



# Database Design Term Project

## CSAT\_CSD\_2206

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# Requirement Analysis

## Overview of Company

### **Student Names**

Sathish Thimma Reddy – C0806022

Avinash Kour – C0804437

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### **Your company**

ABS Mobiles INC

### **Type of company**

Wholesale Mobile Dealer

### **Short description of the company**

We are Wholesale Mobile phone Dealers, sells mobiles at wholesale level, we sell mobiles of different brand and models of different colors. Also we aim at providing the mobiles to the local stores at a reasonable cost and also we as a wholesale dealers ships different mobile brands across different locations.

### **Product:**

Mobile Phone

### **Product characteristics (attributes):**

IMEI Code: Unique identifier to identify the mobile

Brand: Brand Name of the mobile device

Model: Model Name of the mobile device

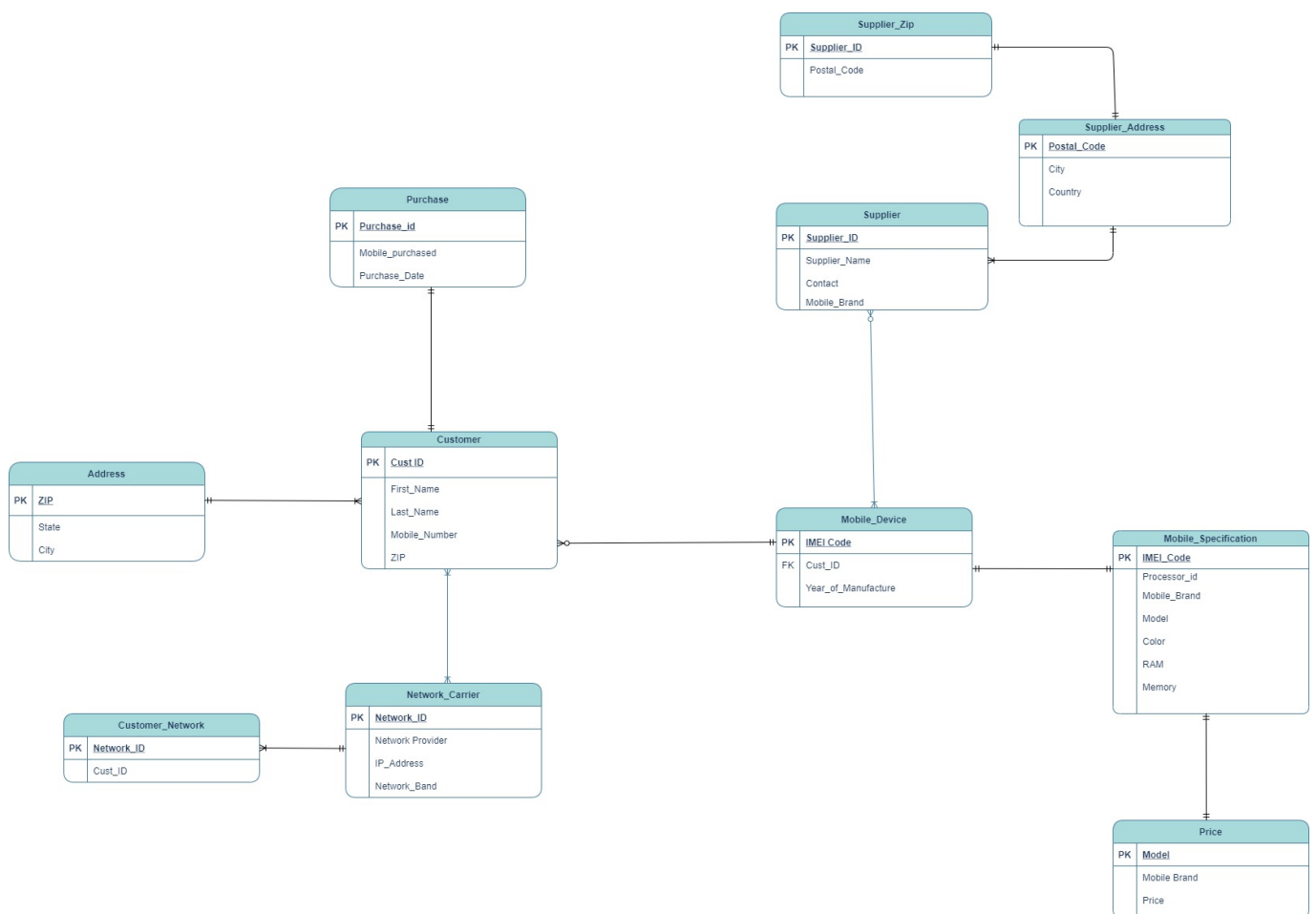
Supplier: Supplier name for a specific brand

Customer: Customer Name

Price: Price of the product

# Conceptual Design

## ER Diagram (Many to Many Relationship Resolved)



## Logical Model

### Normalization to 3NF

### Un Normalized tables

Cust_ID	First_Name	Last_Name	Mobile_Purchased	Purchase_id	Purchase_date	Mobile_number	State	City	ZIP

IMEI_Code	Cust_ID	Mobile_Brand	Model	Color	Year_Of_Manufacture	RAM	Memory

Supplier_Id	Supplier_name	Mobile_Brand	Contact	City	Postal_Code	Country

Network_Id	Customer_ID(FK)	Network_provider	IP_Address	Network_band

## 1NF

### Customer Table

<u>Cust_ID(PK)</u>	First_Name	Last_Name	Mobile_Purchased	Purchase_id	Purchase_date	Mobile_number	State	City	ZIP

### Mobile Device Table

<u>IMEI_Code(PK)</u>	<u>Cust_ID(FK)</u>	Mobile_Brand	Model	Color	Year_Of_Manufacture	RAM	Memory

### Supplier Table

<u>Supplier_Id(PK)</u>	Supplier_name	Mobile_Brand	Contact	City	Postal_Code	Country

### Network Table

<u>Network_Id(PK)</u>	<u>Customer_ID(FK)</u>	Network_provider	IP_Address	Network_band

## 2NF

### Customer Table

<u>Cust_ID(PK)</u>	Purchase_id	First_Name	Last_Name	Mobile_number	State	ZIP	City

### Purchase Table

<u>Purchase_id</u>	Mobile_Purchased	Purchase_date

### Mobile Device Table

<u>IMEI_Code(PK)</u>	Cust_ID(FK)	Year_Of_Manufacture

### Mobile Specification Table

<u>IMEI_Code(FK)</u>	Model	Mobile_Brand	Color	Price	RAM	Memory

## Supplier Table

<u>Supplier_Id</u>	Supplier_name	Contact	Mobile_Brand

## Supplier Address Table

<u>Supplier_Id</u>	Postal_Code	City	Country

## Network Carrier

<u>Network_Id(PK)</u>	Network_provider	IP_Address	Network_band

## Customer Network

<u>Network_Id(FK)</u>	Customer_ID(FK)



## 3NF

### Customer Table

Cust_ID	First_Name	Last_Name	Mobile_number	ZIP

### Purchase Table

Purchase_id	Mobile_Purchased	Purchase_date

### Address Table

ZIP	State	City

### Mobile Device Table

IMEI_Code	Cust_ID	Year_Of_Manufacture

## Mobile Specification Table

IMEI_Code	Model	Mobile_Brand	Color	RAM	Memory

## Mobile Price Table

Model	Mobile_Brand	Price

## Supplier Table

Supplier_Id	Supplier_name	Contact	Mobile_Brand

## Supplier Zip Table

Supplier_Id	Postal_Code

## Supplier Address Table

Postal_Code	City	Country

## Network Carrier Table

Network_Id	Network_provider	IP_Address	Network_band

## Customer Network Table

Network_Id	Customer_ID(FK)

## Relational Schema

### **Mobile Device Table:**

MobileDevice (**IMEI Code NUMERIC (15)**, Cust\_ID NUMERIC (20),  
Year\_Of\_Manufacture DATE)

### **Mobile Specification Table:**

MobileSpecification (**IMEI Code NUMERIC (15)**, Processor\_id NUMERIC (6),  
Mobile\_Brand VARCHAR (10), Model VARCHAR (6), Color VARCHAR (8), RAM  
VARCHAR (6), MemoryInGB NUMERIC (4))

### **Mobile Price Table:**

Price (**Model VARCHAR (6)**, MobileBrand VARCHAR (10), Price NUMERIC (6))

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### **Supplier Table:**

SUPPLIER (**Supplier ID NUMERIC (10)**, Supplier\_Name VARCHAR (20), Contact  
VARCHAR (20), Mobile\_Brand VARCHAR (20))

### **Supplier Address Table:**

Supplier\_address (**Postal\_Code\_NUMERIC (6)**, City VARCHAR (15), Country  
VARCHAR (15))

### **Supplier Zip Table:**

Supplier\_zip (**Supplier ID NUMERIC (10)**, **Postal\_Code\_NUMERIC (6)**)

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### **Customer Table:**

Customer (**Cust ID NUMERIC (20)**, First\_Name VARCHAR (10), Last\_Name  
VARCHAR (10), Mobile\_Number NUMERIC (12), ZIP VARCHAR (6))

### **Address Table:**

Address (**ZIP VARCHAR (6)**, City VARCHAR (15), Country VARCHAR (15))

### **Purchase Table:**

Purchase (Purchase\_**id NUMERIC (10)**, Mobile\_Purchased VARCHAR (15),  
Purchase\_Date DATE)

**Network Carrier Table:**

Network\_Carrier (**Network ID VARCHAR (10)**, Network\_Provider VARCHAR (15), IP\_Address VARCHAR (20), Network\_Band VARCHAR (12))

Customer\_Network (**Network ID VARCHAR (10)**, Cust\_ID NUMERIC (20))

