

College of Polytechnics Jihlava

Report from praxis

in the period from 01/07/2011 to 06/10/2011

Information about a student:

Name: Lukáš

Last: Tyc

Speciality: Applied Informatics

The term of praxis:

Start: 01/07/2011

End: 06/10/2011

Workplace:

Logi.cals

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The course and contents practice

The practice started on 1 June, when I and my colleague Luboš Hořínek arrived to the train station in Vienna. At the train station we were met by a student from Fachhochschule Technikum Wien. This student became our guide, contact person between us and FH Technician. The Guide led us to the school, where we got the card to Billa. Then we went to St Pöltn, where we found accommodation in a dormitory. In the dormitory we had breakfast every morning.

On Monday we traveled in train together with our guide to Statzendorf, where a Logicals employee took us to the 2 km distant office. The rest of the trips to and from work were in similar style.

A student of computer science from university of Innsbruck joined to the company for summer job. The student traveled with us every day on train to and from work. During these travels we were talking, finding out the differences between our cultures and practicing our English.

As a first task we had to learn to work in program Logi.CAD, which the company is developing. It is an application to develop program for microcontrollers. Our boss gave us the task to create a program to control traffic lights. For this work we got available a laptop with Logi.CAD installed, later we changed the laptop for desktop computers. After we finished the traffic lights, we started dealing with accessory called "Vendor block." The functionality of these blocks is not defined by Logi.CAD, but the source code in C. After two days of dealing with Vendor blocks we got our task, which has become our main mission of our practice. Our task was to create a library for the safety signal to Logi.CAD called "Safety library". This library contains most of the basic blocks for logic, mathematical operations, edge detection, counters and timers. The interface we created in Logi.CAD. Inspiration for design is based on standard Logi.CAD library. The functionality of this library had defined the source code in C language macros more accurately.

The most difficult work was to work with macros for expandable blocks. Expandable blocks may have two to sixteen inputs; these inputs are in the parameter macros. After a great search and many attempts, we managed to work expandable blocks for our default platform x86NT, we implemented blocks through "Variadic macros". After this success a coworker added another platform Windows CE. Unfortunately this platform is working with another compiler, which Variadic macros don't know and compile failed. At the next meeting with colleagues, we

discussed other possible ways to solve this problem. After we found out that the library should work on all relevant platforms, we decided to separate source code for each platform. The separation was decided by a new implementation of extensible blocks by colleague Hořínek. This implementation worked only on WinCE platform. Continuously with solving this problem of extensible blocks we were also reworking block libraries according to the latest specifications.

For testing we created tests in Logi.CAD of all blocks, originally only for our needs. Later the boss told us to make our tests automatic, so that the company can show our work to the customer. The customer was Siemens. The next task was to create documentation for our library, so the library can be extended or adapted to new requirements. After integration of the library, we tested the proper functionality of several versions of this expanded Logi.CAD.

Deficiencies

The only problem was a room with no connection to the Internet. For this problem they instantly apologized, because finding a free room in Sankt Polten is not very easy. Later we were able to connect to the Internet via WIFI.

Benefits

In my opinion the biggest benefit is the opportunity to try to work in a company abroad. Another great benefit is the learning about different cultures, meeting new people and improving conversational skills in English.

Conclusion

The practice was very positive and I would recommend it to anyone who is interested to know something new. At first I was worried about my ability to communicate, but after a short time the fear subsided.