Will Schell

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Assignment 5 – Topics in Information Science

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Information Science is a very important field in our society. We, as humans, have been using Information Science for thousands of years. Information Science is an interdisciplinary field, meaning it uses multiple disciplines within itself. Two of these disciplines that feed off of each other and work together to make a lot of great things happen are storage and retrieval.

Information storage allows for data to be accessible for information processors, such as a computer. Information, or data, can be stored into many different things. DNA and RNA, a hard drive, compact disk(CD), iPods and many more. But even in our everyday lives we deal with information storage. Whether you are working on a computer, which could include: database work, organizing files into directories, typing/writing a paper, even searching the web all deal with information storage; or if you are stocking inventory in a store, these are forms of information storage. Obviously, most people will think that only computers are information storage. Databases are a big part of information storage. Taking in data to keep and store for later times, or to allow the use of other functions is all

information storage. Information storage is very big in accounting systems as well. Accounting systems take the information and put it into an input device which takes the data and converts it into a usable form which is stored, usually into a database. All of these databases should be saved into long term memory, like a hard disk drive. This is a safer place to store the information as opposed to short term memory, like RAM, which could lose the information you want to be stored. The best example of a storage system is a library. All books are stored in a specific section, and organized in a specific manner. But what happens when you want to use the information you have stored?

Information retrieval works along-side information storage. Without information storage there would be no information to be retrieved. However, information retrieval is more complex than information storage. Information retrieval is used throughout many universities and libraries. They use information retrieval to get access to books, journals, other documents, and articles. The other thing that is great about information retrieval is that it allows for everyone to search the internet for information on specific topics. For example, every time you search Google, Bing, Yahoo, or any other search engine you are using information retrieval. Search engines are the most common form of information retrieval.

There are many ways to calculate the efficiency of information retrieval. The first way is by precision. Precision is a calculation that takes all the relevant documents and retrieved documents into account. The formula is precision = |relevant documents ∩ retrieved documents| / |retrieved documents|. Then there is recall. Recall is also a calculation that takes relevant documents, and all retrieved documents into consideration. The difference is within the formula. Recall = |relevant documents ∩ retrieved documents| / |relevant documents|. So, we have precision and recall. These two formulas can then be used to get an even better estimate at how efficient our retrieval is. This formula is called f-score. F-score = (2 * precision * recall) / (precision + recall). All of these are formulas are there to show how effective the retrieval of the documents and/or information is. This is the best way for search engines to get the most ideal results for the user.

Even though information storage and information retrieval were the only two things talked about in this, there are many other important disciplines in Information Science. But as you can see, the importance of how information is stored and also how information is retrieved plays an important impact in our everyday lives. The thing that is most impressive is that most of the time, we do not even realize that it is happening right in front of us.