

Penn State Abington Information Sciences and Technology Connections Newsletter

IST Abington Students Tour BMW Factory in Germany

International

Internships

Opportunities

- SAP
- Siemens
- BMW

Contact:
joe.oakes@psu.edu



Large rolls of metal don't seem very interesting but after an army of specialized robots stamp, weld, paint and assemble the material the final product is a hot looking BMW car. During this Spring break IST Abington students visited the BMW assembly factory in Regensburg Germany. The tour started out with a informative background video on the company and the audio tour covered the entire massive industrial plant. Internships are possible with the company. If you are interested contact joe.oakes@psu.edu

Regensburg BMW Assembly Plant

Inside this issue:

Abington Robotics	2
Profile Spotlight	2
Android Development	2
Keeping Competitive	3
E-commerce Course	3
Capstone Project	3
Summer School	4
My Visit to SAP	4

Network Virtualization for the Next Generation Internet



By: Professor Qiang Duan
 Networking Research

In a relatively short period of time, the Internet has become a critical infrastructure for global commerce, media, and defense. However, the current Internet is facing many challenges, especially for delivering new services to support a wide spectrum of networking applications.

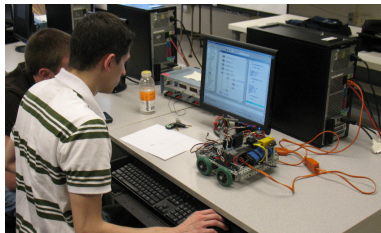
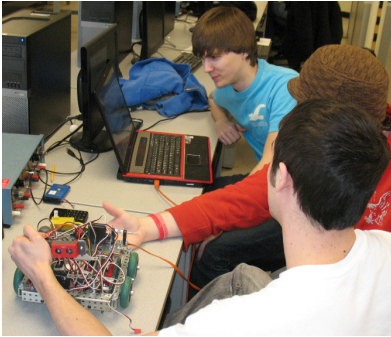
Dr. Duan is pioneering the next generation Internet with his re-

search at Abington. The Service-Oriented Architecture (SOA) emerging in Web services and Cloud/Grid computing areas provides an effective mechanism for coordinating heterogeneous systems to support different application requirements, which is essentially the same challenge faced by service provisioning in network virtualization.

Virtualization-based service-oriented network (SOA) architecture is becoming a trend in Internet technology development.

Abington Robotics Competition

By: Professor Bob Avanzato (rla5@psu.edu)



IST 402 Emerging Technology students will be designing mobile robots for the Penn State Abington Regional Firefighting Robot Contest and Robot Exhibit on Saturday, April 24, 2010. The objective of the fire-fighting robot contest is to design a computer-controlled robot to navigate a maze (8 ft. by 8 ft.) that consists of 4 rooms. A single candle is randomly placed in one of the 4 rooms. The goal is for the mobile robot to explore the maze,

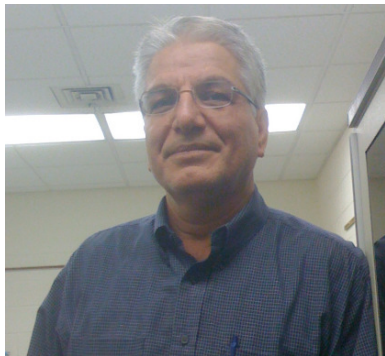
locate the candle, and extinguish the candle in the minimum amount of time.

Participants from K-12 through college and beyond will also be participating and showcasing their innovative and creative robot designs. Over 40 robots and students from over 15 schools participated last year, and we are expecting increased participation this April. Spectators of all ages are welcome. All robot activities are free and open

to the general public. <http://www.ecsel.psu.edu/users/avanzato/robots/contests/firefighting/index.htm>

Five students from the IST 402 robotics course also participated in a joint program in Hof, Germany over spring break. Activities included cultural events, a tour of robotics at BMW, and working on mobile robotics projects with German students at Hof Institute of Applied Sciences.

Profile Spotlight: Professor Gholam Khaksari



Gholam H. Khaksari, D.Sc. is a 25-year veteran of the software development industry. He earned his Doctor of Science degree in Information Technology (IT) at Towson University, and his masters in computer science at Johns Hopkins University. When teaching his students, he draws on his real world experience of programming languages and algorithms, software develop-

ment, operating systems, database systems, computer architecture, computer networks, computer security, VoIP, expert systems, and research interest in VoIP and Human Computer Interaction. Dr. Khaksari completed his dissertation on the design, implementation and performance of a novel VoIP softphone that runs on a bare IA-32 based PC without an operating system, an alternative approach

that provides secure, reliable and efficient voice communication.

Voice over Internet Protocol (VoIP)

Android Mobile Development

By: Professor Joe Oakes (joe.oakes@psu.edu)

Android mobile development will be offered in IST 402 in the spring of 2011.



Sure the Apple iPhone is a very cool mobile device and has many functional possibilities but there are other more open alternatives for mobile development.

Welcome to Google's Android mobile platform. It uses the Linux kernel and applications are written in Java. There is a plug-in for the IDE Eclipse.

Features

- Application framework
- Dalvik virtual machine
- Integrated browser
- Optimized graphics
- SQLite database
- Media support for common audio, video
- GSM Telephony
- Bluetooth, EDGE, 3G, & Wifi
- Camera, GPS, compass, and accelerometer
- Rich development environment

Keeping IT Competitive for You: Microsoft's .NET Technologies

By: James P. Clarke (jpclarke@psu.edu)

For those of you who may not know me, I am a new adjunct IST lecturer and have been teaching an introduction to CMPSCI 101 course during the Spring 2010 semester. I am currently a Sr. Systems Engineer at Lockheed Martin IS&GS in King of Prussia, PA. There are a few important words that need to be emphasized: establish, maintain, and competitive. Given the competitive and demanding job market, it becomes increasingly important that you as an IT pro-

fessional diversify your skills and keep on top of the latest technologies. As a student in the IST curriculum, you certainly are gaining and establishing an excellent baseline set of skills to add to your toolbox (resume). However, remember that these skills evolve over time and it is equally important to maintain focus on the driving skills that businesses need. Adding C# to your IST Competitive Toolbox not only prepares you for the challenges you'll face in

industry, but also strategically allows you to expand those skills into other growing Object Oriented programming languages. Remember, you're not just learning a language for the sake of learning another language... you're building your skills and positioning yourself to competitively take on the demands of the IT industry.

"Establish and maintain an IST Competitive Toolbox"

E-commerce Development

By: IST Student Brian Godiken (brian.godiksen@gmail.com)

The Internet has changed the way we purchase goods and services, and until recently the eCommerce industry has been dominated by big businesses, but eCommerce is no longer just for large companies, as small businesses around the world are quickly entering the market to compete. The cost of starting an eCommerce website has decreased significantly and its

benefits greatly outweigh the costs.

Entering this new area of online business can be a struggle for some companies. While they may desire the ability to reach a broader customer base at anytime of the day, they often underestimate how important this interaction is with the customer. Whether it's properly integrating the payment system for smooth

transactions, or analyzing the user interface, IST students will be well prepared to handle the transition to the web. This will prove to be a positive business decision for small businesses around the world.



Green Computing Highlights Spring 2010 Capstone Project

By: Professor Ed Green (exg13@psu.edu)

The rising interest in sustainability and environmental responsibility has taken center stage as the focus of the Spring 2010 IST 440W project. Sponsored by the Office of Continuing Education at Penn State Abington, this capstone project challenges students to create a professional

development course in green computing.

In executing the green computing project, IST 440W students are applying the knowledge they gained in all of their preceding IST courses as well as many of their supporting courses. In addition, this state-of-the-

practice project requires considerable investigation into and analysis/assessment of newly published research.



International Summer School in Hof Germany July 12 – 30, 2010

By: Professor Joe Oakes (joe.oakes@psu.edu)

Are you interested traveling and studying abroad but don't want to make a semester long commitment? For three weeks this summer spend your time in Germany working with international students from all over the world.

Costs:

Course: Euros 585 app: \$800

On Campus boarding: Euros 165 app: \$225

Flight: \$800-\$1100

Estimated spending money: \$750

Total approximate cost: \$3000

Previous Germany scholarship: \$1500

Estimated PSU student cost: \$1500

Experience: priceless

Contact Hours: 30

PSU Credits: 4



Kazi from Malaysia:

"My summer school surpassed all my expectations. It was demanding, but thoroughly enjoyable because we worked in groups and on 'real-life' cases which engaged all of the group members and encouraged the exchange of ideas and experiences."

- **Course option 1: Designing E-Commerce with Microsoft.NET**
- **Course option 2: ERP Systems**
- **Weekend excursion to Munich or Berlin**
- **Company excursion to BMW factory**

My Visit to SAP World Headquarters in Walldorf Germany

By: IST Student Ronak Patel (rgp5005@psu.edu)

SAP is the largest software enterprise in Europe and the fourth largest software enterprise in the world as of 2009. The name SAP is acronym for Systems, Applications and Products in Data Processing. SAP runs on a fourth generation programming language called Advance Business Application Programming (ABAP). It has many of the features of other modern programming languages such as the familiar C, Visual Basic, and Power Builder. Their flagship product is enterprise resource planning (ERP) software capable of integrating multiple business applications, with each application representing a specific business area. The three core functional areas are Logistics, Financial, and Human Resources; each specialized in its own category.

I had the privilege of traveling to SAP Germany in Walldorf where the world headquarters is located. This was an experience of a lifetime. SAP's core values are innovation, working well with others, and diversity. Each intern is given professional responsibilities. During my visit to SAP, I was introduced to two American interns, one who was a Penn State alumni and graduate student interning in HR, while the other was interning in communication. The interns felt very comfortable working in SAP. Most of the interns live in a city called Heidelberg and commute by train to Walldorf where SAP is located, it takes about 40 minutes by train. SAP provides all employees with a free lunch and coffee every day!



Update: Ronak was offered a 6 month position with SAP in Germany. Congratulations!!!

