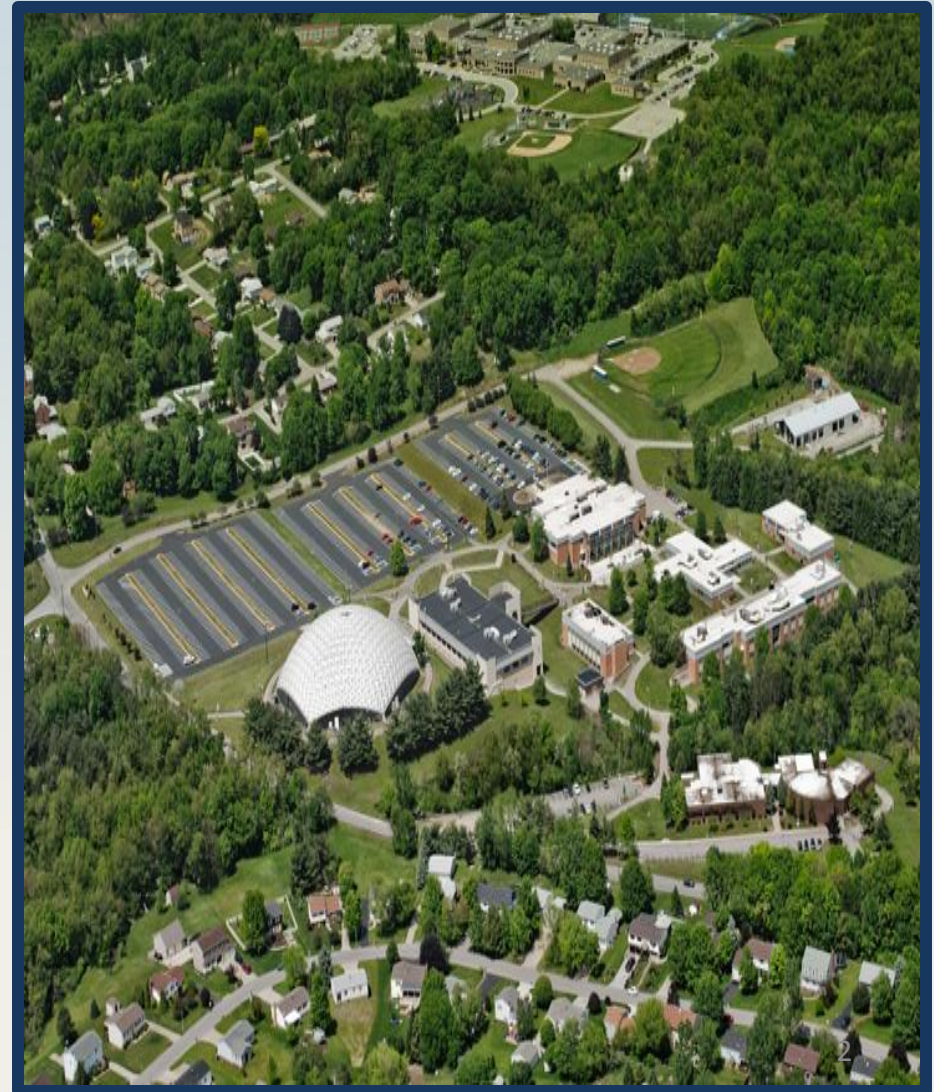


# Not on My Network, You Don't! May I Try This?

Collaboration to Enhance  
IT Teaching/Learning Environment

Session ID: 3084  
Tues May 28, 13, 2:15-3:00  
Room 13A, Level 4

- **Founded in 1967**
- **Center Township Campus**
- **Aviation Sciences Center**
- **Casino Training Center**
- **Serves the 54 communities, 13 school districts, and 173,000 residents of Beaver County, Pennsylvania**
- **Sponsored by the Board of Beaver County Commissioners**



# Presenters

Carl Dennis

Heidie Ganjineh Hutchinson

Walter Lukhaup

Community College of Beaver County

IT Faculty and IT Vice President

- **Cyber Security: Carl – Assistant Professor**
  - Cloud Computing, Virtualization
- **Web Programming: Heidie – Associate Professor**
  - Visual Programming, Web Programming
- **Campus Technology: Walter – VP IT**
  - Infrastructure, Hardware/Software

## **Not on My Network, You Don't! May I Try This?**

- Challenges Teaching IT Courses
- Look for Solution
- Cooperation/Collaboration to Develop a Realistic Solution
- Implementation of the Solution
- Evaluation of the Solution
  - Increase in Students' Interest
  - Demonstrate Students' Projects
- Impact of the Solution

# Web Programming Curriculum 2006 - 2011



- Challenges Teaching IT Courses:
  - No Windows Server Labs
  - No Unix/Linux Server Labs
  - No Dedicated Lab(s) for Web Programming
  - Deep Freeze

# Web Programming Curriculum

## 2006 - 2011



- What are the Options?
  - Look for Free Websites
- Problems with Free Website:
  - Lots of Popup Ads
  - Not Reliable
    - Every Day Chance of Going Out of Business
    - Loss of Data
    - Loss of Code

# Web Programming Curriculum 2012



- Look for a Realistic Solution
  - Talk to other IT Faculty Directly and Ask for Help
  - Talk to the New VP for IT and Ask for Help
  - Talk to Web Programming Advisory Committee



# Web Programming Curriculum 2012



- Amazing!!!
  - The VP for IT is Actually Interested in the Classroom Technology
  - A Web Programming Advisory Committee Member Recommends Giving Each Student His/Her Own Server
  - One IT Faculty is Willing to Experiment and Configure an External Server

# CCBC External Linux Server!! 2012



# CCBC External Linux Server 2012



- 1 Terabyte External Hard Drive
- Ubuntu 12.04.2 installed as the Operating System
- Contains LAMP Stack
  - Linux (Operating System)
  - Apache (Web Server)
  - MySQL (Data Base)
  - PHP (Scripting Language of the Web)

# CCBC External Linux Server

## A Teaching/Learning Tool



- **You Can Teach Networking/Internet Concepts!!!**
  - Wireless Networks
  - Wired Networks
  - IP Addressing
  - MAC Address
  - Admin verses User Accounts
  - Web Servers

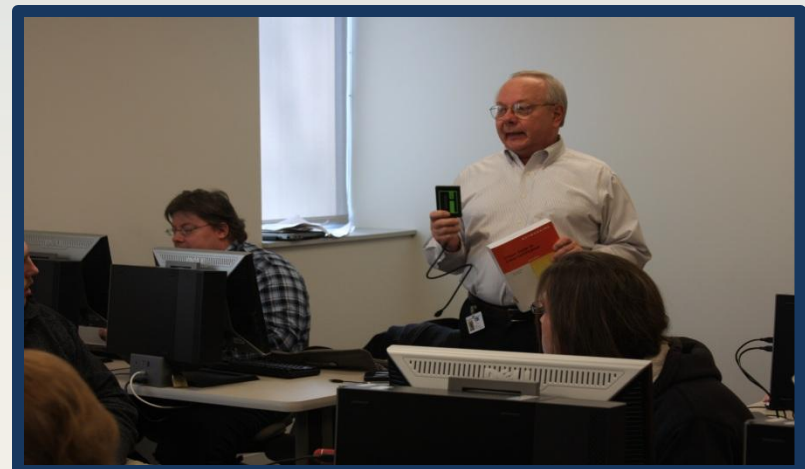
# CCBC External Linux Server

## A Teaching/Learning Tool

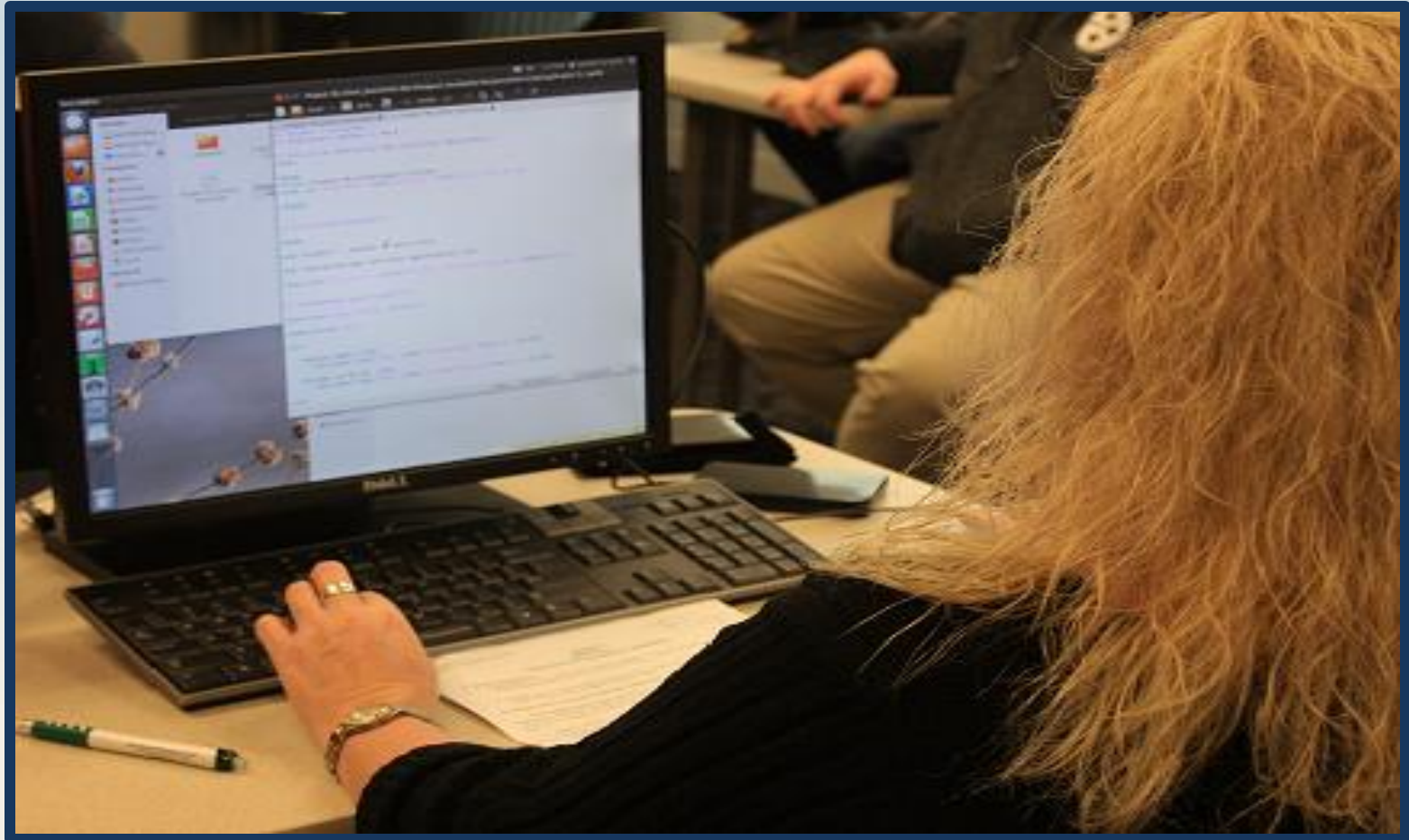


- **You Can Teach Real Web Application Development!!!**
  - Client Applications
  - Server Applications
  - Necessary CGI for Connectivity Between Client and Server Apps
  - Use of Hyper Texts
  - Databases

# CISW101 Web Scripting Languages – Fall 2012



# CISW101 Web Scripting Languages – Fall 2012



# CISW101 Web Scripting Languages - Fall 2012



- **Increase in Students' Success Rate:**
  - Fall 2012: 85.74
  - Fall 2011: 47.05
  - Fall 2010: 68.22
- **More Perfect Attendance:**
  - Fall 2012: 78.57%
  - Fall 2011: 35.29%
  - Fall 2010: 31.57%

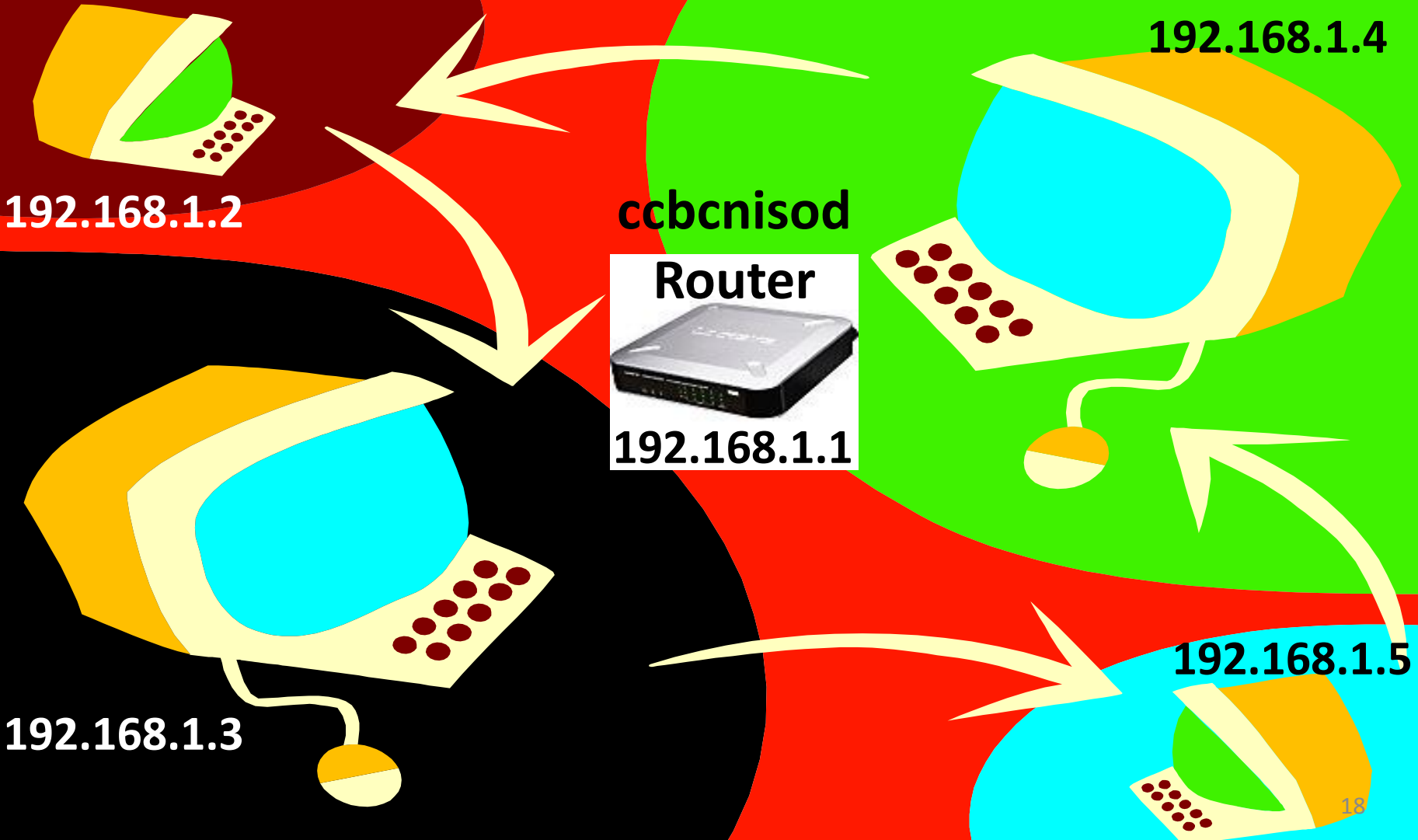


# CISW101 Web Scripting Languages - Fall 2012



- Students Researched to Find Solutions for Linux Configuration Problems
- Students Researched and Found Online Tutorial and Reference Websites for HTML, JavaScript, PHP
- More Advance Topics Were Taught in the Class

# CCBC Wireless Network at NISOD



# CCBC Wireless Network at NISOD



# CISW101 Web Scripting Languages

## Students' Final Projects



- Hillary Shames: **192.168.1.2**
  - Phi Calculator, Tiger, Rock/Paper/Scissors Game, Server Information (HTML 5, JavaScript, PHP)
- Chris Knouff : **192.168.1.2**
  - Age Comparison (Client/Server – PHP)
- Gary Cole: **192.168.1.3**
  - Number Guessing Game (JavaScript)
- Michael Hertweck : **192.168.1.4**
  - Shopping List (Client/Server - PHP)

# Revised Web Programming Curriculum 2013



## **New Web Programming Curriculum Highlights**

- Web Programming curriculum provides students with theoretical and hands-on experience in:
  - Software Application Tools
  - Web Programming Languages
  - Database Management Systems
  - Website Design and Development
  - E-Commerce Applications

# Revised Web Programming Curriculum 2013



## First Semester

- CIST100 Intro to IT
- **CISW101 Web Scripting Languages**
- CIST160 Visual Basic
- VISC115 Digital Imaging
- WRIT101 English Comp I

## Second Semester

- CISN200 Client OS
- CIST106 Software Productivity Tools
- CISW205 Program in C#
- **CISW206 Web Data Connectivity using ASP and PHP**
- LITR210 Concepts of Lit Or WRIT103 Writing for Business and Tech

# Revised Web Programming Curriculum 2013



## Third Semester

- CISN205 Server OS  
Or
- **CISN203 Linux OS**
- CIST170 Website Development
- CISW201 Java I
- MATH110 Business Math  
Or Science Elective
- CISW214 Database: SQL and Crystal Report

## Fourth Semester

- CISW217 Mobile App. Development
- CISW202 Java II
- **CISW210 E-Commerce Applications**
- SOCI101 Principles of Sociology  
Or PSYC101 General Psych
- CIST260 Internship  
Or VISC122 Web Design

# New Linux Server and Benefited Curricula



- **Web Programming Degree**
- **Web Programming Certificate**
- **Visual Communications: Web Design Degree**
- **Visual Communications: Web Design Certificate**
- **Networking Degree**
- **Networking Certificate**
- **Cyber Security Degree**
- **Computer Support Specialist Certificate**



# Presenters' Contact Information



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