Project Title: Field Service WorkOrder Optimization

Team ID   : LTVIP2025TMID31031

Team Size : 4

Start date   : 9 June 2025

End date   : 14 June 2025

4.Project Design Phase

The Project Design Phase for Field Service Work Order Optimization defines the logical, technical, and functional foundation of the solution. It ensures that the proposed solution not only solves the right problems but is also scalable, maintainable, and aligned with industry best practices.

4.1 Problem–Solution Fit:

Problem Recap:

Inefficient field service operations, including manual data entry, lack of real-time visibility, and poor scheduling.

➢ Manual data entry and scheduling
➢ Lack of real-time visibility into work orders and technician assignments
➢ Inefficient routing and scheduling
➢ Difficulty in tracking work order status and customer satisfaction

Does the Proposed Solution Fit?

Yes. The Salesforce field service solution:
- Introduces object-level control for Workorder, Assignment, Technician
- Enables automated assignment retrieval through **Flows**
- Validates Workorder id and assignment id using **Apex Triggers**
- Summarizes performance using **Reports and Dashboards**
- Uses **formula fields** to reduce calculation errors
- Creates centralized views using **Lightning App Builder**

Thus, it directly fits the core operational pain points of field service workflows.

4.2 <u>**Proposed solution**</u>

Our proposed field service workorder optimization application is designed to digitize and streamline Field service operations using Salesforce's declarative and programmatic capabilities.

Key Functional Features:

- **Custom Objects:**
  - ○ Workorder, technician, assignment

- **Automation & Validation:**
- ○ Role verification (workorder ID/technician ID)via Apex Triggers
- ○ Input control via Validation Rules

- **Formula Fields for Efficiency:**

• Technician ID • Assignment Date • Completion Date • date	Lookup(Technician) Formula: return type: Date (WorkOrder_ID__r.Date__c) Formula: return type: Date IF(ISPICKVAL(WorkOrder_ID__r.Status__c , 'Resolved'), WorkOrder_ID__r.LastModifiedDate , NULL) CreatedDate

- **UI & Navigation:**
- ○ Field service workorder optimizationApp using Lightning App Builder
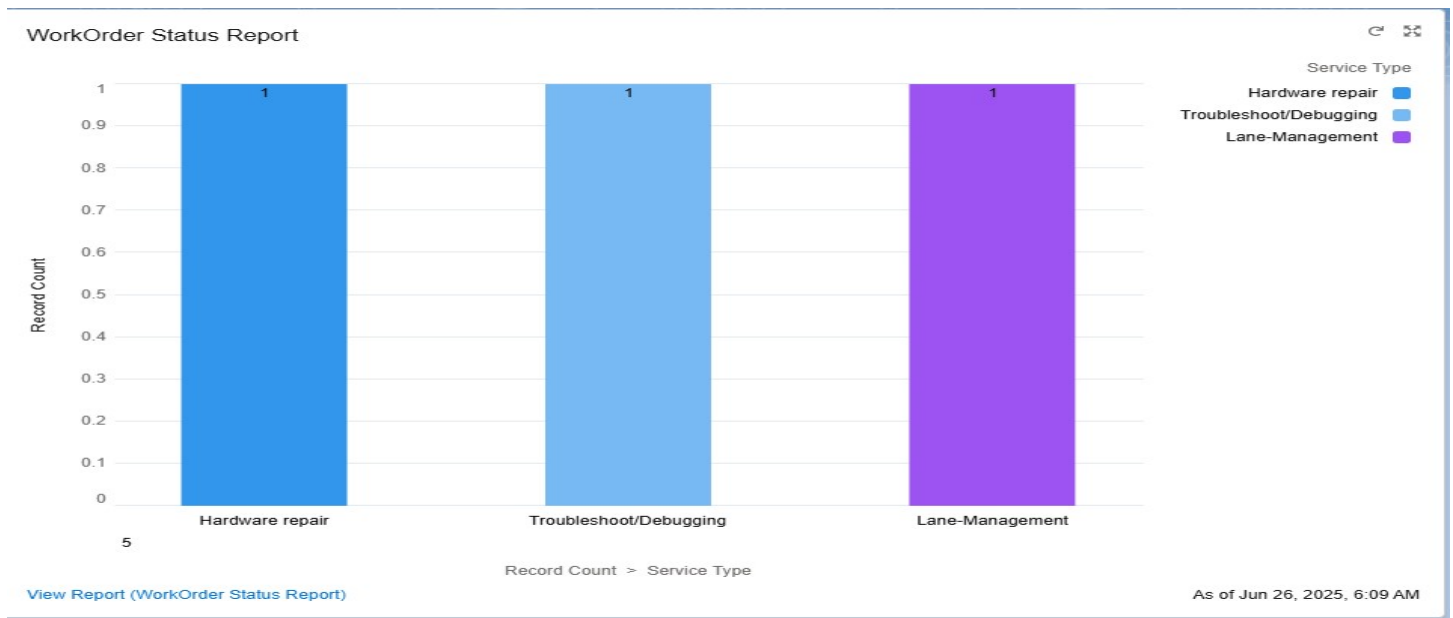- ○ Tabs for all custom objects

○ Page layouts designed by object and role

● **Reports and Dashboards:**
    o WorkOrders Status Reports.
    o Technician and Assignment Details Reports.
    o WorkOrders Status Reports Dashboards representing vertical bar chart
    o Technician report representing using table chart

New Technician Report

Technician: Technician ID ↑	Name	Email	Phone	Location
T-0001	Raghu	example@gmail.com	☎ 7892341560	Hyderabad
T-0002	Raghav	example@gmail.com	☎ 7892341560	Pune
T-0003	Shyam	example@gmail.com	☎ 7892341560	Nasik
T-0004	Masthan	example@gmail.com	☎ 7892341560	Warangal
T-0005	Ramesh	example@gmail.com	☎ 7892341560	Nanded

View Report (New Technician Report)   As of Jun 26, 2025, 2:38 AM

WorkOrder Status Report

Service Type
- Hardware repair
- Troubleshoot/Debugging
- Lane-Management

Record Count > Service Type

View Report (WorkOrder Status Report)   As of Jun 26, 2025, 6:09 AM

4.3 SolutionArchitecture:-

Object Relationship Overview:

Object	Fields/Features
WorkOrder	WorkorderID, Email, priority, service type, location,status, record count
Assignment	Assignmentdate,Assignmentid,completionid,name, phone,email,location,skill
Technician	name, phone,email,location,skill,Technician id

Lookups:
- Technician ID
- WorkOrder ID

- Assignment Date

Formulas:

- Formula: return type : Date (WorkOrder_ID__r.Date__c)
- Formula: return type : Date IF(ISPICKVAL(WorkOrder_ID__r.Status__c , 'Resolved'), WorkOrder_ID__r.LastModifiedDate , NULL)
- CreatedDate

Automation:

- Triggers for id validation
- Reports & dashboards for output

Summary:

::: Setup	Home	Object Manager ∨		

SETUP > OBJECT MANAGER
Assignment

	Fields & Relationships					
Details	12 Items, Sorted by Field Label			Quick Find	New	Deleted Fields	Field Dependencies	Set History Tracking
Fields & Relationships	FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Page Layouts	Assignment Date	Assignment__c	Lookup(Assignment)		✓	▼
Lightning Record Pages	Assignment ID	Name	Auto Number		✓	▼
Buttons, Links, and Actions	AssignmentDate	AssignmentDate__c	Formula (Date)			▼
Compact Layouts	CompletionDate	CompletionDate__c	Formula (Date)			▼
Field Sets	Created By	CreatedById	Lookup(User)			
Object Limits	Date	Date__c	Formula (Date)			▼
Record Types	Last Modified By	LastModifiedById	Lookup(User)			
Related Lookup Filters	Owner	OwnerId	Lookup(User,Group)		✓	
Search Layouts	Technician ID	Technician_ID__c	Lookup(Technician)		✓	▼
List View Button Layout	TechnicianID	TechnicianID__c	Lookup(Technician)		✓	▼
Restriction Rules	WorkOrder ID	WorkOrder__c	Lookup(WorkOrder)		✓	▼
Scoping Rules	WorkOrder ID	WorkOrder_ID__c	Lookup(WorkOrder)		✓	▼
Object Access						
Triggers						
Flow Triggers						

The Project Design Phase ensured that field service workorder optimization not only met the users' needs but also followed Salesforce best practices in object modeling, validation, automation, and user experience. This clear blueprint guided our execution in upcoming development and configuration phases.