**Data Visualization** is the concept of telling a story based on the data collected. This story conveying is as old as time. We humans has expressed the world through data dating. One of the most important data visualizations in history and possibly the best statistical graphic ever drawn was Charles Minard’s 1861 map of Napoleon’s invasion of Russia. This data visualization captures four different changing variables in a single two-dimensional image. Beginning at the polish Russian border, the thick band shows the size of the army at each position. The path of Napoleon’s retreat from Moscow in the bitterly cold winter is depicted by the dark lower band, which is tied to temperature and time scales. The 1900’s saw fewer developments in the field of data visualization, instead it was a time od popularization. Data visualization began to be used in textbooks and graphical methods were soon used in science curriculums, particularly physics and biology. In 1962, john Tukey wrote a manifesto calling for the recognition of data analysis as a separate branch of statistics. And in 1967, Jacques Bertin, a French cartographer, published the semiology graphique, considered the theoretical foundation of data visualization.

Throughout History, there have been many influential visualizations, but perhaps the biggest changes came with the development of computers. Not only could computers help with the processing of huge amounts of data, but software was being developed that would allow people to construct graphic forms as well as construct new ones. Form bell laboratories to pen plotters, from the mouse to tablets, technology made data visualization easier than ever. And then, of course, came the Web, and with it, new visual ways to display data. Around 2002 or so, tag clouds began to show up on blogs and websites. Also known as word clouds, these data visualizations visually display the frequency of the most used words or the most common web referrals.

In 2004, EdWard Tufte created the sparkline, a small, word-sized graphic that can be embedded into sentences, tables, headlines, spreadsheets, or graphics. Sparklines present trends and variations associated with a measurement like average temperature or stock market activity in a variations associated with a measurement like average temperature or stock market activity in a simple and condensed way, These data visualizations are meant to be succinct, memorable and located right where they are discussed, rather than off in a chart away from the flow of text.

There is no way of knowing how the **history of data visualization** will change in the future, but an important step is free web-based data visualization tools – making it easier than ever to create data visualizations.

In **future** this data visualization will become to most potential visualization for big data and increased productivity by providing infographics that can be transformed into critical insights. There is vast data that is in demand every year. This shows how much data is readily available for anything and certainly everything under the sun. the devices that are interconnected with these multiple streams of data undoubtedly improves efficiency and is also intensely accurate. Data storing into database with a clear purpose. The large chunks of data collected entirely need to be stored in the database. For this, data charts and animations using the relevant data were used.

The demand for data visualization on **mobile devices** is on the rise, both in the consumer and business spaces. Before starting graph design for a mobile screen, gather particulars about what kind of data and what kind of format should be presented so that the charts best meet your users needs. Visualized data, when accessed on a mobile device, are typically part of an app that was built for a specific function. Mobile device as a data display platform is great for interactive graphs. First, screen orientation affords different prod and cons for chart displays. While portrait mode may work very well for a bar chart with a few data points, landscape mode is superior for line graphs. Second, interactions with the graph offer numerous opportunities to provide the user with detailed information that he may need while avoiding clutter on the screen. When designing the chart for a mobile app, especially when it is meant to support business processes or tasks, it is critical that information is legible for users given their conditions.

**References:**

<https://visual.ly/m/history-of-data-visualization/>

<https://www.fingent.com/blog/data-visualization-the-future-predictions-and-beyond/>

<https://chaione.com/blog/tips-data-visualization-mobile-devices/>