

ORCA TECHNOLOGIES

Internal Tool Payroll & Expense Manager

Internal Secure Web Dashboard – Technical & Functional Documentation

1. Project Overview

Purpose

Build a secure internal web application to manage:

- Employee records
- Monthly salary processing
- Automated payroll reminders
- Office expenses (assets + operational)
- Financial analytics & reports

Target Users

- **Admin** (HR / Management)
- **Finance**
- **Viewer** (Read-only stakeholders)

Key Objectives

- Centralize payroll & expense data
- Reduce manual tracking and errors
- Provide real-time financial insights
- Ensure security, auditability, and scalability

1.1 Document Purpose and Scope:

This document defines the functional scope and expected behavior of the Company Payroll & Expense Manager.

It focuses on what the system will do rather than how it will be implemented.

UI design, database structure, and technical implementation details will be finalized after scope approval.

Any functionality not explicitly listed in this document is considered out of scope unless approved separately.

2. Functional Modules Overview

Module	Description
Authentication & Roles	Secure login + access control
Employee Management	CRUD employee data
Salary Tracking	Monthly payroll records
Email Automation	Scheduled salary reminders
Payroll Analytics	Monthly & yearly salary insights
Office Expenses	Asset & operational expense tracking
Dashboard Home	Executive overview
Filters & Reports	Data exports & printable reports
Settings	Configurations (email, currency, etc.)
Audit & Logs (Optional)	Change history & accountability

2.1 Company Scope:

The system is primarily intended to manage payroll and expenses for a single company.

Optionally, the system may support multiple companies within the same dashboard, allowing authorized users to:

- View payroll and expenses per company independently
- Switch between companies

- View combined summaries when required

Employee, payroll, and expense data must remain strictly isolated per company.

3. Authentication & Authorization

Authentication

- Supabase Email + password login

Role-Based Access Control (RBAC)

Role	Permissions
Admin	Full access (CRUD + settings + users)
Finance	Payroll & expenses only
Viewer	Read-only dashboards & reports

4. Employee Management Module

Features

- Add, edit, delete employees
- Soft delete preferred (Inactive instead of hard delete)

Employee Fields (Database Schema)

Field	Type	Notes
id	UUID / INT	Primary Key
full_name	String	Required
employee_id	String	Unique
department	String	Indexed
role	String	Optional
email	String	Unique
monthly_salary	Decimal	Currency aware
joining_date	Date	Required

Field	Type	Notes
payment_method_notes	Text	Bank / Wallet info
status	Enum	Active / Inactive
created_at	Timestamp	
updated_at	Timestamp	

Validation Rules

- Email must be unique
- Salary must be ≥ 0
- Employee ID must be unique

4. Employee Lifecycle Rule

- Employees marked as Inactive will not receive new salary records.
 - Historical payroll and expense records for inactive employees must remain accessible.
 - Employees cannot be permanently deleted if payroll records exist.
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5. Salary Tracking Module

Salary Records (Auto-Generated Monthly)

Each employee has **one salary record per month**.

Salary Status Flow

Pending → Paid
 Pending → Deferred → Paid

Salary Fields

Field	Type
id	UUID
employee_id	FK
month	YYYY-MM
base_salary	Decimal

Field	Type
deductions	Decimal (optional)
bonus	Decimal (optional)
net_salary	Computed
status	Pending / Paid / Deferred
payment_date	Date
comments	Text
receipt_url	File
created_at	Timestamp

Auto-Generation Logic

- Scheduled background process runs on **1st of every month**
- Generates salary record for all **Active employees**
- Prevents duplicates

5.1 Salary Data integrity and Adjustments:

- Only one salary record may exist per employee per month.
 - Salary components such as bonuses and deductions may be adjusted before marking a salary as Paid.
 - Paid salary records should not be deleted and may only be corrected by Admin users with justification notes.
 - Deferred salaries must be explicitly resolved in a later period.
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6. Automated Email Reminder System

Trigger

- Runs automatically **before the 5th of each month**

Recipient

- Configurable **Admin / Finance Email** (Settings)

Email Subject

Salary Payments Due - Action Required

Email Content Includes

- Month & year
- List of employees with **Pending salaries**
- Net salary per employee
- Total payout amount
- Dashboard link

Failure Handling

- Retry logic (3 attempts)
- Log failures in system logs

6.1 Email Scheduling Behavior

Salary reminder emails are triggered automatically by a scheduled system process prior to the 5th of each month.

The system must ensure:

- No duplicate reminders are sent for the same period
 - Email delivery failures are logged for administrative review
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7. Payroll Analytics & Yearly Overview

Individual Employee View

- Total salary paid YTD
- Monthly breakdown (bar chart)
- Pending vs Paid summary

- Bonus & deductions overview (optional)

Company-Wide View

- Total annual payroll
 - Month-wise payroll graph
 - Highest payroll month
 - Lowest payroll month
 - Average salary per employee
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8. Office Expense Module

8.1 Expense Status Handling

- Office expenses may be marked as Pending or Paid by authorized users.
- No multi-step approval workflow is required unless added in future enhancements.
- Paid expenses should retain receipts and payment details for audit purposes.

8A. Fixed Assets / Systems

Field	Type
asset_name	String
asset_type	Enum (Laptop, Server, Phone, Furniture)
purchase_date	Date
cost	Decimal
assigned_employee	FK (nullable)
depreciation_rate	Decimal (optional)
status	Active / Retired

8B. Day-to-Day Expenses

Field	Type
category	Enum
vendor	String
date	Date
amount	Decimal

Field	Type
payment_status	Paid / Pending
receipt	File
notes	Text

9. Dashboard Home (Executive View)

Overview Tiles

- Total monthly payroll
- Pending salaries count
- Annual payroll (YTD)
- Total expenses this month
- Fixed assets total value

Charts

- Payroll by month
- Expenses vs Payroll
- Yearly financial trend

10. Filters & Reports

Filters

- Month
- Year
- Employee
- Department

11. Settings Module

Configurable Options

- Admin email for reminders
- Currency (default + multi-currency optional)
- Company fiscal year start
- Salary auto-generation toggle

11.1 System Assumptions:

- Payroll is processed on a monthly basis.
 - Salaries are fixed unless manually adjusted.
 - The system is intended for internal administrative use only.
 - No employee self-service access is included.
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12. Optional Advanced Features

Financial Enhancements

- Multi-currency support (exchange rate table)
- Tax & deduction rules
- Bonus & adjustments
- Salary increment history

12.1 Explicitly Out of Scope:

The following items are not included unless approved separately:

- Full accounting or bookkeeping systems
 - Government tax filing or compliance automation
 - Employee self-service portals
 - External payroll or accounting integrations
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13. Non-Functional Requirements

Security

- HTTPS only
- Role-based authorization
- Input validation & sanitization
- File upload size/type restrictions

Performance

- Pagination for large data sets
- Indexed queries for payroll & reports

Scalability

- Cloud-ready deployment
 - Stateless backend
 - Database migrations
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14. Tech Stack

Frontend

- Next.js
- Tailwind & ShadCN
- Chart.js / Recharts

Backend

- Nextjs
- REST or GraphQL API

Database

- Supabase

Auth

- Supabase

Background Jobs

- Scheduled background process

Deployment

- Vercel
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15. Development Milestones

Phase	Deliverables
Phase 1	Auth + Employee Management
Phase 2	Salary tracking + Scheduled background process
Phase 3	Expenses module
Phase 4	Dashboard & analytics
Phase 5	Reports & exports
Phase 6	Optional advanced features

16. Acceptance Criteria (Key)

- No duplicate salary records per month
 - Role access strictly enforced
 - Email reminders sent automatically
 - Reports match dashboard data
 - All financial data persists correctly
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17. Risks & Mitigation

Risk	Mitigation
Incorrect payroll data	Validation + audit logs
Missed salary reminders	Scheduled background

Risk	Mitigation
Unauthorized access	process monitoring RBAC + logging
Data loss	Scheduled backups
