Phase-1 Report

Team Member-

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Entity Set:-

- *Product – Contains information about products available including information about their quantity and supplier.*
- *Category – Different products can belong to different categories and this relation keeps info about the categories.*
- *Supplier – Each supplier can supply a number of product and therefore this relation keeps information about the suplliers that we have.*

Fragmentation of Application DBMS:-

Relations available(Global Schema):-

- Product(Id, Name, Description, Quantity, Price, SupplierId, CategoryId)
- Category(Id, Name, Description)
- Supplier(Id, ContactNumber, ContactName, CompanyName, Email, Phone, City, Address, PostalCode)

Horizontal Fragmentation:-

Category1 = Select * from Category where Name = 'Men'

Category2 = Select * from Category where Name = 'Women'

Category3 = Select * from Category where Name = 'Children'

Vertical Fragmentation:-

Supplier1 = $\pi_{(Id, ContactNumber, ContactName, CompanyName)}$ **(Supplier)**

Supplier2 = $\pi_{(Id, Email, Phone, City, Address, PostalCode)}$ **(Supplier)**

Derived Horizontal Fragmentation:-

Product1 = Product $\Delta<_{CategoryId=id}$ Category1 (semi-join)

Product2 = Product $\Delta<_{CategoryId=id}$ Category2 (semi-join)

Product3 = Product $\Delta<_{CategoryId=id}$ Category3 (semi-join)

Allocation of Application DBMS Relations:-

Site1 – CP4, Site2 – CP5, Site3 – CP6

- Category1 @ Site1, Category2 @ Site2, and Category3 @ Site3
- Supplier1 @ Site1 and Supplier2 @ Site2
- Product1 @ Site1, Product2 @ Site2, and Product3 @ Site3

ER Diagram, Sequential Diagram, and SQL Relational Schema(Printout of information schema) for System Catalog and Application DBMS present in Folder.