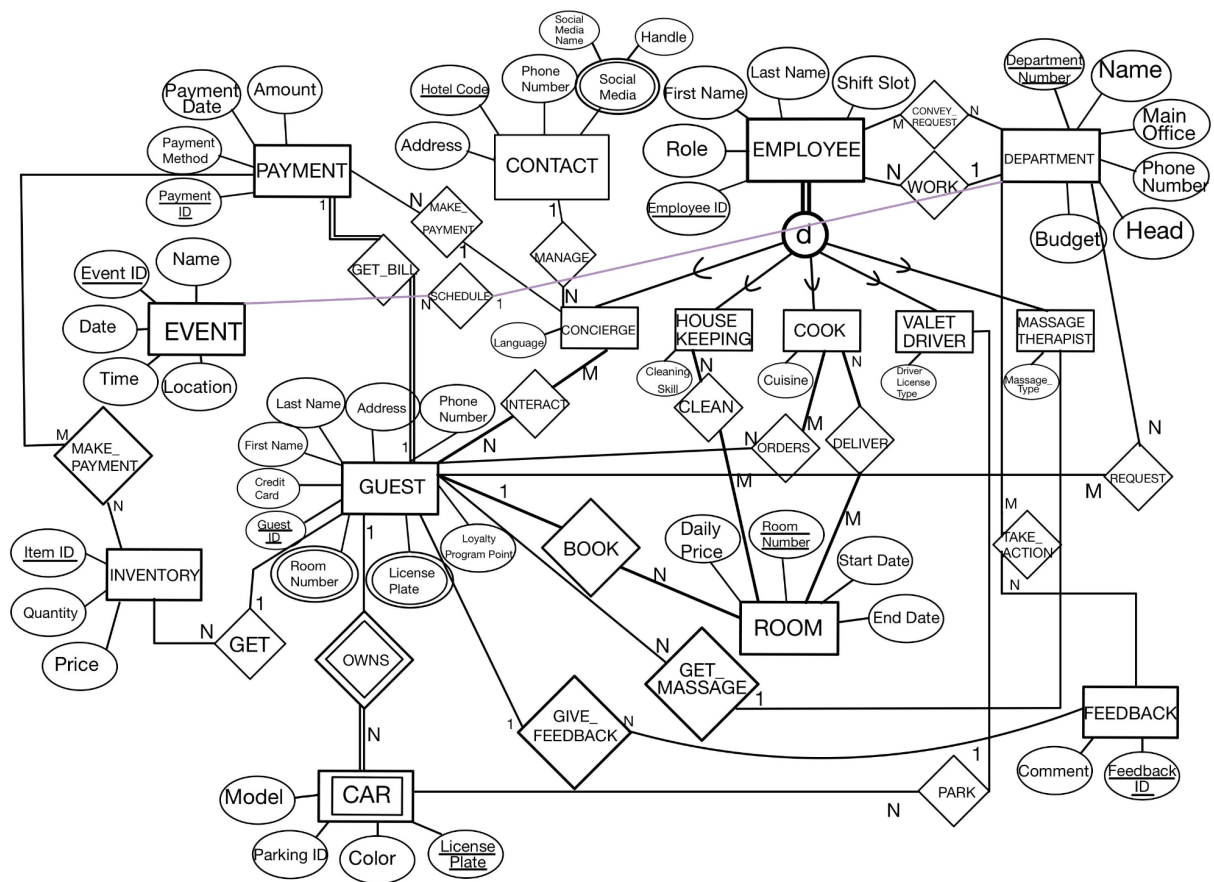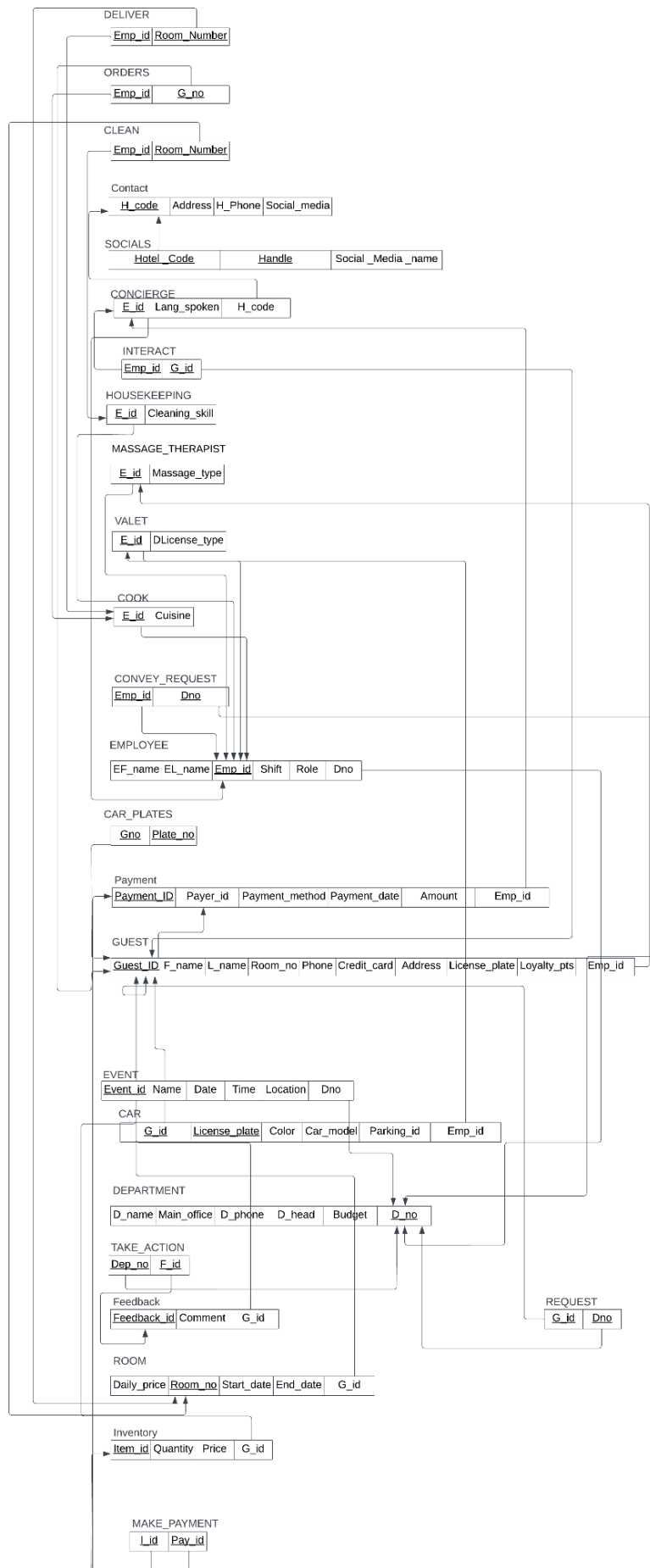**CS 4347.004 Database Systems**
Project Part 1(updated) – Team 7

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Entity Relationship Diagram (ERD)

Supporting Schema Diagram

DELIVER

Emp_id	Room_Number

ORDERS

Emp_id	G_no

CLEAN

Emp_id	Room_Number

Contact

H_code	Address	H_Phone	Social_media

SOCIALS

Hotel _Code	Handle	Social _Media _name

CONCIERGE

E_id	Lang_spoken	H_code

INTERACT

Emp_id	G_id

HOUSEKEEPING

E_id	Cleaning_skill

MASSAGE_THERAPIST

E_id	Massage_type

VALET

E_id	DLicense_type

COOK

E_id	Cuisine

CONVEY_REQUEST

Emp_id	Dno

EMPLOYEE

EF_name	EL_name	Emp_id	Shift	Role	Dno

CAR_PLATES

Gno	Plate_no

Payment

Payment_ID	Payer_id	Payment_method	Payment_date	Amount	Emp_id

GUEST

Guest_ID	F_name	L_name	Room_no	Phone	Credit_card	Address	License_plate	Loyalty_pts	Emp_id

EVENT

Event_id	Name	Date	Time	Location	Dno

CAR

G_id	License_plate	Color	Car_model	Parking_id	Emp_id

DEPARTMENT

D_name	Main_office	D_phone	D_head	Budget	D_no

TAKE_ACTION

Dep_no	F_id

Feedback

Feedback_id	Comment	G_id

REQUEST

G_id	Dno

ROOM

Daily_price	Room_no	Start_date	End_date	G_id

Inventory

Item_id	Quantity	Price	G_id

MAKE_PAYMENT

I_id	Pay_id

Data Dictionary for the Schema

Table	Table Description	Primary Key	Super Key	Attributes				Foreign Key
Contact	The hotel's contact information, including the address, phone number, and social media	H_code	(H_code, Address, H_phone, Social_Media)	Attribute	Data Type	Domain		N/A
				H_code	VARCHAR(15)	any string		
				Address	TEXT ~~VARCHAR~~	any string requiring positive integers and alphabet		
				H_phone	BIGINTX	The set of ten-digit phone numbers valid in the United States.		
				Social_Media	~~VARCHAR(15)~~	~~any string~~		

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Department	All the departments in the hotel.	D_no	(D_name, Main_office, D_phone, D_head, Budget, D_no)	Attribute	Data Type	Domain	N/A
				D_name	TEXT	any alphabetical string	
				Main_office	TEXT	any alphabetical string	
				D_phone	BIGINT	The set of ten-digit phone numbers valid in the United States.	
				D_head	TEXT	any alphabetical string	
				Budget	MEDIUMINT	any integer from 0 to 16777215	
				D_no	VARCHAR(20)	~~A set of integers ranging from 1 to 99~~ The set of characters	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Room	The room that the guest books.	Room_no	(Daily_price, Room_no, start_date, end_date, G_id)	Attribute	Data Type	Domain	G_id
				Daily_price	DOUBLE	any integer with decimal points	
				Room_no	SMALLINT	any integer from 1 to 65535	
				start_date	DATE	any date from	

		1000-01-01 to 9999-12-31
end_date	DATE	any date from 1000-01-01 to 9999-12-31
g_id	VARCHAR(20)	The set of characters that make up a driver's license number

Table	Table Description	Primary Key	Super Key	Attributes	Foreign Key
Feedback	The Feedbacks about their experience in hotel after their stays	Feedback_ID	(Feedback_ID, Comment)	see below	G_id

Attribute	Data Type	Domain
Feedback_ID	VARCHAR(20)	~~any number~~ The set of characters
Comment	TEXT	any alphabetical string

Table	Table Description	Primary Key	Super Key	Attributes	Foreign Key
Car	The cars that the guests have parked in the hotel	License_Plate	(G_id, Model, Parking_ID, Color, License_Plate)	see below	Emp_id, G_id, Licnse_plate

Attribute	Data Type	Domain
G_id	VARCHAR(20)	The set of characters that make up a driver's lisence number
Model	VARCHAR(30)	any alphabetical string
Parking_ID	VARCHAR(20)	any number
Color	VARCHAR(15)	any alphabetical string
License_Plate	VARCHAR(10)	any alphabetical string
Emplyee_id	VARCHAR(9)	

Table	Table Description	Primary Key	Super Key	Attributes	Foreign Key
Event	The events that the guests reserved in advance.It held in the Hotel	Event_ID	(Event_ID, Name, Date, Time, Location)	see below	D_no

Attribute	Data Type	Domain
Name	VARCHAR(15)	any alphabetical string
Event_ID	VARCHAR(!2))	any number

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
				Date	DATE	any date from 1000-01-01 to 9999-12-31	
				Time	DATETIME	anytime from 00:00:00 to 23:59:59	
				Location	VARCHAR(20)	any alphabetical string	
				D_no	VARCHAR(20)	~~A set of integers ranging from 1 to 99~~ The set of characters	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Employee	all the hotel service workers	Employee ID	(Employee ID, First_Name, Last_Name, Role, Shift Department Number)	Attribute	Data Type	Domain	Department Number
				Employee_ID	VARCHAR(9)	The set of 9 digit social security numbers	
				EF_Name	VARCHAR(15)	any alphabetical string	
				EL_Name	VARCHAR(15)	any alphabetical string	
				Role	VARCHAR(10)	any alphabetical string	
				Shift	DATETIME	Any date with time from 00:00:00 to 23:59:59	
				Dno	VARCHAR(20)	~~A set of integers ranging from 1 to 99~~ The set of characters	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Concierge	Specialization of EMPLOYEE in charge of hotel management and guidance	Employee ID	(Employee ID, Hotel_code)	Attribute	Data Type	Domain	Hotel_code, Employee_ID
				Employee ID	VARCHAR(9)	The set of 9 digit social security numbers	
				Lang_spoken	VARCHAR(15)	any alphabetical string	
				Hotel_Code	VARCHAR(12)	Any String	

Table	Table Description	Primary Key	Super Key	Attributes	Foreign Key

Table	Table Description	Primary Key	Super Key	Attributes				Foreign Key
Housekeeping	Specialization of EMPLOYEE in charge of cleaning the hotel room	Employee ID	(Employee ID)	Attribute	Data Type	Domain		Employee ID
				Employee ID	VARCHAR(9)	The set of 9 digit social security numbers		
				Cleaning_skill	VARCHAR(30)	any alphabetical string		

Table	Table Description	Primary Key	Super Key	Attributes				Foreign Key
Massage Therapist	Specialization of EMPLOYEE in charge of massage services for guests	Employee ID	(Employee ID)	Attribute	Data Type	Domain		Employee ID
				Employee ID	VARCHAR(9)	The set of 9 digit social security numbers		
				Massage_type	VARCHAR(30)	any alphabetical string		

Table	Table Description	Primary Key	Super Key	Attributes				Foreign Key
Valet Driver	Specialization of EMPLOYEE in charge of valet parking service	Employee ID	(Employee ID)	Attribute	Data Type	Domain		Employee ID
				Employee ID	VARCHAR(9)	The set of 9 digit social security numbers		
				DLicense_type	VARCHAR(30)	any String		

Table	Table Description	Primary Key	Super Key	Attributes				Foreign Key
Cook	Specialization of EMPLOYEE responsible for cooking and room service food delivery	Employee ID	(Employee ID)	Attribute	Data Type	Domain		Employee ID
				Employee ID	VARCHAR(9)	The set of 9 digit social security numbers		
				Cuisine	VARCHAR(30)	any alphabetical string		

Table	Table Description	Primary Key	Super Key	Attributes				Foreign Key
Payment	The payments that are involved during the guests stay at a hotel	Payment_ID	(Payment_ID, Payer_id, Payment_method, Payment_date, Amount, Emp_id)	Attribute	Data Type	Domain		Employee_ID, Payer_ID
				Payment_ID	VARCHAR(20)	any number		
				Payer_id	VARCHAR(20)	The set of characters that make up a driver's license		

				Attributes				
						number		
				Payment_method	ENUM(Cash, Credit, Debit)	The list of possible values(Casb, debit, credit)		
				Payment_date	DATE	any date from 1000-01-01 to 9999-12-31		
				Amount	DECIMAL(19,4)	Any non-negative decimal value		
				Emp_id	VARCHAR(9)	The set of 9 digit social security numbers		

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Inventory	The goods that the hotel provides to the guests	Item_id	(purchse_id, Quantity, Price, G_id)	Data Type	Data Type	Domain	G_id
				purchase_id	VARCHAR(20)	any String	
				Quantity	SMALLINT	any integer from 1 to 65535	
				Price	DECIMAL(19,4)	Any non-negative decimal value	
				G_id	VARCHAR(20)	The set of characters that make up a driver's license number	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Guest	The individual who is visiting the hotel to use the amenities provided.	Guest_ID	(Guest_ID, F_name, L_name, Room_no, Phone, Credit_card, Address, License Plate, Loyalty_pts, Emp_id)	Attribute	Data Type	Domain	Emp_id
				Guest_ID	VARCHAR(20)	The set of characters that make up a driver's license number	
				F_name	VARCHAR(15)	any alphabetical string	
				L_name	VARCHAR(15)	any alphabetical string	
				Room_no	SMALLINT	any integer from 1 to 200	
				Phone	BIGINT	The set of ten-digit phone numbers valid in the United States.	
				Credit_card	TINYINT(16)	Any 16-digit integer	

				Address	String	any alphabetical string
				~~Lisence Plate~~	~~VARCHAR(10)~~	~~any alphabetical string~~
				Loyalty_pts	MEDIUMINT	any integer from 0 to 16777215
				Emp_id	VARCHAR(9)	The set of 9 digit social security numbers

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Delivers	Relationship between cook and room	Emp_id, Room_Number	(Emp_id, Room_Number)				Emp_id, Room_Number

Attribute	Data Type	Domain
Emp_id	~~INT(0, 999999999)~~ VARCHAR(9)	The set of 9 digit social security numbers
Room_number	SMALLINT	any integer from 1 to 200

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Orders	Relationship between guest and cook	Emp_id, G_no	(Emp_id, G_no)				Emp_id, G_no

Attribute	Data Type	Domain
Emp_id	~~INT(0, 999999999)~~ VARCHAR(9)	The set of 9 digit social security numbers
G_no	VARCHAR(20)	The set of characters that make up a driver's license number

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Clean	Relationship between room and housekeeping		(Emp_id, Room_number)				Emp_id, Room_number

Attribute	Data Type	Domain
Emp_id	~~INT(0, 999999999)~~ VARCHAR(9)	The set of 9 digit social security numbers
Room_number	SMALLINT	any integer from 1 to 200

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Socials	The different social medias that can belong to the hotel	Handle	(Hotel_Code, Handle, Social_Media_Name)				Hotel_Code

Attribute	Data Type	Domain

				Attributes			
				Hotel_Code	VARCHAR(15)	any string	
				Handle	VARCHAR(15)	any string	
				Social_Media_Name	VARCHAR(15)	any string	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Interact	How concierge interacts with guests	Emp_id, G_no	(Emp_id, ~~G_id~~ G_no)				Emp_id, G_id
				Attribute	Data Type	Domain	
				Emp_id	~~INT(0, 999999999)~~ VARCHAR(9)	The set of 9 digit social security numbers	
				~~G_id~~ G_no	VARCHAR(20)	The set of characters that make up a driver's license number	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Convey_request	Relation between Employee and Department	Emp_id, Dno	(Emp_id, Dno)				Emp_id, Dno
				Attribute	Data Type	Domain	
				Emp_id	VARCHAR(9)	The set of 9 digit social security numbers	
				Dno	VARCHAR(20)	~~A set of integers ranging from 1 to 99~~ The set of characters	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Car_plates	Multi-valued attribute if a guest has more than one car	Plate_no	(G_no, Plate_no)				G_no
				Attribute	Data Type	Domain	
				~~Guest_id~~ G_no	VARCHAR(20)	The set of characters	
				Plate_no	VARCHAR(10)	any alphabetical string	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Book	Relation between Room and Guest	Roon_no, Guest_id	(Room_no Guest_id)				Room_no G_no
				Attribute	Data Type	Domain	
				Room_no	SMALLINT	any integer from 1 to 200	

				Guest_id ~~Guest_id~~ G_no	VARCHAR(10)	The set of characters	

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Take_action	Relationship between feedback and department. Department's improvement from previous guests' feedback	Dno, f_id	(Dno, F_id)				Dno, F_id

Attribute	Data Type	Domain
Dno	VARCHAR(20)	~~A set of integers ranging from 1 to 99~~ The set of characters
F_id	~~CHAR(10)~~ VARCHAR(20)	~~any number~~ The set of characters

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Make_payment	Relationship between concierge and payment because concierge has the guest's credit card information	I_id, Pay_id	(I_id, Pay_id)				I_id, Pay_id

Attribute	Data Type	Domain
I_id	VARCHAR(20)	any String
Pay_id	~~CHAR(12)~~ VARCHAR(20)	any number

Table	Table Description	Primary Key	Super Key	Attributes			Foreign Key
Request	Relationship between concierge and payment because concierge has the guest's credit card information	~~G_id~~, G_no, Dno	~~(G_id, Dno)~~ (G_no, Dno)				~~G_id~~, G_no, Dno

Attribute	Data Type	Domain
~~G_id~~ G_no	VARCHAR(20)	The set of characters that make up a driver's license number
Dno	VARCHAR(20)	~~A set of integers ranging from 1 to 99~~ The set of characters

- **The names of the tool(s) used for the ERD and the schema diagram.**

The name of the tool used for the ERD is Goodnotes. We used lucidchart to create the schema diagram.