PROJECT ABSTRACTS

1. **Air Travel**

   A country has airports in different states or provinces. Each airport is identified by a number and is also described by a name, district, state, area, number of terminals etc. A list of airplanes are maintained by the officials including the company name, country_origin, seating_capacity, air_plane type like jumbo, jet etc. Each airplane can take flights to different destinations as per the schedule which has the date and time. Each flight also has a group of crew members. This information is also required to be maintained. A Passenger can book a ticket in one of these flights. The ticket information is stored which include the passenger information. Design an appropriate database system so that required details can be stored and retrieved efficiently.

2. **Blood Bank**

   A blood bank has branches in all the important cities of the state whose date of inauguration is maintained. It can accept blood of different types. There are different donors whose information is to be maintained. Each donor can donate blood to different people. Each receiver can take blood from different donors.The receivers information is also maintained which include the amount of blood taken and payment details. A good database system is to be designed so as to enable management of blood bank efficiently and conveniently.

3. **Construction management**

   A construction company constructs houses for a number of clients. A client can have a number of houses/offices built by the same company. Client information is also maintained by the company. Site information is separately maintained. Material information including name, amount available and reorder level is also to be maintained. Materials used for each construction are to be stored which include the name, model, type (like iron,steel, plastic etc.), quantity, company etc. Information of the retailer which provide these materials are also stored. Design a database system to enable the construction company to maintain all the data conveniently and efficiently.

4. **Hotel Management**

   An enterpreneur starts a group of hotels in important cities of different states. Each hotel has name, start_date, revenue_planned, expenditure_expected, city and state. The chefs in the hotel are identified by a social security number (ssn), and are also described by a name, date of join and a cuisine in which he/she specializes. The chefs may be asked to work in more than one branch if shortage demands. There is a specific menu card for each hotel. Each food item in this list is then assigned to a chef based on his specialization. He wants an automation software that can manage all these requirements.

5. **Music Recording**

   A music recording company wants to design a database in order to maintain and organize the information appropriately that can facilitate storage and retrieval of data efficiently. There are many musicians whose details like id, name and address are to be maintained. Each album recorded has an id, title, copyright date and format. Each song has a title and an author. Each album has a number of songs and no song can appear in more than one album. Each song is performed by one or more musicians and a musician can perform a number of songs. Design a database system for the music company to maintain all the data conveniently and efficiently.

6. **Printing System**

ICTS department has the provision of five printers to print five different files at a time. The staff member can request for printing the required file. The files which have been printed, the details of the person who requested the print, date and time of print is to be maintained. Each print job is assigned to a clerical staff to verify if the printout request is valid, the staff who requested it is eligible, whether the request is official or personal, etc. based on which he/she takes the printout. One delivery person is responsible to deliver the printouts to respective staff member after checking the personal details such as name, room no of the staff member, phone no. The print details such as type of paper used (A3, A4, etc.), single page print or double side print, color print or not, etc. is also to be maintained. At a time, a file can be printed only on one printer. The cost of each print is to be maintained, to know the printing expense at the end of each month. Design a database system for the ICTS to maintain all the data conveniently and efficiently.

7. E-Hub

E-hub is a software company that provides various types of software solutions to clients across India. It has recruited various programmers for software development. Each programmer is identified by the id, date of joining, experience, qualification, specialization, programming_languages_known. Specialization signifies the programming language for which he is most specialized in. The company may develop more than one software for one client. Each client is identified by his id, name, address, phone numbers. The details of software developed for the client such as date_of_commencement, date_of_release, status_of_software, etc. are also maintained. Each software may be developed by more than one programmer with one project leader. Design a database system for E-HUB to maintain all the data conveniently and efficiently.

8. Invention Management

A database is made to store the invention details like the name of the invention, inventors(s), category(like science, engineering etc), the year of invention, the story behind, awards/recognitions received, the year in which that was received etc. The inventors' details include name, country, and job type. Example, the chewing gum was invented by an accountant. An invention can get many awards. A database is maintained to store details about the different awards that exist world-wide in each category. Awards can also receive nominations for which the jury's verdict is final. The list of jury members can also be maintained. Design a database system for the inventors application to maintain all the data conveniently and efficiently.

9. Event management

An event management group needs a database to help them in managing the different events that they help organize. Each event managed has a description which includes the name, category-level (like high-class, middle-class). The amount charged, the options they provide including food, venue, sub-events, specialized employees etc. For example, a marriage may have a musical sub-event. For each of the options separate information need to be maintained like different type of food (including price), different venues (including address). The customers need to book for an event based on these available options. So the customer data is also stored. The management group has employees who are allotted separate duties for each event. Design a database application for event management to maintain all the data conveniently and efficiently.

10. ICT Services

ICTS department provides various type of hardware, software, network, multimedia services to the people of our college. It has various service staff for this purpose. Each person (student or staff) can place the request for the service such as installation of a particular software, keyboard repair, network not available etc. after approval from the HoD

of the respective department. However certain people do not require the approval. Based on the type of service requested, the ICTS staff is allotted the job. The personal details of the requester as well as the ICTS staff is maintained such as id, name,phone no. and department to know which person reqeusted the service and who addressed the issue. A person can place one or more requests at a time. Design a database system for the ICTS department to maintain all the data and services conveniently and efficiently.

11. **KSRTC**

wants to improve its bus services by easing the process of ticket booking and maintaining the records of drivers, conductors, passengers. Bus is characterised by number of the bus, type of the bus, number of seats etc. Bus travels from one source to destination and in between has halts at various stands as per the schedule. Bus schedule is dynamic in the sense that it may have different source and destinations with varied routes on a given day. Each bus stand is characterised by location, terminals number, type of stand, etc. Thus the travel route and details of the passengers travelled needs to be maintained. A passenger can book a ticket apriori or on the spot by boarding the bus provided seat is available. The ticket information is also to be maintained for future requirements. Design an appropriate database system so that required details can be stored and retrieved efficiently.

12. Pharmaceutical Company Database

A pharmaceutical company manufactures medicines which are identified by medicine name, company name, date of manufacture, date of expiry and price. Medicines are supplied to different medical stores in different quantities and different dates. The company keeps track of the medical store details like store_id, store_name and location. A medicine is supplied to many stores and a store may have many medicines. Design a database system for the Pharmaceutical company to maintain all the data conveniently and efficiently.

13. Board Exams

The CBSE conducts examinations for 10^{th} Standard students. For this the board allocates examiners for answer sheet valuation. The details of the examiners such as examiner name, examiner's school, qualification, subject etc are maintained. An examiner evaluates many answer sheets each identified by answer book id, student_roll_number, mark assigned etc. An answer sheet is valued by only one examiner. An examiner is also allocated to a school for invigilation. A school has many examiners as invigilators. A school is identified by school id, school name and location. Design a database system for the Board to maintain all the data conveniently and efficiently.

14. Online Shopping(E-Commerce Platform)

In this DBMS project, you'll have to design an e-commerce(online retail) platform like Amazon or Flipkart where a customer can register and buy products. The user should have the option to make one or more orderss from your platform. Each order may contain one or more products. System needs to store customer mer details, category-wise product details, order details and supplier details. The system can allow the user to order from different suppliers according to the availability. And after the user makes a purchase, the system would generate an invoice

15. House boat Management

An agency keeps track of house boats, its owners and the customers who rented it. An owner identified by owner number, name and city can have many house boats and a house boat is owned by only one person. A house boat is identified by an id, name and capacity (number of people it can hold). A customer can rent many house boats and a house boat can be rented by many customers on different dates. Design a database system for the Agency to maintain all the data conveniently and efficiently.

16. Election Management System

Election management System should manage the election process happening in a Constituency. In a constituency, there may be many polling stations. Officers are assigned election duty to a polling station. Each officer is identified by an id, name and role like returning officer, registration officer, polling officer, presiding officer etc. An elector makes his vote at a particular polling station and a polling station is associated with many electors. A polling station is identified by an id, name, area and ward. An elector is identified by his/her serial number in the electoral roll, name. Each candidate is identified by his id, name and Party. The details of the political parties contesting are also to be maintained. After the polling day, the system should count the votes and announce the winners.

17. Automobile Company Database Management System

Design a database for an automobile company to provide assistance to its dealers in maintaining customer records and dealer inventory. Each vehicle is identified by a vehicle identification number (VIN).Each individual vehicle is a paritcular model of a particular brand offered by the company. (eg.XF is a model of the car brand Jaguar of Tata Motors). Each model can be offered with a variety of options, but an individual car may have only some of the available options. The database needs to store information about models, brands, options as well as information about individual dealers, customers and cars.

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