



IS Infrastructure and Networks

Ed Crowley

Spring 16



Today's Goals

- Communicate class expectations
- Distribute syllabus
- Identify Text
- Communicate Grading Criteria
- Discuss/demo online support materials



DAYTONA STATE COLLEGE

Selected Qualifications

- Certified Ethical Hacker – EcCouncil
- AccessData Certified Examiner – AccessData Forensic Tool Kit (FTK)
- Certified Information Systems Security Professional (CISSP) – ISC²
- Security +, Internet +, Network + -- CompTIA
- Microsoft and Novell Certifications
- Graduate:
 - US Army Military Police Academy
 - USARPAC Basic Sentry Dog School



Selected Former Positions

- Director, Academic Computing, Daytona State College (DBCC)
- Assistant Director/Net Admin, Galveston College
- Researcher, Academic Computing, Southern Illinois University

Adjunct Instructor

- Daytona Beach Community College
- Galveston College, Galveston, TX
- Lake Michigan College, Benton Harbor, MI

Communication Paradigm/Evolution

- 1980, IBM System 370/Model 158 operator ...
- 1981, graduated. Began working as a researcher in Academic Computing
- 1984 Began working for Heathkit/Zenith, a microcomputer manufacturer
- 1987 Became an Assistant Director at a small Community College
- 1990, created Academic Computing Department at Daytona State College (then DBCC) (4 campuses)
- 1998 Built tbe.uh.edu web server.
- 2002 Designed graduate Info Sys Security Curriculum.
- 2015 Designed Cloud Infrastructure elective course.

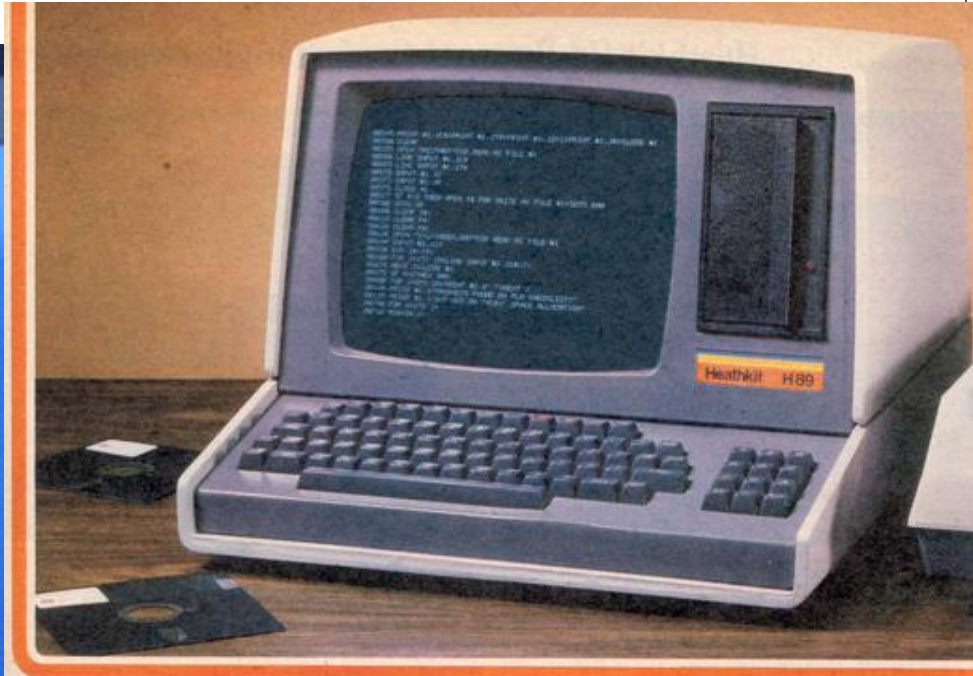


Wrote operations manual for Heathkit / Zenith's first IBM PC compatible. Published a computer graphic tutorial, an AutoCad tutorial, and an CAD / CAM textbook.

Make Magazine about Steve Jobs and HeathKit.

“The kits taught Steve Jobs that products were manifestations of human ingenuity, not magical objects dropped from the sky,” ... “It gave a tremendous level of self-confidence, that through exploration and learning one could understand seemingly very complex things in one’s environment.

Machines I Used...



Accessories and software let your All-In-One do even more!

The Heathkit All-in-One Computer runs programs written in MICROSOFT™ BASIC and Assembly languages, including scores of practical programs for your home or business. And the optional accessories enable you to perform more tasks, store more data and communicate with more peripherals, making the All-in-One even more versatile!

Cassette Systems Software for the Heathkit All-in-One Computer. Easy-to-use features include extended Benton Harbor BASIC, a modified version of Dartmouth BASIC, an easy-to-learn-and-use conversational language which uses simple English statements and algebraic equations; Assembly (HASL-8), a language which assembles source code and produces object code, utilizing all the standard 8080 mnemonics, extended mnemonics and numerous pseudo instructions; Text Editor (TED-8), a general-purpose, line-oriented text editor that is used primarily to prepare source code that can be assembled using the HASL-8 Assembly Language above, but can also be useful for letter writing, manuscript editing and preparation of newsletters; and Console Debugger (SCD-8), which you can use to load, execute and debug machine language programs in your computer.
H88-18, Shpg. wt. 5 lbs. 20.00

Systems Software for the All-in-One Computer's Floppy Disk Storage System. Includes a diskette containing extended Benton Harbor BASIC; a two-pass absolute assembler; a text editor to prepare source code for BASIC and other languages; a full set of disk utility programs for convenient file manipulation and a console debugger to make debugging user machine language programs easier and faster. Dynamic File Allocation permits efficient use of free disk space, eliminating time-consuming disk-compacting utilities. Supplied on a standard diskette.
H89-17, Shpg. wt. 5 lbs. 100.00

16K Random Access Memory Expansion Chip Set. Expand the capability of your Heathkit All-in-One Computer by adding one or two 16K RAM chip sets. The All-in-One Computer is equipped with 16K RAM; maximum memory capacity is 48K RAM.
H88-2, Shpg. wt. 1 lb. 150.00

Two-Port Serial I/O Interface. Lets the All-in-One Computer communicate with the H14 Line Printer, time-share systems (with appropriate software) or any other serial peripheral. Two serial I/O ports support an EIA standard RS-232-C interface.
H88-3, Shpg. wt. 2 lbs. 85.00

Popular MICROSOFT™ BASIC Computer Language. One of the most versatile languages for personal computing. Features direct access to CPU ports and memory locations, IF-THEN-ELSE control structure for more highly-structured programming, powerful program edit and file management facilities, powerful string processing functions, automatic line numbering and renumbering, double-precision floating point arithmetic, more. Requires floppy disk drive and minimum 32K memory (48K recommended).
H8-21, Shpg. wt. 3 lbs. 100.00

Floppy Disk Storage System. Drive and interface for the H88 All-in-One Computer. Store up to 100K bytes of information on each 5¼-inch diskette. Famous WANGCO/Siemens single-drive system for speedy access to information. (Included in H89 only). Diskettes not included.
H88-4, Shpg. wt. 22 lbs. 450.00

Audio Cassette Interface for WH89 All-in-One Computer. Connects your WH89 with a cassette recorder/player, such as the Heath-recommended ECP-3801A (page 80). Allows your computer to store and use more information. Standard with H88 and H89 All-in-One Computers.
H88-5, Shpg. wt. 2 lbs. 85.00

Machines that You Will Use



The Internet of Everything is the New Economy

<https://www.youtube.com/watch?v=ALL6MuFWs1A>

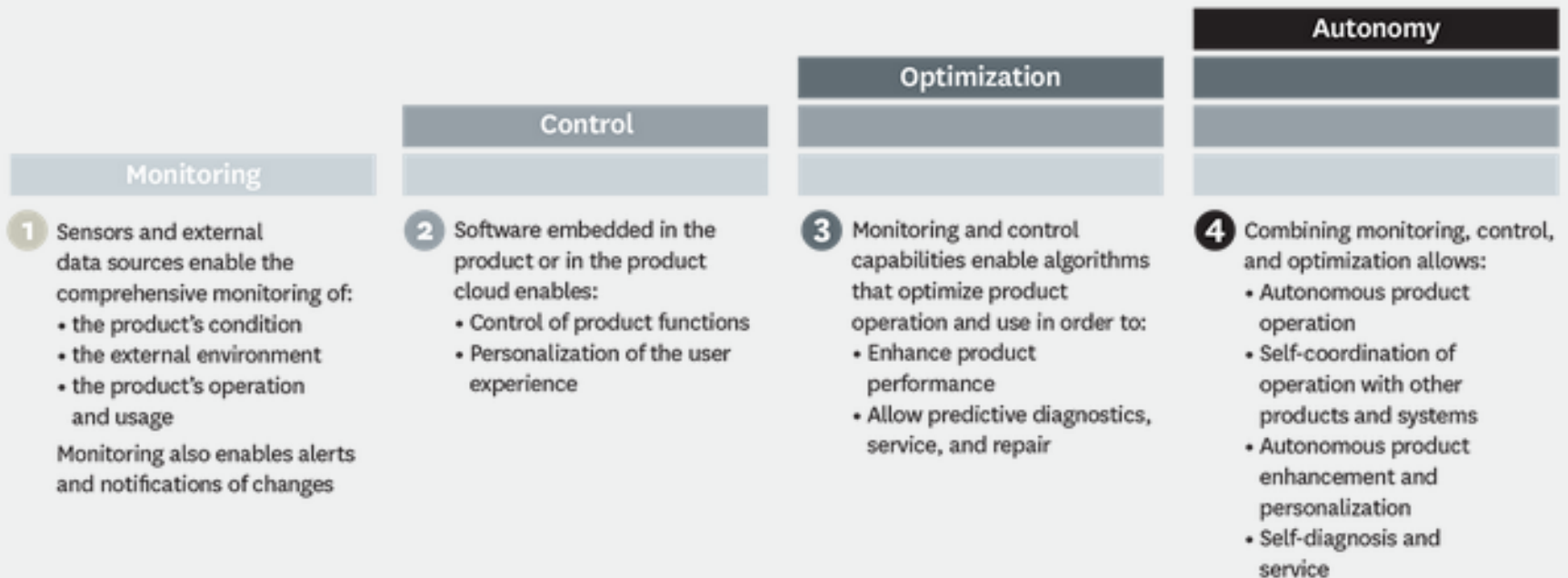
In this class, you
will be
introduced to
the Internet of
Everything...

HBR article by
Michael Porter.



Capabilities of Smart, Connected Products

The capabilities of smart, connected products can be grouped into four areas: monitoring, control, optimization, and autonomy. Each builds on the preceding one; to have control capability, for example, a product must have monitoring capability.



With the Internet of Everything intelligence and communications are built into the product...

THE INTERNET OF THINGS REQUIRES A MINDSET SHIFT

Because you'll create and capture value differently.

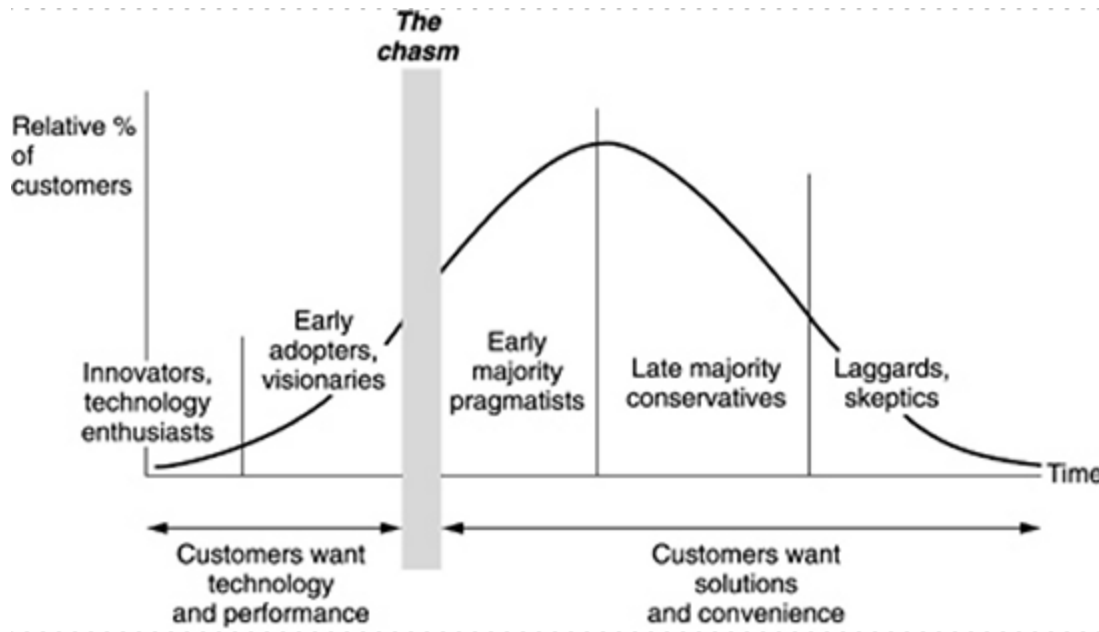
		TRADITIONAL PRODUCT MINDSET	INTERNET OF THINGS MINDSET
VALUE CREATION	Customer needs	Solve for existing needs and lifestyle in a reactive manner	Address real-time and emergent needs in a predictive manner
	Offering	Stand alone product that becomes obsolete over time	Product refreshes through over-the-air updates and has synergy value
	Role of data	Single point data is used for future product requirements	Information convergence creates the experience for current products and enables services
VALUE CAPTURE	Path to profit	Sell the next product or device	Enable recurring revenue
	Control points	Potentially includes commodity advantages, IP ownership, & brand	Adds personalization and context; network effects between products
	Capability development	Leverage core competencies, existing resources & processes	Understand how other ecosystem partners make money

SOURCE SMART DESIGN

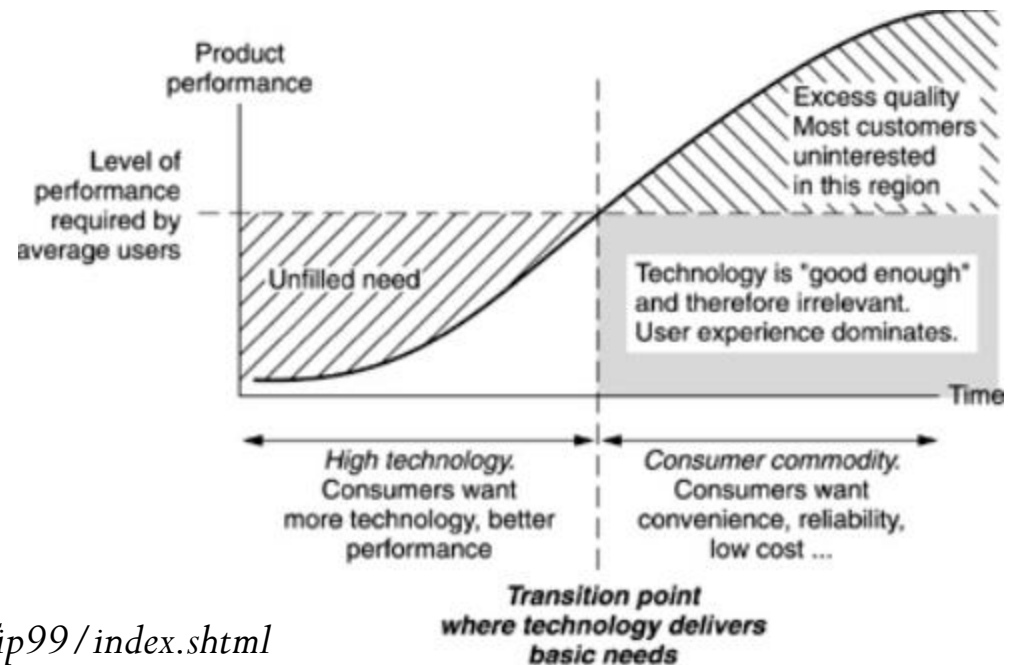
HBR.ORG

- Communications are critical...
- As time goes on communications become even more critical

Technology Adoption Lifecycle



Moving from High Technology to Consumer Commodity



CIS 3347 Overview

In this course, you will learn about:

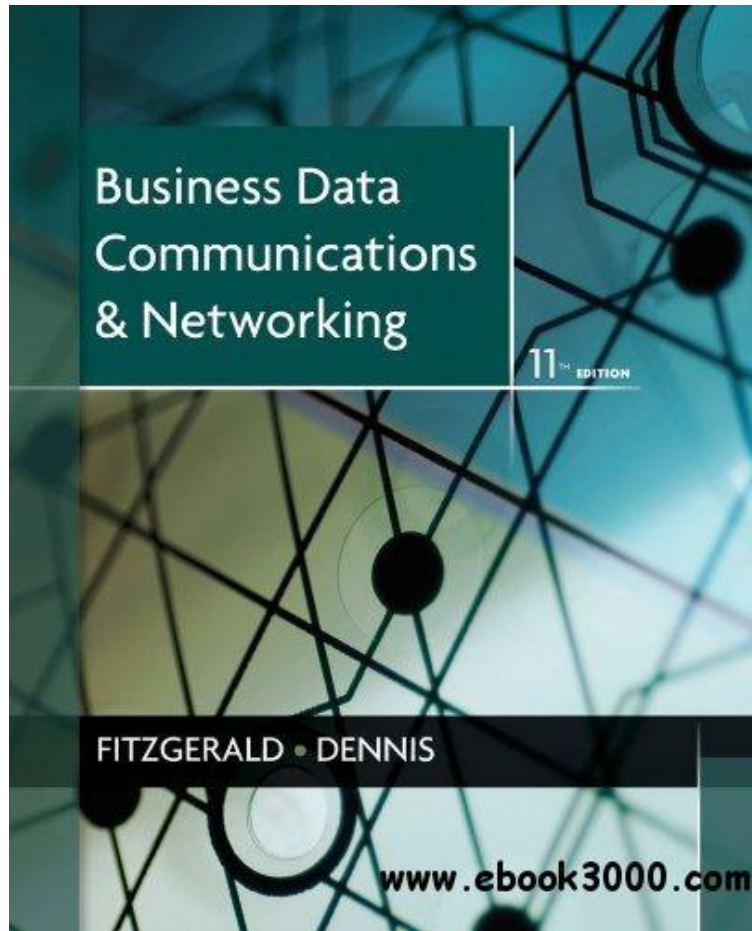
- Business data communication concepts, architectures, components, protocols and standards.
- How business data communications and related information system infrastructures impact a modern organization.
- A conceptual overview combined with some hands-on experiences.
- Lectures augmented by active learning modules.
- Hopefully a feel for the way that digital communications are evolving... And how organizations can use them to increase their competitiveness.



Modules and Projects

- Four Modules
 - Mod One – Intro, App and Physical Layers
 - Mod Two – Data Link Layer, Net and Trans Layers, Wired and Wireless LANs
 - Mod Three – Wide Area Networks, Internet, DNS, Security
 - Mod Four – Cloud, Wireless, and IoT
- Tentative Projects
 - Online Portfolios
 - Google Docs or Host Gator
 - Hands On:
 - Wireshark and/or netcat
 - Point Break (IoT)

Text



- Available from Amazon...
- You will want to have an, electronic, or a physical copy...
- While there is a newer version, we will supplement this version...

Support Site (Discussion Group???)

IS Infrastructure and Networks

[Home](#) | [Portfolio](#) | [Forum](#) | [Syllabus](#) | [Schedule](#) | [Links](#) | [Links](#) | [Framework](#)

[Module One](#)

[Module Two](#)

[Module Three](#)

[Module Four](#)

Welcome!

In this course, you will learn about business data communication concepts, architectures, components, protocols and standards. By focusing on packet orientated communication processes, the course facilitates a firsthand understanding of how business data communications and related information system infrastructures impact a modern organization.

The course is designed to provide students with both a conceptual overview and a hands-on experience that will enable them to demonstrate competency with communication and networking technologies. Class lectures are augmented by active learning modules. These 'hands on' modules provide an opportunity for students to apply and demonstrate related concepts.

Since Computer Information Systems, as a discipline, contains both technical and business attributes, the course is structured to provide students with the opportunity to reflect on the business context of IS Infrastructure and Networks. Within this context, students are expected to understand that, while Data Communication technologies are interesting in themselves, in an organizational context, they can also make a significant contribution.

News

[AT&T plan to shut off Public Switched Telephone Network](#)

[Can Lenovo save Motorola?](#)

[20 cloud computing statistics](#)

[Reddit Cisco](#)

<http://cis3347.chibana500.com/>

Syllabus and Schedule Review



Assignments Module One

Module One

Projected Schedule, Module 1

Date	Face to Face	Hybrid
Week 1 19 Jan	Class Overview Chapter 1, Introduction Online Portfolio Project	<u>OSI and TCP Layered Models</u>
Week 2 26 Jan	Chapter 2, Application Layer	<u>Application Protocols & DNS</u>
Week 3 2 Feb	Chapter 3, Physical Layer	<u>Network Media</u>
Week 4 9 Feb	Exam One (Chapters 1,2, and 3 plus Assignments) Module One Assignments Due	Prepare for Module Two. Project IoT or Wireshark...

Questions?

Tentative First Online Survey

- Do you, or have you, worked in IT? Explain...
- IT certifications?
- Background with IT, computers, and networks?
- Briefly describe your class goal and anything special that you would like to learn about.
- What is the URL for your online portfolio