TRAINING THE NEXT GENERATION OF INFORMATION SECURITY PROFESSIONALS: ONE APPROACH

UNIVERSITY OF CENTRAL FLORIDA

MODERATOR: DR. TOM NEDOROST
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CHALLENGE:

• How to build the pipeline of skilled Cybersecurity professionals

• How to promote Cybersecurity as a career option

• How to create student interest in Cybersecurity

source: www.helpnetsecurity.com/
ONE APPROACH

• Create an organization for students interested in hacking and competing in cyber competitions
COLLEGIATE CYBER DEFENSE CLUB @ UCF

• Established October 2012

• UCF Registered Student Organization
  • Open to all UCF students
  • Reports to UCF Student Government Association

• Focuses on defensive and offensive security awareness and training
“Our mission is to establish a Computer Security community within the university, to provide a venue for students to improve their computer security skills, and to foster a spirit of ethics with the training we provide”
CLUB ACTIVITIES

- Weekly Meetings
  - Current Events
  - Tool Time
  - Feature Presentation
- Weekend Workshops
  - Virtualization
  - Networking
  - Reverse Engineering
- Conferences
  - B-Sides conferences
  - DerbyCon
  - Blackhat
  - DefCon
  - Florida Cyber Con
- CTF Practice Sessions
- CCDC Training & Tryouts

- Site Tours of local companies
- Competition Teams
  - UCF Collegiate Cyber Defense Competition
    Team – defensive
  - Knightsec Team – offensive
- Community Outreach
  - UCF Cyber Summer Camp
  - Cyber Patriot Mentors
  - Sunshine CTF Competition
  - Conference Presentations
  - Media Interviews
- Social Events
  - Movie Nights/Escape Room
  - Football Tailgating
  - Spring BBQ
HOW DOES THE COLLEGIATE CYBER DEFENSE COMPETITION WORK?
COLLEGIATE CYBER DEFENSE COMPETITION SYSTEM

• Largest college-level cyber competition
• Founded in 2005
  • Center for Infrastructure Assurance & Security at University of Texas at San Antonio
  • Department of Homeland Security
• Promote & increase student interest in Cyber Security careers
• 3-Tier Elimination System
  • Virtual Qualification Competition
  • On-site Regional Competition
  • On-Site National Competition
In its ninth season, NCCDC has grown into the nation’s largest college-level cyber competition.

The game is staged like a real business... to win, teams must keep the business running while fending off cyber attacks.

**Competing across the nation**
- 2000+ grads and undergrads
- 180 college and university teams
- 1 team per school

**Tryouts** to qualify for the school team

**State & Virtual Qualifiers** for the top teams to go to regionals

**10 Regional Competitions** to compete for spots at nationals

**2014 Raytheon National Collegiate Cyber Defense Competition**
- Regional winners vie for title
- April 25-27, San Antonio
COMPETITION FORMAT

• 12 member official team roster
  • 8 participate during a competition event
  • 4 alternates
  • No substitutions after an event begins

• Maximum of 2 graduate students per team

• All members must be enrolled as full-time students during Spring semester

• Qualifier rounds are 4 hours long; Regional and National Competitions run for 2 to 3 consecutive days
COMPETITION FORMAT

• Each team assumes administrative and protective duties for an existing small company network
  • 150+ user accounts
  • 8 to 12 servers
    • Physical servers
    • Cloud based servers
    • Windows, Linux, & Unix OS
  • Common Internet services
    • Web servers
    • Mail servers
    • Database servers
    • E-commerce retail site
COMPETITION FORMAT

• Each team begins with identical hardware and software

• Scored on ability to:
  • Detect and respond to outside threats
  • Maintain availability of existing services
  • Respond to typical business requests
  • Balance security needs against business needs

• Automated scoring engine verifies functionality and availability of services

• Red Team (top industry professional Penetration Testers) provide realistic “external threat”
10 REGIONAL WINNERS COMPETE AT NATIONAL CHAMPIONSHIP

2018 CCDC FINAL

ROCKY MT. REGIONAL
Utah Valley University

NORTH CENTRAL REGIONAL
Dakota State University

AT LARGE REGIONAL
University of Alaska Fairbanks

SOUTHWEST REGIONAL
Baylor University

NORtheast REGIONAL
University at Buffalo

PACIFIC RIM REGIONAL
University of Washington

WESTERN REGIONAL
California State University Northridge

MID-ATLANTIC REGIONAL
University of Virginia

MID-WEST REGIONAL
Indiana Institute of Technology

SOUTHEAST REGIONAL
University of Central Florida

2018 NATIONAL COLLEGIATE CYBER DEFENSE COMPETITION
IN PARTNERSHIP WITH RAYTHEON

CONGRATULATIONS

UNIVERSITY OF VIRGINIA

APRIL 13-15
ORLANDO, FLORIDA
• What does it take to win CCDC?
• How does the team prepare for competitions?
• What roles do the respective team members play?
• What visibility do cyber competitions receive within Federal information security organizations?
• Are we preparing the nation’s next generation of cyber defense experts?
• What advice would team members give to Higher Education institutions?
  • What are we doing right or wrong
• How have team members engaged with UCF IT and Security Teams?
CONTACT INFORMATION:

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