



STEUBEN-SCHURZ-GESELLSCHAFT E.V.

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Gaining valuable experience - Internship in Berlin

A synthesis of work experience and cultural understanding

Christopher Osberg

From Computer Science, University of Minnesota, Twin Cities

Christopher Osberg was very happy to be placed in the USA Interns-program of the Steuben-Schurz-Society. For him, it was a fantastic opportunity to use and improve his German skills that he had acquired over many years of schooling, and also to learn about working in an office setting as a software engineer. He had completed about two years of a computer science bachelor degree when he went to Germany. Christopher says, he knew that there was a lot that he could learn to prepare me for his future career.

My internship was with Bogen Electronic GmbH, in Berlin, and I was extremely fortunate that one of their employees had an old apartment to sublet to me for the time I was in Berlin. That really took a large burden off of my mind. Once I arrived in Berlin, I was able to immediately begin enjoying the lifestyle and city that I would be living in for the next three months.



Each day, on my way to work, I would walk to a subway station and finish with another walk through a picturesque residential neighborhood. This was an ideal way for me to commute and travel around

Berlin, because the monthly transportation cards allowed me to use the buses and subway an unlimited number of times, and eliminated most of the need for a car. The public transit system in Berlin was really appealing to me, coming from Minnesota, where even the larger cities do not have truly convenient public transit in place. The ability to hop on a bus or train to anywhere in Berlin with minimal waiting, no worrying about parking, or dealing with traffic was fantastic.

Bogen Electronic primarily produces magnetic sensors for reading, writing, and measuring magnetic data. At Bogen Electronic's mid-sized office, I initially worked in the manufacturing research and development department. There were some challenges with getting my project rolling, but fortunately for me, my manager wanted me to go through the entire development cycle. To begin with I met with him and a senior programmer to plan desired features. Then I attempted to flesh out the design, while also familiarizing myself with the development environment.

Once I had access to a sensor and other relevant hardware, and to some calibration software, I was finally set to begin my programming of my first project. The program was supposed to read positional data from the sensor as it moved across either a magnetic strip or a wheel-shaped magnet. Having never used hardware in my courses before I had no idea how to accomplish this, and I swiftly learned that I'd be "learning by doing" at this internship. In fact, most of my time at Bogen, I was working by myself. So I dove into the

code from the calibration software to see how it did the things I needed my program to do.

Over the next few weeks I slowly figured out how to use Microsoft Studio to create an application, how to add features to my program in the C# programming language, and refine the project as I learned how to do things better. By about a month and a half, I had a professional-looking application that worked in two languages and accomplished all of the tasks that it was supposed to. It could display the position in multiple different measurement units, use different sensor models and magnets, and perform a connection test that was useful for internal company testing. However, it was around this time that my manager left for a three week vacation.



Without my manager I had no one to give me additional work. So I asked the senior programmer that I had spoken with a few times for features to add to the program, and I was able to continue working for a while, but it became clear that I was nearly finished with the project. We began asking if

there were others at the company that needed the assistance of a software engineering intern, and we discovered that the electronic engineering department needed help.

The new work that I was given was exciting because the requested features were from customers, and were for the calibration software, which was distributed to customers. This was a chance to work on real commercial software. I was quite glad that I had been digging through the calibration software's code already for my first project, because I was already familiar with the broader functionality. The requests included small fixes, expanding existing features, integrating functionality from other versions of the software, and adding entirely new features.

My greatest contributions were to change the program to allow its use from the computer terminal, and to automate it under the right conditions. I had to solve multiple problems and reason out what the customer wanted when these features interacted. The result was that the program could be called from the terminal with flags, but it prompted the user for some of the information if it was run using the operating system's graphical user interface. This allowed me to correctly automate the rest of the program.

The amount of work I was able to accomplish and the amount that I learned from the two projects made me extremely happy that I was able to participate in the USA Interns program. I was able to gain valuable experience while also experiencing the unique cultural aspects of Germany. The synthesis of work experience and cultural understanding is something that cannot be replicated under any circumstances other than programs like this, and I feel privileged that I was able to take part.



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J. Adameit, G. Schanno, Fotos: Christopher Osberg*

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Cooperation with

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Tel: 069-1310822 - Fax: 069-1310873, E-mail: info@steuben-schurz.org, info@usa-interns.org, www.steuben-schurz.org