

Assignment 4:

Q1) A relationship between cash receipt and customer for an enterprise has cardinalities (0,1) cash receipt – (0,N) customer. The enterprise creates a cash receipt table and a customer table to represent the entities. To represent the relationship, the enterprise posts the primary key of the customer entity table into the cash receipt entity table. Why is this considered an implementation compromise, and at what level (conceptual, logical, or physical) is it an implementation compromise?

- Since we have (0,1)-(0,N) cardinality, it means that we may have a cash receipt without a customer which will lead to null values. Posting a primary key into the (0,1) entity's table as a foreign key for any relationships results in a high load, and that is a logical level implementation compromise. According to a theoretically pure relational database, it should never allow a null value in a table, but here, the enterprise may be forced to have high load.

Reference: Dunn, C., Cherrington, J., & Hollander, A. (2005). View Integration and Implementation Compromises. In Enterprise information systems: A pattern-based approach (3rd ed., p. 320. Boston: McGraw-Hill/Irwin.

=====

Q2) Why are labor operations and labor types often tracked in the conversion process but usually not tracked in the revenue process?

- Because labor operations cost in the conversion process exceeds the cost of the raw materials or other costs. It's cost beneficial and so important to be tracked and measured. But in the revenue process the labor operations don't need to be tracked because labor and fixed assets are usually unimportant compared to primary economic event and to other costs like inventory cost.

Reference: Dunn, C., Cherrington, J., & Hollander, A. (2005). The Conversion Business Process. In Enterprise information systems: A pattern-based approach (3rd ed., p. 349. Boston: McGraw-Hill/Irwin.

=====

Q3) Consider the tables given on the next page and describe the necessary procedures to construct a query to determine the number of hours for which Freda Matthews is scheduled to work during the first week of April, 2010.

LaborSchedule (Mutual Commitment) Event						
Labor ScheduleID	Date Schedule Approved	Begin Date	End Date	Total Dollar Amt	LaborReqID ^{FK}	SuperID ^{FK}
LS7	3/4/2010	4/1/2010	4/7/2010	\$2,758.80	LR7	E5

LaborRequisition (Instigation) Event					
LaborReqID	Date	Maximum Budget for Request	Estimated Budget for Request	Labor Request Period	SuperID ^{FK}
LR7	2/24/2010	\$3,000.00	\$2,768.00	4/1/2010-4/7/2010	E5

ReservationLaborScheduleLaborType (Reservation1) Relationship		
LaborScheduleID	LaborTypeID	HoursScheduled
LS7	CT2	80
LS7	US3	52
LS7	AP1	60
LS7	CT1	84

ParticipationLaborScheduleEmployee (Participation4) Relationship			
LaborScheduleID	Scheduled EmployeeID	Hours Scheduled	Wage Rate
LS7	E15	40	\$10.50
LS7	E16	40	\$9.75
LS7	E17	40	\$6.20
LS7	E18	6	\$5.90
LS7	E19	6	\$5.90
LS7	E20	28	\$8.50
LS7	E21	40	\$9.00
LS7	E22	16	\$8.25
LS7	E23	60	\$15.00

DepartmentSupervisor (Internal Agent)	
SuperID	Authorized Spending Limit
E5	\$425,000

(Continued)

1. Make a query that join the table of employee names and table of ParticipationLaborScheduleEmployee which are connected via employeeID , and we will need to specify the criteria of employee name to "Freda Matthews" to show her information from ParticipationLaborScheduleEmployee table.
2. Make another query that join the result of query 1 with the LaborSchedule table which are connected via LaborScheduleID, and we will need to specify the criteria of End Date to "Between 4/1/2010 And 4/7/2010".
3. To show the number of hours scheduled, we need to add Sum to this column and show only this column to get the result with one cell of total hours.

Q4) Identify the resources, internal agents, and external agents associated with each of the following events in the finance process:

- a. Cash Requisition (Instigation) event
- b. Loan (Mutual commitment) event
- c. Stock Issuance (Commitment to Increment) event
- d. Dividend Declaration (Commitment to Decrement) event
- e. Cash Receipt (Economic Increment) event
- f. Cash Disbursement (Economic Decrement) event

- a. Cash Requisition (Instigation) event:

Resources: Cash.

Internal Agents: Financial officers.

External Agents: Investors/Creditors.

- b. Loan (Mutual commitment) event:

Resources: Cash.

Internal Agents: Financial officer.

External Agents: Creditor.

- c. Stock Issuance (Commitment to Increment) event:

Resources: Cash.

Internal Agents: Financial officer.

External Agents: Investor.

- d. Dividend Declaration (Commitment to Decrement) event:

Resources: Cash.

Internal Agents: Financial officer.

External Agents: Investor.

- e. Cash Receipt (Economic Increment) event:

Resources: Cash.

Internal Agents: Cashiers.

External Agents: Investors/Creditors.

- f. Cash Disbursement (Economic Decrement) event

Resources: Cash.

Internal Agents: Cashiers or financing clerk.

External Agents: Investors/Creditors.

Reference: Dunn, C., Cherrington, J., & Hollander, A. (2005). The Financing Business Process. In Enterprise information systems: A pattern-based approach (3rd ed., pp. 413-421. Boston: McGraw-Hill/Irwin.

=====