**Section 3.3: Solution Requirements – Design Phase**

**Overview**

Defining clear and comprehensive solution requirements is essential to the success of the RTC Public Transport Management System. This section formalizes all functional and non-functional requirements that the Salesforce-based CRM must meet. These requirements were shaped through stakeholder interviews, empathy mapping, journey mapping, and technical brainstorming.

A robust requirement set helps align development, validation, and deployment with real-world transport operations. It ensures Salesforce tools are used optimally to streamline workflows and enhance user experience.

**Functional Requirements**

These are core system capabilities that support daily RTC operations:

| **Requirement ID** | **Functional Requirement** | **Description** |
| --- | --- | --- |
| FR-01 | Trip Management | Users must create, edit, and monitor trips with driver, conductor, and route assignment. |
| FR-02 | Fare Collection Logging | Conductors must enter and submit fare data against trips. |
| FR-03 | Shift Assignment | Station Managers can assign shifts to drivers and conductors with schedule validation. |
| FR-04 | Dashboard Reporting | Admin and Finance Officers must access dashboards for revenue, passengers, and trip metrics. |
| FR-05 | Role-Based UI | Each user role (Driver, Conductor, Manager) must see a customized interface and data scope. |
| FR-06 | Employee Management | Admin must be able to onboard, update, and deactivate employee profiles. |
| FR-07 | Real-Time Data Sync | Dashboards and related records must reflect real-time updates. |
| FR-08 | Record Relationships | Trips, buses, employees, and fares must be interlinked via relationships (Lookup/Master-Detail). |

**Non-Functional Requirements**

These define the performance, security, and usability criteria for the system:

| **Requirement ID** | **Non-Functional Requirement** | **Description** |
| --- | --- | --- |
| NFR-01 | System Availability | 99.9% uptime to ensure operational continuity |
| NFR-02 | Security and Access Control | Profiles and Permission Sets control data visibility and edits |
| NFR-03 | Performance | Dashboards and flows must load in <3 seconds on stable internet |
| NFR-04 | Scalability | Object model must support addition of more routes, buses, and employees without redesign |
| NFR-05 | Compliance Logging | All records must store created by/last modified fields for auditing |
| NFR-06 | Mobile Compatibility | All relevant tasks (trip logs, fare entry) must work on Salesforce Mobile App |

**User Role-Based Requirement Matrix**

| **Role** | **Key Tasks** | **Required Features** |
| --- | --- | --- |
| Driver | View shift, log trip | Custom object view, mobile interface |
| Conductor | Enter fare data, associate with trip | Related lists, validation rules |
| Station Manager | Assign shifts, monitor schedules | Flows, Lightning App Tabs |
| Admin Officer | Manage users, analyze performance | Dashboards, Object Tabs, Reports |
| Finance Officer | Monitor fare summaries | Revenue Reports, Report Subscriptions |

**Suggested Visual: System Requirement Hierarchy**

Create a hierarchical visual showing the breakdown of:

* Core Modules (Trip, Fare, Employee, Schedule)
* Underlying Functional Requirements
* Supporting Tools (Flows, Triggers, Dashboards)

A diagram of a solution

AI-generated content may be incorrect.

A diagram of a diagram

AI-generated content may be incorrect.

**System Configuration Tools to Be Used**

| **Category** | **Salesforce Tool** |
| --- | --- |
| Automation | Flow Builder, Scheduled Flows, Record-Triggered Flows |
| Validation | Validation Rules, Required Fields, Conditional Logic |
| Reporting | Dashboards, Report Subscriptions, Summary Fields |
| Object Relationships | Lookup Fields, Master-Detail, Junction Objects |
| UI/UX | Lightning App Builder, Record Pages, Mobile Publisher |

**Conclusion**

These detailed requirements form the core specification from which all Salesforce configurations will be derived. By aligning both functional and non-functional needs early, the development process is streamlined and measurable.

A Salesforce solution that meets all these criteria will enable RTC to modernize its operations, improve efficiency, and serve its internal and external stakeholders with accuracy, speed, and flexibility.