Project Documentation Standards: From Problems to Solutions

Subject: Elevating our Project Portfolio – Phase 2 Guidelines

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A Message to the Team

First, we want to acknowledge the incredible volume of work you have achieved so far. Populating hundreds of projects across multiple domains is no small feat, and your dedication to building the foundation of this platform is evident. You have done a decent job capturing the diversity of these projects.

As we move into the next phase, our goal is to transform these listings into **compelling stories of innovation.** We want every student who visits our site to not just see a "task," but to see a real-world problem they are uniquely equipped to solve. This next step is where your technical insight and storytelling will truly shine.

The New Project Structure

Moving forward, every project must follow the **Real-World Solution Framework.** Your goal is to provide a "360-degree view" of the project so that any student can understand the *Why, What, and How.*

Please use the following structure for all project descriptions:

1. The Case Study (The Story)

- **Objective:** Humanize the problem.
- **Instruction:** Write a 3–4 sentence narrative about a specific persona (e.g., a small business owner, a doctor, a student, or a city manager) who is struggling with a specific situation.
- **Example:** *"Sarah runs a local organic grocery store. As her business grew, she realized she was losing 15% of her inventory to spoilage because she was still tracking 'best-before' dates on a manual paper log, leading to missed sales and waste."*

2. The Problem Statement

- **Objective:** Define the technical or logical gap.
- **Instruction:** Clearly state the core issue identified in the story that needs to be solved.

- **Example:** *"The manual tracking system is inefficient, prone to human error, and lacks an automated alert system to notify staff of upcoming product expirations."*

3. Solution Description

- **Objective:** Describe the high-level answer.
- **Instruction:** Explain what the project is and how it solves the problem statement.
- **Example:** *"Build an Automated Inventory Expiry Management System. This web-based application will allow for digital logging and will use a background notification engine to alert the owner 48 hours before any product reaches its expiry date."*

4. Prerequisites

- **Objective:** Set the bar for the builder.
- **Instruction:** List the fundamental concepts a student must know before starting this project.
- **Example:** *"Basic knowledge of CRUD operations, understanding of database schemas (SQL), and familiarity with REST APIs."*

5. Tech Stack

- **Objective:** Define the tools.
- **Instruction:** Provide a recommended or mandatory list of technologies.
- **Example:** *"Frontend: React.js; Backend: Node.js/Express; Database: MongoDB; Notifications: Twilio API or Nodemailer."*

6. Deliverables

- **Objective:** Define "Done."
- **Instruction:** List the specific items the student must submit upon completion.
- **Example:**
  - *Fully functional web dashboard.*
  - *Relational database schema diagram.*
  - *Source code hosted on GitHub with a README file.*
  - *A 2-minute video demonstration of the alert system.*

7. Supposed Deadline

- **Objective:** Manage time expectations.
- **Instruction:** Provide a realistic timeframe for an average student to complete the project.
- **Example:** *"1 Weeks."*

General Quality Guidelines

- **Tone:** Professional yet encouraging.
- **Clarity:** Avoid overly complex jargon in the Case Study; save the technical terms for the Tech Stack and Prerequisites.
- **Uniqueness:** Ensure the "Story" for each project feels distinct, even if the domain is the same.

Thank you for your continued hard work. Let's make these projects the best resource for students globally!