

Project Title: Field Service WorkOrder Optimization

Team ID : LTVIP2025TMID31031

Team Size : 4

Start date : 3 June 2025

End date : 8 June 2025

3.REQUIREMENTANALYSIS

The Requirement phase focus is to collect, organize, and validate requirements to meet the needs of field service technicians, managers, and customers. Key requirements include work order management, real-time tracking, mobile app access, customer notifications, reporting and analytics, integration with existing systems, and optimized scheduling. User journeys involve technicians receiving and completing work orders, managers monitoring performance and optimizing scheduling, and customers receiving notifications. The system requires a user-friendly interface, real-time data updates, scalable architecture, and robust reporting capabilities to improve field service efficiency and effectiveness.

3.1 Customer Journey Map-Understanding User Experience Flow

Purpose: The Customer map visualizes the daily interactions of field service technicians, managers, and customers with the system, highlighting key actions, pain points, and opportunities for improvement. It reveals challenges such as manual data entry, delayed notifications, and inefficient scheduling, and identifies opportunities for automation, real-time updates, and optimized routing to improve efficiency, productivity, and customer satisfaction, guiding system design from a real-world usage perspective.

Journey steps:

1	Work Order Receipt	Technician receives work order assignment
2	Route Optimization	Technician navigates to customer location
3	On-Site Service	Technician performs service or repair
4	Customer Notification	Customer receives notification of work order completion
5	Feedback Collection	Customer provides feedback on service
6	Reporting and Review	Manager reviews work order completion and technician performance
7	Status Update	Technician updates work order status

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

3.2 Data Flow Diagram:

Purpose: Mapping Information Flow Between Objects

Data Flow Diagram (DFD) for Field Service Workorder optimization: The DFD models how information moves between system components, structuring relationships between:

Work Order, Technician, Customer, Assignment

❖ Level 1 DFD Overview:

1. Admin/Manager Inputs:

- Creates work orders
- Assigns technicians to work orders
- Updates work order status

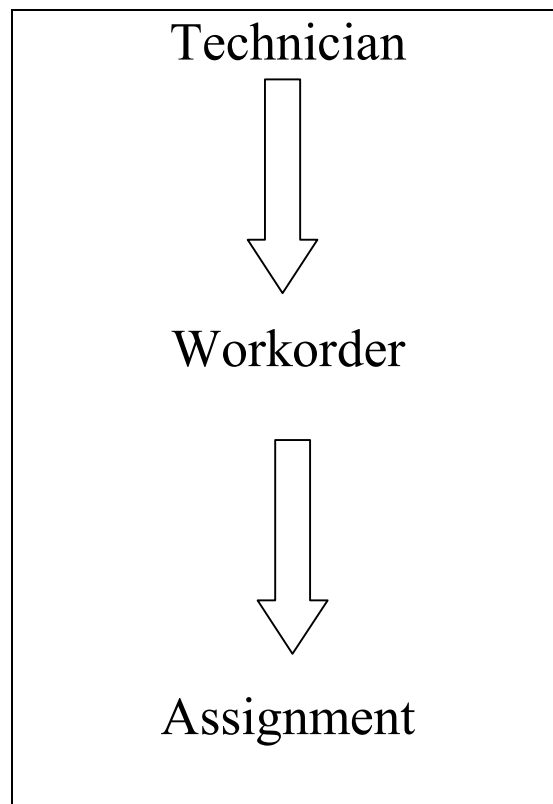
2. System Logic:

- Validates technician availability and skills
- Calculates work order priority and scheduling
- Fetches customer information and work order history

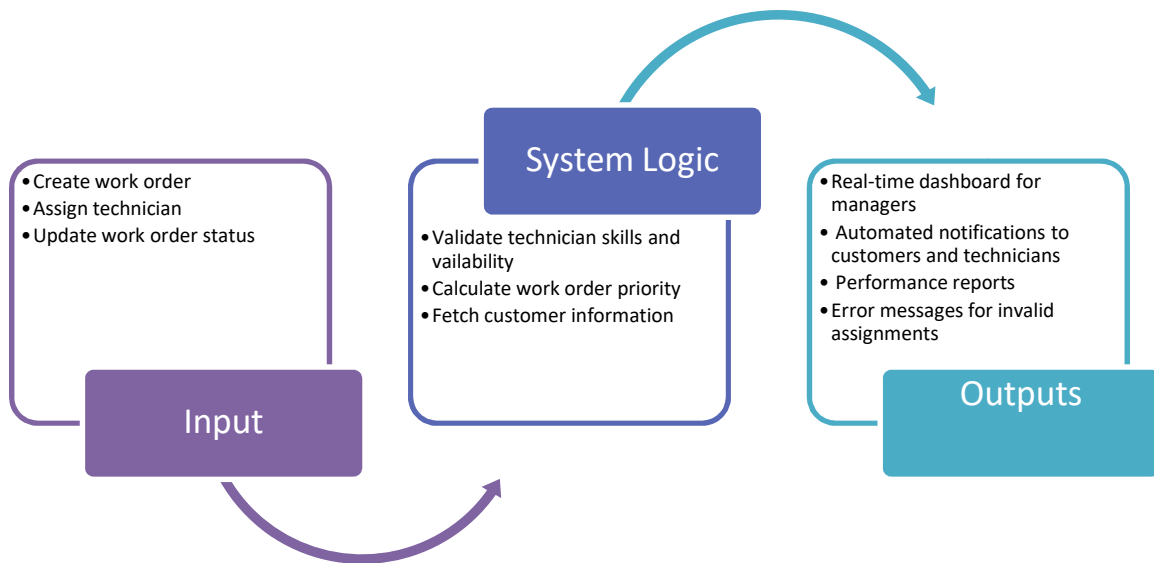
3. Outputs:

- Real-time dashboards for managers to track work orders and technician performance
- Automated notifications to customers and technicians
- Performance insights via reports for managers
 - Error messages for invalid work order assignments or technician scheduling conflicts

Objects involved in field service workorder optimization



DFD for field service workorder optimization



User stories: -

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority
Optimizer	Work Order optimization	WO-1	As a manager, I can create and assign work orders to technicians so that I can track and manage field service requests	<ul style="list-style-type: none"> • Work orders can be created with relevant details (e.g., customer info, equipment, issue description) • Work orders can be 	High

			efficiently.	<p>assigned to specific technicians</p> <ul style="list-style-type: none"> • - Work orders are displayed on the dashboard for tracking and management 	
Technician	Work Order Assignment	WO-2	As a technician, I can receive work order assignments and updates on my mobile device so that I can stay informed and manage my schedule.	<ul style="list-style-type: none"> • Technicians receive notifications when assigned to a new work order • Work order details are displayed on the mobile device • - Technicians can update work order status and capture customer signatures digitally 	High

Assignment	Work Order Tracking	WO-3	As a customer, I can track the status of my work order so that I can stay informed and plan accordingly .	<ul style="list-style-type: none"> • Customers receive notifications when work orders are scheduled, in progress, or completed • Customers can view work order status and details online 	Medium
Administrator	Reporting and Analytics	RA-1	As an administrator, I can generate reports on work order performance and technician productivity so that I can analyze and improve field service operations.	<ul style="list-style-type: none"> • Reports can be generated on work order completion rates, technician performance, and customer satisfaction • Reports are displayed in a clear and actionable format 	High

3.3 Solution Requirements

What the Field service workorder optimization Must Do

➤ Functional Requirements:

- Create custom objects for:
 - Work Order
 - Technician
 - Assignment
- Establish relationships using lookup and formula fields
- Validate technician skills and availability using Apex Triggers
- Automate work order assignment and scheduling via Triggers
- Support performance dashboards and summary reports

➤ Non-Functional Requirements:

- User-friendly interface for technicians and managers
- Real-time field-level validation for work order and technician data
- Centralized database with accurate relationships between objects
- Scalable and secure architecture for future growth
- Fast and responsive performance for mobile and web applications

Functional Requirements:-

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form, Registration through Gmail, Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email, Confirmation via OTP
FR-3	Work Order optimization	Automated Work Order Assignment, Real-Time Scheduling, Route Optimization
FR-4	Technician Management	Technician Profile Management, Technician Assignment, Technician Availability
FR-5	Customer Management	Customer Profile Management, Customer Communication, Customer Feedback
FR-6	Reporting and Analytics	Work Order Reports, Technician Performance Reports, Customer Satisfaction Reports
FR-7	Security	User Authentication, Authorization, Data Encryption

Non-Functional Requirements:-

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	User-friendly, intuitive, and easy to navigate for managers, technicians, and customers, with minimal training required.
NFR-2	Security	Ensure confidentiality, integrity, and availability of data, with secure authentication, authorization, and data encryption.
NFR-3	Reliability	Dependable, consistent, and fault-tolerant, with minimal downtime and errors, ensuring high uptime and data accuracy.
NFR-4	Performance	Respond quickly to user interactions, with fast page loading times, efficient data processing, and minimal latency.
NFR-5	Availability	Accessible and usable at all times, with high uptime and minimal scheduled maintenance, ensuring business continuity.
NFR-6	Scalability	Handle increased traffic, data volume, and user growth, with flexible architecture and scalable infrastructure.

3.4Technology Stack

Tools & Platforms Used for CRM Implementation

Category	Technology Used	Description
Platform	Salesforce Lightning	Used to build custom field service work order optimization using standard & customobjects
Automation	Flows & Validation Rules	Automate fare fetching andrestrict invalid data
Custom Logic	Apex Triggers & Classes	Used to validateWorkOrder ID,TechnicianID
Reports & Dashboards	Salesforce Reports	To analyze workorder status reports and dashboards
UI/UX	Lightning App Builder	For creating a unified app view for field service workorder optimization

Summary

This Requirement Analysis Phase helped ensure that all field service workorder optimization 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.