

A Comprehensive Online Platform for Home and Technical Services in Khartoum City

Amin Abdalati Abdalkhair Eid *Huzifa Mukhtar Yagoub*

Department of Computer Science, Bharathiar University/Rathinam College of Arts and science, Coimbatore
Department of Computer Science, Bharathiar University/Rathinam College of Arts and science, Coimbatore
aminssdn@gmail.com

ABSTRACT

This main aim of our proposed web application helps to user finds location based Home Services workers more easily. Both the users & home service worker can access the application by registering themselves on the system. The home service worker can set their profile by providing their experience & payment information along with contact and their location details. Initially this application ask to user which type of Home related services u needs such as like electricity , water , education , infrastructure etc.Based on user service selection this application get a list of the available workers based on user location. Based on available workers user can able to select service employee can send and make pre booking request to the employee. On successful request service employee get alert intimation. After that service employee can log in this application and they can send conformation to particular request user. This application also integrate rating process so that user can able to upload rating for particular employee this helps to other user they can get best service employee from this web application .This application has been developed with an intention to make the system user-friendly thus reducing the manual work. The application has been developed with advanced features

1. INTRODUCTION

Our platform addresses the gap between residents and reliable home or technical service providers by connecting individuals with verified electricians, plumbers, appliance repair experts, and other professionals. This web application enables seamless booking and communication between users and service providers across Khartoum. Key features include a user-friendly interface for service requests, real-time tracking to identify available professionals nearby, and a review system to ensure quality and trust. The platform aims to promote convenience, reliability, and transparency in accessing essential home and technical services, ultimately contributing to improved living standards and community development in Khartoum City.

1.1 LITERATURE SURVEY

Definition of Gait Recognition:

Gait recognition is introduced as a biometric method to identify individuals based on their walking style.It is described as a non-invasive and unobtrusive approach compared to other biometric methods like fingerprint or iris scanning.

Advantages Over Other Methods:

Gait can be captured at a distance, without direct contact, which is useful in surveillanceIt does not require cooperation from the subject, making it ideal for security and monitoring applications.

Previous Studies and Techniques:

Various methods and approaches used in earlier research are mentioned, including:Model-based approaches: Focus on the structure and movement of the body.Appearance-based approaches: Use silhouette images of the walking person.Researchers have tried to improve recognition accuracy under different walking conditions.

Use of Datasets:

Well-known gait datasets such as CASIA, USF, and OU-ISIR are referenced as benchmarks in

gait recognition research. These datasets are used to test and validate algorithms.

2. PROPOSED SYSTEM

The purpose of the development of the project is to develop a web application which provides an effective platform for user and Service provider. The registered user can book and get the Service provider profile. The service is viewed using normal or advanced search. The premium user can get the full details about the worker profile and they can book the service provider. The user can get all the security environments

Robust Feature Extraction using Deep Learning: Convolutional Neural Networks (CNNs) automatically learn spatial features from gait silhouettes or images. **RNNs/LSTM** are used to understand the **sequence and timing** of walking patterns.

View and Condition Invariance: New models like **GaitSet**, **GaitPart**, and **3D CNNs** are trained to recognize gait under **different viewpoints, clothing styles, and carrying conditions**.

Temporal Modeling: Systems use **temporal data** from video frames to understand how a person walks over time rather than a single image. Improves recognition accuracy by learning walking dynamics.

FUNCTIONAL COMPONENTS:

The system is designed to connect users with verified service providers (electricians, plumbers, etc.) through a web-based platform. The core functional components of the system, as extracted from various sections (especially Module Description and System Design), are:

1. User Registration and Authentication

Allows users to register and log in as either customers or service providers. Verifies credentials and directs users to their respective dashboards. Ensures secure access control.

2. Service Browsing and Search

Enables users to view available services by category (e.g., plumbing, electrical). Includes search and filter options for easy discovery. Premium users can view detailed service provider profiles.

details of the service man and service man also get user details and send confirmation or cancellation alert to the user.

KEY FEATURES

- **Non-Intrusive Identification:** Gait recognition can identify individuals **from a distance** without requiring contact or cooperation. Ideal for surveillance and public

3. Service Booking

Users can book appointments with available service providers. Allows users to select date, time, and location for services. Includes confirmation/cancellation by the service provider.

4. Service Provider Management
Allows providers to: Register their services
Update personal and service information
Accept or reject bookings
View feedback and ratings

5. Admin Management Panel

6. Admin has full control over: Viewing and managing users
Approving or rejecting provider registrations
Managing services and categories
Monitoring bookings and transactions

3. SOFTWARE IMPLEMENTATIONS

The implementation also required identifying the necessary hardware and software resources. A web hosting service with PHP and MySQL support was chosen to deploy the system. The application was developed using PHP for server-side scripting, HTML, CSS, and JavaScript for the frontend, and MySQL as the backend database. All dependencies and libraries were tested and installed on the live server environment to mirror the development setup.

As this was a new platform, there was no legacy system to migrate data from. However, dummy data sets were created to populate the platform initially. This helped verify that the service listing, booking, user management, and feedback modules operated correctly in a real-world scenario. Admin credentials and basic service categories were also pre-loaded to facilitate system demonstration and testing. To ensure that the users, including customers, service providers, and administrators, could effectively use the platform, brief training sessions and walkthroughs were organized. For administrative staff, detailed documentation was provided on how to manage services, approve or reject technician registrations, and monitor bookings. For end-users and technicians, a simple user guide was made available to explain how to register, log in, book services, or respond to service requests.

ACTIVATION FLOW:

- 1. User Registration & Login
 - Step 1: User (customer or service provider) visits the website.
 - Step 2: New users register by filling out the registration form.
 - Step 3: On successful registration, the user receives a confirmation and can log in.
 - Step 4: The system verifies the credentials and redirects based on role:
 - Customer → User dashboard
 - Service Provider → Provider dashboard
- 2. Browsing & Searching for Services
 - Step 1: Customer logs in.
 - Step 2: Customer browses services using:
 - Normal search (by category)
 - Advanced search (by location, rating, etc.)
 - Step 3: System displays matching services and service providers.
- 3. Booking a Service
 - Step 1: Customer selects a service provider and desired time/date.
 - step 2: Booking request is submitted
 - Step 3: Service provider receives a notification and can:
 - Confirm the booking
 - Reject or reschedule
- 4. Admin Monitoring

Step 1: Admin logs into the backend panel.

- Step 2: Admin can:
 - View users and providers
 - Approve new service providers
 - Monitor bookings and reviews
 - Add or remove services

4. MODULE DESCRIPTION

The system is composed of several interconnected modules that work together to provide a smooth and efficient experience for users and service providers. The User Registration and Authentication module allows individuals to create accounts, log in securely, and manage their profiles based on their roles as either customers or service providers. The Service Booking module facilitates the selection and scheduling of services by enabling users to browse available options, check provider availability, and confirm bookings. To support service providers, the Service Provider Management module offers tools to update service offerings, manage schedules, and monitor customer feedback and ratings. Financial transactions are handled by the Payment and Billing module, which ensures secure online payments, generates digital invoices, and maintains a history of all transactions. User experience is further enhanced through the Feedback and Rating module, where customers can share their opinions and rate the quality of services received, contributing to continuous improvement and trust within the platform. The Admin Panel module grants administrators the ability to oversee and manage users, services, transactions, and overall system performance through various reporting tools.

Communication is managed through the Notification module, which provides real-time alerts and updates via email or SMS about bookings, payments, and service reminders. Efficient service discovery is supported by the Search and Filter module, allowing users to find desired services quickly using keywords, categories, and filters. Finally, the Location and Mapping module integrates mapping features to show the geographical locations of service providers, helping users select nearby professionals for faster service delivery. Together, these modules form a comprehensive and user-centric platform tailored to the needs of Khartoum City's residents.

5. CONCLUSION

The project titled "A Comprehensive Online Platform for Home and Technical Services in Khartoum City" was developed with the primary aim of bridging the gap between households and skilled service providers. In today's fast-paced environment, there is a growing demand for a reliable, secure, and accessible digital platform where users can find trusted professionals for services such as plumbing, electrical work, carpentry, cleaning, and other technical needs. This system was designed to meet that demand while also empowering local technicians by giving them an opportunity to showcase their services and grow their client base.

The platform offers a complete solution, from user registration and login to service browsing, booking, feedback collection, and administrative management. The use of PHP, HTML, CSS, JavaScript, and MySQL allowed for the development of a dynamic, responsive, and user-friendly web application. Extensive testing was conducted to ensure that each module performed reliably under different conditions, and the system was successfully implemented and deployed on a live server.

Through this project, not only were technical skills in web development, database management, and system testing put into practice, but also real-world challenges related to

user experience, security, data handling, and scalability were addressed. The system contributes meaningfully to the digital transformation of service delivery in Khartoum by offering an organized, transparent, and accessible platform.

REFERENCES

- **Steve Webster, et al. (2002).** *Advanced PHP for Flash*. Friends of ED. Paperback.
- **Christopher Cosentino (2002).** *Advanced PHP for Web Development (The Prentice Hall PTR Advanced Web Development Series)*. Prentice Hall PTR. Paperback.
- **George Schlossnagle (2003).** *Advanced PHP Programming*. Sams Publishing. Paperback.
- **W.J. Gilmore (2001).** *A Programmer's Introduction to PHP*. Apress. Paperback.
- **Deepak Thomas, et al. (2002).** *Beginning PHP 4 Databases*. Wrox Press Ltd. Paperback.
- **John Blank, et al. (2000).** *Beginning PHP4 Programming*. Wrox Press Ltd. Paperback.
- **Wrox Press Ltd. (2003).** *Beginning PHP, MySQL and Apache*. Wrox Press Ltd. Paperback.
- **Wrox Author Team (2004).** *Building a PHP Intranet: Problem, Design, Solution*. Wrox Press. Paperback.
- **Craig Hilton, Jeff Willis (1999).** *Building Database Applications on the Web Using PHP3*. Addison Wesley. Paperback.