Phase 3: Data Flow Diagrams, User Stories & Technology Stack

# Project Details

Project Title : Jewel Inventory System  
Team ID : LTVIP2025TMID29406  
Date : 30/06/2025  
College : G Pullaiah College of Engineering and Technology

# Abstract

The Jewelry Inventory Management System, built on Salesforce, simplifies the handling of gold/silver item inventory, pricing, customer orders, and billing. It automates processes like managing customers, assigning workers, updating billing details, and validating pricing based on item type, purity, and weight. With Salesforce features like Lightning App Builder, Flows, Apex Triggers, and Reports, the system offers role-based permissions, real-time pricing logic, and user-friendly dashboards.

# Hardware and Software Requirements

Hardware Required:  
- A laptop/desktop with internet connectivity

Software Required:  
- Salesforce Developer Org or Enterprise Edition

# Data Flow Diagrams (DFD)

A Data Flow Diagram (DFD) visually represents how information flows through a system.

## Context Diagram (Level 0)

External Entities:  
- Customer  
- Store Admin  
- Goldsmith  
- Worker

Text-based Representation:  
[Customer] --> (Place Order, View Items) --> [Jewelry Inventory System]   
[Store Admin] --> (Manage Items, Prices, Users) --> [Jewelry Inventory System]   
[Goldsmith] --> (Update Order Progress, View Assignments) --> [Jewelry Inventory System]   
[Worker] --> (Check Assigned Items, Enter Details) --> [Jewelry Inventory System]   
[Jewelry Inventory System] --> (Billings, Customer Records, Inventory Status) --> [Store Admin]   
[Jewelry Inventory System] --> (Assigned Orders, Item Status) --> [Goldsmith / Worker]

## Level 1 DFD

[Store Admin] --> (Create/Edit Items) --> [1. Manage Items] --> [D1: Item\_\_c]   
[Store Admin] --> (Create/Edit Prices) --> [2. Manage Prices] --> [D2: Price\_\_c]   
[Admin/Worker] --> (Create Orders) --> [3. Manage Orders] --> [D3: Customer\_Order\_\_c]   
[Admin] --> (Create Bill) --> [4. Manage Billing] --> [D4: Billing\_\_c]   
[System] --> (Auto-Calculate Paid Amount) --> [TriggerHandlerClass]   
[System] --> (Fetch Price using Purity, Type, Weight) --> [Flow: Price Fetch Logic]   
[Admin] --> (View Reports) --> [5. Reports & Dashboards] --> [D5: Report]

# User Stories

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| User Type | Functional Requirement | User Story No. | User Story / Task | Acceptance Criteria | Priority / Release |
| Admin | Inventory Setup | USN-1 | As an Admin, I can create items and set gold/silver prices using object records | Items and Prices are saved in Item\_\_c and Price\_\_c objects | High / Sprint-1 |
| Admin | Billing | USN-2 | As an Admin, I can generate billing for an order and view paid amount | Billing\_\_c records are created and updated with triggers | High / Sprint-1 |
| Admin | Automation | USN-3 | As an Admin, I can use Flows to auto-fetch price based on item purity, weight, and type. | Price appears on order page automatically via Flow | High / Sprint-2 |
| Worker | Assigned Orders | USN-4 | As a Worker, I can view and update assigned orders only | Worker can see assigned records based on profile permission | Medium / Sprint-2 |
| Goldsmith | Update Item Info | USN-5 | As a Goldsmith, I can update work progress on assigned items | Goldsmith can update only their assigned orders | Medium / Sprint-2 |
| Admin | Reporting | USN-6 | As an Admin, I can generate reports for items and billings | Report displays item status, pricing, and total amount | Medium / Sprint-3 |

# Technology Stack (Architecture & Stack)

This Jewelry Inventory CRM Application is developed using Salesforce to digitize jewelry operations. It efficiently manages gold/silver item data, pricing logic, and automates billing. Key features include:  
- Customer and employee record management  
- Item classification by type, purity, and weight  
- Automatic billing and pricing  
- Role-based access and dashboards  
- Validations and automation flows

## Table-1: Components & Technologies

|  |  |  |
| --- | --- | --- |
| S.No | Component | Technology |
| 1 | User Interface | Salesforce Lightning App Builder |
| 2 | Application Logic-1 | Apex Triggers, Flows, Formula Fields |
| 3 | Application Logic-2 | Flows, Triggers |
| 4 | Application Logic-3 | Validation Rules, Flows |
| 5 | Database | Salesforce Custom Objects |
| 6 | Cloud Database | Salesforce Platform Database |
| 7 | File Storage | Salesforce Files / ContentVersion |

## Table-2: Application Characteristics

|  |  |
| --- | --- |
| Characteristics | Description / Technology |
| Open-Source Frameworks | Not applicable (Salesforce is proprietary) / N/A |
| Security Implementations | Role/Profile-based access control, FLS |
| Scalable Architecture | Multi-tenant, scalable cloud architecture / Salesforce Platform |
| Availability | Salesforce Cloud availability (99.9%) / Load Balanced |
| Performance | Fast load times with optimized Flows and Triggers / SOQL, Apex |

# Milestones Implemented

* - Created Salesforce Developer Org for Jewelry CRM System
* - Designed custom objects – Customer, Gold/Silver Item, Billing, Pricing
* - Created tabs for each object for easier access
* - Built Lightning App – “Jewelry Inventory CRM”
* - Added required fields (standard, picklist, formula, lookup, checkbox)
* - Customized page layouts and record types for Gold and Silver categories
* - Applied validation rules to ensure item data integrity
* - Built flows to auto-calculate total price and check purity logic
* - Created Apex Trigger to calculate and auto-fill Paid Amount
* - Generated reports for Items by Type, Customers by Billing
* - Built dashboards for billing trends and item tracking
* - Finalized project delivery with summary, use cases, and business value