

Brian Dones

Professor Labouseur

Database Management

10 February 2015

# Data vs. Information

Today, most of the world thrives on business and entrepreneurship but one concept that seems to be a reoccurring theme in our business-driven world is that knowledge and information is power. Big corporations such as Amazon, Fidelity, Google, IBM, Rackspace and many others base their phenomenal success on providing information in some way, shape, or form in a quick-to-access reliable manner. The way these companies handle storing and managing these terabytes and petabytes of information is by databases. A database is simply a collection of information that exists over a long period of time, or, in another sense, a collection of data that is managed by a Database Management System.

One crucially important aspect to distinguish in databases is the difference between data and information. Data is simply raw and unorganized facts that are in need of being processed. Information on the other hand is data that is processed, organized, and has been given structure and context so it can be made useful. An example of this would be something like standardized test scores. Each college applicant has taken the SATs and received their SAT test score - this score would be considered one piece of data as well as the scores for each individual subject. When that score is measured on the scale of what the student could have possibly scored and given context, you then have information as to how well that applicant performed. Also, each student is given a statistical report of what percentile they scored in in comparison to other students who took the SAT test on the same day. Without being able to compare test scores and set a scale, a test score would be meaningless – this goes for essentially any piece of stored data. In order to give data its structure and meaningfulness, there has to be some context to the data and a database must be able to give users the ability to query the data and modify the data using query or data-manipulation languages while retaining the data's integrity.

All databases have different ways of upholding these abilities which help differentiate databases from one another. Some features in one database may be more suitable than another. Take for example a database called MySQL. MySQL is a Relational Database Management System which means that the data is organized into tables. Tables are broken down into Rows and Columns where Columns are attributes that we would want to know – things such as a person's name, age, etc. By creating tables with attributes, we are able to structuralize and organize data so that we can give that data context for each entry. Once the data has been given its context, it is easy to retrieve useful information in a quick and reliable manner.