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Project #2: Writing in Your Major

Computer Science: More Than Just Writing Code

Writing in my major was something I was not entirely exposed to at LSU. Because I interviewed a professional and researched what other schools want from their students, I've learned a lot of new tips to help my writing skills improve. This paper has helped me gain the knowledge I need to write more in my life, specifically surrounding my major. I'm very excited to take what I have learned in this project and apply it to my school work, internship and future job.

Section I: Knowledge Self-Assessment

Readings that are required in my major, computer science, depend on the concentration. For example I'm concentrating in Software Engineering so reading more technical books is helpful to get a greater understanding of certain concepts. Readings aren't necessary to get through classes but if computer science students take advantage of it then it can tremendously help them in their profession or research since technology is ever changing. Some important genres of writing that I've done as a computer science student are Software Requirements Documents and Software Design Documents. The software requirements document describes all of the functionality of the application and is easily read by non-technical people. The Software Design Document is to describe the design of the application to other developers clear and

concise understanding through drawings and graphs. All of these writing genres deal with analyzing data to inform readers on a specific topic.

Computer science is full of analyzing data and developing applications that cater towards that data, so evidence is crucial. In writing code, facts and statistics are important. Interpreting statistics is important because a computer scientist's job is to bring clients software that is useful to them. Surveys and questionnaires go hand in hand with statistics. As developers, we collect 'user stories', which are different features clients want to see implemented in an application. User stories are essentially surveys taken to see what the end-user wants to see from the project. Personal experience also helps computer scientists test their work. For example, this is very important for computer scientists because it helps them fix bugs that they might not see during developmental stages.

Some writing styles that are valued in my discipline are the importance of having non-technical people understand your writing. It is valued because it can be difficult to exclude technical jargon from your writing. A computer science student that can communicate with others without the use of technical wording is expected. Another characteristic a computer science student should have in their writing is the ability to write clearly and concisely.

Section II: Interview With an Expert

I interviewed Alena McDuff who is the Coordinator of Undergraduate Initiatives for the Computer Science Department at LSU. She graduated from LSU with an Electrical and Computer Science degree. Alena worked in the industry for a while but now helps coordinate undergraduates. Alena says that every student is different with what research topics they drive towards but the popular research topics that LSU focuses on are data analytics, digital media,

artificial intelligence, robotics, and virtual reality (Alena). During the interview, I was exposed to many other research topics LSU specialized in that I didn't know before. Alena stated that many LSU professors look for students with drive and self learning capabilities rather than someone with a lot of skills. Along with good writing skills, Alena says, students need to be detail-oriented.

When Alena was in college at LSU she had to rely on evidence and new technologies to advance in computer science. Some evidence that she used and suggested students use is to consume online and printed material. This material can be from outside or inside the classrooms, but according to Alena, it is best to look for evidence outside of school to get familiar with what the industry focuses on.

Alena stresses that in the professional world it is important to “convey clear technical requirements and descriptions of [my] work”(Alena). Alena was the perfect person to interview since she knew what professors and professionals in the field were looking for in students. She told me that depending on the area of study, you may have to write more, such as if you go the business route. No matter what area you specify in, you will still need to be able to make your writings understandable to non-technical people.

Alena said it is very important for students to have basic compositions for presentations. No matter what area you go into, Alena says, it is still fundamental to be able to “pitch your idea” and convince someone why they should invest in your application through writing techniques (Alena). According to Alena, a big area of computer science is communicating with clients so understanding what the client is saying and being able to write down their ideas in a way the client, you and the developers will understand.

Because Alena communicates with many people she says she gained the most from her english classes and where teamwork was implemented. Her english classes helped her “to communicate and adapt to different audiences in her writings [emails, letters, documents for the CS department, etc.].”(Alena).

Section III: Institutional Standards

Ian Cook, a computer science student at California State University Sacramento, wrote up a simple website that has details of what type of writing you would do in computer science. In Ian’s article, he talks in detail about two types of writing styles in computer science, technical writing and documentation (Cook 2011). He points out organization, clarity, voice choice, and the utilizations of visual aid to be important concepts of technical writing styles. For example, Ian states that “refraining from using passive voice enables the writing style to be direct”(ian cook). Something that CSUS taught Ian was that organization is key because technical writings might not always be read in order. For example, in documentations there could be certain sections the reader might want to see, like the test plans, use cases or simply just diagrams. These items need to be easily accessible throughout the writings (Cook 2011). According to Ian, documentation can vary depending on the client's needs but overall you need to be able to navigate through the documentation. There are many different documents Ian points out that have different purposes, showing that it is crucial to be familiar with a variety of them in order to have a full understanding of them. The documents Ian pointed out that were the most relevant were the test specifications, software design specification, software requirements specification, proposals, project overview specification and project management, all of which were things I was exposed to at LSU (Cook 2011).

Depending on where you go to school and where you work at different place require different writing abilities but overall these abilities the University of Minnesota (UM) requires can be a basis for writing in computer science. The article states computer science graduates should have the ability to describe software in a clear and concise way to technical and non-technical audiences (The University of Minnesota, Phil Barry). According to my interview with Alena, LSU looks for similar abilities so it was nice to see that connection. Another ability that stood out to me is that students should be able to “compare and contrast alternative solutions”. UM suggests that to show solutions they should include diagrams and drawings. Faculty at UM hope that students achieve a level of skill in concisely commenting the code that they write in order to inform other coders what the code does. An important aspect of writing in computer science, according to UM, is to be able to explain the process you chose to write the code and why you used certain techniques, for example be able to justify your choice of design patterns (The University of Minnesota, Phil Barry).

Section IV: Findings & Future

There were many things that I've learned, even as a senior, from both the interview and online research. With Alena she talked more about being able to communicate through writing in a professional way and I can totally relate to it. At the same time I found it really useful that one of Alena's most important classes was english and any class that required group work, nothing technical. From the University of Minnesota, it was great hearing certain techniques for writing I have gained my time here at LSU and it has reassured me that I'm being prepared at LSU. Compared to UM, LSU doesn't give their students information about writing in computer science, unfortunately we are expected to know what writing styles are desired. Alena suggested

some great books for me to read and i'm really excited about them. Many of them are to become a better communicator but some of them are to improve my technical skills.

This project has helped me identify writing skills that students/professors/schools desire in computer science students. Writing is something I want to improve on and Alena's interview and the online resources gave me tips on how to make my writing clearer. Also there is no writing class that specifically talks about writing in computer science and because of this project I know. This project has motivated me to start writing again for my blog. I'm already in an internship but one thing I could've benefited from this project is how to explain my projects in a clearer and concise way. Because I'm still job hunting I can now update my resume with clearer thoughts of how to communicate as a computer scientist. For my internship right now I can put the knowledge I learned from this project to use by writing my thoughts down into simpler ideas and not use too much technical jargon. It will definitely set me apart if I can clearly develop my thoughts in a journal with writings and drawings to aid in my learning process.

Works Cited

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