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COSC265

Assessment: Design database system for a bank

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I. Brief explanation about complicated point in the graph:

- In weak "LOAN_REPAYMENT" entity, because the repayment has to specify which account is they paid for (either Saving or Checking). So, there will be two relationships that link to saving account and checking account.
- The relationship between report and account is one to one. Because the report is issued every month, the relationship shows the transaction in each month of the account. Therefore, there is only one report for the account per month.
- The relationship between account, customer and transaction is ternary relationship because, all the time, when you do any transaction, customer and account are involved in. So, the weak transaction entity has two owner which are customer and account, using data and time as partial key. To create this relationship, it needs participation of all these three entities.
- Manner entity is union of three entities which are Teller (subclass of employee), electronic transaction (subdomain of internet banking) and ATM.
- The company entity is subclass of the receiver which overwrites the key attribute as registered company name instead of Account number from the supper class

II. Assumption list:

- The central branch manages and organizes the other branches in the city. For example, allowing assessment information, deciding the manager for each small branch.
- When the customers create their account, they have to set up the internet banking with user name which is unique and their password.
- The teller is a specific type of employee like manager and personal banking. Teller, personal banking and manage are distinct. They cannot do the other's job.

- Internet transaction is a small subset of internet banking which also require customer to enter the username and password to do the transaction on the internet.
- Customer can do all operations on the internet like checking account balances, moving funds between accounts, viewing, and printing transactions. They can be done by the relationship “OPERATED_BY”, which is between account and internet backing.
- Bank card in this case is the debit card which covers all loans, checking and saving account. On the other side, the credits card covers the credit account. VISA and MASTER are types of credit card that cannot be stored as entities because without further information there is no different between them. Therefore, MASTER and VISA will be stored as a type attribute in credit card entity.
- Share charge of credit account and the other optional attribute will be stored in the database sometime as null attributes.
- Frequency of the load payment is partial key of the weak entity Loan repayment.

III. Difficulties and self-reflection:

When I did this assignment, there are numbers of confused problem where I had to face with. For example, some of the requirements are vague. There are many ways to approach the problems, but I need to decide which ways should be the most appropriate. How I can apply the EER Model to the requirements. But the most confused part is about how to display the transaction entity and Withdrawal and Deposit. The quantity of the design also depends on assumption. This assignment helps me learn a lot how to design the world database.