

Final Project Report

Balochistan HelpHub

Final Project - Assessment Plan A

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1. Business Problem

Balochistan, being the largest province of Pakistan by area, faces significant challenges in terms of accessibility to essential services and information. Citizens and visitors often struggle to find reliable, up-to-date information regarding local businesses, healthcare facilities, emergency services, educational institutions, and government offices.

Currently, information is fragmented across various social media groups, outdated directories, or relies heavily on word-of-mouth. There is no centralized, reliable digital platform that categorizes these services by district, making it difficult for people to quickly locate what they need, especially during emergencies. Furthermore, local service providers lack a unified digital presence to showcase their offerings, addresses, and contact details to the broader community.

2. Proposed Solution

To address this gap, I developed Balochistan HelpHub, a comprehensive and fully responsive web-based directory and service portal. This platform serves as a centralized hub connecting users with vital services across all 36 districts of Balochistan.

Key Features Implemented

- **Responsive Public Interface:** A dynamic, mobile-friendly frontend featuring Home, About, Services (Directory), and Contact pages. Users can easily browse services by category (e.g., Healthcare, Emergency, Education) and district.
- **Secure Admin Panel:** A robust backend system protected by authentication, allowing administrators to manage the platform's content.

- Comprehensive CRUD Functionality: Full Create, Read, Update, and Delete capabilities for managing Categories, Subcategories, Districts, Services, Team Members, and Gallery images.
- Relational Database: A structured MySQL database containing over 10 related tables ensuring data integrity, including links between services, categories, and districts.
- Media Management: Secure image upload functionality for service listings, gallery items, and team member profiles.
- User Engagement: A contact form that stores messages directly in the database for admin review.

3. System Credentials

As requested for the project evaluation, below are the credentials required to access the different roles within the application:

Administrator Access

- Login URL: /admin/ or /admin/login.php
- Email: admin@helphub.com
- Password: password123
- Note: The password is securely hashed using PASSWORD_BCRYPT in the database.

Normal User Access

- Login URL: /login.php
- Email: user@helphub.com
- Password: password123
- Note: If a mock user is not already seeded in the local database, a new normal user account can be created via /register.php. The system supports full user registration.

4. AI Tools Used

To accelerate development and ensure best practices, the following AI tools were utilized during the project:

- **Code Generation & Assistance:** AI coding assistants such as Google Gemini and ChatGPT were used to scaffold boilerplate PHP code, particularly for repetitive CRUD operations and standardizing SQL queries using PDO/MySQLi.
- **Database Seeding:** AI was utilized to rapidly generate extensive SQL insertion scripts for all 36 districts of Balochistan and categorize 22 distinct service sectors with their respective subcategories, saving hours of manual data entry.
- **UI/UX Suggestions:** AI tools provided CSS/UI recommendations to ensure a modern, clean, and fully responsive layout without relying solely on heavy CSS frameworks.
- **Content Generation:** Placeholder text for the About Us section and service descriptions was generated using AI to provide a realistic look and feel for the localhost demo.

5. Challenges Faced & Overcome

1. **Relational Database Complexity:** Designing a database schema that accurately maps services to both categories and districts while handling subcategories required careful planning. I overcame this by properly implementing Foreign Key constraints with ON DELETE CASCADE and ON UPDATE CASCADE to prevent orphaned records.
2. **Secure Image Uploads:** Handling file uploads securely in PHP is notoriously tricky. Ensuring that uploaded files were validated by checking file types and sizes, and moved to the correct directories without causing permission errors, was a significant learning curve.
3. **Responsive UI without a Heavy Framework:** Ensuring the tables and forms in the Admin Dashboard remained usable on mobile devices required custom CSS media queries and overflow handling, ensuring the site met the fully responsive project requirement.
4. **State Management & Security:** Implementing secure sessions across the Admin panel to prevent unauthorized access required setting up robust session checks at the top of every protected file and securely hashing passwords before database insertion.

This report is submitted alongside the Source Code, GitHub Repository link, MySQL Database export (helphub.sql), and the Localhost Demo Video.