RUTGERS

Rutgers Business School
Newark and New Brunswick

33:010:458
Accounting Information Systems

Dr. Peter R. Gillett

Associate Professor
Department of Accounting, Business Ethics and Information Systems
Rutgers Business School–Newark and New Brunswick

A.I.S. Class 18: Outline

- Ash Accounting Stage 5
- Learning Objectives for Chapter 12
- Chapter 12 Summary
- Group Work for Chapter 12 (1)
- Group Work for Chapter 12 (2)
- Group Work – Siding Solutions
- Ash Accounting
- XBRL

Ash Accounting Stage 5

- Do we want Customer#, Vendor#, etc. to be numeric? Why? Will Autonumber be appropriate?
- Consider appropriate Coding Schemes
- Will Autonumber be appropriate for events?
- Perhaps Autonumber Primary keys, but not Foreign keys
- What about Account Codes?

Learning Objectives for Chapter 12

- After studying this chapter you should be able to:
  * use the General Systems Model to describe an information system for meeting the information needs relative to revenue business processes
  * identify a comprehensive set of information needs and user requirements for a database driven information system for revenue business processes
  * develop an extended entity relationship diagram depicting a data oriented view of revenue business processes

Learning Objectives for Chapter 12

- After studying this chapter you should be able to:
  * convert an extended entity relationship diagram of revenue business processes to tables for implementation in a relational database system
  * construct a context diagram and a level 0 data flow diagram depicting a process oriented view of revenue business processes
  * identify the tables and database forms that would be created to implement the data and process oriented models
  * indicate how accounting views such as a sales journal and current accounts receivable can be generated in a relational database system

Learning Objectives for Chapter 12

- After studying this chapter you should be able to:
  * indicate how non-financial information needs can be met in a relational database system for revenue related business processes
  * identify controls that should be implemented in a database system for revenue business processes
  * indicate how a database system for revenue business processes can be audited using the features available in relational database systems
  * adapt an existing database design to accommodate changes in users' needs and business rules

Chapter 12 Summary

- General Systems Model
- Information needs
- Revenue business processes
- REA modeling - EER
- REA modeling - data repository
- REA modeling - normalization
- DFD models
- ACCESS implementation
- Controls
- Auditing
- Change management

Group Work for Chapter 12 (1)

- The EER Diagram for Revenue Business Processes shown in Chapter 12 *in 1997* was a valid EER diagram - but it had not been designed by following the REA methodology we have been learning strictly
- Working in your groups, identify at least ten shortcomings of 1997's model *without referring to the current model in Chapter 12*
- Are there also errors in 1997's data repository structure? If so, what are they?

Group Work for Chapter 12 (2)

- Consider the Data Repository Structure for a Mail Order company handed out in class:
  * What errors, if any, does it contain?
  * Sketch an REA model for it
  * How would you produce the various reports requested?

Group Work – Siding Solutions

- Siding Solutions is a NJ business based in Somerset that sells a range of different wood, stone, vinyl and aluminum house sidings. A small sales force makes cold calls to pitch home-owners "special offers while we are in your location" of complete home re-siding with "free" installation; sidings are priced by the square foot, from $3 to $10, depending on quality.

  New customer records are created when orders are recorded for successful pitches, at an agreed price. Within a week of the order, as agreed with the customer, one of Siding Solution's three truck drivers delivers the siding materials to the customer's home and collects a check for the 50% deposit; over the next few days a team of two or three installers completes the installation of the sidings. The customer is presented with an invoice on conclusion of the work, and is required to sign a copy to indicate satisfaction. Payment of the full balance outstanding is due within 14 days; customer checks are received in the mail and are recorded by one of several part-time clerical assistants.

- Prepare an REA diagram in UML format for this business process, together with a data repository structure.

Ash Accounting

- DFDs
  - Don't miss link tables on DFDs
  - Tables/Data Stores not named consistently from one Step to another
  - Include "event" reports on Recording DFDs
  - Insufficient reports relating to Financial Statements & Managerial Accounting
  - Some useless/unnecessary reports generated
  - Some reporting processes lack sufficient data to generate the reports
  - Some tables in DFDs did not appear in Data Repository Structure
  - Some problems with sources for maintaining DFDs
  - Some confusion between
    (1) whom or where data comes from, and (2) who enters it in the system
  - Supplies are NOT maintained when we acquire more items, but when we stock a new Supply!!!
  - Similarly, Cash Account is NOT maintained when we receive money
  - Data source or data store not appropriately identified, for example, the link tables between two sequential events or the link table between the events and the resource/agents
  - Maintenance of the Time Sheets and Skills

Ash Accounting

- Data Repository Structure
  - Generally, there were too few reference tables
  - Use the required format
  - Use our naming conventions (Camel Code and hyphens without spaces to show link tables – NOT underscores)
  - Concatenated key (in Link tables) still need to be underlined even when the parts are themselves foreign keys, and each part needs [ ]
  - { } cannot appear in tables in 1NF
  - Quantities often omitted from Link tables
  - Some groups did not include Prices anywhere
  - Some groups did not have enough information for Ash Accounting to know how much to pay
  - Do we have enough data to depreciate Fixed Assets?
    - What if it changes over time?
  - Do we have enough data to compute payroll deductions?

Ash Accounting

- Human Resources Management – some ideas
  * Employee Record Forms
  * Hours Worked / Time Sheets
  * Payroll Register
  * Payroll Checks!!!
  * Training Course Reports
  * Evaluation Reports
  * Outstanding Evaluations
  * Work In Progress Ledger
  * Payroll Expense
  * Payroll Liabilities

Ash Accounting

- Purchases – some ideas
  * Requisitions
  * Orders
  * Receiving Reports
  * Back Orders
  * Service Orders
  * Services Received
  * Services Paid
  * Service Accruals / Prepayments
  * Cash Payments / Disbursements
  * Checks

Ash Accounting

- Purchases – some ideas
  * Accounts Payable
  * Current Liability for F/S
  * Services Payable
  * Cost Variances
  * Comparative Service Cost Analyses
  * Analyzed Service Expenses

Ash Accounting

- Fixed Assets – some ideas
  - Purchase Orders
  - Receiving Reports
  - Back Orders
  - Payment Reports
  - Checks
  - Disposals
  - Disposal Proceeds
  - Fixed Asset Register
  - Fixed Asset depreciated values and details for Notes
  - Depreciation Expense

Ash Accounting

- Finance Reports – some ideas
  * Loan Terms
  * Loans Received
  * Repayments
  * Interest Expense
  * Loan Repayment Schedule
  * Loan Maturities Schedule
  * Checks
  * Short-term Loan Liabilities
  * Long-term Loan Liabilities

Ash Accounting

- Client Services, Billings and Cash Collections
  - Some possibilities appeared in the slides for the last class . . .

XML & XBRL

- SGML
  - * HTML - format
  - * XML - content
    - XBRL – financial community
- XBRL
  - * Fast, accurate searches
  - * Drill-down
  - * Less data re-entry
  - * User choice for disclosure

XML Documents

- Hierarchical
- Self-describing
- Directly usable over the Internet
- Do not replace HTML
- Standards promulgated by W3C
- Convert to HTML, spreadsheet, etc. via XSLT
- XML Schema – a new standard for defining consistent structure

XBRL

- XML-based taxonomy
- Common business semantics
- Variable output format
- Currently:
  - Financial reporting taxonomies
  - General ledger taxonomies
- Promulgated by XBRL International, created by AICPA, www.XBRL.org
- Specification 2.1 issued December 2003 (revised November 2004, 2005)
- "Voluntary" submissions accepted by SEC since 2005
- Mandatory SEC submission from July 2009

XBRL Assignment

- There will be a simple XBRL assignment posted on Blackboard by tomorrow night, due next Monday via the Digital Drop Box on Blackboard

Finally . . .

- Classes will meet in Lab 005 on Wednesday November 4