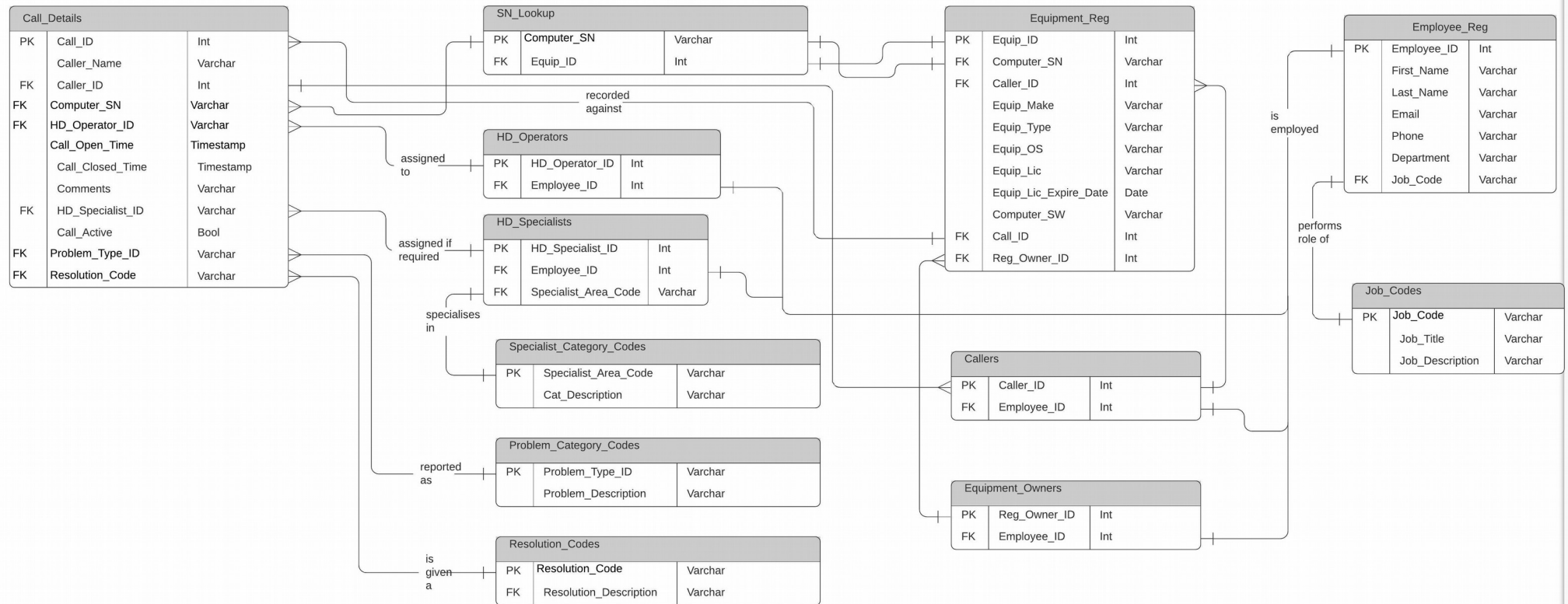


CON705 Assignment 1 – Entity Relationship Diagram Help Desk Scenario.



CON705 Assignment 1 – Relational Schema – Helpdesk.

Entities.

Call_Details

The Call_Details entity is used to create a searchable record using Call_ID as a primary key. A Call_ID record would be created for every new call query automatically in the front end application and the Call_Open_Time field set to the current time. When a call is resolved Call_Active would be set from Yes to No, this would trigger the current time to populate the Call_Closed_Time field.

As the open and closed times are recorded it is not necessary to add a separate 'time to resolve field'. This can be calculated by subtracting Call_Closed_Time and Call_Open_Time attributes.

It is possible that someone is not available to work on the call for all of the time between opening and closing the call and so it is not a true reflection of number man hours but instead the time the problem existed and took to resolve once reported. This may be a better metric from a user point of view. This is an assumption however.

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Call_ID	Call_details	Integer	N	8	Not Null	Primary Key	Call_ID created.
2	Caller_Name	Call_details	Varchar	N	15	Not Null		Recorded as
3	Caller_ID	Call_details	Integer	N	8	Not Null		Caller Employee_ID
4	Computer_SN	Call_details	Varchar	N	30	Not Null	Foreign Key (SN_Lookup)	
5	HD_Operator_ID	Call_details	Integer	N	6	Not Null	Foreign Key (HD_Operators)	Assumed that HD_Operator_ID when trained. Note: Not Employee_ID
6	Call_Open_Time	Call_details	Timestamp	N	22	Year, Month, Date, Hour, Minute, Second		The time of opening the call.
7	Call_Closed_Time	Call_details	Timestamp	Y	22	Year, Month, Date, Hour, Minute, Second		Timestamp updated when Call_active sets to No.
8	Comments	Call_details	Varchar	N	32767			Comments can be appended to anytime to report call progress.
9	HD_Specialist_ID	Call_details	Integer	Y	4	Null if resolved by HD_Operat or	Foreign Key (HD_specialist)	Assumed that HD_Specialist_ID when trained. Note: Not Employee_ID
10	Call_Active	Call_details	Boolean	N	1	Default No.		Set to No when call problem resolved.
11	Problem_ID	Call_details	Varchar	N	8	Not Null	Foreign Key (Problem_Category_Codes)	

SN_Lookup

The purpose of this table is to remove possibility where a a piece of equipment's serial number is present on two different computer manufacturers and so uses Equip_ID as a unique attribute.

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Computer_SN	SN_lookup	Varchar	N	30	Not Null	Primary Key	
2	Equip_ID	SN_lookup	Integer	N	8	Not Null	Foreign Key (Equipment_Reg)	

HD_Operators

This purpose of this table is to allow any employee (i.e. specialist) to become a Helpdesk operator.

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	HD_Operator_ID	HD_operators	Varchar	N	6	Not Null	Primary Key	
2	Employee_ID	HD_operators	Integer	N	8	Not Null	Foreign Key (Employee_register)	

HD_Specialists

As above and also specialists may have multiple areas of expertise.

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	HD_Specialist_ID	HD_specialists	Varchar	N	60	Not Null	Primary Key	
2	Employee_ID	HD_specialists	Integer	N	8	Not Null	Foreign Key (Employee_register)	
3	Specialist_Area_Code	HD_specialists	Integer	N	6	Not Null. GEN to indicate general problem.	Foreign Key (Specialist_category_codes)	Code for each area of expertise.

Specialist_Category_Codes

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Specialist_Area_Code	Specialist_Category_Codes	Varchar	N	6	Not Null	Primary Key	
2	Cat_Description	Specialist_Category_Codes	Integer	N	4	Not Null		

Problem_Category_Codes

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Problem_Type_ID	Problem_Category_Codes	Varchar	N	6	Not Null	Primary Key	
2	Problem_Description	Problem_Category_Codes	Varchar	N	256	Not Null		

Resolution_Codes

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Resolution_Code	Resolution_Codes	Varchar	N	6	Not Null	Primary Key	
2	Resolution_Description	Resolution_Codes	Varchar	N	256	Not Null		

Equipment_Reg

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Equip_ID	Equipment_Reg	Integer	N	8	Not Null	Primary Key	
2	Computer_SN	Equipment_Reg	Varchar	N	8	Not Null	Foreign Key (SN_lookup)	
3	Caller_ID	Equipment_Reg	Integer	N	8	Not Null	Foreign Key (Equipment_Owners)	
4	Equip_Make	Equipment_Reg	Varchar	N	15	Not Null		
5	Equip_Type	Equipment_Reg	Varchar	N	8	Not Null	Foreign Key (HD_operators)	
6	Equip_OS	Equipment_Reg	Varchar	Y	8			Operating System.
7	Equip_Lic	Equipment_Reg	Varchar	Y	64			License Key.
8	Equip_Lic_Expire_Date	Equipment_Reg	Date	Y			Year, Month, Date,	
9	Computer_SW	Equipment_Reg	Varchar	Y	64			Software application being run.
10	Call_ID	Equipment_Reg	Integer	N	8	Not Null	Foreign Key (Callers)	
11	Reg_Owner_ID	Equipment_Reg	Integer	N	8	Not Null	Foreign Key (Equipment_Owners)	

Equipment_Owners

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Reg_Owner_ID	Equipment_Owners	Varchar	N	8	Not Null	Primary Key	
2	Employee_ID	Equipment_Owners	Integer	N	8	Not Null	Foreign Key (Employee_Reg))	

Callers

Callers table allows a caller who is not the registered equipment owner to query a problem.

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Caller_ID	Callers	Varchar	N	8	Not Null	Primary Key	
2	Employee_ID	Callers	Integer	N	8	Not Null	Foreign Key (Employee_Reg))	

Employee_Reg

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Employee_ID	Employee_Reg	Integer	N	8	Not Null	Primary Key	
2	First_Name	Employee_Reg	Varchar	N	15	Not Null		
3	Last_Name	Employee_Reg	Varchar	N	15	Not Null		
4	Department	Employee_Reg	Varchar	N	8	Not Null		
5	Phone	Employee_Reg	Varchar	N	15	Not Null		
6	Email	Employee_Reg	Varchar	Y	64	A@B.C format		
7	Job_Code	Employee_Reg	Varchar	N	8	Not Null	Foreign Key (Job_Codes)	

Job_Codes

Column Number	Column Name	Table Name	Type	Allow Nulls	Length	Constraint	Key Type	Description
1	Job_Code	Job_Codes	Varchar	N	8	Not Null	Primary Key	
2	Job_Description	Job_Codes	Varchar	N	64	Not Null		
3	Job_Title	Job_Codes	Varchar	N	64	Not Null		