**Factory Inventory Management System**

**Overview**

This document outlines the factory inventory management system for HDP pipes. The system will manage raw materials, production, worker accounts, stock, and financial analysis through a structured process.

**System Roles**

**Manager**

* Can create and delete worker accounts.
* Can view and manage stock.
* Can approve and process sell requests.
* Can add manufactured pipes into stock.
* Can track work progress.
* Can manage raw material inventory.
* Can modify specific pipe prices.
* Can view dashboard with charts and analytics.
* Can set pricing based on formula.

**Worker**

* Can log in to the system (created by the manager only).
* Can add stock details.
* Can view stock.
* Can send sell requests to the manager.

**Pipe Details**

Each manufactured pipe will have the following attributes:

* Grade of material used for manufacturing.
* Size in inches (2, 2.2, 3, 3.4, etc.).
* Length of the pipe.
* Weight required for making.
* Name of the worker who manufactured it.
* Date and time of manufacturing.
* Automatic price calculation based on formula.

**Functionalities**

1. **Authentication System**
   * Manager login (only one manager account).
   * Worker login (accounts created by manager only).
   * Role-based access control.
2. **Worker Account Management**
   * Manager can create and delete worker accounts.
   * Workers can log in but cannot sign up independently.
3. **Inventory Management**
   * Raw material tracking.
   * Pipe stock management.
   * Automatic price calculation based on length and weight.
4. **Production Entry System**
   * Workers enter pipe manufacturing details.
   * Automatic serial number generation (editable).
   * Price auto-calculation based on predefined formula.
5. **Stock and Sales Management**
   * Workers submit sell requests.
   * Manager approves or declines requests.
   * Sell history tracking.
6. **Dashboard & Reporting**
   * Manager dashboard with graphical charts.
   * Financial analysis of materials consumed vs. revenue.
   * Work progress tracking.
   * Pipe production summary.