CS310

DBMS

Group Assignment

VEHICLE INSURANCE COMPANY

BY:

1) Amit prakhar Pandey(20BCS012)

2) Anmol Singh(20BCS018)

3) Aryan Tejiyan (20BCS021)

4) Bazil Faizan Ahmed Sheikh (20BCS029)

5) Gaurav Agarwal (20BCS047)

6) Harshit Saxena (20BCS053)

7) Navneet Sangam (20BCS090)

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
T16_CUSTOMER	Records all the personal details about the customer.
T16_APPLICATION	Records details of the insurance coverage requested by Customer
T16_ QUOTE	Records details of customer potential cost of the insurance product.
T16_INSURANCE_POLICY_COVERAGE	**Records details of the insurance agreement.**
T16_PREMIUM_PAYMENT	Records details of customer cost and payments.
T16_CLAIM	Records details of customer claims in case of an accident.
T16_CLAIM_SETTLEMENT	Records details of settlement made on claims.
T16_STAFF	Records details of employees.
T16_DEPARTMENT	Records details of the various departments.

T16_OFFICE	Records details of different office locations.
T16_MEMBERSHIP	Records details of customer membership,clubs and societies.
T16_VEHICLE_SERVICE	Records details of different car services offered.
T16_NOK	Records details of the next o kin.
T16_COVERAGE	Records all terms and conditions in regard to the policy
T16_INSURANCE_POLICY	Records details of Insurance agreement.
T16_PRODUCT	Records details of the products offered by insurance company
T16_RECEIPT	Details of premium payments to customer
T16_INSURANCE_COMPANY	Details of the insurance organization giving the insurance cover.
T16_VEHICLE	Records details of Vehicle model, cost and registration.
T16_INCIDENT	Records details of the accident, theft, fire, etc.
T16_POLICY_RENEWABLE	Records details of due date of insurance policy.
T16_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
T16_QUOTE	**T16_APPLICATION**	One to one
T16_ APPLICATION	**T16_INSURANCE POLICY** **T16_CUSTOMER**	One to many One to many
T16_CUSTOMER	**T16_MEMBERSHIP** **T16_PREMIUM_PAYMENT** **T16_CLAIM** **T16_VEHICLE**	Many to many One to many One to many One to one, one to many
T16_ INSURANCE_POLICY	**T16_ DEPARTMENT** **T16_NOK**	One to many One to many
T16_PREMIUM_PAYMENT	**T16_RECEIPT**	One to many
T16_CLAIM	**T16_ CLAIM_SETTLEMENT**	One to one
T16_VEHICLE INSURANCE **T16_DEPARTMENT**	**T16_DEPARTMENT** **T16_SERVICE**	One to one, one to many One to many
T16_DEPARTMENT	**T16_OFFICE** **T16_INSURANCE_COMPANY**	Many to many One to many
T16_INSURANCE_COMPANY	**T16_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.

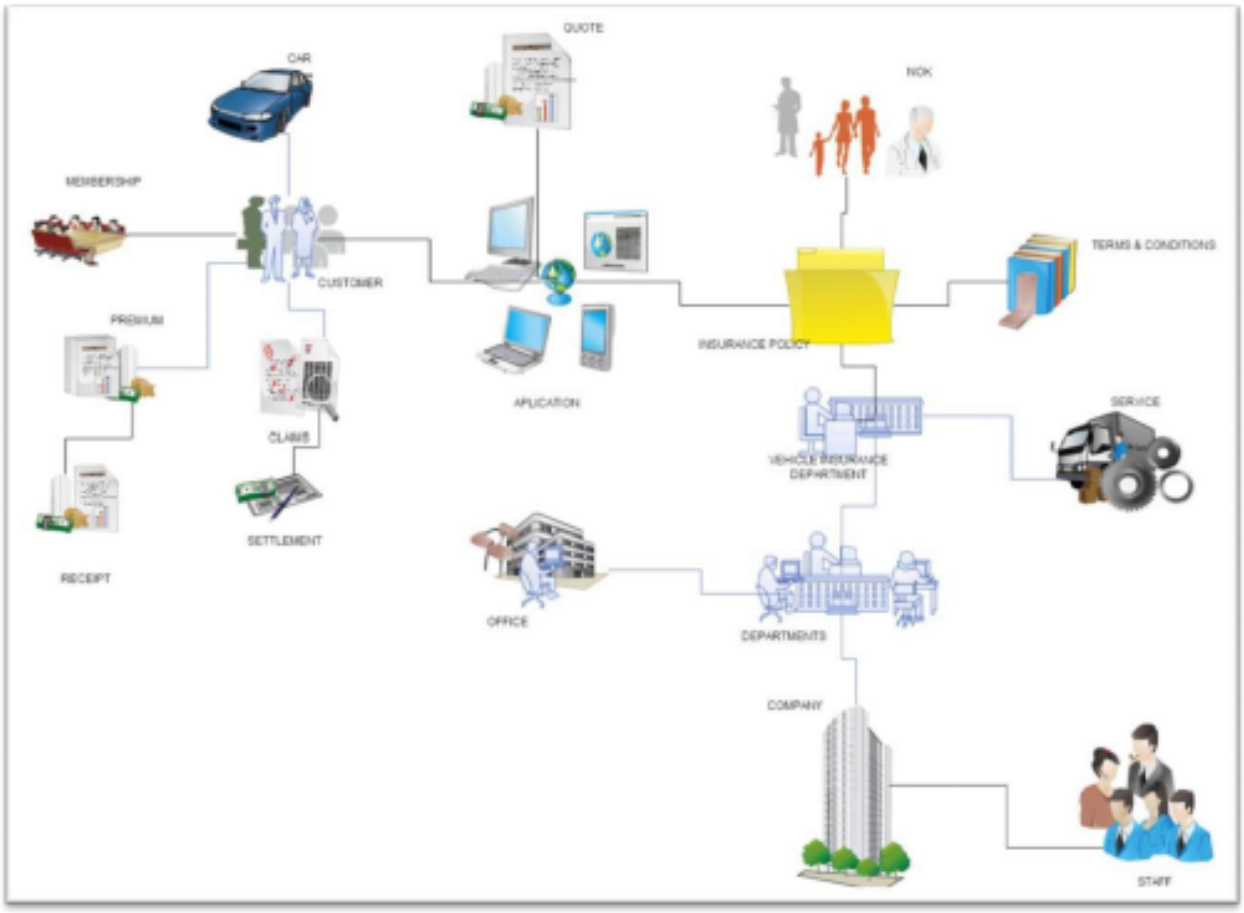

Figure 4: Conceptual data model of Car insurance(with entity types) :