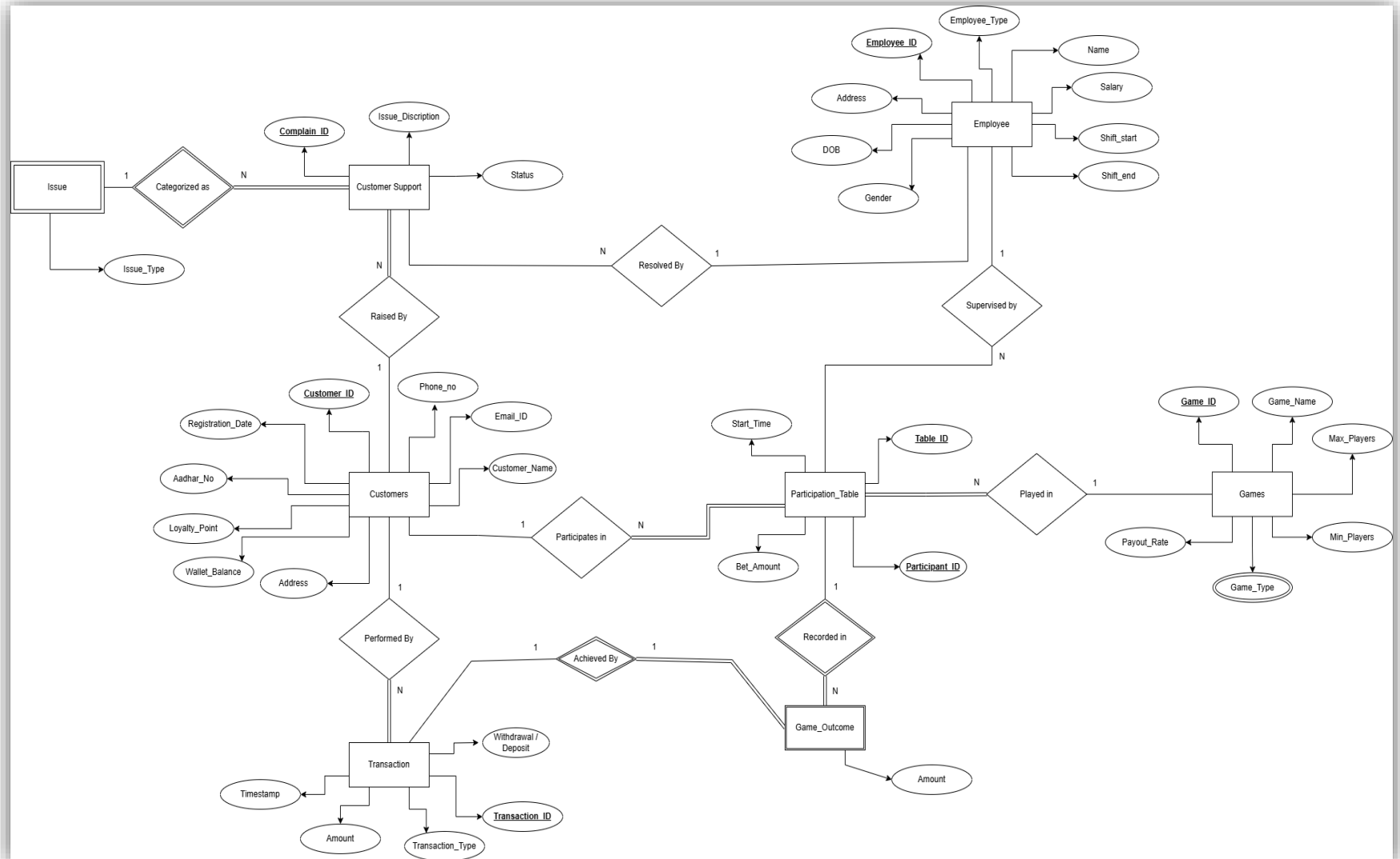Dhirubhai Ambani Institute of Information and Communication Technology

IT214 DBMS PROJECT

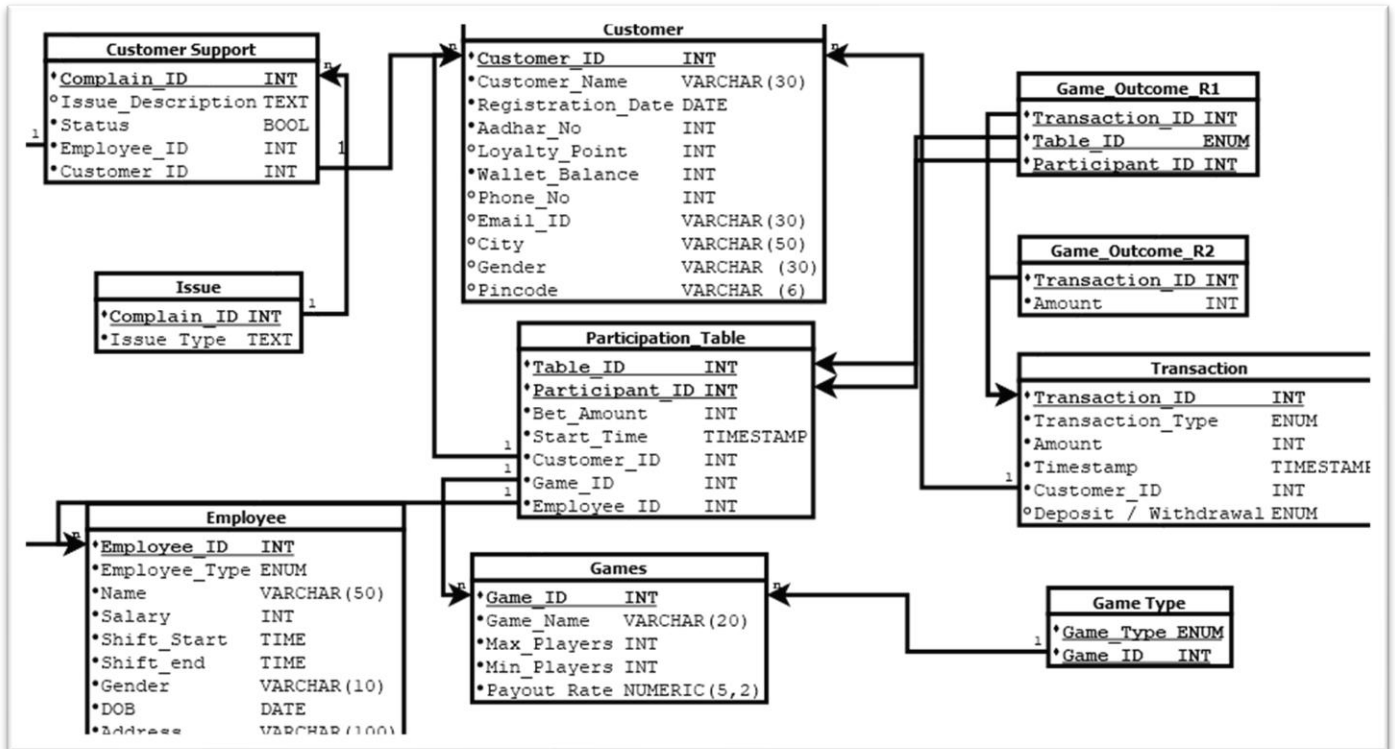## Group Members:

Vrund Hemang Kansara	202301015
Ubhadia Daksh Rajendrabhai	202301014
Ramoliya Shivam Sureshbhai	202301049
Bhanderi Raj Sureshbhai	202301058
Siva Suhas Thatavarthy	202301050

Corrected ER Diagram.

Relational Schema

Customer Support
•Complain_ID	INT
○Issue_Description	TEXT
•Status	BOOL
•Employee_ID	INT
•Customer_ID	INT

Customer
•Customer_ID	INT
•Customer_Name	VARCHAR(30)
•Registration_Date	DATE
•Aadhar_No	INT
○Loyalty_Point	INT
•Wallet_Balance	INT
○Phone_No	INT
○Email_ID	VARCHAR(30)
○City	VARCHAR(50)
○Gender	VARCHAR (30)
○Pincode	VARCHAR (6)

Game_Outcome_R1
•Transaction_ID	INT
•Table_ID	ENUM
•Participant_ID	INT

Game_Outcome_R2
•Transaction_ID	INT
•Amount	INT

Issue
•Complain_ID	INT
•Issue Type	TEXT

Participation_Table
•Table_ID	INT
•Participant_ID	INT
•Bet_Amount	INT
•Start_Time	TIMESTAMP
•Customer_ID	INT
•Game_ID	INT
•Employee_ID	INT

Transaction
•Transaction_ID	INT
•Transaction_Type	ENUM
•Amount	INT
•Timestamp	TIMESTAMP
•Customer_ID	INT
○Deposit / Withdrawal	ENUM

Employee
•Employee_ID	INT
•Employee_Type	ENUM
•Name	VARCHAR(50)
•Salary	INT
•Shift_Start	TIME
•Shift_end	TIME
•Gender	VARCHAR(10)
•DOB	DATE
•Address	VARCHAR(100)

Games
•Game_ID	INT
•Game_Name	VARCHAR(20)
•Max_Players	INT
•Min_Players	INT
•Payout Rate	NUMERIC(5,2)

Game Type
•Game_Type	ENUM
•Game_ID	INT

FD Sets.

Relation	Determinant	Dependent
Customer	Customer_ID	Customer_Name Registration_Date Loyality_Point Wallet_Balance Phone_No. Email_ID Address Aadhar_No.
Game	Game_ID	Game_Name Max_Players Min_Players Payout_rate
Employee	Employee_ID	Employee_Type Name,Salary Shift_Start Shift_end

		Gender
		DOB
		Address
Participation_Table	**{Table_ID,Participation_ID}**	Bet_Amount
		Start_Time
		Customer_ID
		Game_ID
		Employee_ID
Transaction	**Transaction_ID**	Transaction_Type
		Amount
		Timestamp
		Customer_ID
		Deposit/Withdrawal
Customer_Support	**Complain_ID**	Issue_Description
		Status
		Employee_ID
		Customer_ID
Game_Outcome_R2	**Transaction_ID**	Amount
Issue	**Complain_ID**	Issue_Type
Game_Outcome_R1	**{Table_ID,Participation_ID}**	Amount

Minimal FD Sets.

Relation	Determinant	Dependent
Customer	**Customer_ID**	{Customer_Name, Registration_Date, Loyality_Point, Wallet_Balance, Phone_No., Email_ID, Address, Aadhar_No.}
Game	**Game_ID**	{Game_Name, Max_Players, Min_Players, Payout_rate}
Employee	**Employee_ID**	{Employee_Type, Name,Salary, Shift_Start, Shift_end, Gender, DOB,Address}
Participation_Table	**{Table_ID, Participation_ID}**	{Bet_Amount, Start_Time, Customer_ID, Game_ID, Employee_ID}
Transaction	**Transaction_ID**	{Transaction_Type, Amount, Timestamp, Customer_ID, Deposit/Withdrawal}
Customer_Support	**Complain_ID**	{Issue_Description, Status, Employee_ID, Customer_ID }
Game_Outcome_R2	**Transaction_Id**	Amount
Issue	**Complain_ID**	Issue_Type
Game_Outcome_R1	**{Table_ID, Participation_ID}**	Amount

Is This BCNF?

Relation	Determinant	Is Determinant the Super Key?	In BCNF?
Customer	**Customer_ID**	Yes	Yes
Game	**Game_ID**	Yes	Yes
Employee	**Employee_ID**	Yes	Yes
Participation_Table	**{Table_ID,Participation_ID}**	Yes	Yes
Transaction	**Transaction_ID**	Yes	Yes
Customer_Support	**Complain_ID**	Yes	Yes
Game_Outcome_R2	**Transaction_ID**	Yes	Yes
Issue	**Complain_ID**	Yes	Yes
Game_Outcome_R1	**{Table_ID,Participation_ID}**	Yes	Yes

- **All the given functional dependencies follow BCNF because the determinants in each case are Super Keys of their respective Relations.**