

# ICS241: DBMS Assignment 1: Requirement Summary

## Requirement Summary of 'Inorbit Mall'

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#### 1 About the enterprise:

Inorbit mall is a big shopping mall with over 150 shops and three levels of parking space and moreover 5,000 employees including shop owners, staff members and mall owners. Staff member includes parking staff, cleaning staff, management staff, security, etc. It has over 20,000 people as its regular customers and keeping track of each person's database manually is a tedious task. Each shop owner has one or more shops who runs it, invest in it on rent. Each shop has a variety of items available including food items, clothing, gaming accessories, electronics items, and a wide variety of various products. Shop owners also provide offers and discounts on festive season to attract customers. It also have some live games for kids including trains, cars, etc. It has a movie theatre which screens latest movies with 5 shows per day. It has a wide variety of branded as well as local food shops which services delicious food to people.

#### 2 Data requirements of processes

The mall has a governing body which takes care of the various activities in the mall. Every shop is charged with some rent per month which serves for both management of the mall as well as profits to the owners. Each shop has different variety of products available and they maintain their inventories and business themselves. They earn profits by buying products in bulk and selling them at slightly increased prices to earn profits. Mall also earns profits through advertisements of big brands and sponsorships.

The mall maintains a database for all customers, shops, payments, employees, products at each shop, offers, etc. It maintains and updates its database continuously after each transaction and therefore helps in maintenance.

Mall also provides festive offers and prizes during festive seasons for its customers for example giving car as gift to a customer with most shopping during a festive season etc. Customer buy products from the shops and transact money to buy them at the shop itself. Every shop has to pay salaries to its employees and also mall has to pay salaries to all its employees. Customer also gets discount on various products as offered by the concerned shop. Mall Database also store information regarding each and every customers who shops at any of the shop.

All the personal information about the staff is also maintained for transparent working of the mall. Customer selects products they wish to buy from the shop and then pay using a central payment system of the mall which automatically detects the customer if he had purchased earlier or registers him as a new customer if it's his first time, thereby maintaining the database. Customer has various methods of payment available to him in the central payment system including Credit Cards, Debit Cards, and Cash Payment. They also provide home delivery to customers with bulk orders and this delivery is chargeable at nominal rates depending on the distance. Every festive season provides customers with huge offers such as bumper draws, gifting cars which are sponsored and managed by some brand for its promotion.

Mall has a three level parking space for two wheelers and four wheelers separately which are charged based on the vehicle type. Cars are charged Rs 30 and Two Wheelers are charged Rs 15. Whenever a customer parks his vehicle in the space, he has to register his vehicle against his name for security purposes. Each parking also stores the parking slot in which vehicle is parked.

Every item available in the shops are present in the mall database with its information stored in it. It gets updated automatically every time with transactions.

After any purchase customer is also provided with an option of feedback which will consist of general suggestions, complaints and rating on a scale of 1-10. All the registered users have an option for providing suggestions for improvements.

Mall owners and managers also generate reports on their employees for analysis, performance reviews and promotions.

Every person's address, Email ID, mobile number, name, and birth date is recorded and is given a unique Id to identify him. This data is therefore stored for staff members, shop owners, customer and mall owners. Staff members have certain extra attributes stored with them such as salary, time shifts and type of the job.

Mall itself contains the attributes mall Id, name, address and owners also. Each item in the shop has unique Id, quantity, price, name and shop in which it is present and discount/offers associated with it. Shop has attributes shop Id, rent associated with it, shop owner, shop owner Id, shop name. Customer selects his/her products which are placed in the shopping cart. Each shopping cart has a unique shopping cart number, customer Id and the items with their prices, quantity and net prices (after discounts/offers).

### 3 Requirement Summary

- Inorbit mall has three types of end users i.e. customers, employees and mall owners.
- Each person (including customer, employee, mall owner) has a name (first name, middle name, last name), address (house no, street no, area, landmark, city, state, pin code), mobile number, email Id and a unique Id for his identification.
- There are two types of employee in the mall i.e. shop owner, staff members.
- Apart from all attributes mentioned above, staff members has three more attributes i.e. salary, time shift, type of the job (Cleaning, Security, Maintenance, Supervisors, Managers, Customer Care).
- Each shop in the mall has a shop Id, shop owner name, shop owner Id and name of the shop.
- Each item in the shop has a unique item Id, price, quantity available, item name, available offers/discounts which has description.
- Every customer selects his/her products to be bought and they are all placed in the shopping cart. Shopping cart has attributes items, quantity purchased, shopping cart Id, customer Id to which the cart belongs, total net price after adjusting discounts/offers.
- Customer has a wide variety of options for payment. Mall manages a central payment system which can be accessed by any shop by the shop manager/owner. Payment system has a shop Id which is conducting its transaction, customer Id, customer name, address, mobile phone, items, and net price.
- Customer also has an option for home delivery which induces an extra charge of Rs. 5 per km.
- Mall also has a customer grievance redressal cell (customer care) to help customers with exchange and refunds. After every purchase customer is provided a feedback/suggestion form which contains questions regarding services, employee behaviour, overall product quality and feedback.
- Apart from discount/offers from shops, customers also get festive season offers during festive season such as bumper offers.
- Mall itself has four attributes, mall Id, mall name, mall address, mall owner.
- Mall has three layer parking space with a nominal fee of Rs. 30 for four wheelers and RS 15 for two wheelers. Each parking has a parking fee, timing, parking slot, parking Id, person Id who parks his vehicle.
- Mall Owner can generate reports, analyze profits, performance of departments.