

Hospital Inventory Management System

Team Members

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OBJECTIVE

The aim of this project is to design, develop and implement a digitized Healthcare Inventory considering the ongoing global pandemic situation

FEATURES

- Faster, digitized and semi-automated stock counting, ordering, and rotation of drugs and surgical instruments.
 - Inventory updated after every transaction for drugs and instruments.
 - Allows customers to view available drugs and place orders
 - Database will also include records on patients, doctors and other hospital staffs.
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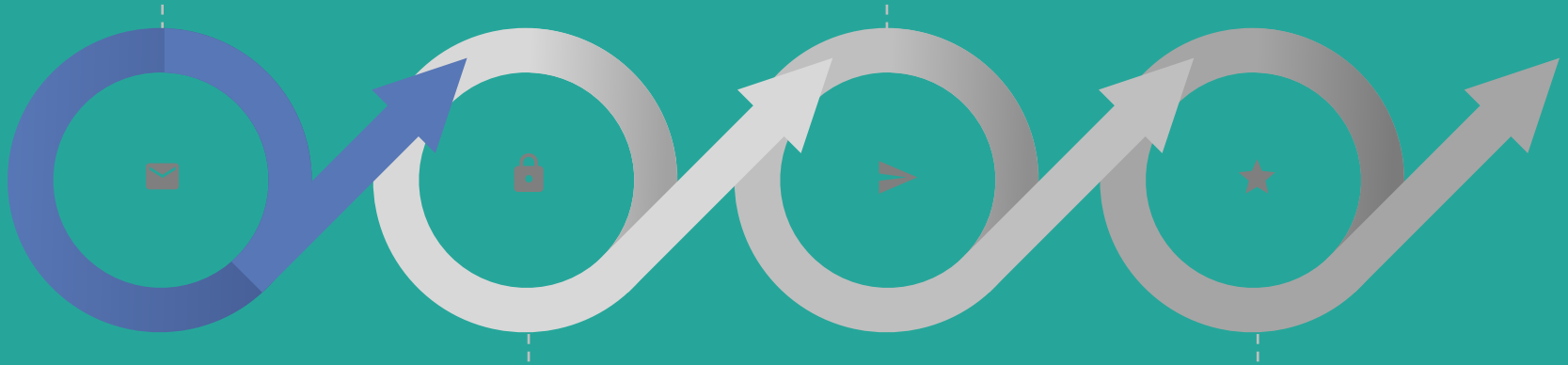
DESIGN FLOW

1. The patient gets a prescription from the doctor

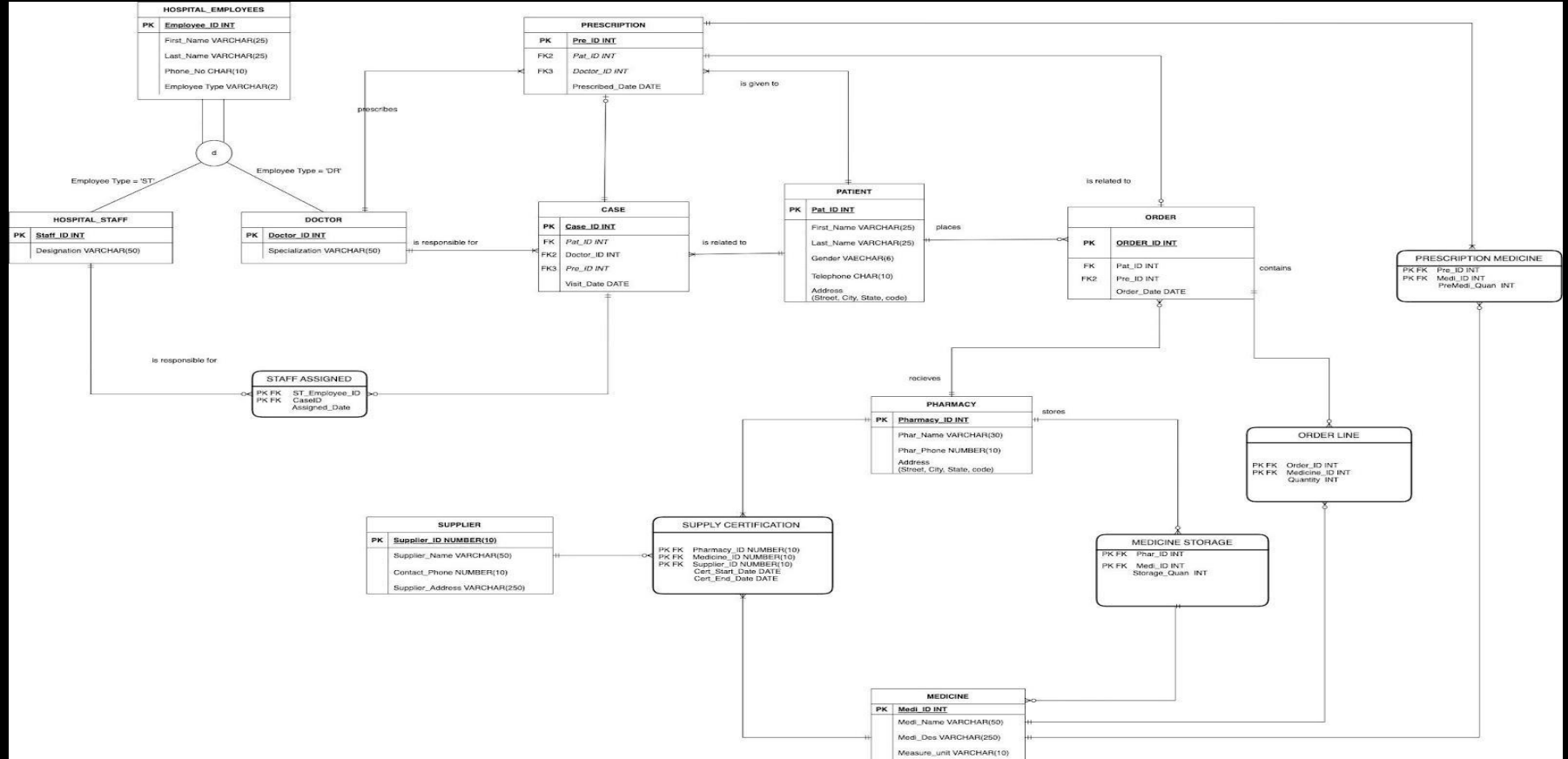
3. Pharmacy process orders after receiving the order

2. Hospital assigns the order to partner pharmacies according to their medicine stocking

4. After the order is completed, the pharmacy updates the inventory and replenishes inventory



ENTITY RELATIONSHIP DIAGRAM



USECASES

USECASE 1 : TRACKING OF THE ORDERED SUPPLIES

Stored procedure is created to track the ordered supplies, thus allowing to keep track of the items availability

USECASE 2 : CERTIFICATION EXPIRATION

Created stored procedure to check for the expiration of the supplier certification thus preventing the unauthorized sales of drugs

USECASE 3 : TOTAL MEDICINE COUNT AS PER MEDICINE ID ACROSS ALL PHARMACIES

User defined function is created to retrieve the total medicine count across all pharmacies, thus enabling the management to get an integrated count of the available medicines

USECASE 4 : PRESCRIBED MEDICINE COUNT

View is for the count of different types of medicines prescribed by the doctor is created, thus enabling the hospital management to have an overview on the difference in the sales of most and least prescribed medicines for stocking them in prior

SAMPLE DDLS

TRIGGER FOR INSERTION

```
-- DML Trigger For INSERTION
CREATE TRIGGER [dbo].[Employees_INSERT]
    ON [dbo].[HospitalEmployee]
AFTER INSERT
AS
BEGIN
    SET NOCOUNT ON;
    DECLARE @EmployeeType varchar(2)
    DECLARE @EmployeeId INT

    SELECT @EmployeeId = INSERTED.Emp_ID
    FROM INSERTED

    SELECT @EmployeeType = INSERTED.Emp_type
    FROM INSERTED

    if @EmployeeType = 'ST'
    begin
        INSERT INTO HospitalStaff
        VALUES(@EmployeeId, 'To be assigned')
    end

    else if @EmployeeType = 'DR'
    begin
        INSERT INTO Doctor
        VALUES(@EmployeeId, 'To be assigned')
    end

    end

END

-- To Check the DML Trigger
INSERT INTO HospitalEmployee (Emp_ID, Emp_fname, Emp_lname, Emp_phone, Emp_type) VALUES
('10026','Andrew', 'Tye','6998994743', 'ST');
```

VIEW FOR PRESCRIBED MEDICINE COUNT

```
-- Prescribed Medicine Count
CREATE VIEW Prescribed_Medicine_Count
AS
(
    SELECT m.Medi_ID, m.Medi_name, m.Medi_Des, sum(PreMedi_Quan) as Quantity
    FROM Medicine m join PreMedicine pm ON m.Medi_ID = pm.Medi_ID
    group by m.Medi_ID,m.Medi_name,m.Medi_Des
);
```

SAMPLE DDL

STORED PROCEDURE FOR TRACKING ORDERS

```
-- TO TRACK THE 'OPIOID' USAGE
Create Procedure Opioid_Tracking @StartDate Date, @EndDate Date
As
Select p.Pat_fname, p.Pat_lname, pr.Pre_ID, o.Order_Date, ol.OrdLineQuan, m.Medi_name
From Patient p
Join Prescription pr On p.Pat_ID=pr.Pat_ID
Join [Order] o On pr.Pre_ID=o.Pre_ID
Join OrderLine ol On o.Order_ID=ol.Order_ID
Join Medicine m On ol.Medi_ID=m.Medi_ID
Where o.Order_Date Between @StartDate and @EndDate
And m.Medi_Des Like '%Opioid%';

Exec Opioid_Tracking @StartDate = '1/1/2015', @EndDate='12/31/2015';
```

USER DEFINED FUNCTION TO GET THE MEDICINES ACROSS ALL PHARMACIES

```
-- Total Medicine Count according to Medicing ID across all Pharmacies
CREATE FUNCTION Get_Total_Med_Count ( @Medi_ID int)
RETURNS int
AS
BEGIN
DECLARE @Medi_Count int
SELECT @Medi_Count = sum(ms.Storage_Quan)
from MediStorage ms
where ms.Medi_ID = @Medi_ID
RETURN @Medi_Count
END

select distinct [dbo].[Get_Total_Med_Count](10004) as Medicine_Count from MediStorage
```

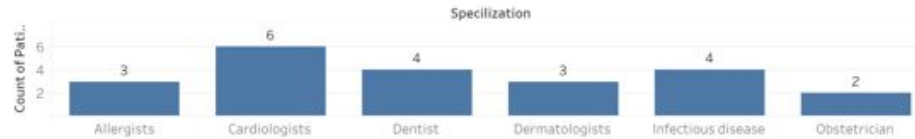
TABLEAU DASHBOARD

Hospital Inventory Management Dashboard

Top 5 Medicine Storage Count



Total Patients Visited Based on Specialist



Most Prescribed Medicines



Hospital Employee Count

