

Computer Science  
Business Partnership Council Agenda  
Friday, November 21, 2014  
8:30am-9:30am

- I. Introduction of Members
- II. Update on the Computer Science department programs
  - a. Cisco CCNA Security CCC
  - b. Network Information Security CCC
  - c. Java CCC
  - d. Mobile App CCC
  - e. Cloud Management CCC

Gareth Marchant said that the students should understand the purpose and strengths of virtualization. He said that the cluster platform could be Linux/Server Core and that databases should not be virtualized. Cloud management should cover the Amazon Cloud and the Microsoft Cloud.

- f. Data Center Implementation CCC

Joint Networking, HVAC, Electrical program. Melinda Miller was in charge of building two data centers and an emergency center. She said that the network administrators, electrician, and architects often did not understand each other's' blueprints and architectural plans. If a networking person could learn to read and understand these, it would be very useful. Fire protection systems should also be taught. It would be great to have cross pollination between the trades and computer science. Basic information on how to properly cool servers and how to set up the hot and cool isles should be taught. Familiarity with the type of equipment APC produces would be useful. Even if the students had a high level understanding of what type of equipment is required, this would be useful since vendors often sell products which are not the best-suited for particular situations. Gareth Marchant mentioned that the HVAC people often do not understand the load that servers put on the AC systems. HVAC people are not familiar with A leg/B leg and color coding. The HVAC people also need to know how to configure the AC

to talk to the humidity control. Gareth Marchant mentioned how important an understanding of cable management and basic computer networks would be for HVAC people; they did not necessarily need to configure switches.

The members thought that this would be a great idea.

### III. Questions

- a. What kind of certifications are they looking for new hires?

Jan Kozlow said that when he interviewed for programs at Amazon, he did not look for software certification. They looked for a degree and experience in the field.

Melinda Miller said that Cisco, Microsoft, Security, Help Desk Certification in the Service Desk area, and CISSP would be useful. The ability to answer users' questions and low level network questions would be required in the service desk area.

Gareth Marchant said that Microsoft Database Certification, .NET certification, and Hyper-V certification are several certifications which he looks for in employees. Also, Security+ certification and, for those in a leadership role, PMP and CISSP.

Both Gareth Marchant and Melinda Miller recommended that the ITIL (IT Infrastructure Library) Framework be taught. This was developed by the British Government and is similar to IBM Service Management. It is for change regulation, data center, implementation, etc. They said that the Basic Level 1 would be sufficient for A.S. students.

- b. If an applicant has an Associate's Degree, what else on their resume would elevate their chances of getting hired?

Jan Kozlow said that Amazon would not hire someone with an A.S. degree only. They would need to have experience, need to have completed an internship, or have certifications. He said that smaller companies would hire employees with an A.S. degree to perform software testing.

Melinda Miller said that certifications for those in network administration would have to have certification and she would look at the length of

experience in the field. Gareth Marchant said that for Engineer I or System Analyst I he was not too interested in certifications, but work experience, internships, and a real interest in the field were important. Also, a job applicant for a software development position would need to present work done.

Anthony Calabrese mentioned an A.S. degree in Computer Engineering as part of the Capture Grant. He mentioned it would include the hardware side and math. Gareth Marchant did not think it was too relevant. Melinda Miller said that her shop was not large enough to employ those with these skills; typically, they would hire a vendor. She was on the fence, since she was disappointed in the level of skills that Computer Engineers had.

c. What type of technical skills are they looking for?

Jan Kozlow said that he wanted employees who knew object-oriented languages, such as Java, C++, and C#. He wanted to hire those who could develop algorithms and had problem solving skills. Potential employees need to know how to sort a list and merge a list and understand data structures. They need to be able to take directions, and if they are not given all of the information to solve a problem, they need to ask for information. The potential employees also need to be able to work in a team. They need to write syntactically correct code. They need to know how to test code. The potential employees need to know how to speak the language of business and how to translate it to the technical side, such as creating a web page, knowing the hardware to install, and how to work with multiple vendors. PMP certification would help with these leadership roles.

They need to communicate with and advise managers. Gareth Marchant said that Microsoft .NET, Storage Area Networks, Juniper networks, risk management, patch management, performance, change management, quality control and the QA process, ITIL, and project management were some of the skills which he looked for in potential employees. Jan Kozlow also mentioned that faster development and deployment has changed the role of the software engineer. The software engineer must design, develop, implement, perform testing, perform integration testing, deploy, and change control. Ali Fazelpour mentioned that software

testing could be offered as a special topics courses. Melinda Miller said that interns did not respect how changes affected production.

Jan Kozlow and Gareth Marchant both mentioned how there were two areas involved in databases. The one side was the database design, the second was database administration. Jan Kozlow discussed how performance was impacted by storing images in the database. Also, how implementation and replication occurs should be understood by both the developer who writes the scripts and the administrator who designs the database.

d. What computer programming languages are in use now and what languages do you see in use five years from now?

Gareth Marchant said .NET VB and C# are still popular, but the use of Python is also growing.

Jan Kozlow said that Java, since it is cross platform, will continue to grow. C++ use will slowly decline. Many develop on Windows and deploy on Linux. The front end development of HTML will still be popular, also C#, PHP, and Perl for the back end.

Ali Fazelpour mentioned that Java, C, and C++ have about the same amount of usage as mentioned in an IEEE survey.

Gary Rogers said that World of Warcraft is written in C for faster execution than OOP languages.

e. What fields in IT do they see booming now and five years from now and the reverse (declining fields)?

Melinda Miller and Gareth Marchant said that Security and Project Management skills will be in demand.

Jan Kozlow said that more work will be done in the cloud, that cross platform flexibility is important, and that mobile application development and game development will continue to grow.

- f. What is the value of internships and how can we work with you to provide internships for student?

Gareth Marchant said that it was successful in IT operations. It did take preparation and that there needed to be a clearly focused goal to the internship.

Melinda Miller said that internships were a drain on resources, but if the interns had experience and were truly engaged and could work side by side with a current employee, it was good to encourage people to enter the industry.

Jan Kozlow also said that it would help if the potential employees already had experience.

#### IV. Set date for next meeting

March 20, 2015

#### V. Complete evaluations

#### VI. Adjourned

#### Attendees:

Chair: Gareth Marchant, Director of Support Services and Infrastructure,  
Cloud Virtualization, and Service Desk

Anthony Calabrese, Palm Beach State College

Raymond Colucci, Palm Beach State College

Ali Fazelpour, Palm Beach State College

Elizabeth I. Horvath Palm Beach State College

Jan Kozlow, formerly a developer and software engineer at Amazon.com

Melinda Miller, former IT Director City of Jupiter, CISSP

Gary Rogers, Palm Beach State College