
CHRIST

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BANGALORE · INDIA

# Software Requirements Specification.

# PROJECT TITLE:THAWIN ERP Service for Hotel Management

**A Group Project Submitted for Undergraduate**

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# Introduction

**Purpose:** The THAWIN ERP is designed to streamline and enhance the management of hotel operations. It offers an end-to-end solution covering reservations, payments, housekeeping, CRM, and reporting. Tailored for the hospitality industry, this ERP ensures efficient and seamless workflows.

**Scope:** The system will cater to small and medium-sized hotels, providing features like reservation management, housekeeping coordination, financial integration, and customer relationship management (CRM). The primary goals include reducing manual workload, improving customer experience, and delivering actionable insights through analytics.

## Stakeholders

- **Hotel Staff:** Front desk, housekeeping, and accounting teams.
- **Hotel Management:** Decision-makers who require insights and analytics.
- **Customers:** Guests who interact with the system for reservations and feedback.
- **System Administrators:** Technical personnel responsible for maintaining the ERP.

# System Overview

**Functionalities:** The system integrates several modules:

- **Reservation System:** Manages room availability, bookings, and pricing.
- **Finance:** Handles payments, invoices, and financial reporting.
- **Inventory & Housekeeping:** Tracks room readiness and housekeeping tasks.
- **CRM:** Maintains guest profiles and loyalty programs.
- **POS Integration:** Manages additional guest expenditures (e.g., room service).
- **Analytics & Reporting:** Provides insights into occupancy, revenue, and operational efficiency.

## User Roles and Permissions

- **Administrator:** Full access to all modules and configurations.
- **Front Desk Staff:** Access to reservations, check-in/check-out, and CRM.
- **Housekeeping:** Limited access to room statuses and housekeeping tasks.

- **Finance Team:** Access to payment processing and financial reports.

## Business Workflow

### 1. Reservation

- **Customer Actions:** Book rooms via the hotel website, OTA platforms, or direct contact.
- **System Actions:**
    1. Check room availability.
    2. Calculate pricing and provide booking details.
    3. Generate a reservation ID and store booking information.

### 2. Payment

- **Customer Actions:** Pay a deposit or full amount.
- **System Actions:**
    1. Record payments.
    2. Update reservation status to "Confirmed" upon payment.
    3. Generate receipts or invoices as needed.

### 3. Pre-Arrival Preparation

- **System Actions:**
    1. Check room status (e.g., available, needs cleaning, under maintenance).
    2. Notify housekeeping to prepare rooms.
    3. Update room status to "Ready."

### 4. Check-In

- **Customer Actions:** Provide reservation ID and ID/Passport.
- **System Actions:**
    1. Validate reservation.
    2. Update status to "Checked-In."
    3. Issue room key or access card.

4. Update CRM with guest details.

## 5. In-Stay Services

- **Customer Actions:** Use services such as room service or spa.
- **System Actions:**
    1. Record charges to the customer’s account.
    2. Update inventory for consumed items (e.g., minibar).

## 6. Pre-Check-Out

- **System Actions:**
    1. Summarize room charges and additional expenses.
    2. Present a detailed bill to the customer.

## 7. Check-Out

- **Customer Actions:** Settle final payments.
- **System Actions:**
    1. Record payments.
    2. Generate invoices.
    3. Update room status to "Needs Cleaning."

## 8. Post-Stay Updates

- **System Actions:**
    1. Update CRM with guest history.
    2. Process loyalty points (if applicable).
    3. Send a thank-you email or review request.

## 9. Reporting

- **System Actions:**
    1. Generate daily/weekly/monthly performance reports.
    2. Provide analytics for decision-making.

## Functional Requirements

1. **Reservation Management:**
    - Real-time room availability.
    - Reservation ID generation.
2. **Payment Processing:**
    - Secure payment gateways.
    - Automated invoice generation.
3. **Room Management:**
    - Status tracking (e.g., clean, occupied, maintenance).
    - Housekeeping notifications.
4. **CRM(customer relationship management):**
    - Guest profile management.
    - Loyalty program integration.
5. **POS(point-of-sale) Integration:**
    - Real-time updates to customer accounts.
    - Inventory tracking for consumed items.
6. **Analytics & Reporting:**
    - Occupancy rates.
    - Revenue breakdown.

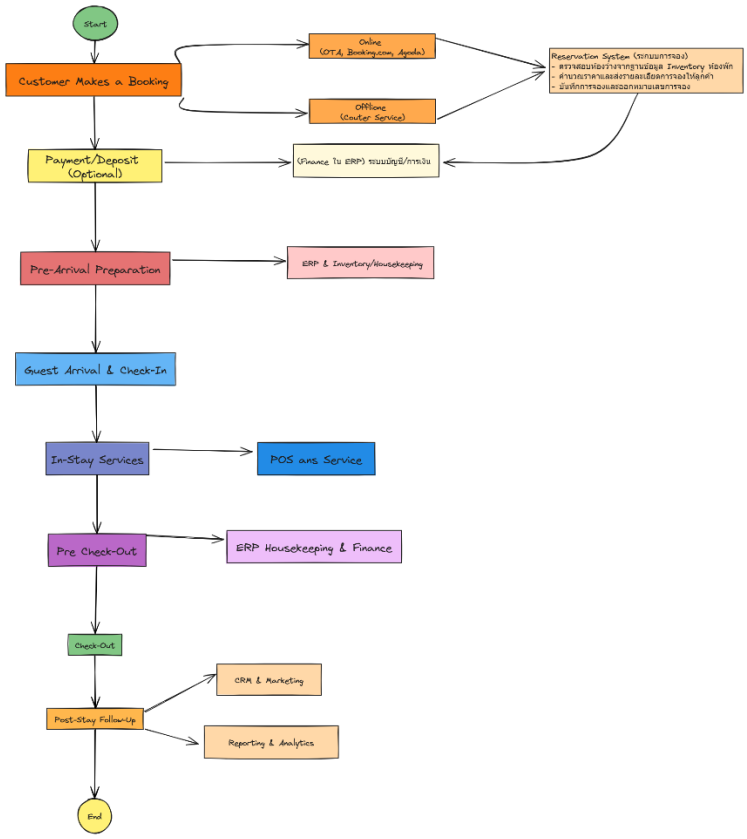
## Non-Functional Requirements

1. **Performance:**
    - Handle 100 concurrent users.

- Response time < 2 seconds for most operations.

2. **Scalability:**
   - Modular design to accommodate additional features.
3. **Security:**
   - Role-based access control.
   - Data encryption for sensitive information.
4. **Usability:**
   - Intuitive interface.
   - Multi-language support.
5. **Availability:**
   - 99.9% uptime.
   - Automated backups.

# Block Diagram




# System Constraints

1. **Framework:** Odoo 16.
2. **Database:** PostgreSQL.
3. **Theme:** Black and White.

# System Requirements

## Hardware Requirements

- **Server:**
    - CPU: Minimum 4 cores (Intel/AMD)
    - RAM: Minimum 16 GB

- Storage: SSD with at least 500 GB free space
- Network: High-speed internet connection (1 Gbps preferred)

- **Client Devices:**
  - Desktop/Laptop: Minimum 8 GB RAM, modern web browser support.
  - Tablets/Mobile Devices: Support for responsive web design.

### Software Requirements

- **Operating System:**
  - Server: Ubuntu 20.04 LTS or later.
  - Client: Windows 10, macOS 10.15, or equivalent.
- **Browser Support:**
  - Google Chrome (latest version).
  - Mozilla Firefox (latest version).
  - Microsoft Edge (Chromium-based).
- **Dependencies:**
  - Python 3.8 or later.
  - PostgreSQL 13 or later.
  - wkhtmltopdf (for PDF generation).
  - Nginx (reverse proxy).

## Assumptions and Dependencies

1. The hotel has stable internet connectivity.
2. Users are trained to operate the ERP system.
3. Integration with OTA platforms is feasible.