IA at FAMU: ‘Broadening IA Awareness & Competency’

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FAMU-IA Overview

- Faculty: Jones, Evans, Chi, Chatmon
- 3 courses offered annually since Fall 2004
- New Digital Forensics course (2008)
- Moving Forward …
IA Faculty at FAMU

● **Dr. Edward Jones**
  - Chairman, FAMU CIS Department
  - PhD UNC-Chapel Hill
  - 13 years industry R&D, software engineering.
  - Research in software testing, IA
  - PI, NSF grant in software testing, ED grants in IA, instructional technology

● **Dr. Deidre Evans**
  - Associate Professor, CIS Department
  - B.S. Spellman, M.S.E.E & B.E.E. GA Tech
  - Research in Network Security, Formal Specifications, & IA Education
  - PI or Co-PI grants totaling over $4.5 million
IA Faculty at FAMU

- **Dr. Chi Hongmei**
  - Assistant Professor
  - PhD FSU, 2004
  - Postdoctoral research associate for bioinformatics with Computational Science at FSU, 2004
  - Research in Network Security, Bioinformatics
  - PI & Co-PI, Several NSF grants in IA

- **Ms. Christy Chatmon**
  - Instructor, CIS Department
  - BS UGA, MS FAMU
  - PhD student at Florida State University, (under renowned Dr. Michael Burmester)
  - Research in accountable access control for ubiquitous computing.
  - Curriculum expert for IA program track.
Current IA Certificate Program

- Two existing courses
  - COP 3530 - Data Structures
  - CDA 4503 - Data Communication and Networking

- Three IA Courses
  - CIS 4360 – Introduction to Computer Security
  - CIS 4361 – Applied Security
  - CIS 4362 – Network Security and Cryptography

- Other
  - CIS 4932 – Digital Forensics (non-certificate)
  - Demand from Criminal Justice
CNSS Mapping

- 4011 – INFOSEC Professional
- 4014 – Information Systems Security Officer (ISSO) – *(Expired as of 2008)*
- 4016 – Information Security Analyst *(Currently Applying - 2009)*
- Official Award Ceremony –
  - 9th Colloquium for Information Systems Security Education (2005)
  - 12th Colloquium for Information Systems Security Education (4011: 2008)
## IA Courses & Certificates

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External Grant Funding

- **NSF MII ($1M) – 2004-09, SFS Capacity Building ($200K)**
  - Seed funding for curriculum development, early research.
  - Matching equipment grant from Cisco

- **Symantec – relationship started 2008**
  - Research collaborations, access to IA products and training.

- **Xerox - Secure Intelligent Office (SIO) (3-year $60K) – 2008**
  - Develop a SIO as a test bed for research and education in specifying and evaluating security issues of location-aware pervasive/ambient computing.

- **Dept. ED - MSEIP BIAAC (3-year $600K) – started 2008**
  - Strengthen the IA program, increase minority participation, achieve CAEIAE status.
Stand-Alone Security Lab
Security Lab Overview

- 14 Dell GX620 workstations with 4 separate bootable drives, 2 (Windows XP) and 2 to Linux
- Gateway desktop computer running Windows Server 2003 acting as the domain controller
- Cisco networking equipment
  - Switches, router, firewalls, VPN concentrator, IDS
- Utilization highly labor intensive
  - defining student experience, configuring labs, switch-over between classes, rollback following crashes …
- On critical path to giving students significant IA experience.
Research Areas

- Security Model for Designing Ubiquitous Computing Environments
- Accountable Access Control for Ubiquitous Applications and Devices
- Scrambled Quasi-random Sequences and Its Applications
- Security Models for Workflow Management Systems in E-healthcare
- Keystroke Analysis of Passwords
- Obfuscation Techniques for Code Protection
FAMU IA Challenges

- Institutional Sponsorship /Recognition
  - FAMU Center for Secure Computing & IA (FCSCIA)
- Critical Mass of IA Faculty & Support Staff
- Virtualized Laboratories for Hands-on Exercises
- Research
  - Vibrant colloquium series
  - Strategic/sustainable versus opportunistic
- Effective Cross-Institutional Collaborations
- CAEIAE designation!
“Opportunities to Share”
Back to the Theme – Ethical Hacking

- Yes, EH is appropriate for IA professional training.
- Challenge is to control the “monster”
  - Ethics is a personal and professional quality
  - Ethics must be pervasive in all of IA education
  - Technical execution requires fences -- superior lab configuration and support.
- Isn’t this the challenge for much of IA?
Common challenges
Collectively we meet CAEIAE requirements
What would it take to form an IA consortium?
  - Goal of transferring my (your) success to you (me)
  - How might external funding help?
  - What are some funding sources?
One Possibility

- Department of ED Minority Science and Engineering Improvement Program (MSEIP)
- Recognizes collaborative efforts
- Addresses increasing minority participation
- A successful proposal could provide the main thing we need – time and money.
- MSEIP proposals due in the Spring (March – May timeframe)
QUESTIONS?