OneFlow -Plan to Bill in One Place

1) Goal

Develop a modular Project Management system that lets a **Project Manager** take a project from **planning → execution → billing** in one place.

- **Plan:** projects, tasks, people, dates.
- **Execute:** task board, hour logging, status, blockers.
- **Bill & Track Money:** link/create **Sales Orders** (what the customer buys), **Purchase Orders** (what you buy), **Customer Invoices**, **Vendor Bills**, and **Expenses**—see **Revenue, Cost, Profit** per project.

2) User Roles

- **Project Manager:** creates/edits projects, assigns people, manages tasks, approves expenses, triggers invoices.
- **Team Member:** views assigned tasks, updates status, logs hours, submits expenses.
- **Sales / Finance:** creates/links **SO/PO/Customer Invoices/Vendor Bills/Expenses** in **Project → Settings.**
- **Admin:** everything.

3) Use Case Scenarios

3.1 Authentication & Access

- Common **Login/Signup** page.
- **Role-based dashboard** after login (Project Manager / Team Member / Admin).

3.2 Dashboard & Filtering

- The landing page lists all ongoing projects as **cards**.
- Filters: **Planned, In Progress, Completed, On Hold**.
- KPI widgets: **Active Projects**, **Delayed Tasks**, **Hours Logged**, **Revenue Earned.**

3.3 Navigation

- **Projects:** create and manage projects.
- **Tasks:** assign and track task execution.
- **Analytics:** progress, utilization, profitability.

3.4 Profile & Setup (Left Sidebar)

- **My Profile:** update personal info and password.

4) Core Features

4.1 Projects

- Create / Edit / Delete projects.
- Assign **Project Manager**, **Team Members**, **Deadlines.**
- Show **progress bar** and **budget usage** on the project.
- **Links panel (top bar inside a project):** quick access to **Sales Orders, Purchase Orders, Customer Invoices, Vendor Bills, Expenses** — shows **only items linked to the current project.**

4.2 Tasks

- Create task lists under projects.
- Assign users, due dates, priorities.
- States: **New → In Progress → Blocked → Done**.
- Log hours; add comments and attachments.
- Toggle **My Tasks / All Tasks**.

4.3 Analytics Dashboard

- KPI Cards: **Total Projects**, **Tasks Completed**, **Hours Logged**, **Billable vs Non-billable Hours.**
- Charts: **Project Progress %**, **Resource Utilization**, **Project Cost vs Revenue**.

5) Settings Menu (Global Lists)

- **Menu items: Sales Orders, Purchase Orders, Customer Invoices, Vendor Bills, Expenses** (and **Products** if needed).
- Each menu shows a **global list** (not filtered by a project).
- Users can:
    - **Search** (by number, partner, amount, state, etc.)
    - **Filter** (date, partner, state, project)
    - **Group by** (project, partner, state)
    - **Create new** or **Link to a project**
- Opening a document from here shows its form, where it can be linked to a project.

Reminder: Inside a project, the **Links panel** shows the **same document types** but **already filtered to that project** for quick viewing.

6) Sales / Purchase / Billing (managed inside the project)

- **Project → Settings** is the single place to **create or link**:
  - **Sales Orders (SO)** — what the customer buys.
  - **Purchase Orders (PO)** — what you buy from vendors.
  - **Customer Invoices** — your revenue.
  - **Vendor Bills** — your cost from vendors.
  - **Expenses** — team out-of-pocket, billable or not.
- **Links panel** (top bar in a project) shows these docs **filtered to the current project** for quick viewing.
  - Generated invoice lines **link back** to the **Project** (and **Sales Order** if used).

7) Timesheets

- **Task → Timesheets**:
  - It refers to the working time of a particular person for a particular session or the day .
  - Timesheets billed on working days are billed or non-billed.
  - Each timesheet is an expense on the company (negative cash flow.
  - Each employee has a per hour set by the admin.

8) Concrete, Real-World Scenarios

8.1 Fixed-price project

Your company sells a **"Brand Website"** to a customer for **₹1,00,000**.
Flow:

- Salesperson creates a **Sales Order** ("Brand Website – ₹1,00,000") and **links** it to the **Brand Website** project.

- Project Manager adds milestones: **Design (₹40k)**, **Build (₹60k)**; creates tasks and assigns the team.
- When **Design** is **Done**, create a **Customer Invoice** for **₹40,000** from the project.
- When **Build** is **Done**, create a **Customer Invoice** for **₹60,000**.
- **Overview** shows **Revenue ₹1,00,000**, costs so far, and **Profit**.

8.2 Vendor needed for part of the project

You sell the project to the customer (**Sales Order**) and also buy from a vendor.
Flow:

- Project Manager creates a **Purchase Order** to a vendor (e.g., photographer **₹12,000**) and **links** it to the same project.
- Vendor finishes work and sends a **Vendor Bill** for **₹12,000** → Finance records it against the **PO + project**.
- The project shows **actual cost ₹12,000** alongside revenue; profit stays accurate.

8.3 Team expense during the project

A team member incurs a small cost.
Flow:

- A developer travels to the client and submits an **Expense** of **₹1,500** with a receipt, **linked to the project**.
- Project Manager approves. If **billable**, add it to the next **Customer Invoice**; reimburse the team member.
- Project totals update: **Cost +₹1,500**, profit recalculated.

Why is this Hackathon Problem Important?

- Students will learn real-world **ERP workflows** and **business workflow**.
- Understand how modules talk to each other for **Eg** (Projects → Sales →Purchases).

- Practice problem-solving using business logic, not just coding.

Terminologies

1. Sales Order (SO)

A document that defines **what the customer buys** — the agreed scope, price, and deliverables. It links directly to a project to represent **revenue**.

2. Purchase Order (PO)

A document that records **what the company buys** from vendors to complete the project. It represents **costs** incurred to deliver the project.

3. Customer Invoice

A financial document generated to bill the customer for work done or milestones completed. It tracks **income** generated per project.

4. Vendor Bill

A document recording amounts payable to vendors for their goods or services. It contributes to the **project's total cost**.

5. Timesheet

A log of **hours worked by team members** on tasks. It can be billable or non-billable and directly affects cost calculation and profitability analysis.

6. Expense

A reimbursement or cost item submitted by a team member (e.g., travel, tools) and linked to a project. Expenses can be **billable** (charged to the customer) or **non-billable**.

7. Project Management System

A modular platform that allows planning, executing, and billing of projects within one unified interface. It integrates project, task, timesheet, and financial workflows.

Mockup: https://link.excalidraw.com/l/65VNwvy7c4X/8QsAHjxoXCE