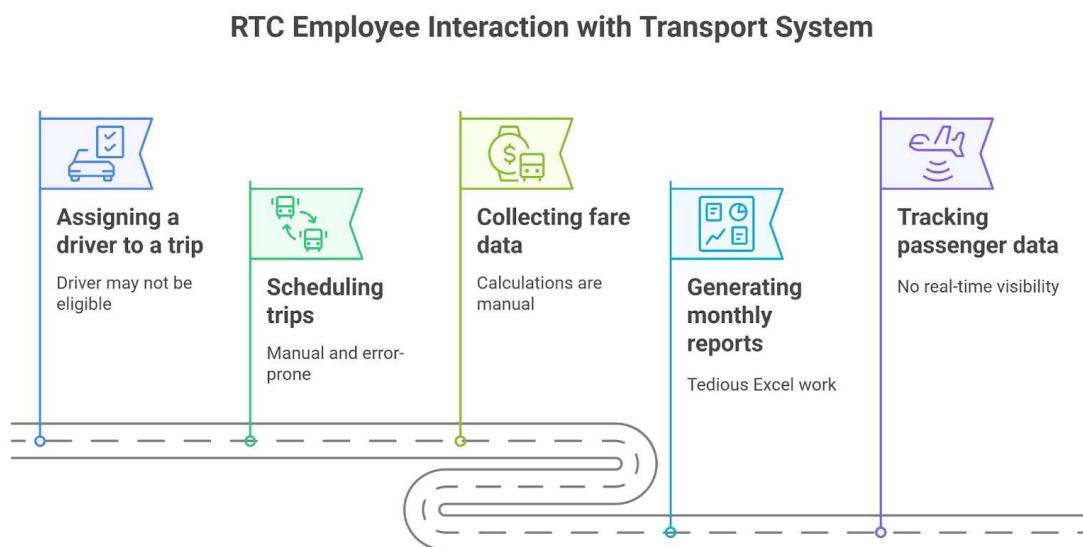# Requirement Analysis

The Requirement Analysis Phase focuses on collecting, organizing, and validating everything your system needs to accomplish. It ensures that the solution you're building is not only technically sound but also directly aligned with what your stakeholders (RTC departments, drivers, managers) truly need.In our project, **"A CRM Application for Public Transport Management System,"** this phase helped bridge the gap between problem understanding and system design, using real user journeys, data flows, and solution requirements.Where user-centric planning meets technical clarity to transform a problem into a buildable solution.

◆ Customer Journey Map-Understanding User Experience Flow

Purpose: The **Customer Journey** Map visualises how RTC employees (e.g., Bus Station Managers, Admins, Drivers, Conductors) interact with the transport system daily. It highlights key actions, pain points, and opportunities for improvement, guiding CRM design from a real-world usage perspective.

Journey Steps (For an RTC Admin):

RTC Employee Interaction with Transport System

Assigning a driver to a trip
Driver may not be eligible

Scheduling trips
Manual and error-prone

Collecting fare data
Calculations are manual

Generating monthly reports
Tedious Excel work

Tracking passenger data
No real-time visibility

This journey helped prioritize features like formula fields, validation rules, and real-time dashboards in our object and flow design.

◆ Data Flow Diagram

Purpose: Mapping Information Flow Between Objects

The Data Flow Diagram (DFD) models how information moves between Salesforce objects and components in the CRM. It helped us structure relationships between:

- Bus Station, Bus, Trip, Employee, and Ticket Fare

Level 1 DFD Overview:

1. **Admin Inputs**:

   - Adds bus, station, trip details

   - Assigns drivers and conductors (from Employee object)

2. **System Logic**:

   - Validates employee role (Driver or Conductor)

   - Fetches fare via flow based on route + model

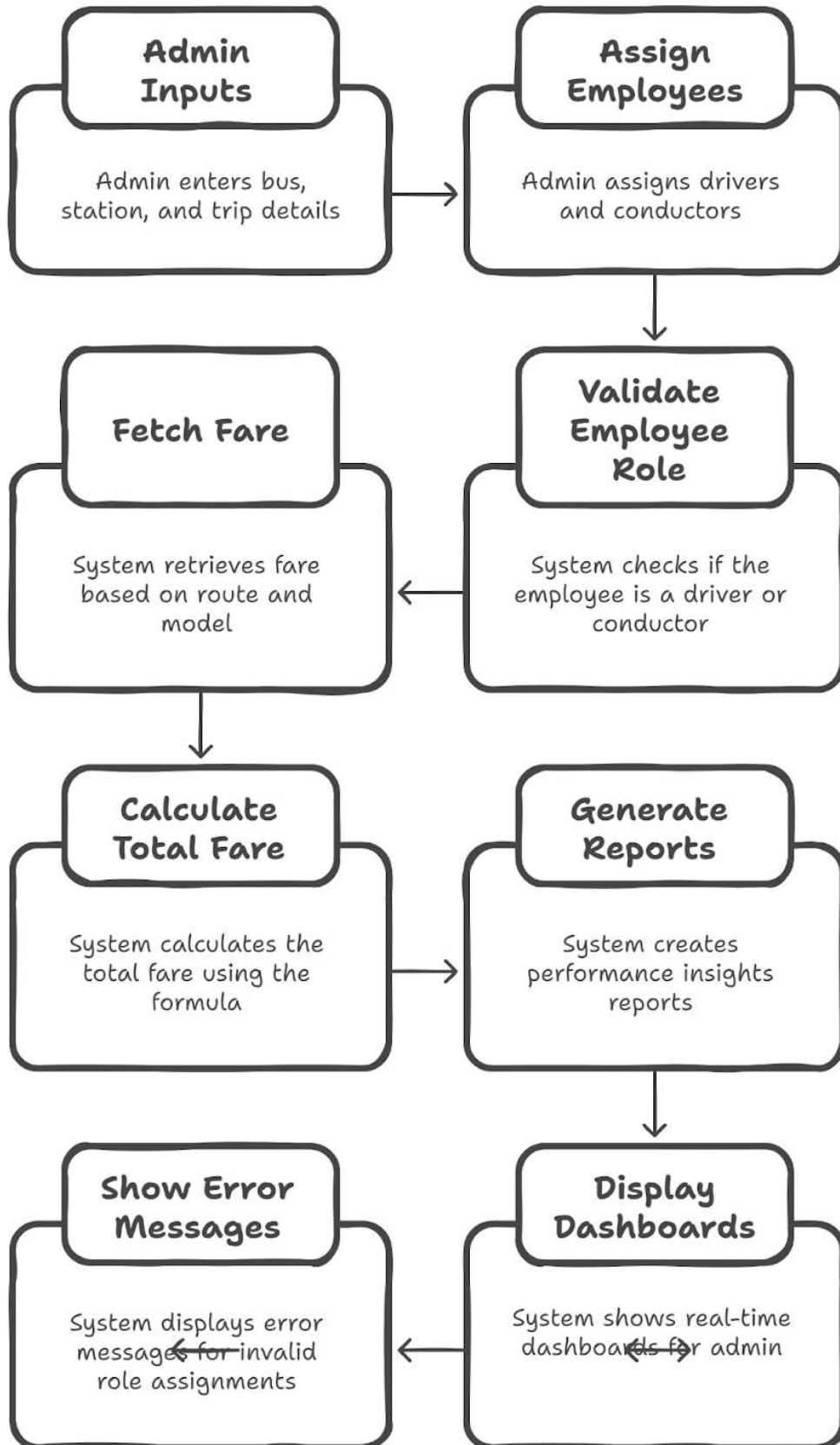   - Calculates total fare using formula (Passenger Count × Fare)

3. **Outputs**:

   - Performance insights via reports and Real-time dashboards for admin

   - Error messages for invalid role assignments

Objects Involved in Bus Transportation Process

Bus Station ⟶ Bus ⟶ Employee ⟶ Trip ⟶ Ticket Fare

Level 1 DFD Overview

Admin Inputs

Admin enters bus, station, and trip details

Assign Employees

Admin assigns drivers and conductors

Fetch Fare

System retrieves fare based on route and model

Validate Employee Role

System checks if the employee is a driver or conductor

Calculate Total Fare

System calculates the total fare using the formula

Generate Reports

System creates performance insights reports

Show Error Messages

System displays error messages for invalid role assignments

Display Dashboards

System shows real-time dashboards for admin

◆ Solution Requirements

What the CRM System Must Do

Functional Requirements:

- Create custom objects for: **Bus Station, Bus, Trip, Employee, Ticket Fare**

- Establish relationships using lookup and formula fields

- Validate employee roles using Apex Triggers

- Automate fare fetching via Flows

- Support performance dashboards & summary reports

Non-Functional Requirements:

- User-friendly Lightning App Interface

- Real-time field-level validation

- Centralized database with accurate relationships

◆ Technology Stack

Tools & Platforms Used for CRM Implementation

Category	Technology Used	Description
Platform	Salesforce Lightning	Used to build custom CRM using standard & custom objects
Automation	Flows & Validation Rules	Automate fare fetching and restrict invalid data
Custom Logic	Apex Triggers & Classes	Used to validate Driver/Conductor ID
Reports & Dashboards	Salesforce Reports	To analyze employee data, trips, revenue, etc.
UI/UX	Lightning App Builder	For creating a unified app view for Public Transport CRM

Summary

This Requirement Analysis Phase helped ensure that all CRM features were grounded in user pain points, supported by data structures, and enabled by the right technologies. It directly shaped how we approached object modeling, data automation, UI design, and performance reporting in Salesforce.