalities, which is then broken down into wards and further into voting districts. The user is especially able to view which political party won at their own local voting station. Given this attention to specific detail, we can say the map has displayed its complex data in an effective manner

Interactivity and User Engagement

In Qi Li's chapter 2: Overview of Data Visualization, she discusses traditional forms of data visualization. In this excerpt, "interactivity" is not mentioned as an aspect of traditional data presentation. Bruggerman however, seeks to break away from this standard and emphasizes that interactivity should become a fundamental aspect and thereby encourages a more dynamic engagement with data(Brüggemann, Bludau and Dörk, 2020).

In the case study, interaction is central to its design, transforming a static map into an interactive and exploratory tool. The project effectively achieves this through the interactive elements afforded to the user. The user can hover, zoom and select specific areas according to their interests and goals

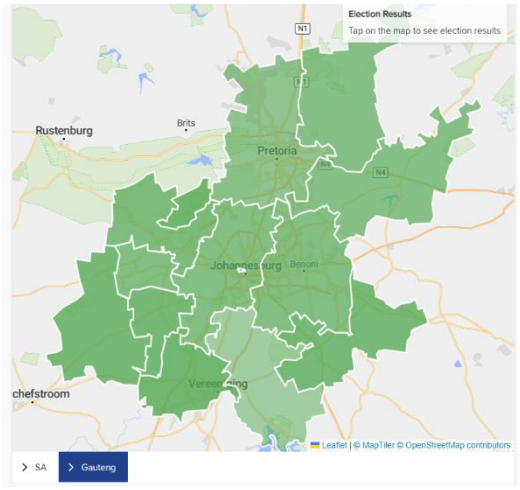

Figure 3-Displays the municipalities in Gauteng.

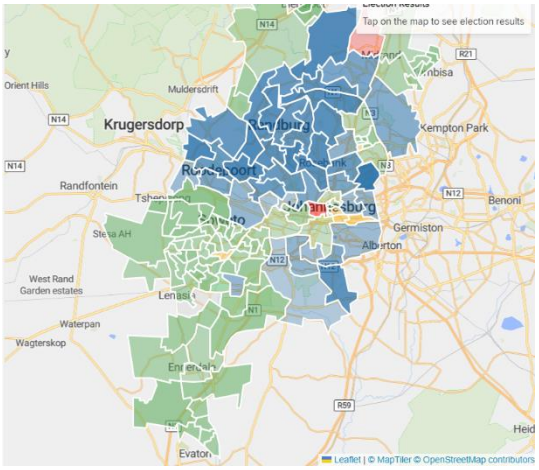

Figure 4- Displays the wards in a municipality.

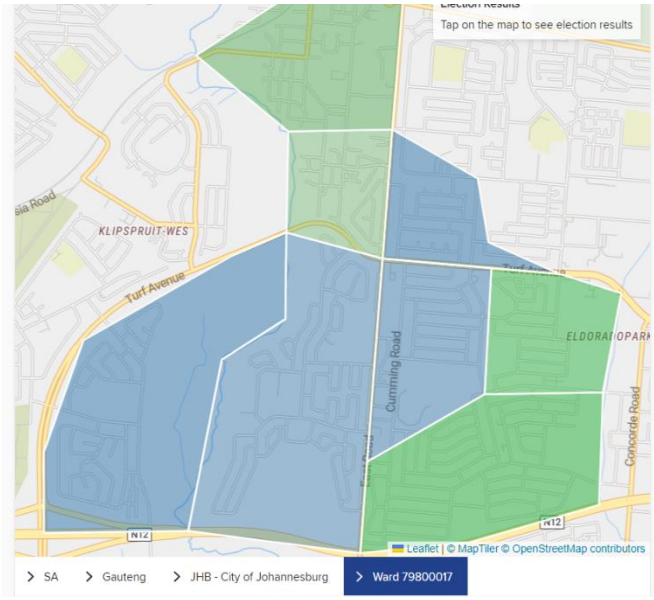

Figure 5- Displays the voting districts in a ward.

The tooltip assists with summarizing the data by simply stating which political party is dominant in that area and if the user seeks more detailed information, the legend breaks down the number of votes and percentages according to each party that contested.

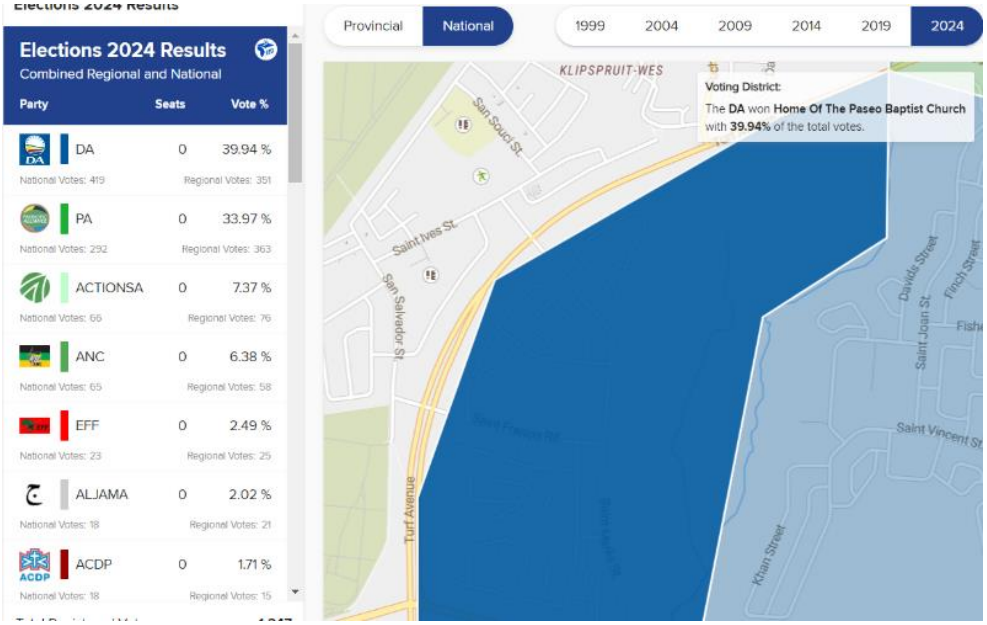

Figure 6- Displays the tooltip and legend results for this voting district.

The interactivity of this project improves engagement and questions the user's curiosity by allowing them to delve deeper into the areas of interest and spend more time exploring other areas, creating meaningful and concise interactions with the complex data and breaking down information and making it easy-to-understand.

Personally, political analysis has been a hobby for a few years and gaining a thorough understanding of that field requires an individual to understand multiple layers of information, such as geographical, demographics, societal issues, etc. A map such as this integrates these pieces information concisely and encourages the user to explore other areas and recognize patterns for themselves.

UI/UX Design Principles

"A good user interface is critical to a good user experience"(*The Basic Principles of User Interface Design | UXPin*, 2024) . If the user is unable to navigate the interface, the experience will not be good, and the product will not be used. The core principle behind effective UI/UX design is to make the user's life easy and I believe the case study does so.

The project visualizes a massive dataset in a manner that ***reduces the cognitive load*** of the user. The 3-click rule is adhered to, as within 3-clicks the user is able to navigate to their own local voting station from a national scale. The tooltip provides feedback that displays the results of the area as a percentage rather than number of votes. Percentages are easier for users to digest, rather than 4+ digit numbers.

The projected map is overlayed onto a map of South Africa using data from OpenStreetMap Contributors. When viewing the map on a national scale, the name of each province is labelled. When zooming into a specific province, the major cities and municipalities within the province are also annotated and further details of wards and districts such as national roads and landmarks are displayed. This assists in the ***clarity and usability*** of the map, as you must take into account users who aren't familiar with geography and map skills but solely know names of areas.

The interface and experience significantly influence the user's behavior and understanding. The design is simple and easy for the user to engage with, whilst encouraging them to explore as it guides the user through the information. The data is presented concisely and considers the cognition of the user as it provides feedback in an easy-to-understand way.

Data Driven Storytelling

Humans process information from a general perspective and narrow down to the specifics(Allen *et al.*, 2015). The project seeks to mirror this behavior by providing users with the general information over of the election results and gives them the agency to dive deeper into the specifics. This draws parallels to audiences being given a prologue to introduce a story.

An interpretation of the data is not strictly linear but is abstract and open to interpretation from the user. By investigating the data, users can uncover insights, recognize patterns and draw their own conclusions.

The project has a year selector that adjusts the map according to the results of the election year selected. Combined with the color coding and shading, it paints a picture on the performance of each political party throughout the years. For example, the 2024 election proved to be the most contested election in democratic South Africa, when comparing the shade of green, which represents the ANC across the years, it is highly visible how far the support has decreased. Numerically, 2004 was the most fruitful as they garnered 69.69% of the vote, yet in 2024, only 39.76%. This example does not solely apply to the ANC but on more a provincial or local scale, it is visible which political parties have increased or decreased their support throughout the years. This tells the story found in the data, which correlates to the stories found in society of how certain areas have shifted and changed political parties and how some have remained strongholds and support bases.

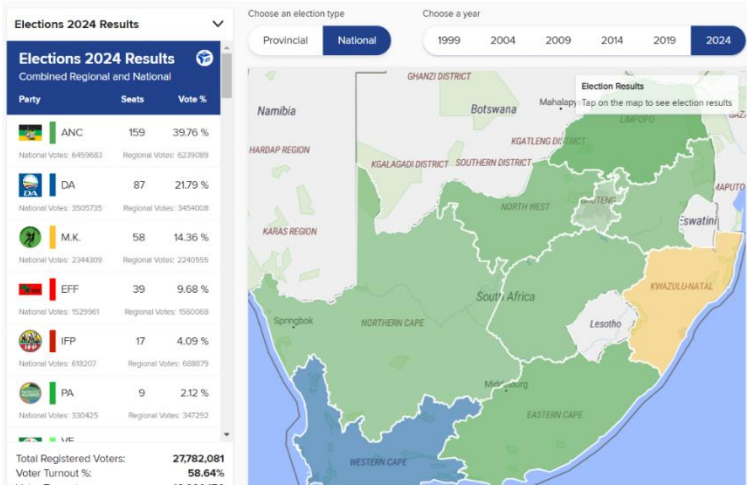

Figure 7 – Results of the 2024 elections

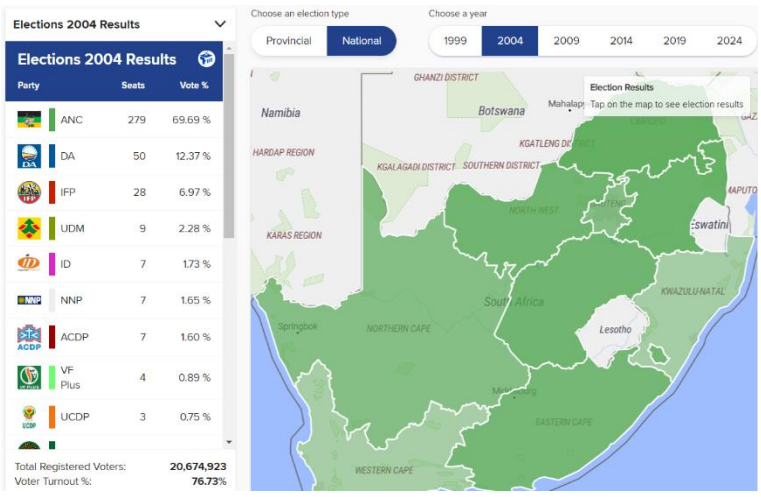

Figure 8 – Results of the 2004 elections

By creating a narrative in the data, it engages the audience and captures their interest. It makes the audience more likely to continue engaging with the piece and transforms raw data that is plain numbers into an interactive piece. .(Knaflic, 2015).

Emotional Impact

The data visualization elements work together to create a tone and convey a message to the audience. Colors have the ability to invoke emotions and in the context of elections, each political party will already have a color associated with them. The colors represented are displayed on the legend beside the map. The emotions felt by the users will depend on which color appears more on the map, as it corresponds to the success of their party or a party they dislike. An issue with this is in South Africa, there are numerous political parties that contest in general elections and not enough colors for each to have a specific one, therefore confusion may arise e.g. red is given to both EFF and IFP just in different shades and the user will have to read the tooltip to gain more clarity.

The transitions when the user zooms in or out will influence usability. Transitions that lag may discourage people from engaging with the data. With this case study, there is a lag when zooming out and user may have to refresh the page, which resets their state. This can be frustrating to work with, as well as inconvenient.

Conclusion

Analyzing this case study has placed emphasis on implementing interactive features that compliment a user-centered interface. By weaving together various techniques, features and design principles, one can transform a passive consumption of data into an active interaction. Static visualizations are a commonality when portraying data, yet a dynamic visualization that allows the user to critically interact and engage with the data improves the usability and overall experience, but it is not simply about plotting the dataset creatively but rather adhering to UI/UX design principles that will place the user's experience at the focus. In further projects, I will seek to implement the 3-click rule and ask myself "Does this strain the user's cognition", as those 2 principles alone transform your data visualization into an ideal experience.

The" narrative" of the data is something I did not think to consider when beginning to learn about data visualization. Initially, it seems as if these keywords were from two different schools of thoughts: narrative, relating to the humanities and data relating to STEM, yet now it has come to my attention that these must be interlinked and built around each other to convey the data, as a story would to an audience.

References

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