A University-based Web Resource Supporting the Xilinx University Program

Michael A. Shanblatt and Brian Foulds
Department of Electrical and Computer Engineering
Michigan State University
East Lansing, MI 48824

Patrick Kane and Anna Acevedo
Xilinx University Program
Xilinx Corporation
2100 Logic Drive
San Jose, CA 95124

Abstract

The Xilinx University Program is supported by a comprehensive web resource developed and maintained by students at the Department of Electrical and Computer Engineering at Michigan State University. The site is designed specifically to support Xilinx University Program partners using Xilinx products for teaching and research. Materials on laboratories, hardware, and other support resources that can help improve classroom preparation and interaction are provided for faculty. For students, hardware and software tutorials that shorten the learning curve, as well as a number of student projects are available. To tie everything together, a strong on-line support system, with an email question submission facility and FAQ's is in place to help find answers to questions or problems encountered in using Xilinx tools.

1. Introduction

A common problem encountered by EDA hardware and/or software vendors who intend to provide their products and software tools to a university environment is the issue of factory support for the faculty and students using the products. Academia is often provided the hardware and/or software products for free, or at least at a significantly discounted purchase price. The benefits of this practice are obvious: students trained on a particular vendor’s products may eventually be hired by companies using these products or eventually may be in a position to recommend purchase of the vendor’s products. This has proven to be a very effective “passive advertising” for vendors of EDA hardware and software products.

A problem that arises with this strategy lies in the fact that these users of the products are not the “retail” customers for the vendors. Moreover, one donation to a particular academic institution results in numerous faculty and student users who are not provided with training comparable to that of a commercial customer. A typical commercial customer, large or small, will most often invest in some level of training for designated employees. If such training instruction is not available, commercial customers will (or at least should) provide employees who are to use these tools or products, significant time to conquer the “learning curve” on how to use the products properly and effectively. Moreover, when a “retail” customer has a problem, factory help is readily available via email or telephone hotlines. The cost for this support service is embedded in the cost of the product.

This is not the case with university users. Faculty and students are using the products for a short term, often, in the case of students, for just one semester. They do not intend to become experts with the product. They may have a project or two involving the products or tools and cannot make the investment, in time and money, to seek the level of expertise expected of the commercial product users. And, hundreds or thousands of students calling, e-mailing, or otherwise seeking help from the vendor, places a tremendous burden on the customer service end of the company. Customer service inquiries from students logically cannot be given the same priority as corporate “paying customers”. This creates a great dilemma, which is exacerbated by the rapidly growing complexity of the products, and the often-steep learning
curves required to effectively utilize a hardware product or a suite of EDA tools.

Xilinx Corporation and the Department of Electrical and Computer Engineering at Michigan State University (MSU) have addressed this problem by developing a novel cooperative agreement for a university customer support program administered at MSU. The Xilinx University Program (XUP) maintains an alliance with over 1,600 universities worldwide reaching some 150,000 students annually. The following sections describe the mission of this university support program.

2. University User Support

The objective of this industry/university cooperative program is to maintain a user-oriented, web-based, technical support environment for the XUP. The Xilinx University Resource Center is a comprehensive web resource developed at MSU [1]. The site is designed specifically to support and encourage universities using Xilinx products in the classroom. The web site contains references and resources ranging from hardware data sheets to tutorials on using the Xilinx search engine effectively. University faculty and students are currently utilizing and benefitting from this support. For faculty, material on laboratory experiments, teaching resources, and other support services that can help improve the classroom preparation and interaction can be found. For students, hardware and software tutorials that shorten the learning curve, as well as examples of student projects, are available. To tie everything together, a strong on-line email-based support system and FAQ's are in place to help find answers to questions or problems encountered. The website also serves as a center of information retrieval and exchange among faculty involved in curriculum development utilizing Xilinx products. The site is linked to/from the Xilinx Corporation website [2] and the Xilinx University program website [3].

3. Hotline Support

With the sheer number of students in the XUP alliance, the potential burden on factory service representatives via telephone or e-mail hotlines is tremendous. To alleviate this load, a major feature of the MSU/XUP program is to provide a cadre of Xilinx factory-trained graduate students at MSU available via e-mail for consultation and support of the worldwide educational institution user base. Xilinx has established two research assistantship positions at MSU under the title of “Xilinx University Scholars”. The students hired for these positions are sent for summer internships at the Xilinx Corporate base in San Jose. During these internships, the students participate in the same training classes given to the factory support employees. (An obvious side benefit to Xilinx will be the possible eventual hiring of these expert-trained interns at the completion of their graduate program). These students are given the task of running the e-mail support mechanism. E-mail submission of query is provided directly from the Xilinx University Resource Center website [1]. The students can most often provide rapid feedback to these queries; those questions that are beyond their knowledge are forwarded to a specific XUP representative.

The e-mail hotline has been in operation for several years now and the students have handled the vast majority of the queries, thus reducing the student intrusion to the factory service representatives to a minimum. Moreover, we have found that many problems encountered by faculty and students are common and the FAQ section of the website is constantly updated to address most of these common problems.

Statistics gathered for the hits on the XUP-MSU website indicate that, on average, the website is getting about 2000 hits-per-month on the main page with maximums topping 3500 hits-per-month during the peak times in the semester. The e-mail queries are averaging about 100 per month, peaking, as expected, during the academic semesters and dipping during the summer months. And, as the site has become more well known, the trend of this data is rising.

4. Conclusions

It has become clear that this program has been successful in meeting its objectives. Those objectives are to provide a web-based resource center for faculty and students involved in the Xilinx University Program and transfer the majority of the support load for this program from the Xilinx factory support staff to the factory-trained student staff. The program has and will continue to enhance the value and competitiveness of the XUP and provides support and opportunities for the students involved.

References