 

Preliminary Investigation and Requirements Report Template

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# Worksheet

Client approval: Yes No

Note whether your case study needs to be ready in time for a specific event:

Date: Event:

# Template

### Case Study for Club IT

# General Information

## Company profile

Club IT, owned by Lisa Tejada and Ruben Keys, is a downtown music venue that provides its customers with live music in addition to food and beverages in a high-energy atmosphere. Though the aspect of customer engagement and entertainment is top-notch, manual inventory and ordering systems have lagged the club in operational efficiency. The owners are planning to integrate modern IT solutions to make over their processes and make a qualitative difference in service.

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| --- | --- |
| **Company Name** | Club IT |
| **Year Established** | 2002 |
| **Business Description** | A downtown music venue combining live entertainment with food and beverage service. It caters to an urban clientele with nightly performances by bands and DJs. |
| **Revenues in 2024** | $850,000 |
| **Estimated IT Budget for 2025** | $45,000 |

## Business situation

Club IT suffers from the inefficiency of its operations because systems are not integrated, and processes are manual, such as handwritten orders and tracking inventories on spreadsheets. These, in turn, lead to delays in serving a customer due to stockouts and overstock, a vicious blow to both service and profitability. The owners are going to install a POS system along with inventory management that will help in detecting the behavior of the customers in real-time, where the drawbacks are happening at peak hours, and where service can be given to help the short-term growth run smoothly for the long run with an enhanced experience for the customers.

## Technical situation

Club IT uses outdated systems and simple spreadsheets to control essential business processes. There is no link between the ordering and inventory systems, so employees must type in inventory updates after each shift. The setup does not allow growth, and there are no real-time analytics. The plan includes a new POS system linked to an inventory database to enable real-time tracking and future expansion.

## Problem or Opportunity

### SWOT Analysis: Strengths: Strong customer loyalty, unique music venue atmosphere Weaknesses: Manual inventory tracking, lack of real-time updates Opportunities: Implementing integrated POS and automated inventory management Threats: Loss of sales due to stockouts, lack of actionable analytics

A screen shot of a computer

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## Project Scope and Constraints

* **Project Scope**: Implementing a real-time POS and inventory system.
* **Project Creep**: Add customer-facing digital menus or online ordering features.
* **Constraints**: Budget, training, and existing hardware.
  + **Present vs. Future**: With an automated system, things are done manually and how they will be done in the future.
  + **Internal vs. External**: Inside the company, order processing, outside the company, vendor API integration.

## Perform Fact-Finding

We conducted structured interviews with both owners to understand workflow challenges. Observation during peak business hours helped us identify bottlenecks in kitchen communication and stock depletion. Documents reviewed included inventory logs and order receipts. No formal user survey was required.

**Structured Interview Questions with Club IT Owners**

**Interviewee(s):** Lisa Tejada and Ruben Keys (Owners, Club IT)  
**Interview Type**: Structured  
**Purpose**: To understand operational inefficiencies and identify opportunities for IT integration in food ordering and inventory processes.

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| **Question No.** | **Interview Question** | **Purpose** |
| 1 | Can you describe the current process of taking and fulfilling customer orders? | To understand the workflow and order lifecycle. |
| 2 | What tools or systems are currently used to manage inventory? | To identify existing technologies and limitations. |
| 3 | What are the most frequent challenges you face during peak business hours? | To identify bottlenecks and stress points in operations. |
| 4 | How do you currently track low stock or reorder items? | To assess how stock levels are managed and monitored. |
| 5 | Are there any recurring errors or delays in order processing or restocking? | To uncover patterns of inefficiency. |
| 6 | What key improvements would you like to see with a new POS and inventory system? | To understand the owners' expectations and desired outcomes. |
| 7 | Who will need access to the new system, and what should their permissions look like? | To gather user roles and access control requirements. |
| 8 | Would you prefer real-time inventory or batch updates at the end of each day? | To determine preferences for system performance and data accuracy. |
| 9 | How do you handle reporting, such as daily sales or inventory usage summaries? | To evaluate current reporting tools and the need for automated analytics. |
| 10 | What is your budget and timeline for implementing an upgraded IT solution? | To align technical recommendations with business constraints. |

### Current Processes

The system must automate the order-to-inventory update cycle, allow live monitoring of stock levels, and notify management when thresholds are breached.

# Requirements

## List of Requirements

System requirements are the capabilities and conditions a proposed information system must have to satisfy business objectives and user needs. This forms the base of system development and is traditionally divided into five main categories: outputs, inputs, processes, performance, and controls. Among output requirements are the reports on sales and inventory, or even dashboards. How data is captured is described by input requirements, for example, POS entries, inventory updates, or payment details. The description includes internal operations to be carried out by the system, like real-time inventory deduction, notifications based on some set parameters, and order reconciliation. Performance requirements describe the operational standard for the system, such as response time. Ultimately, control requirements should ensure system integrity and security, comprising categories of authentication, role-based access, audit trails, and data encryption. All of these, taken together, form a pretty comprehensive framework for evaluating the function, usability, and reliability of the system proposed before design and implementation.

## Club IT - System Requirements Checklist

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| Category | Requirement Type | System Requirement |
| Output | Report Generation | The system shall generate daily, weekly, and seasonal sales reports. |
| Report Generation | The system shall generate real-time inventory status reports for all items. |
| Alerting/Monitoring | The system should issue low-stock alerts and suggested reorder quantities. |
| Dashboard Visualization | The system shall provide a dashboard summarizing sales trends and customer preferences. |
| Export Functionality | The system should export reports in PDF and Excel formats. |
| Input | Order Entry | The system shall accept customer orders via a POS interface. |
| Inventory Management | The system shall record real-time inventory deductions as orders are placed. |
| Manual Adjustment | The system shall allow manual adjustments to stock levels for restocks or spoilage. |
| Payment Collection | The system shall capture payment details, including method and tip amount. |
| Logging and Audit | The system shall log staff inputs with timestamps for accountability. |
| Process | Automation | The system must automate the order-to-inventory update cycle. |
| Monitoring | The system must enable live monitoring of stock levels. |
| Notification | The system must notify management when inventory thresholds are breached. |
| Financial Calculation | The system must calculate total sales, taxes, and tip distribution. |
| Reconciliation | The system must reconcile daily revenue against orders and payments. |
| Performance | Processing Speed | The system must process each order and inventory update within 1 second. |
| Scalability | The system must support up to 600 transactions per day without performance degradation. |
| Uptime | The system must maintain 99.9% uptime and high availability during operating hours. |
| Concurrent Access | The system must handle simultaneous transactions by up to 10 users. |
| Reporting Speed | Reports must be generated within 3 seconds of the request. |
| Control | Authentication | The system must support user authentication via unique credentials. |
| Access Management | The system must enforce role-based access (e.g., manager vs. waitstaff). |
| Transaction Logging | The system must log all transactions for audit and review. |
| Data Security | The system must include encryption for sensitive payment and customer data. |
| Administrative Oversight | The system must allow administrators to review access logs and permission changes. |

## Club IT - Conceptual Process Model

The process model below is the proposed workflow of Club IT’s integrated POS and Inventory Management System. It shows how customer orders are captured, processed, and tracked through the system, with the additional benefit of updating inventory automatically in real time. The model fully conforms with the articulated functional and non-functional requirements and foregrounds the nature of data interactions at critical components.

A screenshot of a computer screen

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