

## Personal Statement for David E Mussulman

I am interested in a Library and Information Science masters degree to further my academic and professional experiences, and to expand my knowledge in information science. I have a bachelors degree in Computer Science from the University of Illinois, and I work as an Information Technology systems administrator for the Department of Computer Science at UIUC. My primary responsibilities include enterprise level data backups and restores and networking deployment and support for the department. I plan to continue to work full time in my IT job while I take LIS courses.

My engineering degree and experience have trained me well in technology, but a turning point in my education came from my Speech Communication courses. Instead of studying the anatomy of technology we looked at how society adopts new technology. We studied how the introduction of technology changes people's lives. These secondary effects of technology fascinate me. I believe we have better technology than we know how to use. We've advanced processor speeds and communications networks much faster than we have adopted the technologies into our lives. Information processing tools will have a greater impact on our lives than sheer technical improvements in computing speed. For example, the World Wide Web existed long before Google's search engine was created, yet the ability to easily search and find information in a centralized place dramatically advanced the usefulness of information on the web.

As the size of the Internet grows, and more parts of our lives become digital, it is critical that organization and access to information scales accordingly. In many cases, the tools to organize information are missing or under-developed. I am interested in both sides of accessing information: how people find information, and how information providers deliver it. The low price point of personal computers has put them in many homes, but there is still a strong digital divide. Even in cases where people are given computers, without the proper training and experience, access to technology is not enough to really use it. I am interested in grass-roots networking environments, such as community wireless networks, that use innovative new technology without the large price tag that makes traditional broadband unattainable in some areas.

How do we trust the information we get from the Internet? We rely on search engines and networks of hyper-links to find information, but there is no implicit trust model for that information. Google exerts a large amount of behavioral control in the sorting of their search results: many people do not browse past the first page of results. Medical and pharmaceutical information is available online to the extent that doctors now assume their patients have looked up information about the diseases that ail them and the drugs they are prescribed. How do we trust those sites? How do we know which online pharmacy to trust?

Traditional news outlets are being challenged by 'weblogs,' or personal news websites that often get information before the major networks, and report news with different biases. Blogging has been called 'journalism with a lower-case j', and it's revolutionizing how news information is disseminated. The social and information networks that blogs provide would be a fascinating area of research.

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As we become more of an “on demand” society, we crave instant access to information and services. We web search and buy via “1-Click” shopping online. We download digital music and movies to enjoy immediately. We use our digital video recorders to record only the shows we want. We watch them when we want, and skip the commercials. I believe the level of “on demand” services and information will grow exponentially, as will the level of information different sources are recording about us. Information managers will know where we’re going on the Internet and how we got there. They will know what TV shows we’re watching, what movies we’re purchasing, and what commercials we’re skipping. All of that information will be brought together and analyzed. There are privacy concerns to address, but I believe the quality of life for both consumers and producers will improve with better information management. With the present-day ability to skip online ads, delete spam, and fast-forward through commercials, marketing and advertising companies are forced to move in a new direction. They will use this information to produce ads that consumers will want to watch delivered in a manner that we don’t think is annoying.

Online shopping provides access to more product information than is available in a traditional ‘brick and mortar’ store. One of the greatest innovations that online shopping has produced is the relational, “Customers who liked this product also liked...,” selection. Amazon.com is very successful with that type of online store. The ability to include user and professional reviews in a storefront that links to other related items is a powerful reason to shop online, and I think we’ll see that level of information in all areas eventually. Stores like Best Buy already provide computers in their CD selection areas to help search and find music. Supermarkets currently track shopping with ‘value cards,’ and credit card companies can analyze purchasing trends in large aggregates of information. Tools need to be developed to collect, analyze, data mine, and report on this information to everybody’s benefit.

I think information needs to be tailored to the individual viewer’s preferences and understanding. Mark Prensky (“Digital Natives, Digital Immigrants”) has done some interesting research involving how children who grew up around new technology learn and assimilate information differently than those who grew up without modern technology. He suggests that newer technologies, like video games and cell phones, can be used as educational tools for “Digital Natives” that are comfortable in that environment. The challenge of presenting information to different groups of people is a topic I hope to study in LIS.

I am interested in taking technology out of its common places and applying these information management tools in other settings. Imagine sitting at a sports arena with a handheld computer (perhaps a modern cell phone?) and having your own personalized scoreboard for the game – showing the information and stats you want to see, all updated in real-time. Imagine wondering the Art Institute in Chicago with such a device. It would detect you are standing in front of a Monet watercolor and recommend other Impressionist art nearby (“Visitors who liked this art piece also liked...”) and provides a map from your current location. Cooking shows and online recipe databases have already moved the computer from the office to the kitchen where people can have

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databases of their favorite recipes, manage ingredient inventories, and even order replenishments online. 21<sup>st</sup> century farming is an intricate web of sensors, simulations, GPS, etc. These are just a few case studies in the application of information technology outside of traditional IT environments; I hope to study more.

Another way we can improve existing technology with currently available information management is cell phone directories or phone books. I believe the next generation of cell phones will be tied into a global directory of people. We have already moved away from memorizing phone numbers ... in the future, we can tell our phones relationships and have them understand and dial the right person at the number that reaches them best (for example, I might tell my phone to “Call Mom’s friend June.” The system would know who I am, and figure out my mom and the June that she knows and call June on her cell phone since it knows she’s commuting to work at the time.)

I’m interested in privacy and security from a technical and legal standpoint. I think as we move forward as an information-powered society, the traditional laws that govern copyrights, access, privacy, fair use, and anonymity will need to be adjusted. I know it will take smart people in industry, education and government to make sure that laws move forward in the people’s best interests. I am eager to help contribute towards that goal.

The evolution of information technology and study of the effects of that evolution interests me. When PayPal was started (by a UIUC CS grad,) their goal was to “beam money” back and forth between handheld computers. PayPal moved into the online transfer of money by user demand. That feature, which is their namesake now, was not in their original plan. I think the progression of information on the Internet is worth archiving and cataloging over time. I am interested in reviewing the technology advancements proposed in the last 10 years (during the dotcom and dotbomb era,) and investigate why so many companies failed. Perhaps some of their ideas for information management and distribution could be reintroduced more successfully today.

I apologize for the length of this statement, but after talking with Dean McKay he encouraged me to express myself without worrying about the page/word limit. There are so many avenues to research, study, and create in information science. I hope to obtain the knowledge and skills while working in my post-graduate degree in LIS to help develop this future.