

## **Chapter 6**

### **Database Design**

#### **6.1 Introduction**

Database system is the most important feature for a company. It is the backbone of all the information structure. It is the collection of data where data are stored in such a manner that there are inter-related but not redundant information. It helps to maintain information in an orderly process. With these database, the controlling and flexibility has been increased. Rajshahi Krishi Unnayan Bank requires many databases as it has to keep control of all the user information. It has loan section, account section and others.

#### **6.2 Database for Rajshahi Krishi Unnayan Bank**

Rajshahi Krishi Unnayan Bank is a bank of 383 branches. It has its own data center and data server. It keeps a backup of the whole data in government data center by hiring cloud space. It is very useful in case of system crashes. The database information are related to-

- Account
- Deposit
- Loan
- Employee
- Customer

Besides, the bank is giving E-banking services though prefers manual process.

### 6.2.1 ER Diagram for Rajshahi Krishi Unnayan Bank

ER diagram resembles the whole process structure. As bank is a secure place, much information was not able to collect. The brief idea is presented here.

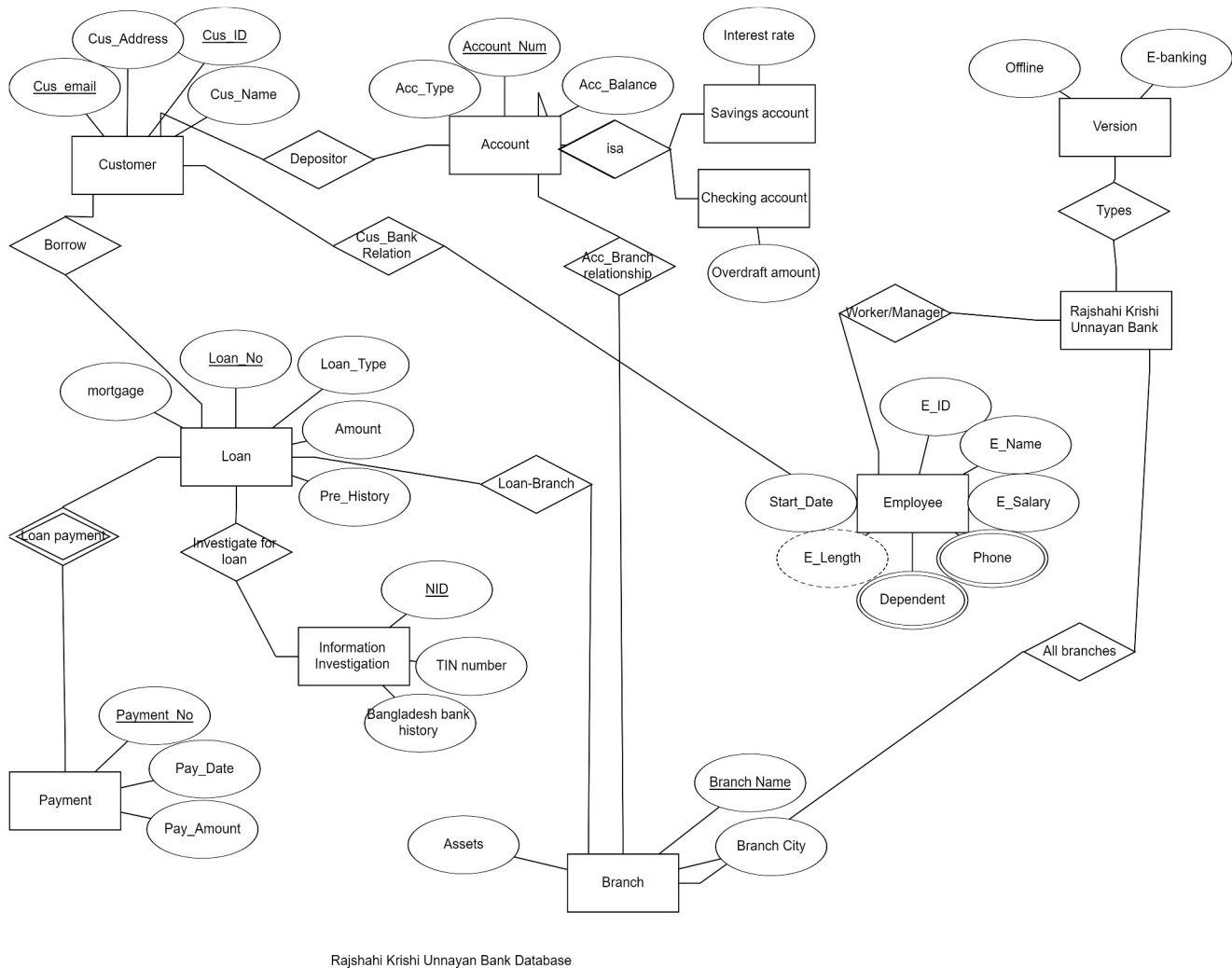


Figure6.1: ER diagram of Rajshahi Krishi Unnayan Bank

## 6.2.2 Structures of tables

The structures of each table is made with the knowledge gained from the system analysis.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Acc_Num	int(200)			No	None			Change  Drop  More
2	Acc_Type	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
3	Acc_Balance	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
4	Interest_Rate	int(200)			No	None			Change  Drop  More

Figure6.2: Structure of customer account table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	B_name	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
2	B_City	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
3	B_assets	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More

Figure6.3: Structure of bank branch table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	CUS_ID	int(200)			No	None			Change  Drop  More
2	CUS_Email	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
3	CUS_Address	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
4	CUS_Name	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More

Figure6.4: Structure of customer account creation table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	<b>E_ID</b> 🔑	int(200)			No	None			Change  Drop  More
2	<b>E_Name</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
3	<b>E_salary</b>	int(200)			No	None			Change  Drop  More
4	<b>Phone</b>	int(200)			No	None			Change  Drop  More
5	<b>Dependent</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
6	<b>Start date</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More

Figure6.5: Structure of employee table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	<b>NID</b>	int(200)			No	None			Change  Drop  More
2	<b>TIN no</b> 🔑	int(200)			No	None			Change  Drop  More
3	<b>Bangladesh Bank history</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More

Figure6.6: Structure of investment table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	<b>Loan_Num</b> 🔑 🔒	int(200)			No	None			Change  Drop  More
2	<b>Loan_Type</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
3	<b>Amount</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More
4	<b>Pre_history</b>	varchar(200)	utf8mb4_general_ci		No	None			Change  Drop  More

Figure6.7: Structure of customer loan table

Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<b>Pay_No</b> 🔑	int(200)			No	None			Change  Drop  More
<b>Pay_Date</b>	date			No	None			Change  Drop  More
<b>Pay_Amount</b>	int(200)			No	None			Change  Drop  More

Figure6.8: Structure of customer payment table

## 6.3 Conclusion

These tables are created in such a way that no redundancy of data is present. In every sector, all information are not needed so database is made efficiently using proper space. These are very helpful to run a system in a fluent way.