An Introduction to Bakul Honesty Box

BHB, IIIT Hyderabad is a student-run initiative that depends entirely on trust and honesty. This project aims at creating a web-enabled database application that may be deployed for *real-time use* by the BHB team. Unlike traditional shops, BHB doesn't require a customer-centric database.

Presently, the stock procurement and sales data are updated and maintained manually which is a difficult and time-consuming job and takes around 4 people to work on it for at least 2 hours every week. The plan is to use a database to help us update the data with ease and save time. The project, upon completion, will be used directly by the Bakul Honesty Box Team to help with their cause.

Database Requirements

Entity Types

1. Funders

    Attributes: Roll Number, Name, Batch, Email Address, Contact Number, Total Funding

    Composite Attribute: Name - First Name, Last Name
    Derived Attribute   :   Total Funding = Sum of all *Amounts* (in *Fundings* for every *Roll Number)*

2. Fundings

    Attributes: Roll Number, Date, Amount, Mode, Transaction ID

    Weak Entity Type: Fundings

3. Team Members

    Attributes: Roll Number, Name, Batch, Email Address, Contact Number, Departments, Roles

    Composite Attribute :   Name - First Name, Last Name
    Multivalued Attribute: Departments, Roles

4. Products

    Attributes: Product ID, Product Category, Product Name, Product MRP

5. Stocks

   Attributes: Product ID, Date

   Sub-classes

   5.1 Procurement

   Attributes: Vendor, Purchased Quantity, Total Cost, Cost Per Piece

   Derived Attribute: Cost Per Piece = *Total Cost ÷ Purchased Quantity*

   5.2 Inventory

   Attributes: Quantity Left

   Derived Attribute: Quantity Left = *Purchased Quantity - Net Quantity Sold*
   (in Sales for every Product ID)

   5.3 Sales

   Attributes: Quantity Before Sales, Quantity After Sales, Net Quantity Sold

   Derived Attribute: *Net Quantity Sold = Quantity Before Sales - Quantity After Sales*

6. Accounts

   Attributes: Date, Expected Total Revenue, Actual Revenue, Net Profit/Loss

Relationship

1. Funders to Fundings

   Every funding in *Fundings* is associated with a funder in *Funders*.

2. Products to Stocks (Procurement, Inventory, Sales)

   One to Many Relationship: Every row in *Stocks* is associated with a *Product ID* in *Products*.

3. Procurement to Inventory to Sales

   Quantity Left in Inventory depends on Purchased Quantity in Procurement and Net Quantity Sold in Sales.

4. Accounts to Sales to Products

   The Expected Revenue is calculated from products on Sales and its MRP from Products using Product ID on a given date.

Functional Requirements

Insertion Operation(s)

1. Funders Data
2. Fundings Data
3. Team Members Data
4. Stocks Data

Update Operation(s)

1. *Quantity After Sales* in *Sales* Table gets updated once every day
2. *Total Revenue* in *Accounts* Table is updated once every day.

Delete Operation(s)
1. Removal of a particular product that was not acquired during the renewal of stocks.

Report(s) Generation

1. Daily Sales Report

   Daily Sales Report includes the number of the product of each category is sold, expected revenue (sum of the cost price of all the items), actual total revenue, net profit/loss on a particular day.

2. Stock Purchase Billing

   Stock Purchase Bill is a report of all the products bought for a given vendor on a particular date.