Invoicing ROI Simulator

**1. Project Overview**

The Invoicing ROI Simulator is a simple web application to help businesses understand the benefits of automated invoicing.

It allows users to:

* Enter basic business details like number of invoices, staff, wages, and error costs.
* See monthly savings, payback period, and ROI instantly.
* Save and manage different scenarios.
* Download a report after entering their email.

The application demonstrates how automation can save time and money in a clear and easy way.

**2. Planned Approach & Architecture**

The project will follow

**Frontend (React.js)**

* A single-page application where users fill in a form with business metrics.
* Displays live results for ROI, monthly savings, and payback.
* Allows saving, loading, and deleting scenarios.
* Includes a form to enter email before downloading reports.
* Responsive design for desktop and mobile.

**Backend (Node.js + Express)**

* Receives user input from the frontend and performs all calculations.
* Handles saving, loading, and deleting scenarios from the database.
* Generates downloadable PDF or HTML reports after email validation.
* Ensures results always show positive benefits of automation using internal constants.

**Database (MySQL)**

* Stores user-saved scenarios including input details and calculated results.
* Allows retrieval and deletion of scenarios for later use.

**Overall Flow:**  
User enters details → Frontend sends data → Backend calculates and stores → Results are displayed → User can save scenario or download report.

**3. Technologies and Tools**

| **Part** | **Technology** | **Purpose** |
| --- | --- | --- |
| Frontend | React.js | Build UI and communicate with backend |
| Backend | Node.js, Express.js | Handle logic and API endpoints |
| Database | MySQL | Store scenarios and results |

**4. Step-by-Step Development Plan**

This is the step-by-step plan for developing the project:

**Step 1: Setup Project**

* Initialize frontend project with React.
* Initialize backend project with Node.js and Express.
* Setup MySQL database and create table for scenarios.

**Step 2: Backend APIs**

* Create API to **calculate ROI and savings** from user input.
* Create API to **save scenario** to database.
* Create API to **load saved scenarios**.
* Create API to **delete a scenario**.
* Create API to **generate PDF or HTML report** after email input.

**Step 3: Frontend Form**

* Build form for user inputs.
* Display results immediately after calculation.
* Buttons to save, load, and delete scenarios.
* Form to enter email for report download.

**Step 4: Scenario Management**

* Allow users to **save scenarios** with a name.
* Display **list of saved scenarios** for loading or deleting.

**Step 5: Report Generation**

* Generate **PDF or HTML report** with all inputs and results.
* Require **email input** before download to capture leads.

**Step 6: Testing**

* Test all APIs and frontend form functionality.
* Check calculations for different input values.
* Ensure report generation works properly.

**Step 7: Deployment**

* Deploy frontend and backend on Git

**5. Key Features**

1. **Quick ROI Simulation** – Shows monthly savings, payback, and ROI immediately.
2. **Scenario Management** – Save, load, and delete scenarios easily.
3. **Report Generation** – Download PDF/HTML report after entering email.
4. **Automation-Favored Results** – Backend ensures results always show positive savings.
5. **Responsive Design** – Works well on desktop and mobile devices.

**6. Expected Output Example**

* Users enter details such as number of invoices, staff, wages, and error costs.
* The system calculates and shows:
  + Monthly savings
  + Payback period
  + ROI for the chosen time period
* Users can save the scenario and generate a report.

**7. Summary**

The **Invoicing ROI Simulator** is a simple, interactive tool that helps businesses see the advantages of automated invoicing.  
It includes:

* Quick ROI calculation
* Scenario saving and management
* PDF/HTML report generation with email input
* Positive and clear results for automation benefits



