# Domestic Care Services (DCS)

## Complete System Flow Documentation

**DCS Platform Team**

February 19, 2026

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# System Overview

## What is DCS?

Domestic Care Services is a two-sided marketplace mobile application that connects service providers with clients who need household and personal care services. The platform operates on a wallet-based payment system with real-time communication and location tracking capabilities.

## Core Principles

- **Verification-First:** All providers must be verified before accepting service requests

- **Real-Time Communication:** Instant chat between clients and providers

- **Transparent Pricing:** Fixed hourly rates set by providers

- **Quality Assurance:** Rating and review system for accountability

- **Secure Payments:** Wallet-based system with transaction tracking

## Technology Stack

| Component | Technology |
|---|---|
| Frontend | React Native 0.81.4, Expo 54 |
| Backend | Firebase (Firestore, Realtime DB, Storage) |
| Authentication | Firebase Auth + EmailJS OTP |
| UI Framework | Tamagui Component Library |
| State Management | React Context (useAuth) |
| Payment | Custom Wallet System |

# User Roles and Workflows

## Client Workflow

### 2.1.1 Registration and Onboarding

1. Download App

2. Create Account (Email/Password)

3. Email Verification (OTP)

4. Complete Profile (Name, Phone, Address)

5. Access Client Dashboard

### 2.1.2    Service Discovery and Booking

Clients can browse services through the Home tab:

- Browse Services by Category

- View Available Providers

- Filter by Rating and Availability

- Select Provider and Book Service

### 2.1.3    Custom Service Requests

1. Describe Service Needed

2. Specify Preferred Date/Time

3. Set Budget (Optional)

4. Submit Request

5. Wait for Provider Response

### 2.1.4    During Service

- Real-Time Chat with Provider

- Live Location Tracking

- View Provider Status

- Add Additional Tasks if Needed

### 2.1.5    Post-Service

1. Provider Marks Service Complete

2. Rating Screen Appears

3. Rate 1-5 Stars and Add Comments

4. Payment Deducted from Wallet

5. Notification Sent

## Provider Workflow

### 2.2.1    Registration and Verification

1. Sign Up as Provider

2. Complete Profile

   - Personal Information

- Select Skills/Services
- Set Hourly Rates
- Upload Qualifications

3. Submit Verification Request

  - Upload ID
  - Upload Certifications
  - Background Check Authorization

4. Wait for Admin Review (3-5 Business Days)

5. Receive Approval Notification

### 2.2.2 Dashboard and Request Management

Providers access their dashboard to:

- View Pending Requests

- View Active Bookings

- View Completed Services

- Manage Earnings

### 2.2.3 Request Response

1. Receive Notification for New Request

2. Review Request Details

3. Accept or Reject Request

4. If Accepted: Chat Opens with Client

5. If Rejected: Request Remains Open for Others

### 2.2.4 Service Execution

- Enable Location Sharing

- Communicate via Chat

- Update Client on Progress

- Handle Special Requests

- Complete Tasks

### 2.2.5   Service Completion and Payment

1. Mark Service Complete

2. Confirm All Tasks Done

3. Submit Completion

4. Await Client Rating

5. Payment Added to Wallet

6. Receive Notification

## Admin Workflow

### 2.3.1   Dashboard Access

Admin dashboard provides access to:

- Provider Verification Management

- Transaction Monitoring

- User Management

- Service Analytics

- Support Ticket Management

### 2.3.2   Provider Verification Review

1. View Pending Verifications Queue

2. Review Provider Details

3. Verify Document Authenticity

4. Check Background Information

5. Make Decision: Approve or Reject

6. Send Notification to Provider

# Service Categories

## Elderly Care

**Description:** Companion care and personal assistance for elderly individuals
    **Services Include:**

- Companion visits and social engagement

- Medication reminders and management

- Appointment scheduling and transportation

- Light housekeeping and meal preparation

- Personal hygiene assistance

**Provider Requirements:**

- Background check clearance

- Relevant certifications (preferred)

- Experience with elderly care

- Compassion and patience

**Typical Rates:** PKR 500-1500 per hour

## Housekeeping

**Description:** Professional household cleaning and maintenance services
**Services Include:**

- General house cleaning

- Laundry and ironing

- Kitchen and bathroom cleaning

- Organizing and decluttering

- Window and floor cleaning

**Provider Requirements:**

- Background check clearance

- Cleaning experience

- Reliability and attention to detail

**Typical Rates:** PKR 400-1000 per hour

## Pet Care

**Description:** Professional care and companionship for pets
**Services Include:**

- Dog walking and exercise

- Pet feeding and water management

- Basic grooming assistance

- Pet sitting and supervision

- Play and socialization

**Provider Requirements:**

- Background check clearance

- Animal handling experience

- Pet care certifications (preferred)

- Animal lover with patience

**Typical Rates:** PKR 300-800 per hour

# Booking Flow

## Direct Booking Flow

1. **Browse Services**

   - Select Service Category
   - View Available Providers
   - Filter by Rating/Availability
   - Select Provider

2. **Choose Date and Time**

   - Open Provider's Calendar
   - Select Available Slot
   - Confirm Date and Time
   - Review Booking Details

3. **Add Details**

   - Add Special Requests
   - Specify Service Duration
   - Add Additional Notes
   - Review Total Cost

4. **Confirm and Pay**

   - Verify Wallet Balance
   - Confirm Booking
   - Payment Deducted from Wallet
   - Booking Confirmed

5. **Notification**

   - Client Receives Confirmation
   - Provider Receives Notification
   - Chat Opens Automatically
   - Service Added to Both Calendars

## Custom Request Flow

1. **Create Request**

   - Describe Service Needed
   - Specify Preferred Date/Time
   - Set Budget (Optional)
   - Add Location Details
   - Submit Request

2. **Provider Discovery**

   - Request Visible to Relevant Providers
   - Providers Review Details
   - Providers Accept/Reject
   - First Acceptance Wins

3. **Negotiation**

   - Chat Opens with Accepted Provider
   - Discuss Details and Pricing
   - Confirm Final Terms
   - Booking Confirmed

4. **Service Execution**

   - Provider Arrives at Scheduled Time
   - Service Performed
   - Client Confirms Completion
   - Payment Processed

# Payment System

## Wallet Architecture

- **Balance:** Current Available Funds

- **Transaction History:**

  - Top-ups (Money In)
  - Service Payments (Money Out)
  - Refunds (Money In)

- **Withdrawal Account:** Bank Details for Withdrawals

## Top-Up Process

1. Client Initiates Top-Up

2. Select Amount

3. Choose Payment Method

   - Digital Bank Transfer
   - Card Payment

4. Complete Payment

5. Confirmation Received

6. Wallet Balance Updated

## Service Payment Process

1. Service Completion

2. Provider Marks Complete

3. Client Rates Service

4. Payment Calculated (Hourly Rate times Duration)

5. Amount Deducted from Client Wallet

6. Amount Added to Provider Wallet

7. Transaction Recorded

8. Both Users Notified

## Transaction Types

| Type | Direction | Status |
|------|-----------|--------|
| Wallet Top-up | Money In | Pending to Completed |
| Service Payment | Client Out, Provider In | Completed |
| Refund | Money In | Pending to Completed |

## Withdrawal Process

1. Provider Requests Withdrawal

2. Select Amount

3. Verify Bank Account

4. Submit Request

5. Admin Reviews (if amount greater than threshold)

6. Approval/Rejection

7. Bank Transfer Initiated

8. Completion (2-3 Business Days)

# Provider Verification

## Verification Status States

**UNVERIFIED** Initial state. Cannot accept service requests. Can update profile and resubmit.

**PENDING** After submission. Cannot accept service requests. Waiting for admin review. Auto-polling every 10 seconds for status update.

**VERIFIED** After approval. Can accept service requests. Visible to clients. Can earn money.

**REJECTED** After rejection. Cannot accept service requests. Can view rejection reason. Can resubmit with improvements.

## Verification Submission

1. Provider Submits Verification

2. Upload Documents

   - Government ID
   - Relevant Certifications
   - Experience Proof
   - Background Check Authorization

3. Provide Description

4. Submit Request

5. Status Changes to PENDING

## Admin Review Process

1. Admin Reviews Submission

2. Verify Document Authenticity

3. Check Background Information

4. Assess Qualifications

5. Review Provider Profile

6. Make Decision

- **APPROVE:** Status to VERIFIED, Provider Notified, Can Accept Requests
- **REJECT:** Status to REJECTED, Provide Reason, Provider Can Resubmit

# Real-Time Features

## Chat System

### 7.1.1   Architecture

- **Chat Collection:** Stores chat metadata

  - Participant IDs
  - Last Message
  - Last Message Time
  - Created At

- **Messages Subcollection:** Stores individual messages

  - Sender ID
  - Message Text
  - Created At
  - Read Status

### 7.1.2   Features

- Real-Time Message Sync (onSnapshot)

- Message History

- Typing Indicators (Future)

- Read Receipts (Future)

- Message Search (Future)

## Notification System

| Notification Type | Recipient |
|---|---|
| SERVICE REQUEST | Provider |
| REQUEST ACCEPTED | Client |
| REQUEST REJECTED | Client |
| SERVICE COMPLETED | Client |
| TASK COMPLETED | Client |
| PROVIDER VERIFIED | Provider |
| PAYMENT RECEIVED | Provider |
| BOOKING REMINDER | Client |

## Location Tracking

- Provider Enables During Active Service
- Real-Time Location Updates
- Client Views Provider Location on Map
- Location Disabled After Service Completion
- Privacy: Only Visible During Active Service

# Admin Functions

## Dashboard Overview

### 8.1.1 Statistics

- Total Users
- Total Providers
- Total Transactions
- Platform Revenue
- Active Bookings

### 8.1.2 Provider Management

- Pending Verifications Queue
- Verified Providers List
- Rejected Providers List
- Provider Details and History

### 8.1.3 Transaction Management

- All Transactions View
- Filter by Type/Status
- Refund Processing
- Dispute Resolution

### 8.1.4 User Management

- View All Users
- Suspend/Activate Accounts
- View User History
- Handle Complaints

# Technical Architecture

## Frontend Stack

- **Navigation**

  - React Navigation (Bottom Tabs, Stack)
  - Role-Based Navigation
  - Deep Linking Support

- **State Management**

  - React Context (useAuth)
  - Local State (useState)
  - Async Storage (Persistence)

- **UI Components**

  - Tamagui (Component Library)
  - Expo Vector Icons
  - React Native Calendars
  - Custom Components

- **Services**

  - API Layer (Service Files)
  - Firebase Integration
  - Real-Time Listeners

## Backend Stack

- **Authentication**

  - Email/Password Auth
  - Email Verification
  - Password Reset
  - Session Persistence

- **Firestore Database**

  - Collections: users, bookings, service requests, chats, notifications, transactions, provider verifications, reviews
  - Real-Time Listeners (onSnapshot)

- **Realtime Database**

  - Provider Locations
  - Active Status

- **Cloud Storage**

  - Profile Pictures
  - Verification Documents
  - Service Images

# Security and Privacy

## Authentication

- Firebase Authentication with email verification
- OTP-based email verification via EmailJS
- Session persistence using AsyncStorage
- Automatic logout on suspicious activity

## Data Protection

- Firestore Security Rules (role-based access)
- Encrypted sensitive data
- HTTPS for all communications
- No PII stored in logs

## Privacy

- Location data only visible during active service
- Chat history retained for dispute resolution
- User data deletion on account removal
- GDPR compliance considerations

# Future Enhancements

1. Recurring Bookings - Schedule regular services
2. Advanced Filtering - Filter by skills, certifications, languages
3. Subscription Plans - Monthly service packages
4. In-App Payments - Direct payment without wallet
5. Video Verification - Video call verification for providers
6. AI Chatbot - Intelligent customer support

7. Analytics Dashboard - Provider performance metrics

8. Referral Program - Incentivize user growth

9. Multi-Language Support - Support multiple languages

10. Offline Mode - Limited functionality without internet

# Conclusion

Domestic Care Services is a comprehensive platform designed to bridge the gap between service providers and clients seeking household and personal care services. With its robust verification system, real-time communication, and secure payment infrastructure, DCS ensures quality service delivery while maintaining user safety and satisfaction.

The platform's architecture is scalable, secure, and user-centric, with clear workflows for all user types and comprehensive admin controls for platform management.

—**End of Documentation**—