IBM DB2 - An Augmented data explorer tool

IBM DB2 is an augmented data explorer tools which makes easy for users to access their data in an easily readable format in fraction of time. It makes use of docker engine tool which allows the business for deciding the CPU memory and processing power to be utilized by the DB2 tool while returning the results to the user. For launching the DB2 explorer, docker engine must be in a running state and having assigned with CPUs and memory. IBM DB2 platform is connected to the databases or schemas. The tool contains pre-existing database schemas which user can select and make use for discovering the data. IBM DB2 establishes connection with the schema selected by the user. User can also configure different database schemas as per business needs. After the configuration, user can crawl the data or use an option of Auto-Crawl.

The tool makes use of the 'Natural language Processing' - a sub-part of artificial intelligence. Natural language Processing in the tool uses NLG and NLQ. NLQ is 'Natural Language Querying'. User can discover the database by querying in human natural language i.e. English and can get the desired output displayed after NLG. NLQ can be used widely as some database systems or users may not be familiar with the Structure Query Language to query the data. Hence, the database management system should also be aware of natural language. With the invention of NLQ, any business or user can use the explorer tool without having any prior knowledge of SQL. NLQ is an efficient querying language which can enhance user experience and interaction.

IBM DB2 explorer tool uses the concept of NLQ and user can discover the database sets in natural language. User can go to discovery bar and enter the query in natural language for example, *"Average Avg_Money_Spent by Region"*, the explorer sends this query to the database management system where it is made compatible for NLQ and the results will be displayed in the form of graphs with the help of NLG. DB2 collects the data from the database schema and process it using NLQ software tool. IBM DB2 displays the results in the form of charts, graphs, pie-charts. This makes the application page more user interactive and understandable in an efficient manner.

NLG is 'Natural Language Generation'. A true artificially-intelligent system is one that can learn on its own and Natural Language Generation interprets and adapts the behavior the

data. Natural language generation tools process and present the data in the form of graphs, charts or reports which can be easily comprehend for the humans. NLG supports both structured and unstructured data sets to be processed and can be made available to the business.

As NLG can be implemented wherever there is business requirement to generate content from data, it can be widely used to enhance business needs. Companies can develop their own NLG software process tools for their use according to business requirements, which will lead to generate a highly personalized tool. User can automate cumbersome processes by using NLG and increase productivity.

By the use of NLG, user can create millions of reports in very less time as compared to write each of it manually. Also, businesses can grow faster and faster in terms of resource utilization, saving money and time management. If we see an example, if an e-commerce company needs to add product description, price, product code, other details to the each and every product, but practically to achieve this goal, company will have to hire human writers and spend most valuable time. This can be time consuming and high-priced. However, a data file containing description of the products, product codes can be processed with the use of NLG and made available for end users. Same can be achieved while uploading the prices and availability of the product.

In this data explorer, use of Natural Language Generation is performed in such a way that, when a user queries for a specific information from the configured schema, he receives results in the form of charts or graphs, which are highly interactive and are easily understandable. The data sets can be easily compared according to the user queries. In this scenario, user queries with the help of search bar with necessary conditions, the tool interacts with the database schema with the query. As the database management system is understands both SQL as well as NLQ, the NLQ received by the system gets translated as it has its own dictionary. After the query is decoded by the system, it retrieves the queried data from the database and IBM DB2 tool processes the data to make it easy comprehendible for the user. For this process, it uses the concept of NLG which generates and presents the data in the form of graphs, charts and reports.

Therefore, the advantage of using IBM DB2 tool can save time, money, manpower, perform complex queries along with the accurate data outcomes, interactive and user-friendly display.