CSE 5330 Project Phase 0
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08/30/2018

Initial Project Problem Statement

Startups are numerous in number, especially in the present world scenario. As I happen to have worked for one that creates different kinds of websites based on the requirements given by the clients, from blogs to fully fledged web based applications, I have come across various clients with different requirements for building a particular website. Since the requirements given at earlier stages can differ in the later stages of the project, the developers need to deal with it in the required time and simultaneously the other projects in hand. This process consumes additional time and effort, hence might lead to increased billing. I want to come up with a system to help manage this company in a better way.

The software would be mainly to keep track of events happening in the company. This system would be made available for a number of users such as the CEO of the company, the project managers, the employees, the clients (but on different levels of abstractions, depending on the information required by each category of user).

Data Description

Employees:

- The following **basic data** of all the employees would be required: Employee ID, First name, Last name, Date of birth, Date of joining, PAN card number, Passport details, Home address, Mobile number, Emergency contact, Job level.
  The passport details would be required if the employee is required to work onsite at a later period of time.
- Further the following **job levels** of each employee would be necessary for billing and salary distribution: CEO, HR, Project manager, Software developer, Software tester, Cleaning and maintenance staff.
- The **tasks** assigned to various employees in the company. One employee essentially is assigned one kind of task, since waterfall model for software development is followed in this startup. But since different projects would be simultaneously dealt with, it is necessary for the managers as to which tasks each employee under him is assigned to and the status of each of the tasks delegated.
- The **leaves** taken by each employee has to be kept track of, so as to cater for the capacity planning and work distribution (and redistribution, if need be): Planned or Unplanned leave.

No additional info about tasks

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Projects:

- The **basic data** such as: Project ID, Project scale, Estimated man hours, Status, Associated client, Project start date, Estimated end date, Actual end date, Number of modules required, Live.
  The project scale depends on the number of man hours required to complete the project. This is required for the capacity planning and resource management (and requirement). The status of the project indicates which phase a project is currently in, whether in requirement analysis, project management hours, development or testing. The project once completed would be on live server, a backup of this would be on development server (if later required to include or remove features depending on the requirements change).
- Each **module** would be assigned to
- If in the **testing phase** whether tested on different platforms, such as: Mobile, Desktop and Tablet.

Resourses:

- Trainings required to be scheduled.
- **Hosting servers costs** depending on the scale of the project. Vague

Requirements specified:

- The **data given by clients** initially and further updates can be catalogued: Requirement ID, Number of updates.

Clients:

- The information such as: Client ID, Client name, Client representative, Client location, Number of projects, Billing amount, Warranty covered for number of days (30 – 45).
  The field *number of projects* corresponds to the number of projects the particular client delegated to the startup. Any additional details required from the client.

Functional Requirements

- The project managers should be able to check the number of concurrent projects, past projects, upcoming projects. Obvious
- The client representatives must be able to track the status of the project of interest the percentage of project work left and the estimated end date. Simple

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- The project manager should be able to evaluate the employees based on their performance and give bonuses and hikes. — based on what?
- Each employee will be able to view and apply for the leaves on the system. X

BOTH data description & big goals are vague, insufficient and incomplete. You cannot develop a Model for DBMS with this.

Either change the problem or expand it considerably to include complex big goals & more details of data.

Project: Car Rental System

Course: CSE-5330-005-DATABASE-SYSTEMS-2018 - fall
Phase 1:
Name: Shailee Rajesh Gala

Many people rent thousands of cars daily, which is why it becomes very difficult to manage the enormous amount of data without a database. The database we are planning to design will keep track of all Cars, Customers, and will capture the relations between them. The user can login into the system or continue as a guest user to go through the system and look up for the available options. The administrator can add/remove new car rentals, change prices, and so on.

Data Requirement:

1. Stores various car's and customer's details.
2. Administrator can view all the details and can add or modify these details.
3. A customer can search for desired car by model, seating capacity, and cost.
4. Administrator can manage the availability of various cars for rent.
5. Administrator can perform the modifications on bookings if needed.

Data Description:

Admin (Manager):

The Database captures many basic aspects of administrator such as Id, Name, Date of Birth. There are different managers for each different Branch Location. Each manager can be associated with one branch at a time.

I indicated in the class NOT to include DBA or that type of info!

Customer:

The database keeps the record of the customers which includes their name, date of birth, driver's license, address, payment details, insurance details for the current car. It also keeps the track record for the details of previously rented cars under the same car rental company.

Part Comes only WHEN U rent a Car. NOT otherwise!

Car:

The database keeps track of the number of car ids, it's company name, model name, manufacturing year, mileage information, Car's current location, start date (of renting), End date (of renting), Drop off location. A car is classified based on its type (sedan, suv's etc) and number of seats in the car. A car can have same or different drop off locations.

Again there is some confusion about what happens

Booking details:

This is associated with a car. It keeps the record of details about the customers who has rented the car, date of booking and price.

Customer feedback:

The database keeps record of details of student such as customer id, customer name, feedback description

Branch Location:

This database keeps record city, state, street address, and branch name.

Functionality:

1. On the customer's request, the administrator can perform cancellations.
2. Customer can request for upgradation on their previous bookings
3. Customer can do reservations in advance.

BOTH data & functionality are very weak! Needs a thorough revision on both sides.
Also shows non-understanding of the domain/problem

- Most rental car locs are airports
- they sell auxiliary stuff (navigation, child car seat) add insurance etc.) need to be included
- There is charge if the dropoff loc is different.

Needs some rethinking!