

Nicholas Carmello

Dr. Labouseur

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### Data vs Information

There are many databases used today. One of the databases in the real world is PostgreSQL and the one we will be using in our class. PostGres represents data as a series of rows and columns which makes it a relational database.

Relational databases are the most used database today because of their organization aspect which can be easily used to gather information (Garcia-Molina, D.Ullman and Widom, 2020). These rows symbolize relation (Labouseur, 2020). Each column has a header. For example, one header might say "date\_of\_birth" and another might say "fullname". Each of the rows will symbolize another relation of data. This is organized very well into schemas of tables. Queries is the one and only way of retrieving information in a database (Garcia-Molina, D.Ullman and Widom, 2020). For example, someone might ask, "how many people in the database are over the age of 20." We can easily retrieve this information by using a query (Garcia-Molina, D.Ullman and Widom, 2020). An algebraic query is very useful in this sense. We can say something like, "age > 20"(People), to retrieve all of the relations. Some contrasting examples of data and information that illustrate the meaninglessness of data without context and organization are if these tables that I talked about above didn't have the header mentioned for the columns. Then they wouldn't be of value. For example, if the headers weren't there and the data was without any unit or category to fall under, they would just be meaningless numbers and people couldn't really make sense of the data. Instead, they are organized by columns and

rows. Each example is a row and the columns are attributes of that row (Garcia-Molina, D.Ullman and Widom, 2020). They are in relation. Another data without context example is where there are x and y values on a graph and there are no units on the x or y axis. We say a graph with numbers on the x and y axis is just a data point and nothing else without context. These numbers don't have any meaning because they didn't have units, measurement or a category to fall under - they were only numbers. If we assign units to the x and y axis, such as dollars and days, then we can infer that maybe the price of these stocks went up and we could sell for the profit (Labouseur, 2020). When we add context to data, then we can draw conclusions and make meaningful decisions from the information. Another contrasting example is when NASA was trying to land a weather satellite in orbit of mars and the units of pressure that NASA used were different than the units of pressure that JPL used (Labouseur, 2020). This made the context wrong. The satellite ended up crashing into mars (Labouseur, 2020). This is another example of using no context or bad context in this case.

In conclusion, Data with context provides information. Information can be used to find answers to a situation and to draw conclusions. Given the wrong context, problems can arise such as the weather satellite crashing into mars (Labouseur, 2020). We use data in everyday life to lead our decisions and lead us to a better life.

## Bibliography

- 1) Labouseur, A., 2020. *DBMS :: History And Types Of Databases*. [online] Vimeo.  
Available at: <<https://vimeo.com/449093735/c056109b26>> [Accessed 29 August 2020].
- 2) Garcia-Molina, H., D.Ullman, J. and Widom, J., 2020. *Database Systems The Complete Book*. 2nd ed. Upper Saddle River: Pearson Prentice Hall.