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U.S. Student Aid Data Summary

**Business Intelligence Tools**

The human mind itself is an organic computer. It is designed to colors, patterns, and shapes. What easier way then to present one with a visualization of data.1 By establishing visual cues for data it enables to end-user to derive context from the images given. Having a visual representation of data ensures an easier understanding from an individual on the basis of the data presenting instead of leaving one to comb through potentially trillions of pieces of data.

The potential for Big Data itself has been around since the late 1920’s after the invention of magnetic tape by German-Austrian engineer Fritz Pfleumer, this invention allowed for large amounts of data to be stored on the same medium; in 1965 the first major data centers are established by the United States Government.2 **Data Visualization** itself has many tools at ones disposal. From charts (area, bar, to tables, graphs/infographics, dashboards, as well as many others. Such constructs allow one to derive meaning from a data set that would be otherwise difficult to do so.

Another Business Intelligence (BI) tool one can utilize is the concept of Data Warehousing. Data warehousing allows for vast amounts of data to be stored in a singular construct. Data Warehousing allows an organization to gain and give long-range view of data over time.3 Most data querying leaves the database being queried in a fixed state. With such constructs as transactional databases this can leave the database in a fixed state as the query is being executed. This is an advantage of data warehouses; they allow history of data to be recalled as it is copied from a database and do not interfere with the operation of said database. While a data warehouse is a corner block of any organizations Business Intelligence tools, its main downfalls are the cost to operate and maintain it as well as it requires structured data as opposed to raw, unstructured, or complex data.

**Project Analytics**

With the U.S. Student Aid Data project a combination of visual representation as well as executed MySQL code instructions were utilized to generate the database. Functions available within MySQL’s source library were then used to import the given governmental spreadsheets into the data base in order to organize and display the data in a means that allows for one to derive from the given spreadsheets data such parameters as school name, its address, as well as how many students were granted tuition through governmental programs as well as students who had to finance their educational needs through student loan programs.

The use of MySQL queries furthermore allowed for one to retrieve the data obtained through the conglomeration of various governmental spreadsheets in order to present the organized data provided that of which pertains to the schools in question. Logical constructs such as the where clause allow for queries to differentiate data based on the given comparative commands given by the user in the query and allow the data to be sorted into its relevant index as it is presented to the user whom is seeing said data.

The highest amount of debt for the average student would be The University of Dubuque at just over 2 million dollars.

Business Administration and Management, General had more success with placement over all other fields at just over 500,000 at Harvard University.

The answers given are somewhat questionable, it is very much possible the queries that generated the answers may need some fine tuning and additional testing given the vast amount of data they had to sift through.

**References**

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