**MVP Report: Inventory and Sales Management System**

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**1. Introduction**

This report documents the development of a **Minimum Viable Product (MVP)** for an **Inventory and Sales Management System**. The system is designed to help small businesses track products, process sales, and generate receipts efficiently.

**Key Features Implemented:**

✅ **User Authentication** – Secure login, registration, and logout  
✅ **Product Management** – Add, edit, and view products  
✅ **Sales Processing** – Record sales and generate receipts  
✅ **Basic Search** – Find products by name or description  
✅ **Dashboard** – Overview of available products

**2. Core Functional Requirements**

The MVP was developed based on the following **core requirements**:

| **Requirement** | **Status** | **Description** |
| --- | --- | --- |
| User Authentication | ✅ Done | Secure login with password hashing |
| Product Management | ✅ Done | Add, edit, delete, and view products |
| Sales Processing | ⚠️ Partial | Record sales, generate receipts (inventory update pending) |
| Receipt Generation | ✅ Done | Print and save receipts in PDF format |
| Basic Search | ✅ Done | Search products by name/description |

**3. Technical Implementation**

**Tech Stack Used**

* **Backend:** Python (Flask)
* **Database:** SQLite (SQLAlchemy ORM)
* **Authentication:** Flask-Login + Bcrypt
* **Frontend:** HTML, CSS, Bootstrap
* **Additional Tools:** WTForms, PDFKit (for receipts)

**Key Code Components**

**1. User Authentication**

**2. Product Management**

**3. Sales & Receipt Generation**

**4. Challenges & Solutions**

| **Challenge** | **Solution** |
| --- | --- |
| **Image Uploads** – Storing product images securely | Used secure filename and File Allowed validation |
| **Sales Inventory Update** – Need to deduct stock after sale | (Pending – Next Iteration) |
| **Receipt Printing** – Formatting issues | Used PDFKit for clean PDF generation |

**5. Future Improvements**

1. **Inventory Deduction** – Automatically reduce stock after sales.
2. **Sales Reports** – Generate daily/weekly sales summaries.
3. **Barcode Scanning** – Add product scanning for faster sales.
4. **Multi-User Roles** – Admin vs. Cashier permissions.

**6. Conclusion**

This MVP successfully implements **core functionalities** for an inventory and sales system. While some features (like inventory updates) need refinement, the current version demonstrates:  
✔️ **User authentication**  
✔️ **Product management**  
✔️ **Sales recording & receipts**

**Next Steps**

* Improve inventory management logic
* Add sales analytics dashboard
* Deploy to a cloud server (Heroku/AWS)