

Device Lease & Assignment Management System - Roadmap

1. Requirement Clarification

- Define core use cases: leasing devices, assigning to employees, tracking lifecycle.
- Track lease start/end date, vendor details, warranty, assignments, device condition.
- Define user roles: Admin, HR, IT Manager, Employee (view-only).

2. Core Modules

- Vendor Module – Vendor details, lease terms, contract uploads.
- Device Inventory – Device specs, serial number, lease info, status tracking.
- Employee Module – Employee profile, department, status.
- Assignment Module – Assignment history, return tracking, remarks.
- Alerts & Notifications – Lease expiry, warranty expiry, overdue returns.

3. Database Design

- Tables: vendors, devices, employees, device_assignments, device_status_logs, lease_payments (optional), users, roles.
- Relationships: Vendor → Devices, Device → Assignments, Employee → Assignments.
- Use strict foreign keys and indexing on serial number and lease end date.

4. Authentication & Authorization

- Implement JWT or session-based authentication.
- Role-based access control (RBAC).
- Restrict assignment actions to Admin/IT only.

5. UI/UX Planning

- Dashboard with device counts and expiring leases.
- Device list with filters and search.
- Assignment history view.

- Vendor management screen.
- Reports & export options.

6. Advanced Features (Optional)

- Audit logs for tracking changes.
- QR/Barcode for device tracking.
- File uploads for lease agreements and invoices.
- CSV/Excel export reports.
- Multi-location support.

7. Development Plan (4 Weeks)

- Week 1 – DB schema, backend setup, authentication, device CRUD.
- Week 2 – Employee & Assignment modules.
- Week 3 – Dashboard, reports, lease alerts.
- Week 4 – Role control, file uploads, testing & deployment.

8. Scalability Considerations

- Use soft delete instead of hard delete.
- Maintain full assignment history.
- Validate status transitions.
- Optimize queries with indexing.

9. Future Scope

- Multi-company SaaS model.
- Vendor portal access.
- Employee self-request system.
- API integrations.
- Mobile application.