CNIT Employer Advisory Board Meeting Notes for 6-4-19

Present:
Olivia Herriford: CCSF Information Security Apprenticeship Analyst Grant Administrator
Peter Katz: Deputy Sector Navigator, ICT
Claudia da Silva: CNIT Faculty and Student Advisor
Sandy Jones: CNIT Faculty
Venkatesh Arkalgud - Alameda County IT department manager
Alan Wennersten: CNIT Faculty
Richard Taha: CNIT Department Chair
Richard Wu: CNIT Faculty
Steven Nelson, CCSF Employment Specialist, meeting convener and facilitator
Vanessa - Facebook, Network Infrastructure department – present on conf. call
Kerrie Lu Faith-student and Circle CL infosec employee, present on conf. call

Departments offering presentations: what they do, what issues they may have, solicitation of employer response

To be followed by open Q&A

Claudia da Silva—Web development programs

- Web site development techniques - first cert program available in CNIT
- Introduction course (131H) added more recently; at request of students entering CNIT and wanting to go into web development rather than security, networking, etc.
- Front end focus, but CNIT 134 introduced for .NET backend. Teaching .NET due to MS partnership. Recommend students to go to CS dept. to learn Python, Ruby, PHP as an alternative
- More certificate programs added. Advanced web dev -- when a student completes previous cert, can take 3 or 4 more courses.
- CNIT 133A - Javascript libraries/Frameworks. Teaching 5 most-used frameworks
    - Angular, NodeJS, React, etc.
- CNIT 133M - Mobile web apps; NOT in Java or Swift, so not native apps. Still using HTML/CSS/JS to make a hybrid phone app
- CNIT 132A - fast-paced, advanced tips in HTML/CSS
- CNIT 132S - SEO & Analytics for Web Dev - google analytics
- CNIT 195 - student discussion/collaboration with CS department. CS wants to move towards software app development. CNIT wants to move it towards mobile web development or even game development.
- CNIT 131A - XML and JSON - not teaching how to make these files (more in CS domain)-teaching how to recognize and work with data using these file types.
- CNIT 129 - web 2.0 technologies -- changing name to social media integration in web applications.

Feedback on web app development program.
Vanessa: Excited to hear more. Particularly interested in CNIT 129.

Sandy—desktop support programs
Desktop support/IT customer support and helpdesk. Students gaining hands-on experience, soft skills, problem solving approaches

Spread out between main AS degree, certificate of achievement (similar to AS with GE stripped off). Covering computers, networking, IT support; includes internship or lab course for hands-on experience

Certificate of accomplishment, 14 units. This is also able to place students in entry-level jobs, including with temp agencies like Robert Half.

At Frisco day (high school visit), invited by high school journalist to service macs of school's journalism dept.

Certificate of accomplishment in technical support

- Intro to computers, hardware, OS, internship/work experience.
- Claudia adds that many of these courses prepare for CompTIA A+ exam.
- Steve adds that we currently have 25 students involved in TechSF program preparing for CompTIA exams.

Feedback

Venkatesh - In desktop support, no application support; strictly on hardware and computer systems. May be useful to talk about basic software like MS office/365. Harder to teach entire software suites, but may be useful to cover basics (installation, troubleshooting). Some larger more business-specific applications may need background in things like Java, .NET.

Richard Wu—Networking/Cybersecurity

About 6 certs in this area

Fundamental networking—a bit more generic, non-vendor specific, CompTIA track.

Two vendor specific tracks

- MS Windows networking certificate
    - Similar, with some networking overlap but focusing more on MS servers
- Cisco Routing and Switching
    - CCNA focus, four courses and currently seeking to expand track

In cyber security, networks security also has non-vendor specific track, also focusing on CompTIA Sec+

Cybersecurity track

Advanced Cybersecurity cert - advanced ethical hacking, etc.

Cloud computing, including MS Azure, AWS

Olivia—on apprenticeship program

-registered apprenticeship program for cybersecurity

-using European model - registered with state, dept. of labor

- 18 month paid program, using courses in cybersecurity and 2100 hours on the job and 157+ hours of training

- CCSF provides advanced training—by the time the apprenticeship ends, they'll be reaching end of education track.

- currently in discussions with City and County of San Francisco to provide IT apprenticeship program.

Richard Taha—AS degree program

- Six options, leading to degree. Popular program, issuing a large number of degrees in addition to certificates
- Four courses — computer hardware, internet basics and beginning HTML, Network Security, and either Intro to networks or intro to cisco networks
- Option 1: Computer technical support
    - Includes small hardware lab coursework (<20 students)
- Option 2: Web development

- 3: Network Security
- 4: Wireless Networks
- 5: Cisco networking
- 6: MS Windows
    - Less popular than it used to be; vendor specific courses go up and down in popularity
- At the moment security and web development are the most popular options among these tracks.
- Claudia adds we're moving towards IoT: CNIT leads CCSF's maker's certificate program. MAKR 100 demonstrations what IoT is to CCSF Students. Very hands-on class, showing examples and videos and developing projects such as small robots.
- Collaborating with different departments like CNST, WELD, CAD
- How does manufacturing interact with IoT; currently working with CS department to consider questions like how to us JS with IoT along with other languages
- Coming out of advisory board meeting of two years ago
- Vankatesh: consider adding chatbot technology; 90% of large company customer service lines use this technology. Relying more and more on machine learning/data science.

Free Q&A

Vanessa asks: what does hands-on experience with employers look like?

Sandy: Working at a temp agency, getting entry level helpdesk experience, answering L1 calls, perhaps moving on to an analyst position

Steve: First level is where most students start; MSP hire students at this level, train them up. Some organizations hire everyone at helpdesk, then train up in using large-scale applications like ServiceNow or Epic. Students quickly move out of helpdesk into working on more specific applications.

Vanessa: Any courses in program management, communication?

Claudia: CNIT offers CNIT 105, teaching basics of project management. Currently trying to look into other structures in CNIT and CS department; could have used that part of the class for web development classes, for instance. Every project does need project/program management. Currently very prominent in tech support

Richard Wu: We also have CNIT 11; professional conduct, teaching soft skills. Vision of course was to bridge students to the workforce. Emphasizing communication, project management, bringing in guest speakers to talk about day-to-day work, as well as resume building within the course.

Vanessa: May be worthwhile to cover basics of finance, budgeting within program management.

Claudia asks: What tools are in use for project management these days?

Venessa: FB has some of its internal tools. MS Project has fallen out of use. Even among its internal tools FB doesn't have one built-in tool. MS Suite is in use throughout many projects, as well as Apple's suite. Important broadly to get an idea of what the end-level goal. Managers/directors want to have "10,000 foot" view of a project. For personal use, having a simple template (via excel for instance) until you need to refine your level of detail.

Richard Taha:

CNIT department is constantly evolving, addressing both professional interests and academic development, starting new classes. CNIT has 60 courses, the majority of which (~56%) are online. Approaching the max number of online courses that are acceptable by the state

Kerry also adds:

Can be helpful to have basic knowledge in cloud computing na infrastructure

Also useful to have UI/UX work, DevOps

Olivia:

During a speed interview workshop, one of the pieces of feedback was hoping students had some basic cloud computing understanding, for infosec.

Claudia:

Forced to use cloud in advanced JS since many of those JS Frameworks work on top of NodeJS. hills server doesn't support node; having to chase down something that's free for students to use (without credit card). Forced to know cloud infrastructure just to publish student projects, as a user.

Richard Wu:

Faculty in discussion regarding SaaS, PaaS, and IaaS. In a debate over offering two out of these three; courses in SaaS, and platforms like Azure or AWS. This summer going into more discussions. Not looking like we'll be going into IaaS, since that would be going deeper into DevOps.

Cloud computing program

- In process of developing curriculum (basic vs advanced)

Hands on experience

Specifically in security - through team competitions

S214

Hackathons

Internships