

Pages and Flow

1. Login Page

- **URL:** /login
- **Purpose:** Authenticate users (Admin, Lab Manager, Technician, Student).
- **Components:**
 - Email and password fields.
 - "Login" button (POST to /api/auth/login/).
 - Link to registration (if allowed).
- **Flow:**
 - User enters credentials → API returns tokens → Store access token in local storage → Redirect to role-specific dashboard.
- **UI Elements:**
 - Centered form with Material-UI TextField and Button.
 - Error message display for invalid credentials.

2. Registration Page

- **URL:** /register
- **Purpose:** Allow new users to sign up (pending Admin approval).
- **Components:**
 - Name, email, password, role dropdown (Admin, Lab Manager, Technician, Student).
 - "Register" button (POST to /api/auth/register/).
- **Flow:**
 - User submits form → API creates user → Redirect to login with "Awaiting approval" message.
- **UI Elements:**
 - Form with TextField and Select (Material-UI).

3. Dashboard (Role-Specific)

- **URL:** /dashboard
- **Purpose:** Central hub for role-specific data and actions (GET /api/dashboard/).
- **Components by Role:**
 - **Admin:**

- Stats cards: Total users, labs, equipment, projects, pending bookings.
- Quick links: Manage labs, users, equipment.
- **Lab Manager:**
 - Lab name header (e.g., "Design Studio").
 - Equipment list (name, status, maintenance dates).
 - Project count, pending bookings, transfers.
- **Technician:**
 - Maintenance overview: Equipment in maintenance, pending reminders.
 - Lab filter if not lab-specific.
- **Student:**
 - Assigned projects (title, lab, status).
 - Bookings (equipment, time, status).
- **Flow:**
 - User logs in → Redirect to /dashboard → Fetch data based on role → Display tailored view.
- **UI Elements:**
 - Grid layout with Material-UI Card components.
 - Tables for lists (e.g., equipment) using DataGrid.

4. Labs Management Page (Admin Only)

- **URL:** /labs
- **Purpose:** View, create, edit, delete labs (GET/POST/PUT/DELETE /api/labs/).
- **Components:**
 - Table: Lab name, description, manager, equipment count.
 - "Add Lab" button → Modal with form (name, description).
 - Edit/Delete buttons per row.
- **Flow:**
 - Admin navigates from dashboard → View list → Add/edit labs → API updates → Refresh table.
- **UI Elements:**
 - Material-UI Table or DataGrid, Modal, Button.

5. Users Management Page (Admin Only)

- **URL:** /users
- **Purpose:** Manage users, approve, modify roles (GET/PUT /api/users/).
- **Components:**
 - Table: Name, email, role, lab, approved status.
 - "Approve" toggle, "Edit Role" dropdown per user.
- **Flow:**
 - Admin views list → Approves user or changes role/lab → API updates → Refresh table.
- **UI Elements:**
 - DataGrid with editable cells, Switch for approval.

6. Equipment Management Page

- **URL:** /equipment
- **Purpose:** View all equipment, create (staff), edit/delete (staff) (GET/POST/PUT/DELETE /api/equipment/).
- **Components:**
 - Table: Name, current lab, home lab, status, QR code, price, quantity.
 - Filters: By lab (dropdown), status.
 - "Add Equipment" button (staff-only) → Modal.
 - "Transfer" button → Modal (POST to /api/transfer-equipment/).
- **Flow:**
 - All roles view list → Students see available only → Staff manage → API updates → Refresh.
- **UI Elements:**
 - DataGrid, Select for filters, Modal for forms.

7. Equipment by Lab Page

- **URL:** /equipment/lab/:labId
- **Purpose:** View equipment for a specific lab (GET /api/equipment/by-lab/<lab_id>/).
- **Components:**
 - Lab name header.
 - Table: Same as Equipment Management but filtered.
- **Flow:**
 - User selects lab from dashboard or nav → Fetch lab-specific equipment → Display.
- **UI Elements:**

- DataGrid, lab name as Typography.

8. Projects Page

- **URL:** /projects
- **Purpose:** View projects (all roles), create/edit/delete (staff) (GET/POST/PUT/DELETE /api/projects/).
- **Components:**
 - Table: Lab, title, status, members, equipment.
 - "Add Project" button (staff-only) → Modal (lab, title, members, equipment).
 - "View Details" link to /projects/:id.
- **Flow:**
 - Students see assigned projects → Staff manage → API updates → Refresh.
- **UI Elements:**
 - DataGrid, Modal.

9. Project Detail Page

- **URL:** /projects/:id
- **Purpose:** Detailed project view, edit (staff) (GET/PUT/DELETE /api/projects/<pk>/).
- **Components:**
 - Project info (title, lab, status, dates).
 - Members list, equipment list.
 - "Upload Document" (POST to /api/project-documents/).
 - Edit/Delete buttons (staff-only).
- **Flow:**
 - User clicks project → View details → Staff edit → API updates.
- **UI Elements:**
 - Card for info, List for members/equipment, FileUpload.

10. Bookings Page

- **URL:** /bookings
- **Purpose:** View/book equipment (all), approve/reject (staff) (GET/POST/PUT /api/bookings/).
- **Components:**
 - Table: Equipment, lab, start/end time, status.

- "Book Equipment" button → Modal (equipment, time).
- "Approve/Reject" buttons (staff-only).
- **Flow:**
 - Student books → Staff approves → API updates → Refresh.
- **UI Elements:**
 - DataGrid, Modal, Button.

11. Asset Transfers Page (Staff Only)

- **URL:** /asset-transfers
- **Purpose:** View transfer history (GET /api/asset-transfers/).
- **Components:**
 - Table: Equipment, from lab, to lab, date, transferred by.
- **Flow:**
 - Staff navigates from dashboard → View transfers.
- **UI Elements:**
 - DataGrid.

12. Maintenance Page (Staff Only)

- **URL:** /maintenance
- **Purpose:** Manage reminders and logs (GET/POST/PUT /api/maintenance/reminders/, /api/maintenance/logs/).
- **Components:**
 - Tabs: "Reminders" and "Logs".
 - Reminders Table: Equipment, date, status.
 - Logs Table: Equipment, date, details, technician.
 - "Add Reminder/Log" buttons → Modals.
- **Flow:**
 - Staff views → Add/update → API updates → Refresh.
- **UI Elements:**
 - Tabs, DataGrid, Modal.

13. Admin Tools Page (Admin Only)

- **URL:** /admin-tools
- **Purpose:** Backup logs and sync offline data (GET /api/admin/backup-logs/, POST /api/admin/sync-offline-data/).
- **Components:**
 - Backup Logs Table: Date, status, file path.
 - "Sync Offline Data" button.
- **Flow:**
 - Admin views logs → Triggers sync → API updates.
- **UI Elements:**
 - DataGrid, Button.