BUS203 Business Systems Integration

Outlines

Instructor Name

Kennebec valley community college

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# Class 1

1. Welcome/Introduction
2. Syllabus review
	1. Methods to communicate with instructor
	2. Office Hours
	3. Textbook change
	4. Course Description, Objectives, and Content
	5. Grading
	6. Attendance
	7. Course Requirements
	8. Assignments
	9. Exams
	10. Project
	11. Other bits and pieces
3. Blackboard demonstration and exploration
4. Lecture capture
5. What is the point of this class?
	1. The S in CSI
	2. Necessary for the modern business to remain competitive
	3. Using IT for business
	4. Security
	5. Management/Development
	6. Ethics
6. Why you should be excited.

# Class 2

1. Introduction to AllRoad Parts
2. The importance of MIS
	1. Case Study - Jennifer
	2. Is MIS the most important class?
		1. Moore's Law and how it effects storage costs
		2. Job Security
			1. Marketable Skill
				1. Abstract Reasoning
				2. Systems Thinking
				3. Collaboration
				4. Ability to experiments
		3. Careers
			1. Tradable job
3. What is an information system?
	1. Five Components
		1. Hardware
		2. Software
		3. Data
		4. Procedures
		5. People
	2. What is MIS
		1. Management and Use of Information Systems
		2. Achieving Strategies
4. What is the difference between IT and IS?
5. What is your role in IS Security?

# Class 3

1. Allroad introduction
2. Business Processes
3. Business Process Modelling
	1. Overview of AllRoad
	2. Business Process Modelling Notation
		1. Swimlane
		2. Activities
		3. Role
		4. Actor
		5. Repository
		6. Data flows
		7. Sequence Flows
	3. Adjustments for 3d Printing
4. How can information systems improve process quality?
	1. Effective
	2. Efficiency
5. IS to improve process quality
	1. Five components
	2. Examples
6. What is information
7. Where is information
8. What data characteristics are necessary for quality information
	1. Accurate
	2. Timely
	3. Relevant
	4. Just barely sufficient
	5. Worth its cost

# Class 4

1. Homework review
2. All Road Introduction
3. Link to business processes from chapter 2
4. Porters 5 Forces Model
	1. Competitive
		1. Competition from vendors of substitutes
		2. Competition from new competitors
		3. Competition from existing rivals
	2. Bargaining Power
		1. Bargaining power of suppliers
		2. Bargaining power of customers
5. How do the five forces relate to All Road
6. Competitive Strategy
	1. Cost
	2. Differentiation
7. Value Chain Structure
	1. Value - $ (customer)
	2. Margin - Value - Cost (cost can sometimes be added in certain situations)
	3. Value chain
		1. Primary Activities - directly relate to production
		2. Support Activities - assist the primary activities
		3. Example

# Class 5

1. Competitive Strategy
	1. Cost
	2. Differentiation
2. Value Chain Structure
	1. Value - $ (customer)
	2. Margin - Value - Cost (cost can sometimes be added in certain situations)
	3. Value chain
		1. Primary Activities - directly relate to production
		2. Support Activities - assist the primary activities
		3. Example
		4. Linkages
3. Value Chains determine BP and IS
	1. Example on pg 63
4. So what?
5. How does IS provide competitive advantages
	1. Product Implementations
		1. Create a new product or service
		2. Enhance a product or service
		3. Differentiate products or services
	2. Process Implementations
		1. Lock in customers and buyers
		2. Lock in suppliers
		3. Raise barriers to market entry
		4. Establish Alliances
		5. Reduce costs
6. Example using ABC Shipping
7. Ethics Guide - Yikes Bikes
8. Guide - Personal competitive advantage

# Class 6

1. Hardware overview
2. Data overview
3. How can hardware affect competitive strategies?
	1. The internet of things
	2. Self Driving Cars
	3. 3D printing
4. Operating systems review
	1. NonMobile
	2. Mobile
	3. Servers
5. Virtualization
	1. PC virtualization
	2. Server Virtualization
	3. Desktop virtualization
6. Licensing
7. Software applications
	1. Horizontal
	2. Vertical
	3. One of a kind
8. Selecting software
9. Is open source viable?
10. Ethics Guide - Showrooming
11. Guide - Keeping up to speed

# Class 7

1. How can hardware affect competitive strategies?
	1. The internet of things
	2. Self Driving Cars
	3. 3D printing
2. Operating systems review
	1. NonMobile
	2. Mobile
	3. Servers
3. Virtualization
	1. PC virtualization
	2. Server Virtualization
	3. Desktop virtualization
4. Licensing
5. Software applications
	1. Horizontal
	2. Vertical
	3. One of a kind
6. Selecting software
7. Is open source viable?
8. Ethics Guide - Showrooming
9. Guide - Keeping up to speed

# Class 8

1. All Road example
2. What is the purpose of a database?
	1. Differences between list and databases
3. What is a database?
	1. Bytes
	2. Columns/fields
	3. Rows/Records
	4. Table/file
	5. Relationships
		1. Keys
	6. Metadata
4. Relationships
	1. Foreign Keys
5. Metadata
6. Database Management System DBMS
	1. Products
		1. DB2
		2. Access
		3. Sequel
		4. Oracle
		5. MYSQL
	2. Creating database
	3. Processing the database
	4. Administering the database
7. Database applications
	1. Forms
	2. Reports
	3. Queries
	4. Application Programs
	5. Traditional
	6. Thin client
	7. Multiuser processing
8. NOSQL DBMS
	1. New data types
	2. Faster processing
	3. Examples
		1. Amazon - Dynamo
		2. Google - Bigtable
		3. Facebook - Cassandra
		4. Mongodb

# Class 9

1. Database applications
	1. Forms
	2. Reports
	3. Queries
	4. Application Programs
	5. Traditional
	6. Thin client
	7. Multiuser processing
2. NOSQL DBMS
	1. New data types
	2. Faster processing
	3. Examples
		1. Amazon - Dynamo
		2. Google - Bigtable
		3. Facebook - Cassandra
		4. Mongodb

Chapter 6 Part 1

1. All Road Introduction
2. The Cloud
	1. Elastic
	2. Pooling
	3. Over the Internet
		1. SOA
		2. Web services
	4. Vs in house
	5. Why now
	6. When does it not make sense

# Class 10

1. The Cloud
	1. Elastic
	2. Pooling
	3. Over the Internet
		1. SOA
		2. Web services
	4. Vs in house
	5. Why now
	6. When does it not make sense
2. Cloud Services
	1. SaaS - Software as a service
	2. PaaS - Platform as a service
	3. IaaS - Infrastructure as a service
3. Content delivery networks
	1. Benefits
4. Internal Web Services
5. Allroad and the cloud
	1. SaaS
		1. Google
		2. Office 365
		3. Salesforce.com
		4. Microsoft CRM
	2. PaaS
		1. EC2
		2. DBMS
	3. IaaS
6. Security?
	1. VPN
		1. Tunneling
	2. Private Cloud
	3. VPC
7. The future?
	1. Faster, Bigger, Stronger
	2. Changes to the job market
	3. Remote Action systems
		1. Telediagnosis
		2. Telesurgery
		3. Telelaw enforcement
		4. Robotics
		5. Drones
	4. Connection to experts
		1. Local Mediocrity

# Class 11

1. Introduction to the next three chapters
	1. New Business
2. Introduction to PRIDE Systems
3. Scope of Information Systems
	1. Personal
	2. Workgroup
		1. Departmental information systems
		2. Functional information systems
	3. Enterprise
	4. Inter-Enterprise
4. Departmental silos
	1. What is an information silo?
	2. Examine Examples
	3. Why is this a problem
		1. Data integrity
			1. Use Examples
	4. Fixing problems with data silos
		1. Data integration
		2. Business process reengineering

# Class 12

1. Departmental silos
	1. What is an information silo?
	2. Examine Examples
	3. Why is this a problem
		1. Data integrity
		2. Disjointed
		3. Limited information
		4. Inefficiency
		5. Increased Expense
	4. Fixing problems with data silos
		1. Data integration
		2. Business process reengineering
		3. Problems faced with BPR
	5. Enterprise systems
		1. Inherent Processes
	6. CRM - Customer Relationship Management
		1. Customer Life Cycle
			1. Marketing
			2. Customer Acquisition
			3. Relationship Management
			4. Loss/Churn
	7. ERP - Enterprise Resource Planning
		1. Single Platform
		2. Manufacturing heavy
	8. EAI - Enterprise Application Integration
		1. Connects system islands via new software layer
		2. Existing apps to communicate and share data
		3. Provides integrated information
		4. Leaving the applications, the way they are and creating an integrating layer
		5. Allows for a gradual move to ERP
	9. Challenges
		1. Collaborative management - Who is in charge?
		2. Requirement Gaps - Where are the holes?
		3. Transition Problems - Switching is hard!
		4. Employee Resistance - People hate change!
	10. Relation to Pride Systems

# Class 13

Chapter 8 Part 1

1. Pride Systems Scenario
2. What is a Social Media Information System SMIS?
	1. Social Media overview
	2. Social Media in business
	3. Communities
3. Roles of SMIS
	1. Social Media Providers
		1. Growth in providers
		2. Advertising
	2. Users
		1. Stats pg 207
		2. In house platforms
	3. Communities
		1. How communities work
		2. Viral Hooks
4. SMIS Components
	1. Hardware
	2. Software
	3. Data
		1. Content Data
		2. Connection Data
	4. Procedures
	5. People
5. SMIS Advances Organizational Strategy
	1. Dynamic nature
	2. Sales and marketing
		1. Social CRM
	3. Customer Service
	4. Inbound and Outbound Logistics
	5. Manufacturing and operations
		1. Crowdsourcing
		2. B2C
		3. B2B
	6. Human Resources
6. Connecting the machines
7. Increase of social capital
	1. Capital - investment of resources for future profit
		1. Traditional
		2. Human
		3. Social
			1. Information
			2. Influence
			3. Social Credentials
			4. Personal Reinforcement

# Class 14

1. SMIS Components
	1. Hardware
	2. Software
	3. Data
		1. Content Data
		2. Connection Data
	4. Procedures
	5. People
2. SMIS Advances Organizational Strategy
	1. Dynamic nature
	2. Sales and marketing
		1. Social CRM
	3. Customer Service
	4. Inbound and Outbound Logistics
	5. Manufacturing and operations
		1. Crowdsourcing
		2. B2C
		3. B2B
	6. Human Resources
3. Connecting the machines
4. Increase of social capital
	1. Capital - investment of resources for future profit
		1. Traditional
		2. Human
		3. Social
			1. Information
			2. Influence
			3. Social Credentials
			4. Personal Reinforcement
5. Adding Value to business
	1. Influencers
	2. Increasing your relationships
6. Earning Revenue
	1. You are the product
	2. Advertising
	3. Freemium
	4. Mobility and online advertising
		1. Conversion Rates
7. Security of SMIS
	1. Policies
		1. Intel
			1. Disclose
			2. Protect
			3. Use Common Sense
	2. Inappropriate Content
		1. User generated content
			1. Junk/Crack pot
			2. Inappropriate content
			3. Unfavorable Reviews
			4. Mutinous Movements
	3. Responding
		1. Leave it
		2. Respond to it
		3. Delete it
	4. Internal Risks
8. Where is it going in the future?

# Class 15

1. Adding Value to business
	1. Influencers
	2. Increasing your relationships
2. Earning Revenue
	1. You are the product
	2. Advertising
	3. Freemium
	4. Mobility and online advertising
		1. Conversion Rates
3. Security of SMIS
	1. Policies
		1. Intel
			1. Disclose
			2. Protect
			3. Use Common Sense
	2. Inappropriate Content
		1. User generated content
			1. Junk/Crack pot
			2. Inappropriate content
			3. Unfavorable Reviews
			4. Mutinous Movements
	3. Responding
		1. Leave it
		2. Respond to it
		3. Delete it
	4. Internal Risks
4. Where is it going in the future?

# Class 16

Business Intelligence Systems

1. Opening Scenario
2. What Is business intelligence?
3. How do organizations use business intelligence?
	1. Informing
	2. Deciding
	3. Problem Solving
	4. Project Management
4. Uses of Business intelligence
	1. Identifying Changes in Purchasing Patterns
	2. Use in Entertainment
	3. Predictive Policing
5. Three Primary activities of Business Intelligence
	1. Acquire Data
	2. Perform Analysis
	3. Publish Results
6. All Road Example
7. Data Warehouses and Data marts
	1. Obtain Data
	2. Cleanse Data
	3. Organize and relate data
	4. Catalog Data
8. Problems with operational data
	1. Dirty data
	2. Missing values
	3. Inconsistent data
	4. Data not integrated
	5. Wrong Granularity
	6. Too Much data

# Class 17

1. Three Primary activities of Business Intelligence
	1. Acquire Data
	2. Perform Analysis
	3. Publish Results
2. All Road Example
3. Data Warehouses and Data marts
	1. Obtain Data
	2. Cleanse Data
	3. Organize and relate data
	4. Catalog Data
4. Problems with operational data
	1. Dirty data
	2. Missing values
	3. Inconsistent data
	4. Data not integrated
	5. Wrong Granularity
	6. Too Much data
5. Data Marts
	1. The difference between warehouses and marts
6. Techniques for Processing Data
	1. Reporting Analysis
		1. Structured Data
		2. Exception Reports
	2. Data Mining Analysis
		1. What is data mining
		2. Unsupervised
			1. Cluster analysis
		3. Supervised
			1. Regression analysis
	3. BigData
	4. MapReduce
	5. Hadoop
7. Publishing Alternatives
	1. Static
	2. Dynamic
8. Two functions of Servers
	1. Management
	2. Delivery

# Class 18

1. Problems with operational data
	1. Dirty data
	2. Missing values
	3. Inconsistent data
	4. Data not integrated
	5. Wrong Granularity
	6. Too Much data
2. Data Marts
	1. The difference between warehouses and marts
3. Techniques for Processing Data
	1. Reporting Analysis
		1. Structured Data
		2. Exception Reports
	2. Data Mining Analysis
		1. What is data mining
		2. Unsupervised
			1. Cluster analysis
		3. Supervised
			1. Regression analysis
	3. BigData
	4. MapReduce
	5. Hadoop
4. Publishing Alternatives
	1. Static
	2. Dynamic
5. Two functions of Servers
	1. Management
	2. Delivery

# Class 19

1. Opening Scenario
2. Introduction
	1. What is security
	2. CIA Triad
3. What is the goal of information systems security?
	1. Tradeoffs between threats and risk
	2. Security roles
		1. Threat
		2. Vulnerability
		3. Safeguard
		4. Target
	3. Examples provided in book
	4. What are the sources of threats?
		1. Human Error
		2. Computer Crime
		3. Natural Events and Disasters
	5. What types of security Loss exist?
		1. Unauthorized Data Disclosure
			1. Pretexting
			2. Phishing
			3. Spoofing
				1. IP
				2. Email
			4. Sniffing
				1. Wardriving
			5. Hacking
		2. Incorrect Data Modification
		3. Faulty Service
		4. Denial of Service
		5. Loss of infrastructure
	6. Goal of Information Security
4. How big is the computer security problem?
	1. Numbers of accounts stolen
		1. Pg 280
		2. Problems with the data
		3. Going through the numbers
		4. Takeaways
			1. Median average cost of computer crime in increasing
			2. Malicious insiders are increasing
			3. Data Loss is the principal cost of computer crime
			4. Mobile devices are a threat
			5. Security safeguards are not foolproof however they can work.
5. How should you respond to security threats?
	1. Take security seriously
	2. Strong passwords
	3. Multiple passwords
	4. Send no valuable data over email/im
	5. Use https
	6. Remove high value assets from computers
	7. Clear cache
	8. Update antivirus
	9. Demonstrate security concern to your coworkers
	10. Follow organizational security directives and guidelines

# Class 20

1. How big is the computer security problem?
	1. Numbers of accounts stolen
		1. Pg 280
		2. Problems with the data
		3. Going through the numbers
		4. Takeaways
			1. Median average cost of computer crime is increasing
			2. Malicious insiders are increasing
			3. Data Loss is the principal cost of computer crime
			4. Mobile devices are a threat
			5. Security safeguards are not foolproof however they can work.
2. How should you respond to security threats
	1. Take security seriously
	2. Strong passwords
	3. Multiple passwords
	4. Send no valuable data over email/im
	5. Use https
	6. Remove high value assets from computers
	7. Clear cache
	8. Update antivirus
	9. Demonstrate security concern to your coworkers
	10. Follow organizational security directives and guidelines
3. How should organizations respond to security threats
	1. Create Policies
		1. What sensitive data the organization will store
		2. How will it process the data
		3. Whether data will be shared with other organizations
		4. How employees and others can obtain copies of data stored about them
		5. How employees and others can request changes to inaccurate data
	2. Manage risk
4. How can technical safeguards protect against security threats
	1. IS pieces relationships
	2. Identification and authentication
		1. Smart Cards
		2. Biometrics
		3. Single sign on
	3. Encryption
	4. Firewalls
		1. Perimeter
		2. Internal
		3. Packet Filtering
	5. Malware Protection
	6. Design for secure applications
5. How can data safeguards protect against security threats
	1. Data Safeguards
		1. Data Administration
		2. Database Administration
			1. Key Escrow
6. How can human safeguards protect against security threats
	1. Human safeguards for employees
		1. Position definitions
		2. Hiring and screening
		3. Dissemination and enforcement
			1. Responsibility
			2. Accountability
			3. Compliance
		4. Termination
	2. Nonemployees
	3. Account administration
		1. Account Management
		2. Password Management
		3. Help Desk policies
	4. Systems procedures
		1. Normal
		2. Backup
		3. Recovery
	5. Security Monitoring
		1. Logs
		2. Testing
			1. Honeypots
		3. Investigating/Learning
	6. Response to security threats
		1. Have a plan
		2. Centralized Reporting
		3. Specific Responses
			1. Speed
			2. Preparation Pays
			3. Don't make problem worse
		4. Practice

# Class 21

1. How can data safeguards protect against security threats
	1. Data Safeguards
		1. Data Administration
		2. Database Administration
			1. Key Escrow
2. How can human safeguards protect against security threats
	1. Human safeguards for employees
		1. Position definitions
		2. Hiring and screening
		3. Dissemination and enforcement
			1. Responsibility
			2. Accountability
			3. Compliance
		4. Termination
	2. Nonemployees
	3. Account administration
		1. Account Management
		2. Password Management
		3. Help Desk policies
	4. Systems procedures
		1. Normal
		2. Backup
		3. Recovery
	5. Security Monitoring
		1. Logs
		2. Testing
			1. Honeypots
		3. Investigating/Learning
	6. Response to security threats
		1. Have a plan
		2. Centralized Reporting
		3. Specific Responses
			1. Speed
			2. Preparation Pays
			3. Don't make problem worse
		4. Practice

# Class 22

1. Final Review
2. Nonemployees
3. Account administration
	1. Account Management
	2. Password Management
	3. Help Desk policies
4. Systems procedures
	1. Normal
	2. Backup
	3. Recovery
5. Security Monitoring
	1. Logs
	2. Testing
		1. Honeypots
	3. Investigating/Learning
6. Response to security threats
	1. Have a plan
	2. Centralized Reporting
	3. Specific Responses
		1. Speed
		2. Preparation Pays
		3. Don't make problem worse
	4. Practice

# Class 23

1. Opening Case
2. Functions of IS Department
	1. Plan the use of IS to accomplish organizational goals and strategy
	2. Manage outsourcing relationships
	3. Protect information assets
	4. Develop, operate, and maintain the organizations infrastructure
	5. Develop, operate, and maintain applications
3. Organization of IS department
4. IS Job Positions
5. Plan the use of IS
	1. Align information systems with organization strategy
	2. Communicate IS issues to the executive group
	3. Develop priorities and enforce them with the IS department
	4. Sponsor the steering committee
6. Advantages and disadvantages of outsourcing
	1. Management Advantages
	2. Cost Reduction
	3. Risk Reduction
7. International Outsourcing
8. Outsourcing alternatives
9. Risks of outsourcing
	1. Loss of control
	2. Benefits outweighed by long term costs
	3. No easy exit
10. User Rights and responsibilities

# Class 24

1. Advantages and disadvantages of outsourcing
	1. Management Advantages
	2. Cost Reduction
	3. Risk Reduction
2. International Outsourcing
3. Outsourcing alternatives
4. Risks of outsourcing
	1. Loss of control
	2. Benefits outweighed by long term costs
	3. No easy exit
5. User Rights and responsibilities

Chapter 12

1. Opening Case
2. What is Systems Development?
3. Why is systems development difficult and risky?
	1. The difficulty off requirements determination
	2. Changes in requirements
	3. Scheduling and budgeting difficulties
	4. Changing technologies
	5. Diseconomies of scale
		1. Brooks Law
	6. Is it really so bleak?

# Class 25



1. Five phases of SDLC
	1. History
	2. Different Models
	3. The Books 5 Phases
		1. System Definition
			1. Assess Feasibility
				1. Cost
				2. Schedule
				3. Technical
				4. Organizational
	4. Form a project team
		1. Business Analysts
		2. Systems Analysts
2. Users role
	1. Determine Requirements
	2. Approve Requirements
	3. Using prototypes
3. 5 components design
	1. Hardware
	2. Software
	3. Database
	4. Procedure
	5. Job Descriptions
4. Systems Testing
	1. Test plan
	2. Product quality assurance
	3. Beta Testing
5. System Conversion
	1. Piolet
	2. Phased
	3. Parallel
	4. Plunge
6. System Maintenance
7. Problems
	1. SDLC Waterfall
	2. Requirements documentation
	3. Scheduling and budgeting difficulties

# Class 26

1. Users role
	1. Determine Requirements
	2. Approve Requirements
	3. Using prototypes
2. 5 components design
	1. Hardware
	2. Software
	3. Database
	4. Procedure
	5. Job Descriptions
3. Systems Testing
	1. Test plan
	2. Product quality assurance
	3. Beta Testing
4. System Conversion
	1. Pilot
	2. Phased
	3. Parallel
	4. Plunge
5. System Maintenance
6. Problems
	1. SDLC Waterfall
	2. Requirements documentation
	3. Scheduling and budgeting difficulties

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