Data Flow Diagrams And User Stories

# Data Flow Diagrams & User Stories

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Team ID: LTVIP2025TMID30581

Project Name: **A CRM Application For Public Transport Management System**

Maximum Marks: 4 Marks

# Abstract

# The Public Transport Management System, developed on the Salesforce platform, streamlines the management of buses, trips, ticket fares, employees, and passenger bookings. It allows transport authorities to manage bus stations, schedule trips, assign drivers and conductors, and handle ticket pricing dynamically. Key functionalities include creating and managing trips, validating driver/conductor roles using triggers, fetching ticket fares using flows, storing feedback, and generating reports such as 'Employees by Bus Station'. The system uses custom objects such as Bus\_c, Trip\_c, Employee\_c, Ticket\_Fare\_c, and Booking\_c. It leverages Salesforce Lightning App Builder, Apex triggers, Flows, and Reports to automate and present data efficiently. The solution provides a seamless experience for managing public transport operations, ensuring role-based validation, real-time fare assignment, and improved administrative oversight.

# Hardware Required

- A laptop or computer with a stable internet connection.

# Software Required

- A Salesforce account or organization (e.g., Developer Edition or Enterprise Edition).

# Data Flow Diagrams

A Data Flow Diagram (DFD) visually represents the flow of information within a system, showing how data enters, is processed, stored, and exits the system. Below are the Context Diagram (Level 0) and Level 1 DFD for the Public Transport Management System.

# Context Diagram (Level 0)

The Context Diagram represents the Public Transport Management System as a single process interacting with external entities.  
  
**External Entities:**  
- Dispatcher  
- Admin  
  
**Text-based Representation:**  
[Dispatcher] --> (Trip Creation, Bus Assignment, Ticket Fare Updates) --> [Public Transport Management System]

[Admin] --> (User Management, Role Setup, Validation Rules, Flows) --> [Public Transport Management System]

[Station Manager] --> (Report/Dashboard Requests, Employee Overview) --> [Public Transport Management System]

[Public Transport Management System] --> (Trip Schedules, Assigned Buses, Fare Details) --> [Dispatcher]

[Public Transport Management System] --> (Reports, Dashboards: e.g., Employees by Bus Station) --> [Station Manager]

**Level 1 DFD:**

[Admin] --> (Create/Edit Bus) --> [2. Manage Buses] --> (Store Bus Info) --> [D1: Bus\_\_c]  
[Admin] --> (Create/Edit Trip) --> [3. Manage Trips] --> (Validate IDs) --> [D2: Trip\_\_c]  
[Admin] --> (Assign Ticket Fare) --> [4. Manage Fares] --> (Store Fare Data) --> [D4: Ticket\_Fare\_\_c]  
[Admin] --> (Create/Edit Employee) --> [5. Manage Employees] --> (Store Employee Data) --> [D5: Employee\_\_c]  
[Admin] --> (Generate Report) --> [6. Reporting] --> (Report Data) --> [D6: Report]  
[3. Manage Trips] --> (Driver & Conductor Validation) --> [TripTriggerHandlerClass Trigger]  
[3. Manage Trips] --> (Fetch Fare by Route+Model) --> [Flow: Fetching Ticket Fare for Bus]  
[6. Reporting] --> (Summary Report: Employees by Bus Station) --> [Admin]

# User Stories

Below are the user stories for the Public Transport Management System, aligned with the project’s functionalities and Salesforce features.

**User Stories**

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| --- | --- | --- | --- | --- | --- | --- |
| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance Criteria | Priority | Release |
| Admin (Mobile/Web User) | Registration | USN-1 | As a Admin, I can register for the Transport Management System by entering my email, password, and confirming my password via the Lightning App. | I can access my dashboard in the Lightning App after registration. | High | Sprint-1 |
| Admin(Mobile/Web User) | Trip | USN-3 | As a passenger, I can book a Trip by selecting a Trip and entering my details via the Trip tab. | A Trip record is created in Trip\_\_c, and I receive a confirmation notification. | High | Sprint-1 |
| Admin (Web User) | Automation | USN-14 | As an admin, I can create a Flow to automate booking approvals. | A Flow is configured, and bookings are auto-approved based on criteria. | Medium | Sprint-2 |