

# **University of Guadalajara**

## **University Center of the Valleys**



## **Software Configuration Management**

**Local system for sales in a store**

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## **1. Understanding the Request**

The project involves expanding the current sales system, which currently operates only locally in the store, to an online model. This requires implementing an e-commerce website, integrating digital payments, and ensuring real-time inventory synchronization between the physical store and the web platform.

## **2. Affected Modules**

### **1. Cashier**

- Reason: Currently, the cashier manages local sales with physical payment. The website must process online payments and generate digital receipts.
- Impact:
  - Integration with electronic payment gateways (cards, transfers, PayPal, etc.).
  - Generation of electronic receipts and automatic registration in the database.

### **2. Vendor**

- Reason: Vendor supply products to the store. Managing their information ensures timely replenishment and accurate inventory.
- Impact:
  - Database integration to track deliveries and product availability.
  - Automatic updating of stock levels upon receipt of new products.

### **3. Products**

- Reason: The product catalog must be available in both the physical store and the website.
- Impact:
  - Any updates to prices, descriptions, or images must be automatically reflected in both environments.
  - An API or synchronization service is required.

### **4. Stock**

- Reason: Stock control must be updated the moment a sale occurs, whether physical or online.
- Impact:

- Prevents the sale of out-of-stock products.
- Involves implementing blocking mechanisms and simultaneous inventory updates for multiple users.

### 3. List of risks

- Risk of security breaches.
- Higher maintenance and hosting costs.
- System overload if not properly designed.
- Possible incompatibility between the local system and the new web platform.
- Dependence on internet connectivity and external servers (if the network fails, the online system will not work).

### 4. Resource estimation

Category	Estimated Cost (MXN)
Infrastructure (Hosting, Payment Gateway)	\$6,000 – \$18,000
Human Resources (Developers, Security Specialist, DataBase Administrator)	\$195,000 – \$375,000
Development Tools (GitHub, Testing)	\$3,000 – \$15,000
Support & Maintenance (3 months)	\$45,000 – \$120,000
Training & Documentation	\$8,000 – \$18,000
Time	3 months
Total Cost (3 months)	\$257,000 – \$546,000
Profit	\$200,000 MXN

*Figure 1: Cost estimation*