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Requirement Document for the development of an Android App for ILDM

1. Introduction

The Institute of Land and Disaster Management (ILDM) proposes to develop a comprehensive Android-based Mobile Application as a unified digital platform for its diverse stakeholders, including government officers, trainees, students, faculty members, researchers, and the general public.

The proposed application is envisaged as a **single-point digital interface** that will provide seamless access to ILDM's flagship publication Revenue Guide, facilitate **online application and management of training programmes**, enable **room and hostel booking**, offer **digital access to library and learning resources**, and showcase the **infrastructure and facilities** of the Institute.

This initiative forms part of ILDM's broader mandate to promote **e-governance, digital transformation, innovation, and ease of service delivery** in the domains of land administration and disaster management. By leveraging mobile technology, the application aims to simplify administrative procedures, improve transparency, enhance outreach, and strengthen ILDM's capacity-building and knowledge dissemination efforts.

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2. Objectives of the Application

The key objectives of the proposed mobile application are as follows:

- To provide easy and secure mobile access to the *Revenue Guide*

published by ILDM.

- To enable end-to-end online registration and management of training programmes conducted by ILDM.
- To facilitate online room and hostel booking for trainees, officers, and faculty attending programmes.
- To provide digital access to ILDM's library resources and academic materials.
- To showcase ILDM's infrastructure, facilities, and institutional activities.
- To function as a **single-window digital platform** for all ILDM stakeholders.

3. Target Users

The application shall cater to the following categories of users:

- Officers of the Revenue Department
- Trainees and course participants
- MBA (Disaster Management) students
- Faculty members and resource persons
- Researchers and academicians
- General public
- ILDM administrative and academic staff

4. Platform and Technology Overview

- **Platform:** Android (Phase I)
  - **Minimum Android Version:** Android 9 (Pie) and above
  - **Application Architecture:** Modular, scalable, and API-driven
- **Backend Integration:**
  - Web-based Admin Panel
  - Integration with existing ILDM systems, wherever applicable
- **Security Framework:**
  - Role-based access control
  - Secure authentication mechanisms
  - Encrypted data transmission

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5. Functional Requirements

5.1 User Registration and Authentication

The application shall support secure user registration and authentication through:

- Mobile number with OTP-based verification
- Email ID-based registration

Features:

- Login and logout functionality
- Role-based user profiles:
  - General User

- - Trainee / Applicant / Student

    - Faculty

    - Administrator

  - User profile management (view and edit personal details)

5.2 Revenue Guide Module

This module shall provide digital access to the *Revenue Guide* published by ILDM.

Key Features:

- Chapter-wise navigation

- Keyword-based search

- Bookmarking of important sections

- Offline access through downloadable sections or PDFs

- Periodic updates and notifications for revised editions

Access Control:

- Public access to general content

- Restricted administrative access for content updation

5.3 Training Programme Management Module

Training Calendar:

- Annual training calendar

- Upcoming, ongoing, and completed training programmes

Training Details Page:

- Course title

- Objectives

- Target group

- Duration

- Venue

- Faculty details

Online Application Facility:

- Digital application form

- Document upload (ID proof, recommendation letter from Head of Office, etc.)

- Declaration and consent submission

- Auto-generation of application ID for tracking

Application Status Tracking:

- Under scrutiny

- Approved / Rejected

Administrative Controls:

- Scrutiny and approval by ILDM administrators

- Auto-generated acknowledgements

- Push notifications / SMS alerts for:

- Application status
- Training schedules
- Instructions and updates

5.4 Room / Hostel Booking Module

The module shall facilitate online booking of accommodation facilities at ILDM.

Booking Facilities:

- Hostel rooms
- Executive guest rooms

Features:

- Display of room types and capacity
- Selection of check-in and check-out dates

Booking Workflow:

- Booking linked with approved training applications
- Independent booking for officials and faculty, subject to approval

Booking Status:

- Requested
- Confirmed
- Cancelled

Administrative Controls:

- Approval or rejection by ILDM administrators
- Manual override facility for exceptional cases

5.5 Library and Digital Resources Module

Digital Catalogue:

- Books
- Journals
- Reports
- Training manuals
- Research papers

Search and Filter Options:

- Search by title, author, or subject
- Category-based filtering

Access to Digital Resources:

- PDFs and e-books (subject to copyright restrictions)
- Lecture notes and presentations

Access Levels:

- Public access for open resources
- Restricted access for students and faculty

5.6 Facilities and Infrastructure Module

This module shall provide a visual and descriptive overview of the ILDM campus.

Coverage:

- Academic blocks
- Hostels
- Library
- Conference halls
- Computer labs
- Disaster Management facilities

Features:

- Image galleries
- Short videos (optional)
- Facility descriptions with capacity details
- Location map and contact information

5.7 Notifications and Alerts

The application shall support an integrated notification system.

Push Notifications for:

- Training announcements
- Application status updates
- Room booking confirmations
- Revenue Guide updates

Administrative Controls:

- Admin-driven notification creation and dissemination

5.8 Admin Module (Backend System)

The backend system shall include:

- User management
- Training programme creation, editing, and scheduling
- Application scrutiny and approval
- Room allocation and accommodation management
- Content management for:
    - Revenue Guide
    - Library resources
    - Facilities information

Reporting Features:

- Training participation reports
- App usage and analytics reports

6.Non-Functional Requirements

6.1 Performance

- Fast loading time, even on low-bandwidth networks
- Optimised mobile data usage

6.2 Security

- Secure authentication and authorization

- Role-based access control

- Encrypted data storage and transmission

- Compliance with Government of India / State Government IT security guidelines

6.3 Scalability

Provision shall be made for future enhancements, including:

- Online payment integration for room booking

- Digital certificate generation for training completion

- Integration with Document Management System (DMS) and Learning Management System (LMS)

6.4 Usability

- Simple, intuitive, and user-friendly interface

- Accessibility-friendly design

- Language support:
  - English (Phase I)
  - Malayalam (Phase II)

7. Integration Requirements

The application shall support integration with:

- Existing ILDM databases

- Proposed Learning Management System (LMS)

- Proposed Document Management System (DMS)

The system shall follow an **API-based architecture** to ensure future extensibility.

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8. Data Backup and Recovery

- Regular automated data backups
- Secure data storage mechanisms
- Disaster recovery and business continuity provisions

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9. Maintenance and Support

- Post-deployment maintenance and technical support
- Periodic bug fixes and security patches
- Support for feature enhancements and upgrades

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10. Indicative Future Enhancements

- Digital certificates with QR code-based verification
- iOS version of the mobile application
- AI-based search, recommendations, and content discovery
- Advanced LMS integration

The proposed Android Mobile Application is expected to significantly enhance ILDM's digital presence, outreach, and operational efficiency. By consolidating publications, training management, accommodation services, library resources, and institutional information into a unified mobile platform, ILDM will establish a robust and future-ready digital

ecosystem aligned with its academic, administrative, and governance objectives.

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