Dura Group of Companies

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0.1 Introduction :

0.1.1 Main aim in developing DataBase Manaagement System(DBMS)

A database management system (DBMS) refers to the technology for creating and managing databases.Basically DBMS is a software tool to organize (create, retrieve, update and manage) data in a database.The main aim of a DBMS is to supply a way to store up and retrieve database information that is both convenient and efficient.Database systems are meant to handle large collection of information. Management of data involves both defining structures for storage of information and providing mechanisms that can do the manipulation of those stored information. Moreover, the database system must ensure the safety of the information stored, despite system crashes or attempts at unauthorized access.

0.1.2 Overview of CaseStudy :

This case study of Dura Group of Companies assigned to our group was given by Sharjeel Iftikhar (2020-CS-139).

Features of proposed system are:

- Manage Person(Vendor, Worker, Buyer)
- Manage Company's Goods
- Manage Stock Ledger
- Manage Sales
- Manage Gate Pass
- Manage Branch and its Stores

Reports of proposed system are:

- Sale Return Report
- GatePass Report
- Stock Ledger Report
- Branch To Branch Report

0.1.3 Motivation :

Main target is to fulfill the requirements of the client to develop a desktop application for Dura Group of Companies.

0.1.4 Business Case:

A system which facilitates the company of Dura Flow to manage their whole process.

0.1.5 Synopsis Project:

This company deals with production of plastic goods.This project aims to monitor all process in the company, like order receiving, purchase of raw materials, production of goods, sales ,transfer from branch to branch and detail of staff.As these works are done manually at the company at present it takes alot of time to completely manage the work. This is the software to manage the data of Dura Flow (Dura Group of Companies). The system was built to address all most all the tasks of the factory.The main goal of this project is to reduce manual work, increase the processing speed and ensure reliability of data.All process needed for plastic management is stored for better management of system.Various reports are generated based on the requirement to manage the system efficiently.

0.1.6 Objectives :

The objectives of the system are as follows:

- Enhance the current manual system.
- Make ER Diagram according to requirements.
- Make DataBase Design According to ER Diagram.
- To implement all the given requirements.
- To generate result in the form of PDFs Report.

0.2 Methodology :

0.2.1 Project Work :

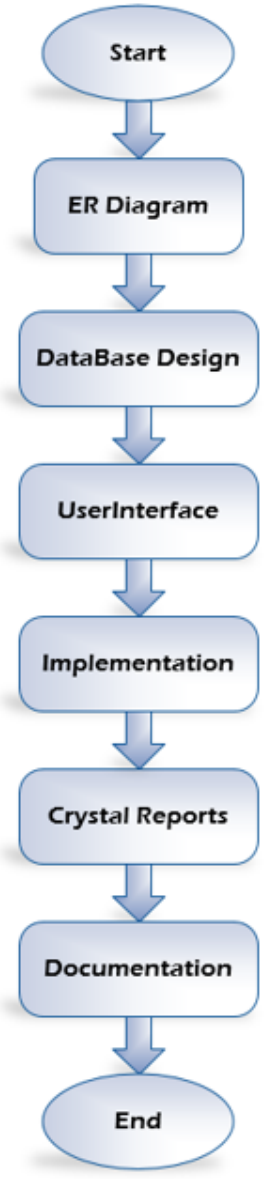

FIGURE 1: Flowchart of Project Cycle.

0.2.2 Tools :

Table 1: Technology Stack Table

Language	SQL server, C #
Platform	Desktop Application
IDEs	SSMS(SQL Server Management Studio), VS(Visual Studio) 2019

0.2.3 Technology Details :

C# : C is a back-end programming language, whereas SQL is a database language.Once the connection has been established between then, the next important aspect is to fetch the data from the database. C can execute 'SQL' select command against the database. The 'SQL' statement can be used to fetch data from a specific table in the database.C can also be used for inserting data,updating data and deleting data from a database

SQL : SQL stands for Structured Query Language. SQL lets you access and manipulate databases.It is issued for the purpose of data definition and data manipulation.It can execute queries against a database , retrieve data from a database, insert records in a database, update records in a database, delete records from a database, create new databases, create new tables in a database, create stored procedures in a database, SQL can create views in a database, SQL can set permissions on tables, procedures, and views

0.2.4 Use Case Diagram :

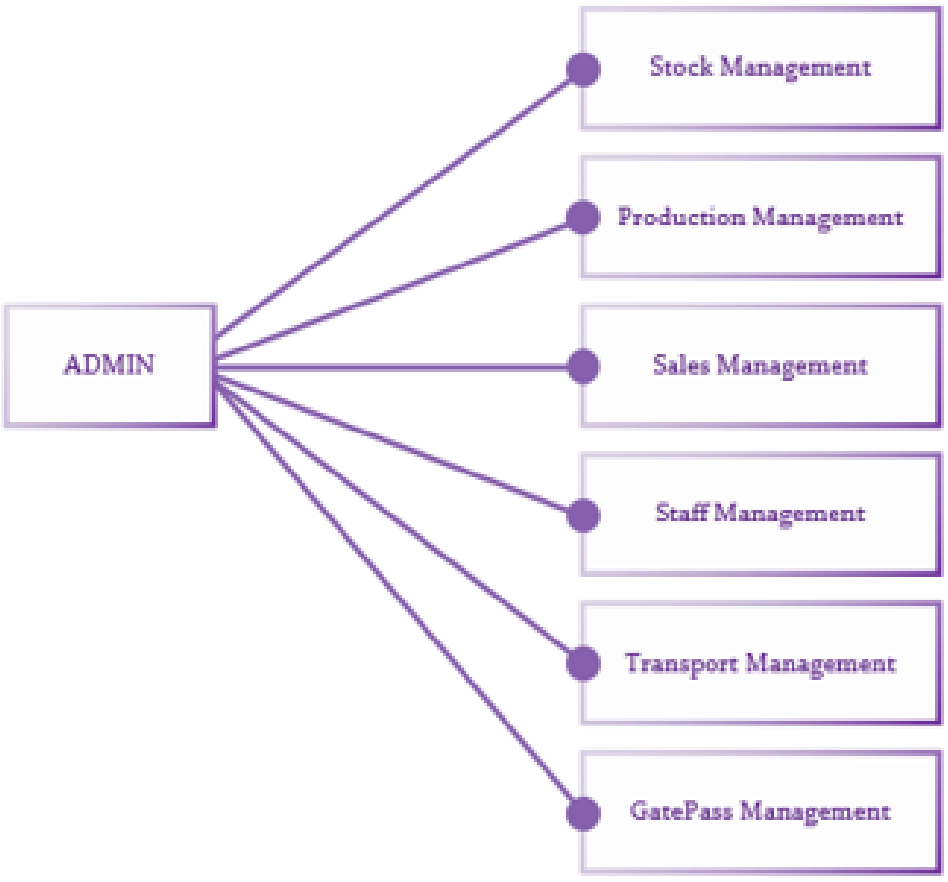

FIGURE 2: Use Case Diagram of Project.

0.3 Design :

0.3.1 ER Diagram :

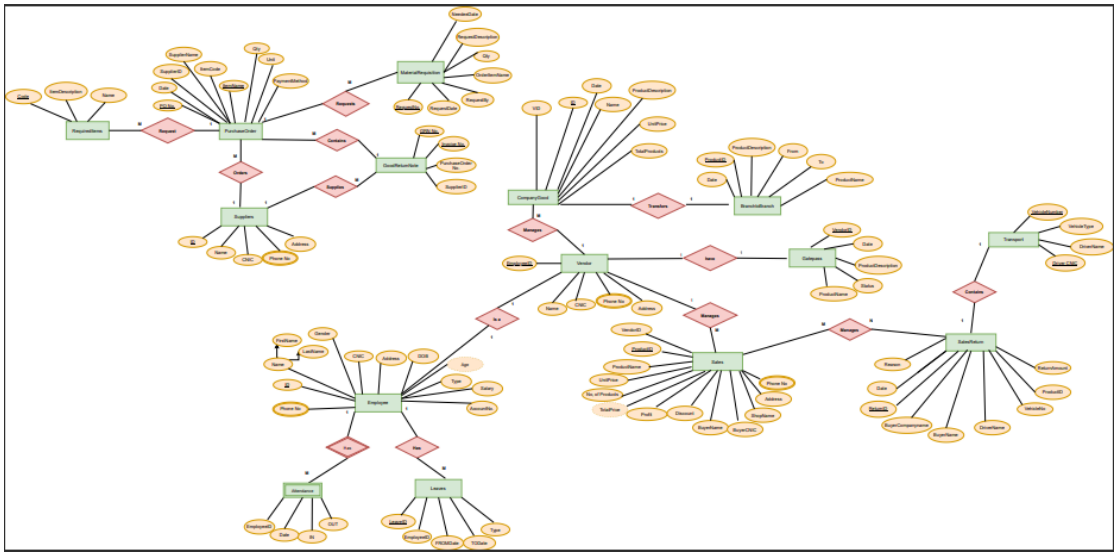

FIGURE 3: ER Diagram of Project.

0.3.2 Database Design :

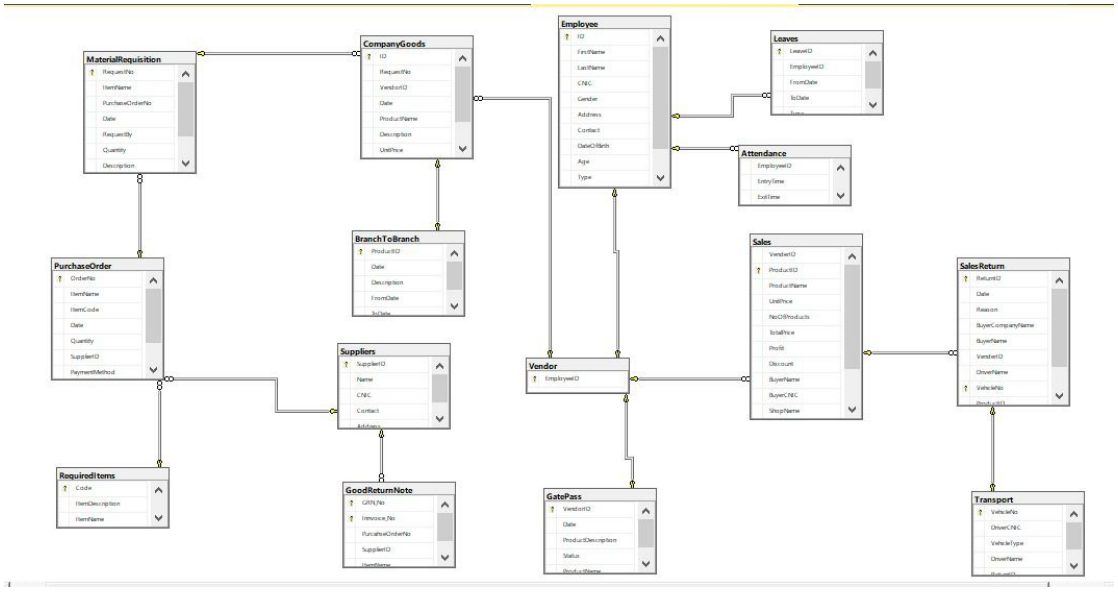

FIGURE 4: Design Diagram of Project.

0.3.3 Relations of Database :

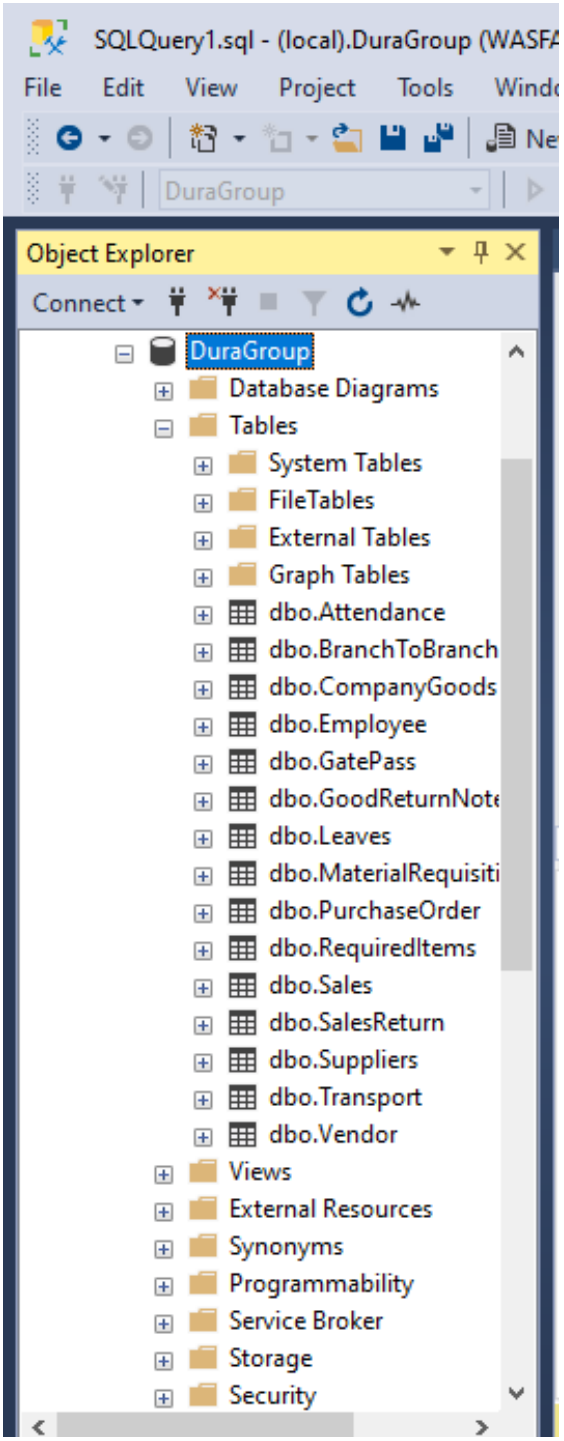

FIGURE 5: Design Diagram of Project.

0.4 Implementation:

0.4.1 Details of Schema:

Table 2: Employee Relation Details

VariableName	DataType
ID(PK)	int
FirstName	varchar(50)
LastName	varchar(50)
CNIC	varchar(20)
Gender	varchar(15)
Address	varchar(250)
Contact	varchhar(20)
DateOfBirth	datetime
Age	int
Type	varchar(15)
Salary	decimal(18,0)
AccountNo	varchar(16)

Table 3: Attendance Relation Details

VariableName	DataType
EmployeeID(FK)	int
EntryTime	datetime
ExitTime	datetime

Table 4: Leave Relation Details

VariableName	DataType
LeaveID(PK)	int
EmployeeID(FK)	int
From	datetime
To	datetime
Type	varchhar(20)

Table 5: GatePass Relation Details

VariableName	DataType
VendorID(PK,FK)	int
Date	date
ProductDescription	varchar(500)
Status	varchar(20)
ProductName	varchar(50)

Table 6: MaterialRequired Relation Details

VariableName	DataType
RequestNo(PK,FK)	int
ItemName(FK)	varchar(100)
Date	date
RequestBy	varchar(50)
Quantity	int
Description	varchar(500)
NeededDate	date

Table 7: PurchaseOrder Relation Details

VariableName	DataType
PurchaseNo(PK)	int
ItemName(PK)	varchar(100)
ItemCode(FK)	int
Date	date
SupplierID(FK)	int
SupplierName	varchar(100)
Quantity	int
Unit	decimal(18,0)
PaymentMethod	varchar(50)

Table 8: RequiredItems Relation Details

VariableName	DataType
Code(PK)	int
ItemDescription(PK)	varchar(500)
ItemName	varchar(50)

Table 9: Suppliers Relation Details

VariableName	DataType
SupplierID(PK)	int
Name	varchar(50)
CNIC	varchar(50)
Contact	varchar(20)
Address	varchar(20)
PurchaseOrderNo	nchar(10)

Table 10: Transport Relation Details

VariableName	DataType
VehicleNo(PK)	int
DriverCNIC	varchar(20)
VehicleType	varchar(20)
DriverName	varchar(100)
ReturnID(FK)	int

Table 11: Vendor Relation Details

VariableName	DataType
EmployeeID(PK,FK)	int

TABLE 12: Sales Relation Details

VariableName	DataType
VendoerID(FK)	int
ProductID(PK)	int
ProductName	varchar(50)
UnitPrice	decimal(18,0)
NoOfProducts	int
TotalPrice	decimal(18,0)
Profit	decimal(18,0))
Discount	real
BuyerName	varchar(50)
BuyerCNIC	varchar(15)
ShopName	varchar(100)
Contact	varchar(20)

TABLE 13: SalesReturn Relation Details

VariableName	DataType
ReturnID(PK)	int
Date(PK)	date
Reason	varchar(250)
BuyerCompanyName	varchar(100)
BuyerName	varchar(50)
VendorID	int
DriverName	varchar(50))
VehicleNo	varchar(10)
ProductID(FK)	int
ReturnAmount	decimal(18,0)

Table 14: CompanyGood Relation Details

VariableName	DataType
ID(PK)	int
RequestNo(FK)	int
VendorID(FK)	int
Date	date
ProductName	varchar(50)
Description	varchar(500)
UnitPrice	decimal(18,0))
TotalProducts	int
ProductID(FK)	int
ReturnAmount	decimal(18,0)

Table 15: GoodReturnNote Relation Details

VariableName	DataType
GRNNo(PK)	int
InnvoiceNo(PK)	varchar(6)
PurchaseOrderNo(FK)	int
SupplierID(FK)	int
ItemName(FK)	varchar(100)

Table 16: BranchToBranch Relation Details

VariableName	DataType
ProductID(PK)	int
Date	date
Description	varchar(500)
From	date
To	date

0.4.2 Triggers:

```
CREATE TRIGGER dbo.totalprice
ON dbo.bill
AFTER INSERT,DELETE,UPDATE
AS
– SET NOCOUNT ON added to prevent extra result sets from
– interfering with SELECT statements. SET NOCOUNT ON;

– Insert statements for trigger here
UPDATE bill SET total = Price * qty

END GO
```

0.4.3 Stored Procedure:

```
ALTER PROCEDURE [dbo].[spBill]
– Add the parameters for the stored procedure here
@Price decimal(10,2),
@qty int

AS
BEGIN
– SET NOCOUNT ON added to prevent extra result sets from
– interfering with SELECT statements. SET NOCOUNT ON;

– Insert statements for procedure here
insert into bill(Price,qty)values(@Price, @qty)
END
```

0.4.4 Crystal Reports:

The reports generated using stored procedure are as follows:

- Sale
- Sales Return .
- Gatepass.
- Attendance.
- Leave.

0.5 Snapshots :

This chapter consists of working screenshots of the project.

0.5.1 Logic Screen :

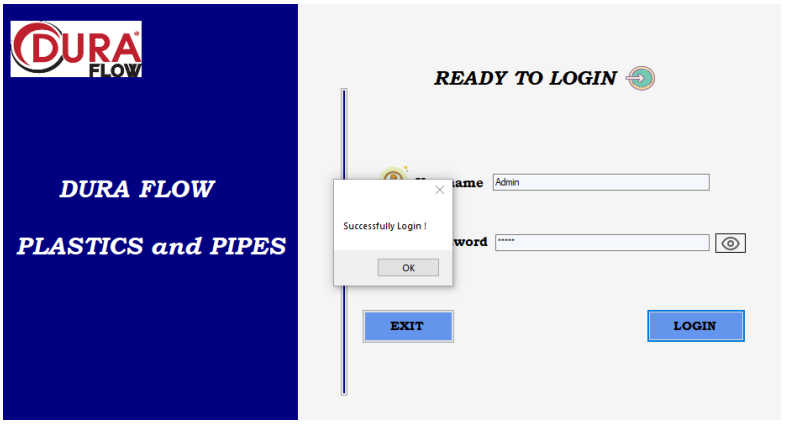

FIGURE 6: Logic Screen

0.5.2 DashBoard :

FIGURE 7: DashBoard Screen

0.5.3 Stock Management :

0.5.3.1 Required Items :

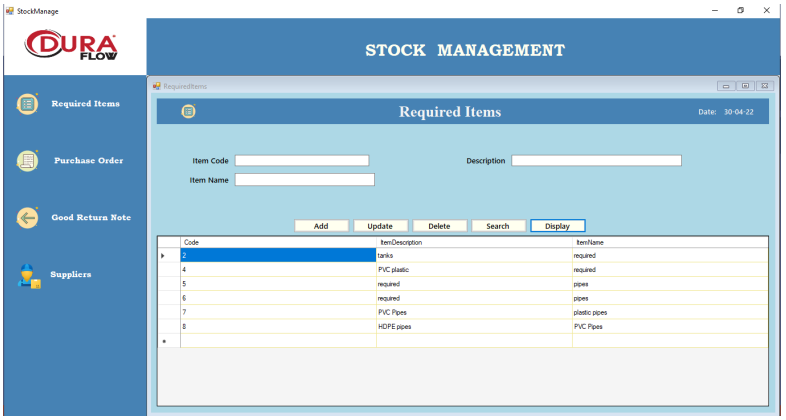

FIGURE 8: Required Items Screen

0.5.3.2 Purchase Order :

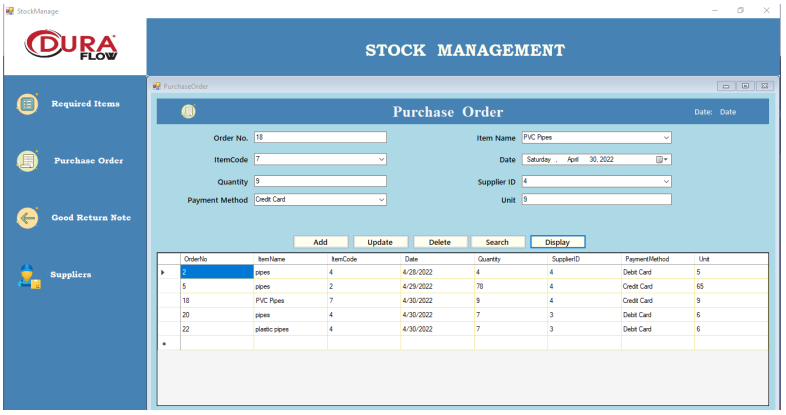

FIGURE 9: Purchase Order Screen

0.5.3.3 Good Return Note :

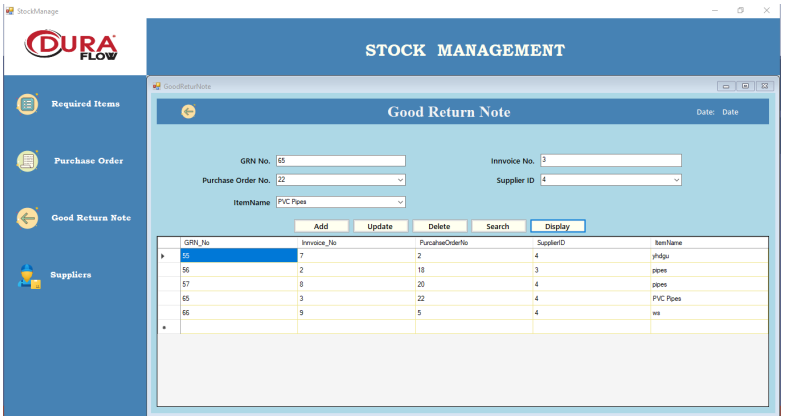

FIGURE 10: Good Return Note Screen

0.5.3.4 Suppliers :

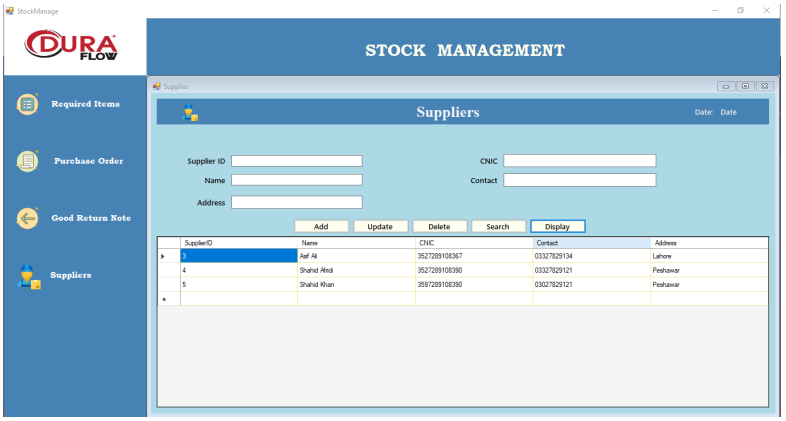

FIGURE 11: Suppliers Screen

0.5.4 Production Department :

0.5.4.1 Material Requisition :

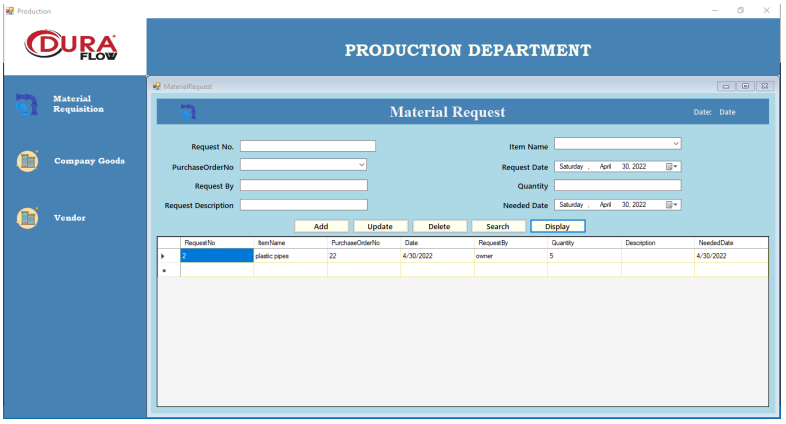

FIGURE 12: Material Requisition Screen

0.5.4.2 Company Goods :

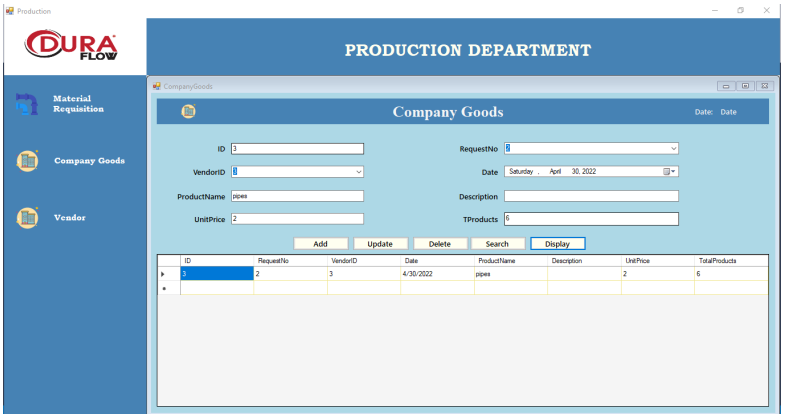

FIGURE 13: Company Goods Screen

0.5.4.3 Vendor :

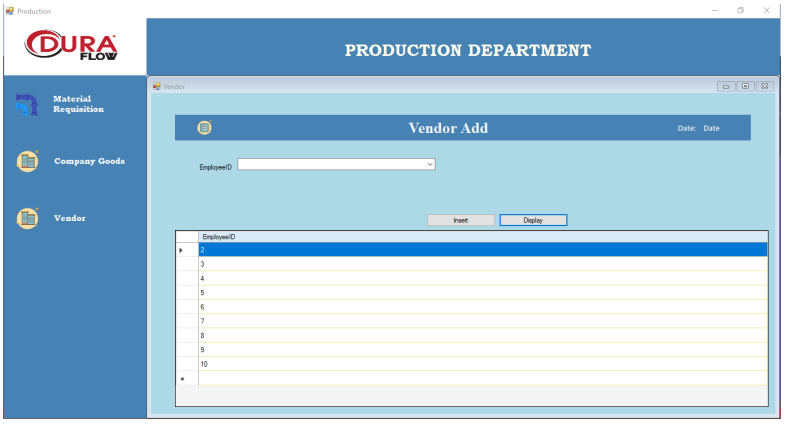

FIGURE 14: Vendor Screen

0.6 Sales Management :

0.6.0.1 Sales :

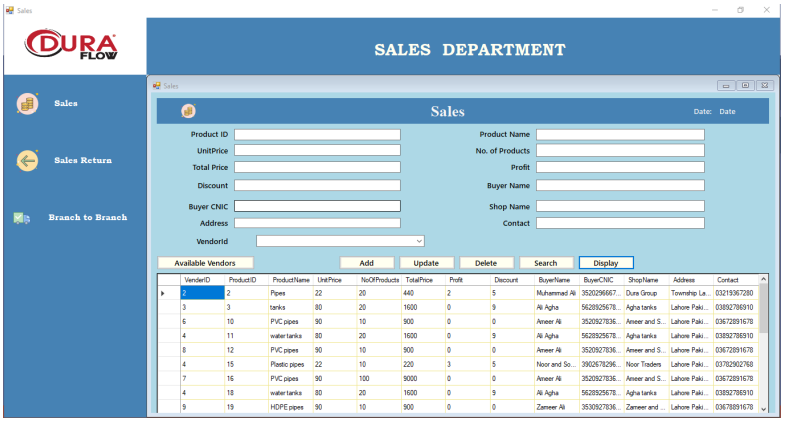

FIGURE 15: Sales Screen

0.6.0.2 Sales Return :

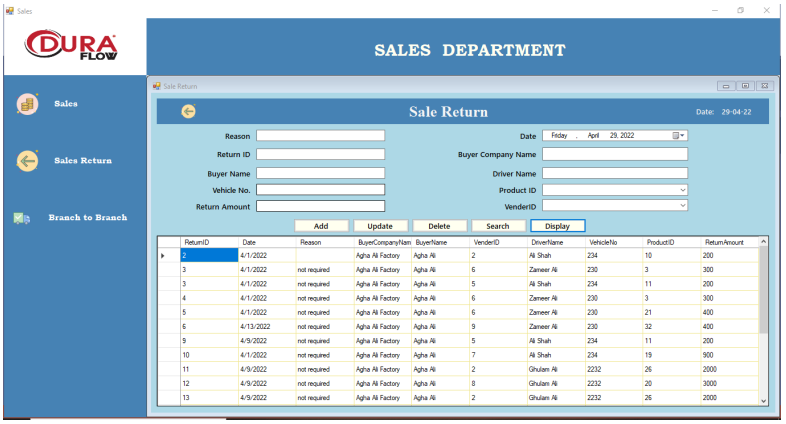

FIGURE 16: Sales Return Screen

0.6.0.3 Branch To Branch :

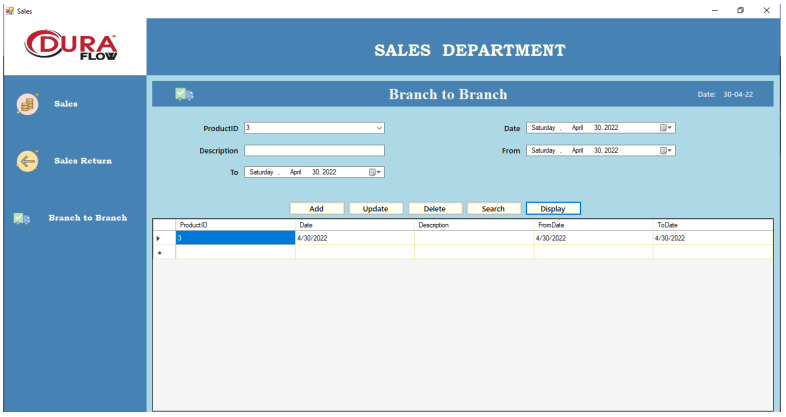

FIGURE 17: Branch To Branch Screen

0.6.1 Transport Department :

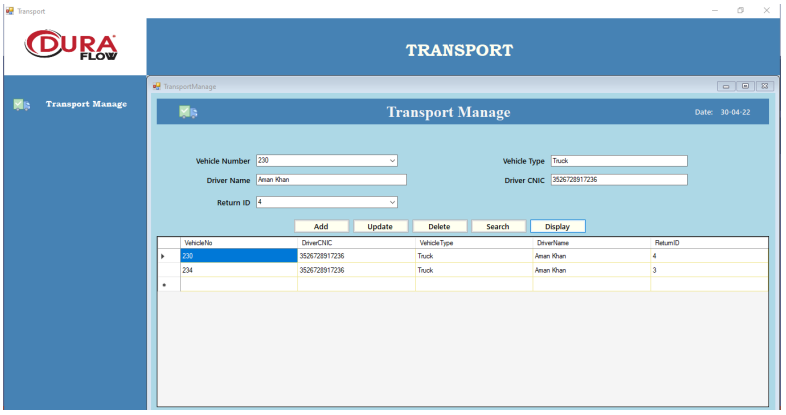

FIGURE 18: Transport Department Screen

0.6.2 GatePass Management :

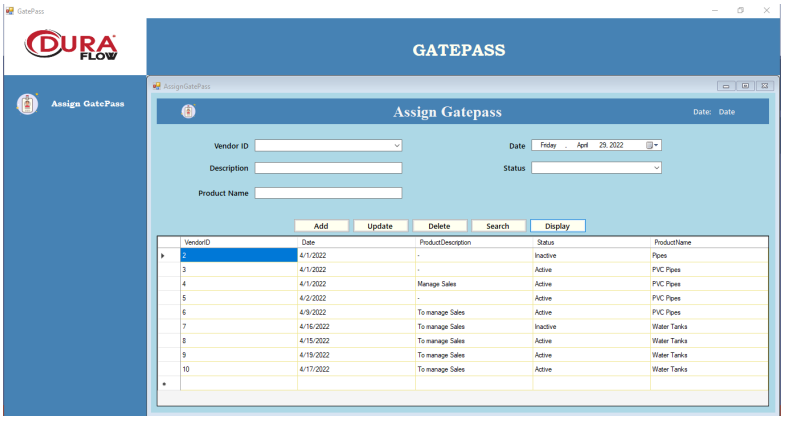

FIGURE 19: GatePass Screen

0.6.3 Staff Management :

0.6.3.1 Employee Registration :

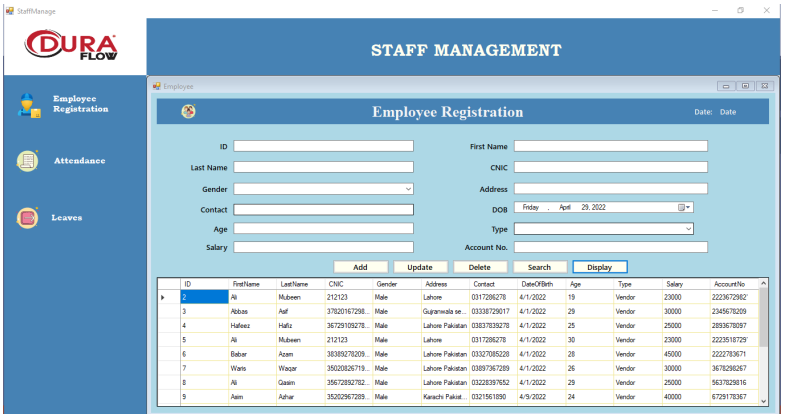

FIGURE 20: Employee Registration Screen

0.6.3.2 Employee Attendance :

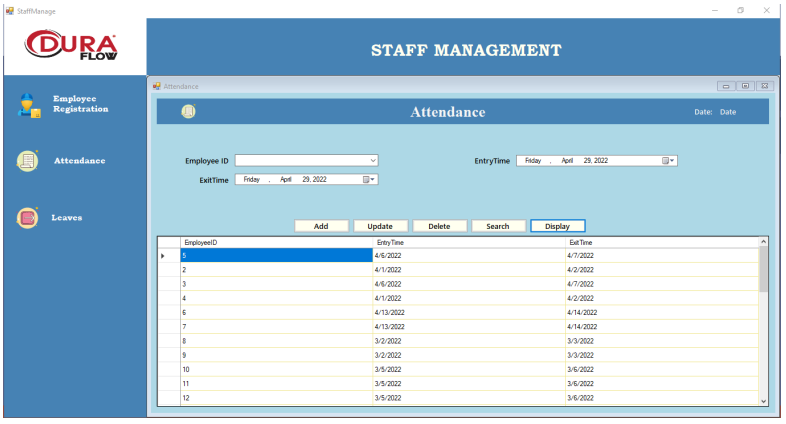

FIGURE 21: Employee Attendance Screen

0.6.3.3 Employee Leaves :

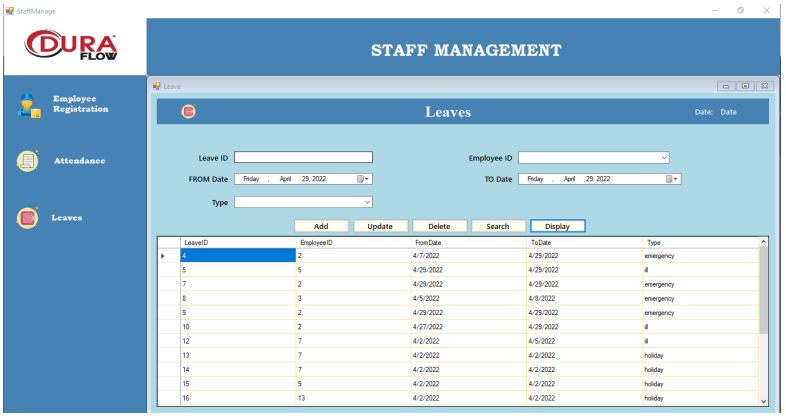

FIGURE 22: Employee Leaves Screen

0.7 UserGuide :

0.7.1 Login Screen :

This is the login page for existing user.Admin will always be login with the following credentials:

- Username : Admin
- Password :GID43

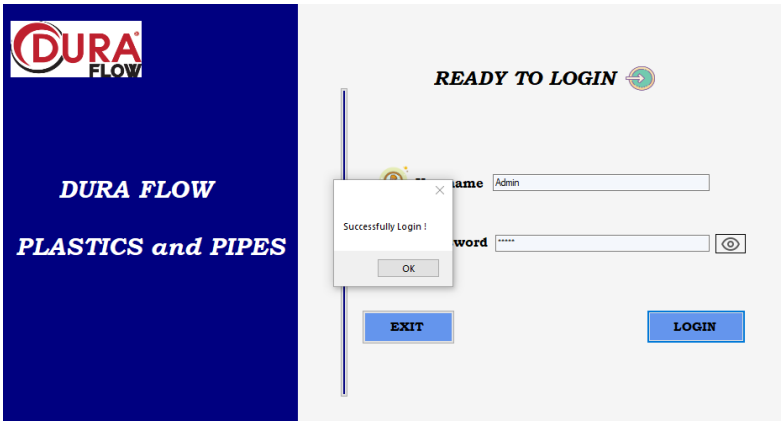

FIGURE 23: Login Screen

Demonstration with Attendance.

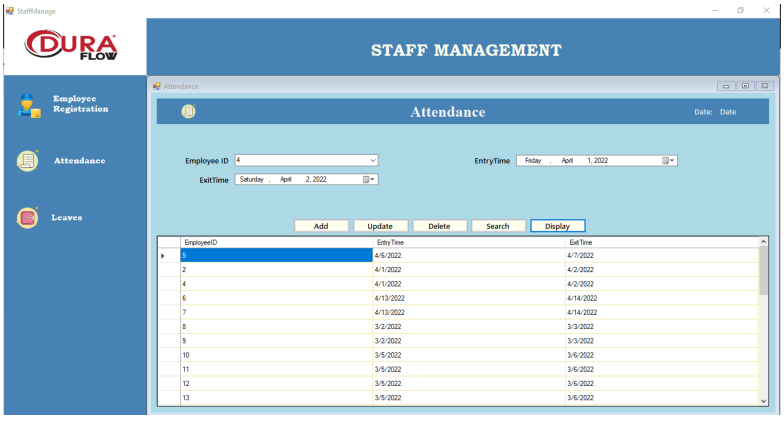

FIGURE 24: Attendance Management Screen

0.7.2 Add Button :

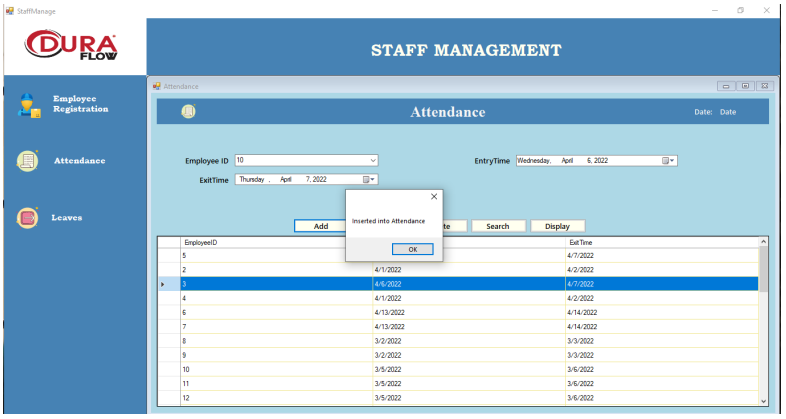

FIGURE 25: Attendance Management Screen

0.7.3 AutoFill Data from Table :

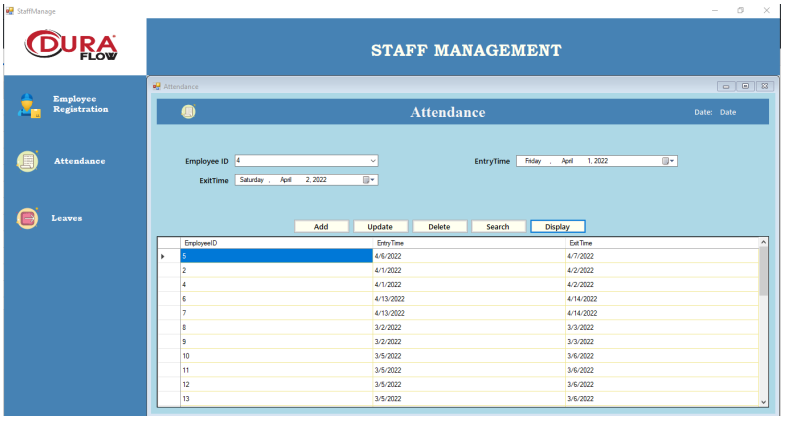

FIGURE 26: Attendance Management Screen

0.7.4 Update Button :

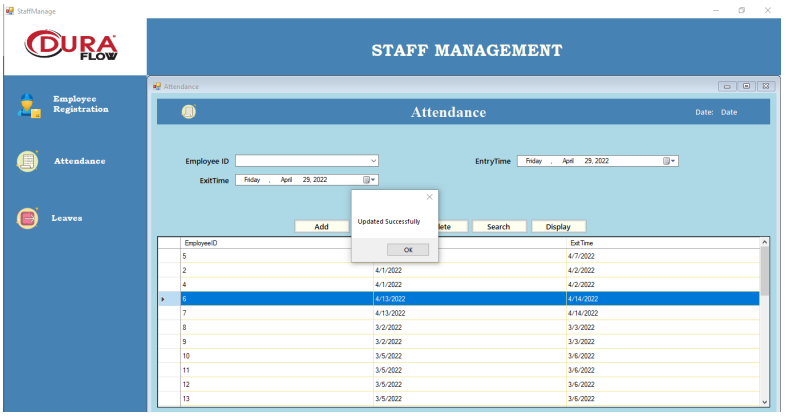

FIGURE 27: Attendance Management Screen

0.7.5 Delete Button :

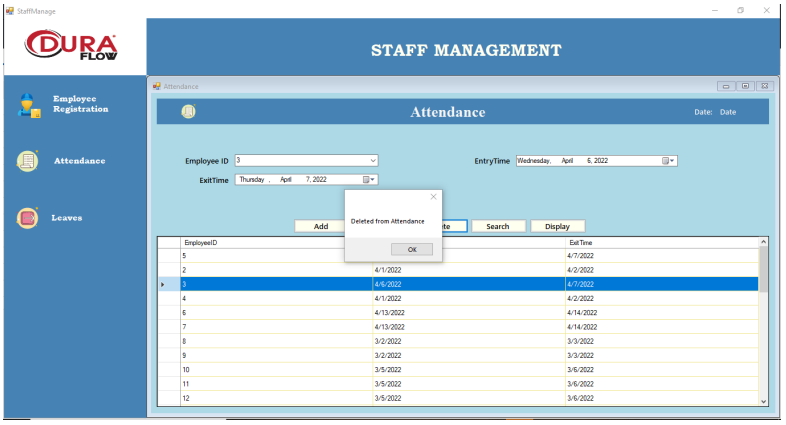

FIGURE 28: Attendance Management Screen

0.7.6 Display Button :

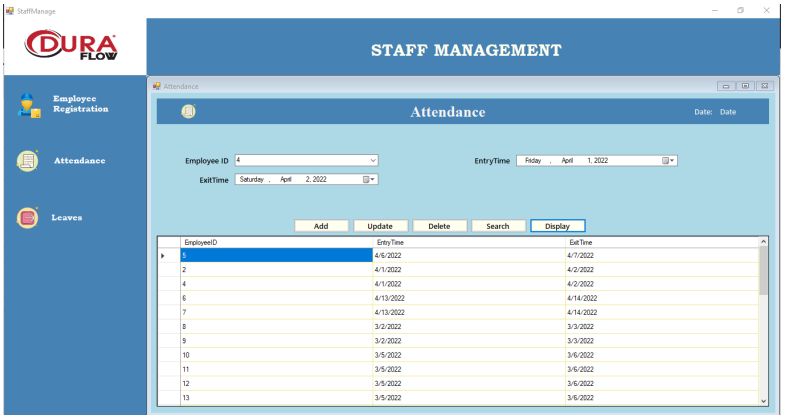

FIGURE 29: Attendance Management Screen

0.7.7 Search Button :

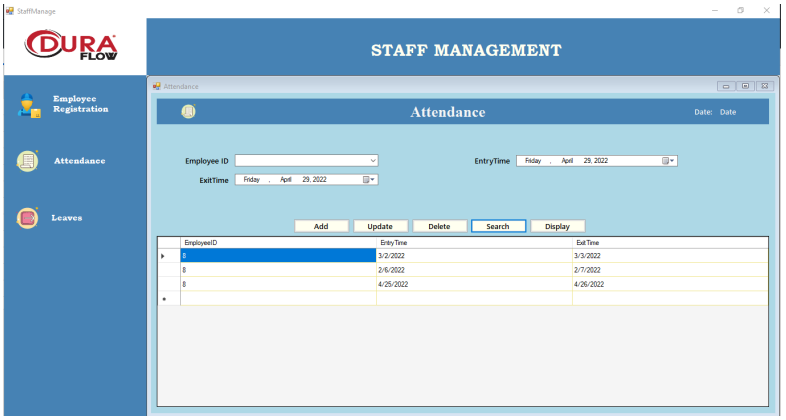

FIGURE 30: Attendance Management Screen

0.8 Logout :

FIGURE 31: Attendance Management Screen

0.9 Conclusion :

In this project we have created desktop application which is easy to access and user friendly. The application keeps a record of the company management data which includes their details.User can view all data and analyse them for better management of system.It provides all necessary information of the system. The user can simply sit in front of the system and login using name and password to monitor each and every query related to company without any physical movement.Database can service the factory faculty requests best in time.The system provides quickly and valuable information of the system.

0.10 Future Enhancement :

The new system has been designed to meet almost all of the requirements but there has certain limitations that which can be enhanced in the future enhancements or updates.Enhancements are the advantage for improvement of a system. Every existing system has future enhancements which make it better system, easier to use and more protected.

0.10.1 Limitations :

- Single User.
- No section for upload files.
- Database cannot import spreadsheets.

0.10.2 Future Work :

- Multi User.
- Back-up information record.
- Some additional features to make it more efficient.

ER Diagram[2]

DataBase Diagram[1]

DataBase Design[5]

Factory Managemnt System[3]

SSMS [4]

References

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