odoo

Subscription Management System

1. Overviewt

The **Subscription Management System** is a centralized web application that helps organizations manage **subscription-based products**, **recurring billing plans**, **customers**, **quotations**, **invoices**, **taxes**, **discounts**, **payments**, and **reports**.
It streamlines the complete subscription lifecycle from **product configuration** to **payment collection** and **reporting**, and is suitable for **SaaS** and other **recurring revenue** businesses.

2. Objectives

- Provide a single platform to manage subscriptions and billing
- Support recurring pricing and flexible plans
- Automate invoicing and payment tracking
- Manage taxes and discounts
- Improve operational efficiency and accuracy

3. User Roles

- **Admin**: Full system control and configuration
- **Internal User**: Limited operational access
- **Portal/User**: Customer/subscriber access

Rule: Only **Admin** can create **Internal Users**.

4. System Modules

- Authentication (Login, Signup, Reset Password)
- Dashboard & Navigation
- Products Management
- Recurring Plans
- Subscriptions
- Quotation Templates
- Invoices
- Payments
- Discount Management
- Tax Management
- Users/Contacts
- Reports

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5. Authentication Module

5.1 Login

- Email + password based authentication

5.2 Signup

- New user registration
- Validations for:
  - Unique email
  - Strong password

5.3 Reset Password

- Email verification
- Reset link sent to registered email

5.4 Validation Rules

- Email must be **unique**
- Password must be:
  - Length **> 8**
  - Contains **uppercase**
  - Contains **lowercase**
  - Contains **special character**

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6. Product Management

Admins can **create, update, delete, and view** products.

Product Fields

- **Product Name**
- **Product Type**
- **Sales Price**
- **Cost Price**

Notes

- Each product supports **recurring pricing**
- Products can have **variants**

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7. Recurring Plan Management

Recurring plans define billing rules for subscription products.

Plan Fields

- **Plan Name**

- **Price**
- **Billing Period**: Daily / Weekly / Monthly / Yearly
- **Minimum Quantity**
- **Start Date**
- **End Date**

Plan Options

- **Auto-close**
- **Closable**
- **Pausable**
- **Renewable**

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8. Product Variants

Variants support attribute-based pricing customization.

Variant Fields

- **Attribute**
- **Value**
- **Extra Price**

Example

- Brand
- Odoo
- 560

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9. Subscription Management

Create and manage subscriptions.

Subscription Fields

- **Subscription Number**
- **Customer**
- **Plan**
- **Start Date**
- **Expiration Date**
- **Payment Terms**

Order Lines (Per Subscription)

- Product
- Quantity
- Unit Price
- Taxes
- Amount

Status Flow

Draft → Quotation → Confirmed → Active → Closed

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10. Quotation Templates

Predefined templates used during subscription creation to speed up setups.

Template Fields

- **Template Name**
- **Validity Days**
- **Recurring Plan**
- **Product Lines**

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11. Invoice Management

Invoices are generated automatically from subscriptions.

Includes

- Customer details
- Product lines
- Taxes
- Totals

Actions

- Confirm
- Cancel
- Send
- Print

Invoice Status Flow

Draft → Confirmed → Paid

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12. Payment Management

Payments record invoice settlement.

Payment Fields

- **Payment Method**
- **Amount**
- **Payment Date**

Notes

- Tracks paid and outstanding invoices

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13. Discount Management

Create discount rules for products/subscriptions.

Rule: Discounts can be created only by **Admin**.

Discount Fields

- **Discount Name**
- **Type**: Fixed / Percentage
- **Minimum Purchase**
- **Minimum Quantity**
- **Start Date**
- **End Date**
- **Limit Usage**

Applies To

- Products
- Subscriptions

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14. Tax Management

Tax rules applied on invoice lines.

Features

- Configurable tax percentages and types
- Auto-calculated during invoice generation

15. Reporting Module

Provides analytics such as:

- Active subscriptions
- Revenue
- Payments
- Overdue invoices

Supports filtering and summary views.

16. Functional Requirements

- User authentication and role-based access
- Product and pricing configuration
- Recurring billing automation
- Subscription lifecycle management
- Invoice generation
- Tax and discount application
- Payment tracking
- Reporting and dashboards

17. Non-Functional Requirements

- **Performance:** Response time < 2 seconds
- **Scalability:** Supports thousands of subscriptions
- **Security:** Role-based permissions and secure authentication
- **Usability:** Simple and intuitive UI
- **Reliability:** High availability

18. Conclusion

The Subscription Management System provides a complete solution for subscription-based businesses. It automates billing, improves operational efficiency, and ensures accurate financial tracking.

Why This Hackathon Problem is Important

Real-world ERP workflow: Demonstrates how a complete subscription business works end-to-end — from product configuration to subscription creation, billing, payments, renewals, and reporting.

Business logic focus (not just UI): Emphasizes solving operational problems like lifecycle handling, recurring billing automation, upgrades, cancellations, taxes, and discounts.

Industry-ready system thinking: Encourages building production-like, modular systems with real-time coordination between multiple modules.

Mockup: https://app.excalidraw.com/l/65VNwvy7c4X/8hI7WFOAKhj