

Aeternum 3D

Objective

Develop an inventory control system for Aeternum 3D to manage two main areas:

1. **Product Inventory:** Tracking filament stock, types, colors, and quantity.
2. **Sales Inventory:** Logging 3D printing jobs, material usage, and customer payments.

Functional Requirements

1. Main Screen

- The system will start with a **Main Screen** that offers two options:
 - **Product Inventory** button.
 - **Sales Inventory** button.
- Each section (Product or Sales Inventory) will have a **Return** button to go back to the Main Screen.

2. Product Inventory Section

This section will display and manage all filament stock, including:

- **Filament Types and Subvariants:**
 - PLA: Standard PLA, PLA+, Flexible PLA, PLA with fillers
 - ABS: Standard ABS, ABS+, Impact-resistant ABS
 - TPU: Flexible TPU, Semi-rigid TPU
- **Filament Colors:** The user will manually input the color(s) for each filament. This allows for single-color filaments or filaments that have two or more colors.
- **Stock Quantities:**
 - Display the number of rolls per type/subvariant.
 - Each roll contains 1 kilogram = 1000 grams of filament.
 - Track the **remaining grams** per roll (e.g., 800.52 grams).
 - When a print job is recorded, the system automatically updates the filament stock by subtracting the used amount.

3. Sales Inventory Section

This section will log and track all customer orders, including:

- **Client Order Information:**
 - Description of the print job.
 - Filament type and subvariant used.
 - Color(s) used.
 - Grams used per color (with two decimal places).
 - Total grams used in the print job.
 - **Pricing:** Input the price charged for the print.
 - **Payment Status:** Mark the order as "Paid" or "Pending Payment."
- **Automatic Stock Update:**
 - Upon completing an order, the system will deduct the filament used from the **Product Inventory**.
 - Ensure that all information is updated in real-time.

4. Data Export (Excel)

- Users can download two types of reports:
 - **Product Inventory Excel File:** Includes updated filament stock with remaining grams.
 - **Sales Inventory Excel File:** Includes detailed print job logs with pricing and payment status.
- Ensure the files can be re-downloaded when the data is updated.

5. Design Requirements

- Use a professional color scheme: **blue, white, black, and gray**.
- Ensure a clean, presentable interface, as if it were to be presented to a professor.

6. Additional Requirements

- Create a detailed **functional requirements document** or **presentation** for the project.
- Translate all content and interface into **Spanish**.