### **1. User Management**

* **Role-based Access Control**
  + Admin: Full control over the system.
  + Technicians: Manage inventory and equipment logs.
  + Students: Limited access for project management and resource booking.
  + Lab Managers (IvE, Cezeri & MedTech): Access shared functionalities across labs.
* **User Authentication & Profiles**
  + Login credentials.
  + Role-specific dashboards.

### **2. Inventory Management**

* **Equipment and Tools Tracking**
  + List of equipment/tools with status (available, in use, maintenance)
  + Unique identification for each item (e.g., barcode/QR codes).
* **Maintenance Scheduling**
  + Automated reminders for preventive maintenance.
  + Maintenance logs and history for equipment.
* **Asset Sharing Between Labs**
  + Integration to track assets shared between the Design Studio, Cezeri Lab, and MedTech Lab.

### **3. Project Management**

* **Project Tracking**
  + List of active, pending, and completed projects.
* **Resource Allocation**
  + Schedule and reserve equipment, tools, or workspaces.
  + Conflict detection (e.g., overbooking of machines).
* **Documentation Management**
  + Store project files, reports, and diagrams offline.

### **4. Workspace and Equipment Booking**

* **Booking System**
  + Reserve equipment, machines, and lab spaces in advance.
* **Time Slot Allocation**
  + Assign time slots for equipment usage.
* **Usage Logs**
  + Track who used which equipment, when, and for how long.

### **5. Integration with Cezeri Lab and MedTech Lab**

* **Shared Inventory Management**
  + Cross-lab visibility of tools, equipment, and consumables.
* **Data Syncing**
  + Automatic offline syncing of data across labs when connected to a local server.

### **6. Backup and Data Security**

* **Offline Data Storage**
  + Store all information on local servers.
* **Data Backup**
  + Automated offline backups with restore options.
* **Data Encryption**
  + Secure sensitive data with encryption.