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DATABASE LAB
CSE3104

INTRODUCTORY PROJECT REPORT

Garments Production Management System

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1 Introduction

The project entitled “Garments Production Management System” has been developed for the computerization of garments production system to achieve the goal that permits the best use of the information or data to make future plans. Garments industry, which is the largest industry in our country, is facing so many challenges of export and import of their products in the world market. The market has become very competitive. In garments industry people is not using a proper computerization system for production and inventory management system so that this is slowing down the operations and errors are made frequently. Also most of the time, they are losing the old data. Well-organized management and suitable business strategies can produce quality production in minimal time and costs. Our signification is to help the garments industries of our country by doing proper use of computer technology. This project helps to achieve the high response time in production system, ease of stock management, maintain the data and the high productivity of employee.

2 Objective

The goal of our project is to make the entire system efficient and user friendly to the garments manager or administrator. The objectives that we are focusing on are :

- To increase the flexibility of the administrator .
- To get effective data or information retrieval about employees, products and buyer from any time .
- Making the system faster and efficient than the present system(manual).
- To eliminate the paper work of the administrator or employee.
- To facilitate the administrator so that he can easily access product information from anywhere.
- To reduce complexity and hard work of the production section.
- To save time
- To access this system in online platform from anywhere, anytime

3 Features

We have designed this project for the garments side people. Mainly garment's owner or administrator or manager will be the user in the proposed system. The proposed system will have the following features to serve the better service:

- User will have the power to add, update, and delete any information in database.
- He is the one who will enter the order details and buyer information in the system.
- He can delete or update employee and save their information by giving them an employee Id.
- He will determine the salary of the labours for making each shirt from which we can also calculate the daily salary of each labour.

- He can even make count of daily producing shirts from which the system will find the order status by calculating the completed and remaining percentage of an order.
- User can see the daily shipment information, delivery information and transaction details using this system.
- He can also see the making cost of an order from which he can calculate his profit in each order by deducting the employees salary and shipment charge.
- User can generate daily production report to get a knowledge about daily update in a single click.

4 Entity-Relationship Diagram

As we are making a production management system for garments, we will need some tables to collect the information about the buyer, employee, order, product, production etc. These collected data will help the administrator a lot to get his necessary information and daily summary. For this purpose, we also need to connect these tables with some relationships. Followings are the entities and relationships of our proposed project:

4.1 Entity and its attributes

There are eight entities in this ERD. Every entity has some attributes to hold the necessary information regarding that table. The brief description about the entities are given below :

4.1.1 Entity-01: Buyer

The entity "Buyer" will hold the buyer's information which will be entered by the user (someone from garment's administration). This table has five attributes among which BuyerId is the primary key. The other attributes are: 'Name' (data type: varchar), 'Address' (data type: varchar), 'Country' (data type: varchar), 'ContactInfo' (data type: varchar)

4.1.2 Entity-02: Order

The entity "Order" will hold the details information of every order which will also be entered by the user (someone from garment's administration). This table has eight attributes among which 'OrderId' is the primary key. The other attributes are: 'BuyerId' (data type: integer) which will hold the buyer id who has ordered this order is a foreign key of this table, 'ProductId' (data type: integer) which will hold the product type for example, if productId is 1 he has ordered full shirt and if productId is 2 he has ordered half shirt is another foreign key of this table, 'Quantity' (data type: integer) which will hold the quantity of order, 'OrderDate' (data type: date), 'DeliveryDate' (data type: date), 'OrderStatus' (data type: varchar) which will indicate the state of the order, 'TotalAmount' (data type: integer) will hold the total price of the order.

4.1.3 Entity-03: Employee

The entity "Employee" will hold the information about each and every employee. This table has five attributes among which 'EmployeeId' is the primary key. The other attributes are: 'Name' (data type: varchar), 'Age' (data type: integer), 'Designation' (data type: varchar), 'JoiningDate' (data type: date)

4.1.4 Entity-04: Production

The entity "Production" will hold the daily production information of every order. This table has seven attributes among which 'productionId' is the primary key. The other attributes are: 'OrderId' (data type: integer) which will define the specific order is the first foreign key of this table, 'ProductId' (data type: integer) which

will hold the product type of that order is the second foreign key , 'EmployeeId' (data type: integer) by which he can keep eyes on the work of his each employee is the third foreign key, 'CompletedProduct' (data type: integer) which will determine the daily shirt count of each employee, 'TodaySalary' (data type: money) will indicate his daily income , 'Date' (data type: date) will hold the present date.

4.1.5 Entity-05: ProductList

The entity "ProductList" will hold the information about ordered products. This table has seven attributes among which 'ProductId' is the primary key. The other attributes are: 'ProductName' (data type: varchar), 'Description' (data type: varchar) which can hold the color or other details of the product, 'size' (data type: varchar) will hold the sizes, 'Accessories' (data type: varchar) will hold the needed raw materials for the order, 'MakingCost' (data type: money) will hold the raw materials cost , 'UnitPrice' (data type: money) will the price of a unit product .

4.1.6 Entity-06: ProductionStatus

The entity "ProductionStatus" will hold the state of the order. This table has nine attributes among which 'ProductionStatusId' is the primary key. The other attributes are: 'ProductId' (data type: integer) which is the second foreign key , 'OrderId' (data type: integer) is the first foreign key , 'ProductionDate' (data type: date) will hold the present date, 'TotalOrder' (data type: integer) will hold total quantity of order, 'TodayCompleted' (data type: integer) indicates the number of shirt that are made in the present date, 'TotalCompleted' (data type: integer) indicates the previously completed quantity of that order , 'Uncompleted' (data type: integer) will hold the remaining quantity of the order, 'LastDate' (data type : date) will hold the assuming date when the order will be completed .

4.1.7 Entity-07: TransactionInformation

The entity "TransactionInformation" will hold the daily transaction information of the garment. This table has seven attributes among which 'TransactionId' is the primary key. The other attributes are: 'OrderId' (data type: integer) which will define the specific order is the first foreign key, 'BuyerId' is the second foreign key, 'Date' (data type: date) which will hold the present date, 'TotalAmount' (data type: money) which will hold the total amount of an order, 'PaidAmount' (data type: money) which will determine the paid amount of money, 'DueAmount' (data type: money) will indicate the remaining amount of money , 'LastDate' (data type: date) will hold the last date when the remaining amount should be cleared.

4.1.8 Entity-08: ShipmentInformation

The entity "ShipmentInformation" will hold the daily shipment or delivery information of the completed productions. This table has eight attributes among which 'OrderId' is both the primary key and first foreign key of this table. The other attributes are: 'ProductionStatusId' is the second foreign key which will transfer the production status to this table, 'DeliveryDate' (data type: date) which will specify the promised delivery date, 'DeliveryAddress' (data type: varchar) , 'DeliveryStatus' (data type: varchar) which will hold the information that the order has been already delivered or not, 'ShipmentDate' (data type: date) which will indicate the date of the shipment, 'ShipmentCost' (data type: money) will hold the cost of the shipment for each order , 'ShipmentChannel' (data type: varchar) will hold the channel information of the shipment.

4.2 Relationship

In this ERD, we have used ten relationship. These relationship will give us a clear understanding about how the entities are connected with each other.

4.2.1 Relationship-01: Placed

Buyer will place order. This relationship will work between the "Buyer" table and "Order" table as the primary key of "Buyer" table 'buyerId' is the foreign key of the "Order" table. There is one to many relationship between

them.

4.2.2 Relationship-02: Make

Buyer will make transaction. This relationship will work between the "Buyer" table and "TransactionInformation" table as the primary key of the "Buyer" table 'BuyerId' is the foreign key of the "TransactionInformation" table. There is also one to many relationship between the tables .

4.2.3 Relationship-03: Have

All order have a product list. This relationship will work between the "Order" table and "ProductList" table as the primary key of "ProductList" table is the foreign key of "Order" table. One to one relationship is seen between the tables .

4.2.4 Relationship-04: Complete

According to the product list, all production should be completed. This relationship will work between the "ProductList" table and "Production" table as the primary key of "ProductList" table 'ProductId' is the foreign key of "Production" table. There is one to many relationship between the tables .

4.2.5 Relationship-05: Do

Employee must do the production. This relationship will work between the "Employee" table and "Production" table as the primary key of "Employee" table 'EmployeeId' is the foreign key of "Production" table . There is also one to many relationship between the tables .

4.2.6 Relationship-06: Paid for

After completing the order, we need to check the transaction status of that order. This relationship will work between the "Order" table and "TransactionInformation" table . One to many relationship is seen between the tables .

4.2.7 Relationship-07: Deliver

When the production status is completed, the order should be delivered. This relationship will work between the "Order" table and "ShipmentInformation" table as the primary key of "Order" table is the foreign key of "ShipmentInformation" table . One to one relationship is seen between the tables .

4.2.8 Relationship-08: Ready to

When the production status is completed, it should be ready for the shipment. This relationship will work between the "ProductionStatus" table and "ShipmentInformation" table as the primary key of "ProductionStatus" table 'ProductionStatusId' is the foreign key of "ShipmentInformation" table . One to one relationship is seen between the tables .

4.2.9 Relationship-09: Has

Every order has a production status. This relationship will work between the "Order" table and "ProductionStatus" table as the primary key of "Order" table 'OrderId' is the foreign key of "ProductionStatus" table . One to many relationship is seen between the tables .

4.2.10 Relationship-07: Has

Product list will effect the product status. This relationship will work between the "ProductList" table and "ProductionStatus" table as the primary key of "ProductList" table 'ProductId' is the foreign key of "ProductionStatus" table . One to many relationship is seen between the tables .

5 Conclusion

There are many garments factories in Bangladesh, which are not properly automated. They run their system manually which is always repeated, can be easily automated which won't take any time to process. Now a days every people all around the world want to do things in an organized way. It is seen that many industries use various application to implement their production system. Our "Garments Production Management System" provides the facility to maintain all the sections of garments production, stock management and keep track of all the product information. The user can use this project online even from his home and can get his necessary information and daily report in one click.

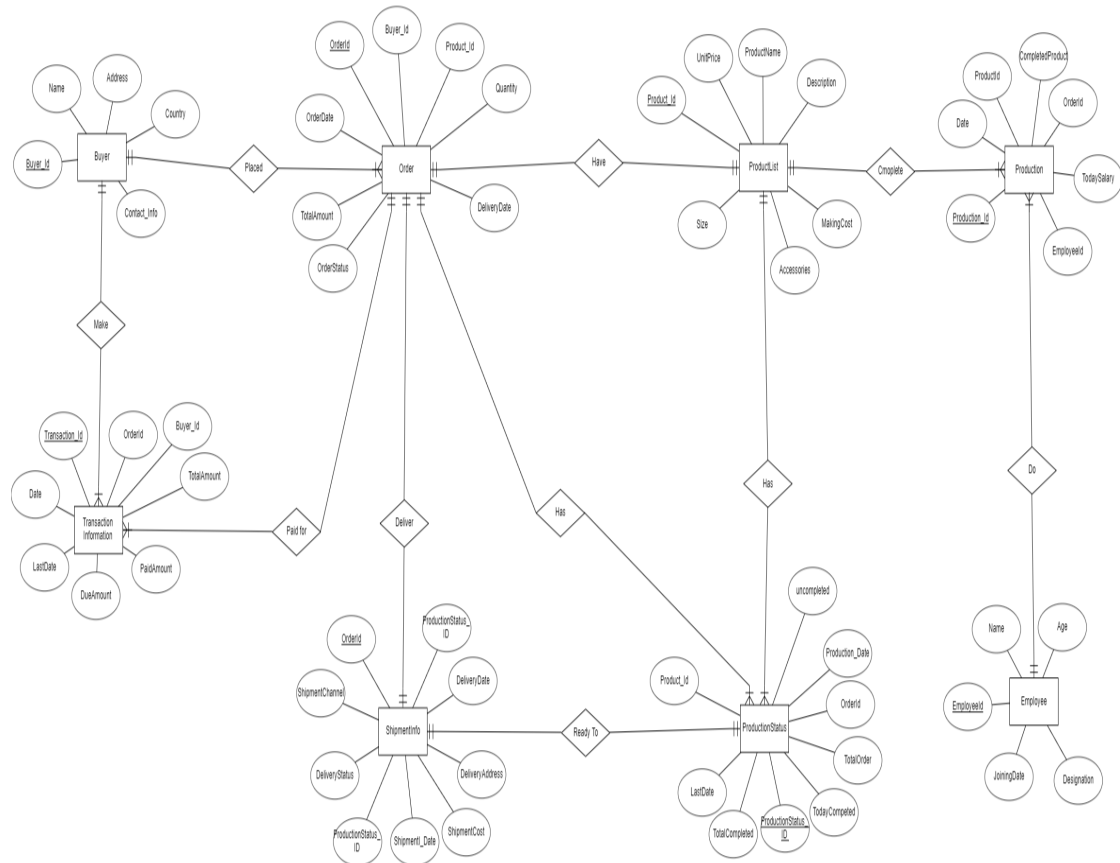


Figure 1: E-R diagram of Garments Production Management System

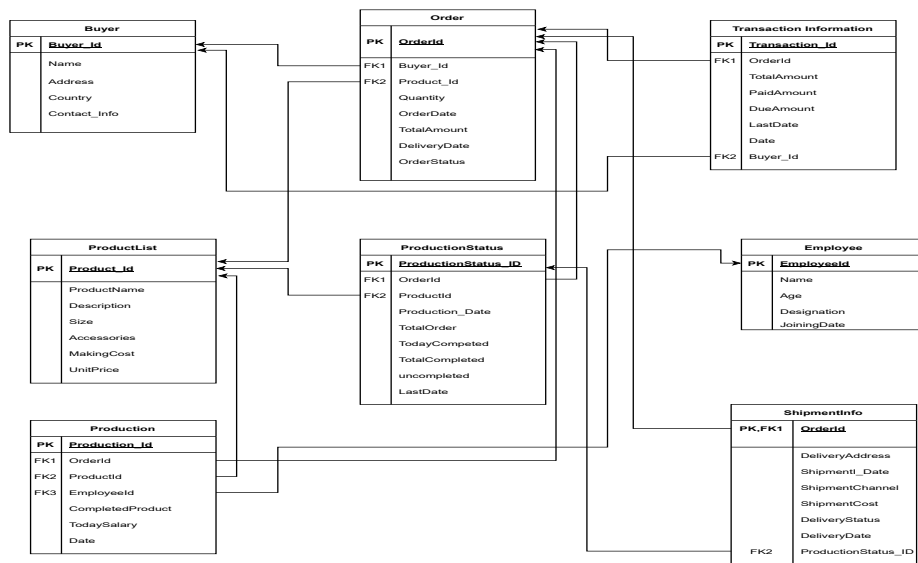


Figure 2: schema diagram of Garments Production Management System