Career Opportunities in CyberSecurity

Leeward CC CyberSecurity Speaker Series

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A Little Background

• About 37 Years
• Dozen or so jobs, Public-Private, Large-Small
• CIO Roles
  o The Judiciary
  o East-West Center
  o DTRIC Insurance
  o And now UH
• UH-ITS
Definitely NOT Lacking Demand for CyberSecurity Talent

HACKS IN THE HEADLINES

Recent high-profile cyber attacks have brought more attention to the threats hackers pose and helped spur the creation of the Cyber Threat Intelligence Integration Center (CTIIC). Major breaches in the U.S. over the past two years include:

- **In December 2013**, Target announced that hackers stole credit card information from 40 million customers and personal information from 70 million. Earlier this year, Target agreed to pay Visa Inc. up to $67 million to cover costs incurred by the breaches and MasterCard-issuing banks received as much as $19 million.

- **From 2010 to 2014**, the U.S. Department of Energy's (DOE) networks were attacked more than 1,100 times and compromised more than 150 times, including 19 successful attacks against the National Nuclear Security Administration, according to a USA TODAY report. Investigations are ongoing, and DOE representatives declined to comment when USA TODAY contacted the department in September.

- **In July 2014**, JPMorgan Chase & Co. suffered one of the largest data breaches in history when hackers gained access to personal information, affecting close to 76 million households. The alleged hackers — three have been charged — were involved in a widespread scheme that targeted 14 other companies. On Nov. 10, 2015, Manhattan U.S. Attorney Preet Bharara described the data breach as "breath-taking in its scope and its size," saying the hacking was done to support a series of stock manipulation schemes, as well as gambling and payment processing schemes.

- **In September 2014**, Home Depot announced a security breach affecting 56 million credit and debit cards. In a filing with the Securities and Exchange Commission, Home Depot indicated the information was stolen by malicious software (malware) that had infected its computer network.

- **In November 2014**, hackers — allegedly sponsored by North Korea and calling themselves the "Guardians of Peace" — gained access to Sony Pictures Entertainment's networks and released employees' personal data and emails containing sensitive information. Those responsible for the attack demanded that Sony cancel its release of the film The Interview, a comedy about the assassination of North Korea’s leader, Kim Jong-Un. North Korea denied responsibility.

- **In February**, health insurer Anthem Inc. announced a security breach that accessed up to 80 million customer and employee records. The hackers gained information including names, birthdays, medical IDs, Social Security numbers, street addresses, email addresses and employment information, including income data, Anthem President and CEO Joseph Swedahl said. The company doesn’t believe any credit card information was obtained.

- **In June**, the Office of Personnel Management announced that data from the personnel records of 4.2 million current and former employees had been breached. It was later learned that another hack of background-check records for 21.5 million people were also affected. Some officials blame the attack on hackers backed by China.

Contributing: David Jackson, Erin Kelly, Kevin McCoy and Kaja Whitehouse
Bottom-Line – Choosing a College + My Future is Now (You Folks Already Know This …)

2014 CHE Student Motivation for Choosing a College: Job

Questions regarding:
College choice and getting a job

In deciding to go to college, how important a reason was ... to be able to get a better job?

Very important
2014: 86.1%

Source: Cooperative Institutional Research Program, Higher Education Research Institute, U. of California at Los Angeles
CyberSecurity is a Common Thread Cross-Sector

The LABOR MAP will Filter for Stakeholders: Business Sectors

DBEDT'S SECTORS

CEDS TRADED CLUSTERS

HBR’S INNOVATION ECONOMY
Just a Sample – CyberSecurity Represents a Significant Market

Clicking on a Job Takes a Student to a Job Info Page

Occupation Profile

Information Security Analysts (State of Hawaii)
15-1122 Standard Occupational Classification (SOC) Details
Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses. Excludes "Computer Network Architects" (15-1143).

Regional Job Market Trends

- Degree attainment requirements
- Salary details
- Regional employers
My Perspective of the Market

- View from All Sides
- Competition ... Common Needs
- Public and Private Sectors ... ... AND Educational Institutions
- Common, Shared Talent Pipeline
- Creating a Bigger & Better Pool
- Critical “Soft” Skills
- Internships
Some Relevant Data

- CyberSecurity Demand – EVERYWHERE
- Traditional 3 and 4 Letter Agencies
- Large Companies, Systems Integrators
- Both Hawaii and Mainland
- Broad Demand for Local Talent
- Example – ITS
And Don’t Forget …
Multiple Other Pathways

• Manoa
  o Engineering
  o ICS
  o Shidler

• West Oahu – BAS, CENT, CA-IA

• Other
  o Honolulu CC – CAE2Y
  o Manoa – CAE-R
Events = Opportunities

- Cyber Security Exercises
- GENCYBER Camps (K-12)
- Ongoing Workforce Development Activities
- Hackathons
Useful Part of the Show

Q&A