COMP 1630 – RQ11 A01089842 Robert Desjardins

1. A data warehouse is a central location that holds current and historical data. It is mainly used for business intelligence and decision making by upper management. The data stored is extracted and analyzed in order to provide useful information for the business.

Bill Inmon gave the following main characteristics for a data warehouse:

Subject-Oriented: Pertains to one particular subject Integrated: Combines data from multiple sources

Time-variant: Holds historical data

Non-volatile: Data in the warehouse will not change or be altered

- 2. OLAP stands for online analytical processing. It is the software technology used to extract meaningful information from data warehouses. Its main characteristics are multidimensional data analysis techniques, advanced database support, easy to use end-user interface, and client/server architecture.
- 3. Operational data is stored in a relational database and is all the data that must be recorded from basic day to day operations. Decision support data is data that is more relevant to decision making. This is due to the data being aggregated (Looking at weekly sales rather than individual customer sales), over longer periods of time, and more dimensional.
- 4. RAID stands for Redundant Array of Independent Disks. Though I don't really understand how that pertains to setups like RAID 0 which have no redundancy. The purpose of it is to find a balance between performance, data redundancy, and cost. Depending on the setup chosen, these 3 variables will be affected.
- 5. Security is the level of 'safety' of the data. The higher the security, the less likely an unauthorized user can access the data. Privacy is the individual right to not have his/her data disclosed to unauthorized users. This right can be protected through higher security and ethical business practices.
- 6. Encryption is the 'jumbling' of data such that people without the encryption key cannot make any useful inferences from the data (assuming the data is properly encrypted). Based on personal experience, this can often be achieved through the use of prime numbers, and knowing the prime numbers used for the encryption allows for decryption.
- 7. Authorization is who is allowed to access certain data, while authentication is ensuring that the person who is accessing the data is who they say they are.