

RUTGERS

Rutgers Business School
Newark and New Brunswick

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**Accounting Information
Systems**

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A.I.S. Class 20: Outline

- Learning Objectives for Chapter 13
- Group Work for Chapter 13
- Group Project Stages 4 & 5
- Importing or Linking ACCESS data
- ACCESS – Control and Ease of Use
- Ash Accounting

Learning Objectives for Chapter 13

- 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 expenditure related business processes
 - * identify a comprehensive set of information needs and user requirements for a database driven information system for expenditure related business processes
 - * develop an extended entity relationship diagram depicting a data oriented view of expenditure related business processes
 - * convert an extended entity relationship diagram of expenditure related business processes to tables for implementation in a relational database system

Learning Objectives for Chapter 13

- After studying this chapter you should be able to:
 - * construct a context diagram and a level 0 data flow diagram depicting a process oriented view of expenditure related 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 listing of purchases and current accounts payable can be generated in a relational database system
 - * identify controls that should be implemented in a database system for expenditure related business processes

Learning Objectives for Chapter 13

- After studying this chapter you should be able to:
 - * indicate how a database system for expenditure related 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 13 Summary

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

Group Work for Chapter 13

- The EER Diagram for Procurement Business Processes shown in Chapter 13 *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 groups, identify any shortcomings of last year's model *without referring to the current model in Chapter 13*

Group Projects Stage 4

- Insufficient detail as to how control will be implemented – lack of specificity
- Too many fields identified as “required” for completeness (e.g., cell-phone#)
- User Controls confused with Output Controls
- No manual controls
- No detective controls
- No restrictions of access to input data
- No control over completeness or accuracy of Output
- Too few user controls such as reconciliations, analytical review / comparisons
- Range tests with no defined bounds
- Too many Primary keys numeric
- All primary keys Autonumber
- Some unrealistic controls
- Some controls with no obvious purpose or value
- Objectives sometimes incorrectly identified
- Incorrect identification of marital status
- Missing Process Controls document
- Output and User Controls not sufficiently specific as to who, what, when, etc.

Group Projects Stages 4 & 5

- Questions regarding
 - * Stage 4 Internal Controls or
 - * Their implementation at Stage 5

Importing or Linking ACCESS data

- **Demonstration**

Group Projects Stages 5 & 6

- Create a directory on your C: drive called C:\AIS
- Copy both your databases there
- Rename them Groupx.accdb and TablesGroupx.accdb respectively
($x = 1, 2, \dots, 24$)
(the .accdb is generated automatically)
- Link them (or re-link them) as required
- Submit them to me using the Digital Dropbox on Blackboard (be SURE to SEND not just ADD)

ACCESS – Control and Ease of Use

■ Tables

- * Input masks control format (e.g., upper case)
- * Validation Rules (+Text) control content
- * Referential Integrity can be established

ACCESS – Control and Ease of Use

■ Queries

- * “Selection” determines what rows of a table are seen by users
- * “Projection” determines what columns of a table are seen by users
- * Facilitate calculation of new information
- * Allow data from multiple tables to be used simultaneously

ACCESS – Control and Ease of Use

■ Forms

- * Provide a user-friendly interface to minimize stress and cognitive load on users
- * Facilitate input to several tables at once
- * Restrict which attributes can be seen by a particular user
- * Restrict which attributes can be updated by a particular user
- * Prevent users from changing the table structure while allowing data entry
- * Can be improved by use of Combo boxes (+ “Limit to List”)

ACCESS – Control and Ease of Use

■ Reports

- * Flexible presentation of information facilitates use in decision making
- * Can present “subset” views of data on a controlled basis

ACCESS – Control and Ease of Use

■ **Macros/VBA**

- * Can validate data immediately it is entered (rather than waiting until the whole form is completed – controls at table level are activated when the form is ready to write the whole of data to the table)
- * Can check values in relation to other tables and objects
- * Can be as complex as necessary

ACCESS – Control and Ease of Use

- **Switchboard Forms/Menus**
 - * **Are user friendly and familiar**
 - * **Facilitate use of the application by users unfamiliar with ACCESS**
 - * **Reduce stress and cognitive load**
 - * **Limit users to just those facilities of ACCESS that they need to perform their jobs, while preventing use of tools needed by designers**

Ash Accounting

■ Key Tables: Human Resource Management

- * SupplyLabor (TimeSheet#, TimeSheetDate, [Employee#])
- * PayEmployees (EmployeePayroll#, PayrollDate, [PayrollClerkID], [StaffPartnerID], [CashAccount#])
- * SupplyLabor-PayEmployee ([TimeSheet#], [Payroll#])
- * PayEmployees-Partner ([PartnerPayroll#], [PartnerID], Check#, GrossPay, FederalTax, StateTax, FICA, Medicare, ExpensesReimbursed)
- * PayEmployees-Staff ([StaffPayroll#], [StaffID], Check#, RegularGrossPay, OvertimeGrossPay, FederalTax, StateTax, FICA, Medicare, ExpensesReimbursed)
- * TimeWorked ([TimeSheet#], Date, [AccountCode], TimeUnits, Expenses)

Ash Accounting

■ Key Tables: Purchases

- * ReceiveSupplies (ReceiveSupplies#, ReceiveSuppliesDate, [PurchaseOrder#], [AdministrationStaffID], [Vendor#], VendorInvoice#, VendorInvoiceShipping, VendorInvoiceTax, VendorInvoiceAmount, PaymentDueDate)
- * ReceiveService (ReceiveService#, ReceiveServiceStartDate, ReceiveServiceEndDate, [Service#], [FinancialControllerID], [Vendor#], VendorInvoice#, VendorInvoiceTax, VendorInvoiceAmount, PaymentDueDate)
- * Payment (Payment#, PaymentDate, [AccountsPayableClerkID], [FinancialControllerID], [Vendor#], [CashAccount#], Check#)
- * ReceiveSupplies-Payment ([ReceiveSupplies#], [Payment#], AmountPaid)
- * ReceiveService-Payment ([ReceiveService#], [Payment#], AmountPaid)

Ash Accounting

■ Key Tables: Fixed Assets

- * ReceiveFixedAsset (ReceiveFixedAsset#, ReceiveFixedAssetDate, [PurchaseOrder#], [OfficeAdministrationPartnerID], [Vendor#], VendorInvoice#, VendorInvoiceDeliveryCharge, VendorInvoiceTax, VendorInvoiceAmount, PaymentDueDate)
- * FixedAssetPayment (FixedAssetPayment#, FixedAssetPaymentDate, [ReceiveFixedAsset#], [AccountsPayableClerkID], [OfficeAdministrationPartnerID], [Vendor#], [CashAccount#], Check#, AmountPaid)
- * FixedAsset (FixedAsset#, [ReceiveFixedAsset#], [FixedAssetType#], FixedAssetDescription, [FixedAssetLocationCode], FixedAssetFirstUseDate, FixedAssetCost)
- * FixedAssetDepreciation (FixedAsset#, EffectiveDate, [DepreciationMethodCode], DepreciationRate, SalvageValue)