

CS310
DBMS
Group Assignment

VEHICLE INSURANCE COMPANY

BY

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PART-A:-CONCEPTUAL DATA MODEL

ABOUT A PROJECT :-

Section 1: What is the project all about?

Project title :

A Database for a Vehicle Insurance Company .

Project Definition :

Purpose:

This module provides a comprehensive discussion of, and practical experience in, advanced entity modelling; normalisation; transactional relational database design; SQL and PL/SQL coding; and generation of data backed management reports. Students gain practical experience using contemporary database modelling and design tools and technologies, and apply sound design principles for creating effective decision support solutions for realistic business scenarios.

Part A: Conceptual Data Model

Design Rules :

To design our car insurance database conceptual data model we first needed to decide what characteristics underpin the model under investigation. As a group we decided on various rules that need to be implemented in order for the model to be consistent and precise. Table 1 below illustrates these rules.

Table 1: Design rules for CDM model of car insurance database

Design Rule	Description	Example
Rule 1	All the individual entity types must be in capital letters.	CUSTOMER
Rule 2	An underscore is used to label an entity type with more than one word.	TERMS_CONDITIONS
Rule 3	Plurals are not used when labelling entity types.	APPLICATION
Rule 4	No abbreviations are used when labelling entity types.	QUOTE
Rule 5	Entity types must not be in Numerical.	VEHICLE
Rule 6	Every entity must contain a Primary key.	Like CUSTOMER_ID for the customer Entity.

Assumptions :

To design the Conceptual Data Model (CDM) we have a certain set of assumptions. These assumptions will help shape our model to allow consistency within our design. Table 2 presents the assumptions used in this model.

Table 2: Assumptions used in car insurance database model

Assumption	Description
Assumption 1	Customers must have original proof Id's like aadhaar, driving license etc..
Assumption 2	Customer not having personal accidental cases before in on-road
Assumption 3	The online insurance is given to customers over 18 years of age.

Assumption 4	The online insurance needs some driving history of the customer.
Assumption 5	The online insurance needs to know the type of car the customer drives.
Assumption 6	The online insurance needs to know about the insurance history of the customer.

Entity Types :

All of the entity types that we feel are relevant in our CDM are illustrated in Table 3, below.

Table 3: Entity types used in car insurance database system CDM model.

Entity Type	Description
T4_CUSTOMER	Records all the personal details about the customer.
T4_APPLICATION	Records details of the insurance coverage requested by Customer
T4_QUOTE	Records details of customer potential cost of the insurance product.
T4_INSURANCE_POLICY_COVERAGE	Records details of the insurance agreement.
T4_PREMIUM_PAYMENT	Records details of customer cost and payments.
T4_CLAIM	Records details of customer claims in case of an accident.
T4_CLAIM_SETTLEMENT	Records details of settlement made on claims.
T4_STAFF	Records details of employees.
T4_DEPARTMENT	Records details of the various departments.

T4_OFFICE	Records details of different office locations.
T4_MEMBERSHIP	Records details of customer membership,clubs and societies.
T4_VEHICLE_SERVICE	Records details of different car services offered.
T4_NOK	Records details of the next o kin.
T4_COVERAGE	Records all terms and conditions in regard to the policy
T4_INSURANCE_POLICY	Records details of Insurance agreement.
T4_PRODUCT	Records details of the products offered by insurance company
T4_RECEIPT	Details of premium payments to customer
T4_INSURANCE_COMPANY	Details of the insurance organization giving the insurance cover.
T4_VEHICLE	Records details of Vehicle model, cost and registration.
T4_INCIDENT	Records details of the accident, theft, fire, etc.
T4_POLICY_RENEWABLE	Records details of due date of insurance policy.
T4_INCIDENT_REPORT	Records details of the individual incident

Relationships in CDM :

Applying Relationships to Entities :

To apply relationships to our entity types we formed certain assumptions to simplify and determine connections between entity types. These assumptions and explanations are illustrated in Table 4 below.

Table 4: CDM relationship of entities for car insurance database :

Entity Type	Related To Entities	Relationship
T4_QUOTE	T4_APPLICATION	One to one
T4_APPLICATION	T4_INSURANCE POLICY T4_CUSTOMER	One to many One to many
T4_CUSTOMER	T4_MEMBERSHIP T4_PREMIUM_PAYMENT T4_CLAIM T4_VEHICLE	Many to many One to many One to many One to one, one to many
T4_INSURANCE_POLICY	T4_DEPARTMENT T4_NOK	One to many One to many
T4_PREMIUM_PAYMENT	T4_RECEIPT	One to many
T4_CLAIM	T4_CLAIM_SETTLEMENT	One to one
T4_VEHICLE INSURANCE T4_DEPARTMENT	T4_DEPARTMENT T4_SERVICE	One to one, one to many One to many
T4_DEPARTMENT	T4_OFFICE T4_INSURANCE_COMPANY	Many to many One to many
T4_INSURANCE_COMPANY	T4_STAFF	Many to many

Graphical presentation of CDM :

The Conceptual Data Model that will be used as a starting point in designing our online car insurance database system can be seen in Figure 3 (with no entities relationships) and Figure 4 (with entities relationships), done in ERwin software.

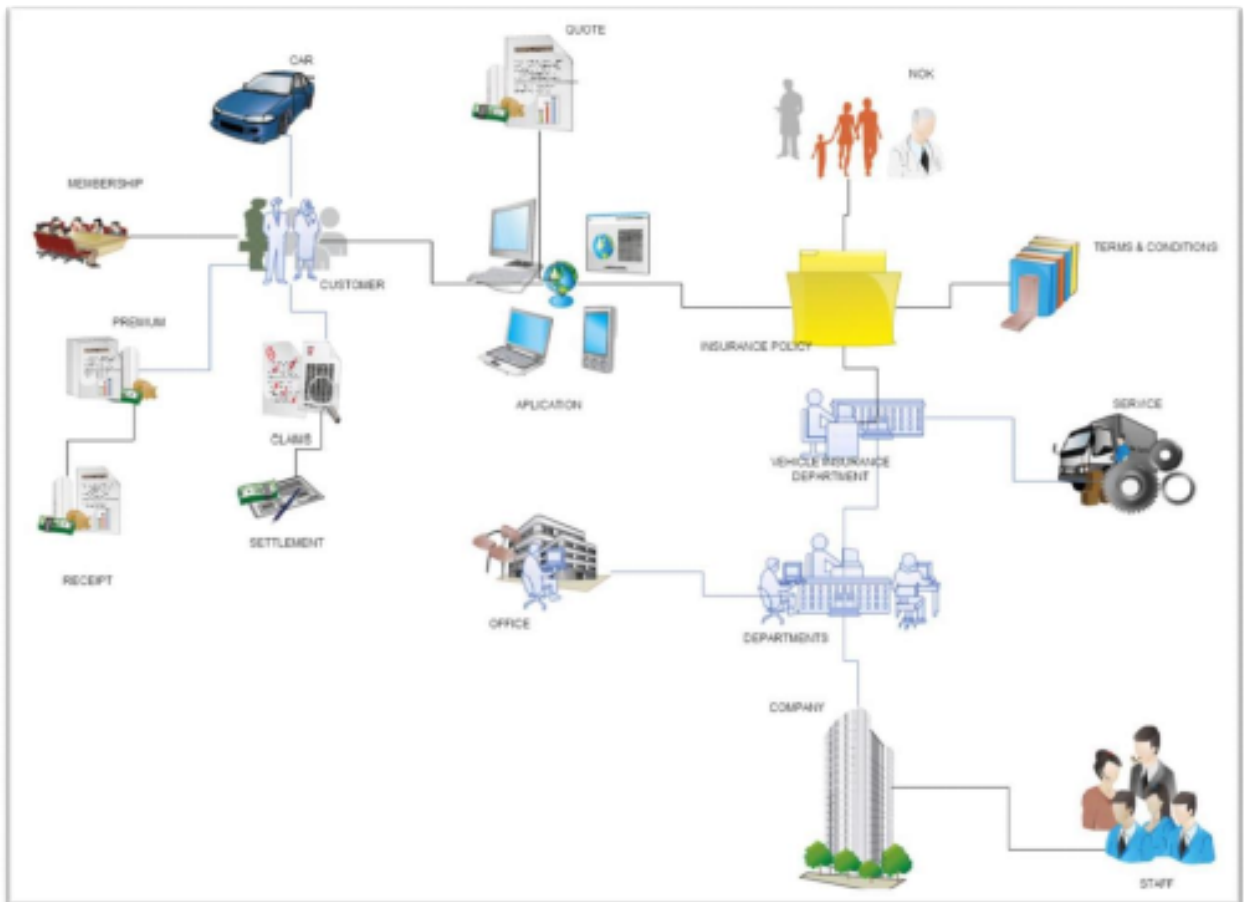


Figure 4: Conceptual data model of Car insurance(with entity types) :

