

# Ntizo - Service Marketplace Platform

## Requirements Definition Document

**Version:** 3.1 **Target Market:** Global (Mozambique as initial launch market) **Platforms:** Web Application + Mobile Apps (iOS & Android)

### 1. OVERVIEW

#### 1.1 Product Vision

A global service marketplace platform connecting customers who need services with verified providers — both individuals and organizations. Supports multiple service delivery modes (on-site at customer, at provider location, or remote), flexible pricing models, and slot-based scheduling.

#### 1.2 Key Stakeholders

- **Customers** - People who need services/tasks completed
- **Individual Providers** - Professionals offering services on their own
- **Organizations** - Establishments (salons, workshops, agencies, etc.) offering services at a fixed location or via their staff
- **Platform Administrators** - Internal team managing the platform

#### 1.3 Provider Types

The platform supports two types of service providers:

Aspect	Individual Provider	Organization (Establishment)
Who	A single person	A registered organization/shop
Location	Goes to customer OR works remotely	Has a fixed address (customers come to them) OR sends staff to customer
Staff	Just themselves	Can have multiple team members
Examples	Plumber, cleaner, tutor, freelancer	Barbershop, salon, mechanic workshop, restaurant, agency
Scheduling	Personal availability	Organization hours + slot-based scheduling with buffers

A user can be **both** — offer individual services AND own one or more organizations.

#### 1.4 Service Location Types

Every service defines **where** it happens:

Location Type	Description	Example
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Location Type	Description	Example
at_customer	Provider/staff goes to the customer's location	Plumber, cleaner, home cook
at_provider	Customer goes to the provider's location	Barbershop, salon, mechanic
remote	Done remotely via video/chat	Online tutoring, tech support, translation
flexible	Customer chooses (at their place or at provider's)	Makeup artist, personal trainer, photographer

## 2. USER TYPES & ROLES

### 2.1 Customer

- Can browse and search for services (from individuals and organizations)
- Can book a provider's fixed-price package directly
- Can book a provider by the hour
- Can request a custom quote from a specific provider or organization
- Can post tasks for multiple providers to bid on
- Can choose service location when service is **flexible**
- Can communicate with providers
- Can make payments
- Can rate and review providers and organizations

### 2.2 Individual Provider

- Can create a professional profile
- Can create service packages with fixed prices (recommended)
- Can set hourly rates for time-based services
- Can define service location type per service (at\_customer, remote, flexible)
- Can define service area/radius for **at\_customer** services
- Can respond to custom quote requests with personalized pricing
- Can configure volume discounts (more hours/days = lower price)
- Can set recurring availability schedule with time slots
- Can configure buffer time between appointments
- Can browse and bid on posted tasks
- Can accept direct bookings
- Can communicate with customers
- Can receive payments
- Can view earnings and analytics

### 2.3 Organization Owner

- Can create and manage one or more organizations (establishments)
- Can set organization profile (name, logo, description, photos, address)

- Can define organization operating hours
- Can add team members (staff) with roles (manager, staff)
- Can create services under the organization
- Can define service location type per service (at\_provider, at\_customer, remote, flexible)
- Can configure slot-based scheduling (service duration + buffer time)
- Can set pricing per service (packages, hourly, quotes)
- Can configure volume discounts
- Can view organization analytics and earnings

2.4 Organization Staff Member

- Can view assigned bookings
- Can mark bookings as started/completed
- Can communicate with customers for assigned bookings
- Can set personal availability within organization hours

2.5 Administrator

- Can manage users (approve, suspend, verify)
- Can manage organizations (approve, suspend)
- Can manage service categories
- Can handle disputes
- Can view platform analytics
- Can manage payments and payouts
- Can configure platform settings

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3. PRICING MODEL & BOOKING PATHS

The platform supports **4 distinct paths** for hiring a service — from an individual provider or an organization. The pricing model adapts to the nature of the service, giving both customers and providers flexibility while minimizing price uncertainty. All paths work for both individual providers and organizations.

Each booking path can be used in **three engagement modes**:

Mode	Description	Example
One-Time	Single booking, one payment, done	"Clean my house this Saturday"
Recurring	Repeating bookings with a pattern (weekly/biweekly/monthly), each with its own slot	"Clean my house every Monday at 10h"
Subscription	Ongoing service relationship with automatic periodic billing, no specific slot per cycle	"Monthly accounting services"

3.0.1 Path A: Fixed-Price Package (Recommended - Primary)

The provider creates pre-defined service packages with a fixed price. The customer knows exactly how much they will pay before booking. This is the **default and recommended** pricing mode.

**Example:** "Regular Cleaning T2 apartment - 3,500 MZN (~3 hours, materials included)"

Aspect	Detail
Price set by	Provider (creates packages in advance)
Customer sees	Exact price before booking
Duration	Estimated (for reference), not billed by time
Best for	Cleaning, assembly, beauty, simple repairs, tutoring sessions
Risk for customer	None (price is locked)
Risk for provider	Low (they set the price based on experience)

### 3.0.2 Path B: Hourly Rate

The provider sets a per-hour rate. The customer books a minimum number of hours. Final price may adjust based on actual time worked.

**Example:** "Personal Assistant - 800 MZN/hour, minimum 1 hour"

Aspect	Detail
Price set by	Provider (hourly rate)
Customer sees	Estimated total based on booked hours
Duration	Minimum 1 hour, 15-minute increments after
Best for	Personal assistants, babysitting, gardening, ongoing tutoring
Risk for customer	Medium (final price may differ from estimate)
Risk for provider	Low (paid for actual time)

### 3.0.3 Path C: Custom Quote Request (from a Specific Provider)

The customer visits a specific provider's profile and requests a **personalized quote** for something that doesn't fit the provider's existing packages. The provider responds with a tailored price, which may include volume discounts.

**Example:** Customer asks João (a cook): "I need a cook for 5 days, lunch and dinner, for 10 people." João responds: "22,500 MZN (4,500 MZN/day × 5 days, 10% volume discount applied)."

Aspect	Detail
Price set by	Provider (custom response to specific request)
Customer sees	Nothing until provider responds with quote
Duration	Defined in the quote
Best for	Multi-day work, custom requests, large jobs from a trusted provider

Aspect	Detail
Risk for customer	None after accepting (price is agreed)
Risk for provider	None (they define the price)

### 3.0.4 Path D: Task Posting with Bidding (Open to Multiple Providers)

The customer posts a task publicly. Multiple providers can see it and submit proposals (bids) with their price. The customer compares and chooses.

**Example:** Customer posts: "Paint T3 apartment in Sommerschild." Three painters respond with different prices.

Aspect	Detail
Price set by	Providers (competitive bids)
Customer sees	Multiple offers to compare
Duration	Defined by each bidder
Best for	Large projects, renovations, moving, events, when customer wants options
Risk for customer	None after accepting (price is agreed)
Risk for provider	May not win the bid

### 3.0.5 Volume Discounts

Providers can configure discount rules that apply automatically or that they can offer in custom quotes:

Discount Type	Example	Applies To
Hours volume	Book 5+ hours → 10% off	Hourly services
Days volume	Book 3+ days → 15% off	Multi-day packages or quotes
Recurring	Weekly booking → 20% off	All pricing modes
First-time	New customer → 10% off first booking	All pricing modes

### 3.0.6 Recurring Bookings

A recurring booking is a **repeating series of individual bookings** based on a pattern. Each occurrence has its own slot, lifecycle, and payment.

Aspect	Detail
Frequency	Weekly, biweekly (every 2 weeks), or monthly
Slot	Each occurrence books a specific time slot
Payment	Per-booking (default) or pre-paid for the period

Aspect	Detail
Booking lifecycle	Each generated booking follows the normal lifecycle
Discount	Recurring discount rule applied automatically
Management	Customer can skip/cancel individual occurrences or cancel the entire series
Generation	System auto-generates the next N bookings in advance (configurable, default: 4 ahead)

**Example:** "House cleaning every Monday at 10:00 → 20% recurring discount applied"

**Applies to:** Path A (Package) and Path B (Hourly). Not applicable to Path C (quotes are one-off by nature) or Path D (task bidding is one-off).

### 3.0.7 Service Subscriptions

A subscription is an **ongoing service relationship** with automatic periodic billing. Unlike recurring bookings, subscriptions do not require a specific time slot for each cycle — the provider delivers the service continuously within the billing period.

Aspect	Detail
Billing frequency	Monthly, quarterly, or annual
Payment	Automatic recurring charge at the start of each billing cycle
Slot	Not required per cycle (service is ongoing, not appointment-based)
Provider setup	Provider creates subscription plans on their service (name, price, includes, frequency)
Customer flow	Customer subscribes → first payment → auto-renew → pause/cancel anytime
Lifecycle	pending → active → paused → cancelled / expired
Cancellation	Effective at end of current billing period (no mid-cycle refund by default)
Failed payment	Retry up to 3 times; expire subscription after repeated failures

**Example:** "Monthly Accounting Basic - 15,000 MZN/month (includes: monthly financial statements, tax filing, consultation hours)"

**Best for:** Professional services (accounting, legal), ongoing maintenance, retainer-based work, recurring consulting.

### 3.0.8 Category-to-Pricing Mapping

Each service category has a **recommended default pricing mode**, though providers can override:

Category	Default Mode	Engagement	Rationale
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Category	Default Mode	Engagement	Rationale
Home Cleaning	Fixed Package	One-time or Recurring	Customers need price certainty; weekly cleaning is common
Repairs	Fixed Package or Quote	One-time	Simple fixes = package; complex = quote
Assembly	Fixed Package	One-time	Price per item type
Moving	Quote or Task Post	One-time	Varies heavily by volume and distance
Gardening	Hourly or Package	One-time or Recurring	Ongoing = recurring weekly; one-time = package
Personal Assistant	Hourly	One-time or Recurring	Time-based; can be recurring weekly
Events	Quote or Task Post	One-time	Highly customized
Beauty	Fixed Package	One-time or Recurring	Standardized; monthly haircuts common
Tutoring	Hourly or Package	One-time or Recurring	Per session; recurring weekly/biweekly common
Technology	Quote or Task Post	One-time	Scope varies widely
Professional	Quote or Subscription	One-time or Subscription	Accounting, legal → monthly subscription; one-off consulting = quote
Automotive	Fixed Package	One-time	Standardized services

## 4. AVAILABILITY & SCHEDULING MODEL

The scheduling system adapts to the provider type and service nature.

### 4.1 Individual Provider Availability

Individual providers define **recurring weekly availability** with optional date-specific overrides. Supports **multiple time windows per day** (e.g., morning and afternoon shifts with a lunch break).

Setting	Description	Example
Weekly schedule	Recurring time blocks per day of week	Mon-Fri: 08:00-12:00, 14:00-18:00
Multiple windows/day	Support for split schedules (breaks, lunch)	Morning: 09:00-12:00, Afternoon: 14:00-18:00
Date overrides	Block specific dates or set custom hours	Dec 25: unavailable; Dec 31: 09:00-13:00 only

Setting	Description	Example
Date range rules	Different schedule for a period	Summer (Jun-Aug): 07:00-15:00
One-time rules	Special schedule for a single date	Wedding event: Jan 15 only, 06:00-22:00
Service duration	How long each service/package takes	Haircut: 30 min, Deep clean: 4 hours
Buffer time	Rest/travel time between appointments	15 min between appointments
Cutoff time	Minimum notice before a slot can be booked	2 hours before slot start
Advance booking	Maximum days ahead a customer can book	30 days
Instant booking	Allow customers to book without approval	On/Off per service

Slot generation (for appointment-based services):

Time windows: 09:00–12:00 and 14:00–18:00 (lunch break 12:00–14:00)

Service duration: 45 min

Buffer: 15 min

Slot size = 45 + 15 = 60 min

Morning slots:

- 09:00 – 09:45 (service) → 09:45 – 10:00 (buffer)
- 10:00 – 10:45 (service) → 10:45 – 11:00 (buffer)
- 11:00 – 11:45 (last morning slot)

Afternoon slots:

- 14:00 – 14:45 (service) → 14:45 – 15:00 (buffer)
- 15:00 – 15:45 (service) → 15:45 – 16:00 (buffer)
- 16:00 – 16:45 (service) → 16:45 – 17:00 (buffer)
- 17:00 – 17:45 (last slot)

4.2 Organization Availability

Organizations define **operating hours** at the organization level, with optional per-staff and per-service scheduling. Supports **multiple time windows per day** (e.g., morning and evening shifts).

Setting	Description	Example
Operating hours	Organization open/close times per day (multiple windows)	Mon-Sat: 09:00-13:00, 14:00-18:00, Sun: closed
Service duration	Duration per service offered	Men's haircut: 30 min, Nails: 60 min
Buffer time	Time between client appointments	15 min (cleanup, preparation)



Setting	Description	Example
Concurrent capacity	How many clients at once (based on staff/stations)	3 barbers = 3 concurrent slots
Staff schedules	Per-member availability within organization hours (multiple windows)	João: Mon-Fri 09:00-17:00, Maria: Tue-Sat 10:00-14:00, 15:00-18:00
Holidays/closures	Organization-level date overrides	Dec 25: closed
Special dates	Custom hours for specific dates	Dec 31: 09:00-13:00 only
Cutoff time	Minimum notice before slot can be booked	1 hour before
Advance booking	Maximum days ahead customers can book	60 days

**Multi-staff slot generation (e.g., barbershop with 2 barbers):**

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Organization hours: 09:00 – 18:00
Service: Men's Haircut (30 min + 10 min buffer)

Barber A schedule: 09:00 – 18:00
Barber B schedule: 10:00 – 18:00

Available slots at 09:00: 1 (only Barber A)
Available slots at 10:00: 2 (Barber A + Barber B)
Available slots at 10:40: 2 (Barber A + Barber B)
...

When customer books 10:00 → assigned to Barber A or B
When 2nd customer books 10:00 → assigned to remaining barber
When 3rd customer tries 10:00 → FULL, next slot: 10:40
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4.3 Availability Rule Types

The availability system supports three types of rules, listed by priority:

Rule Type	Description	Use Case
WEEKLY_RECURRING	Repeats on specified days each week	Regular weekly schedule (Mon-Fri 09:00-18:00)
DATE_RANGE	Applies to a specific date range	Summer hours (Jun 1 - Aug 31: 07:00-15:00)
ONE_TIME	Applies to a single date	Special event (Jan 15: 06:00-22:00)

**Exception types** override rules for specific dates:

Exception Type	Description	Use Case
BLOCKED	No availability on this date	Holiday, personal day, vacation
SPECIAL	Custom hours for this date (overrides all rules)	Half-day on Dec 31 (09:00-13:00)

**Priority:** Exceptions > ONE\_TIME > DATE\_RANGE > WEEKLY\_RECURRING

4.4 Slot Persistence & Capacity

Generated slots are **persisted as entities** to enable capacity tracking and prevent double-booking:

- Each slot tracks: `capacity`, `bookedSpots`, `availableSpots`
- Invariant: `bookedSpots + availableSpots = capacity`
- Individual provider slots: `capacity = 1`
- Organization slots: `capacity = number of available staff for that time`
- When a booking is confirmed, `bookedSpots` is incremented and `availableSpots` decremented
- When a booking is cancelled, the inverse happens
- Slots are regenerated when availability configuration changes

4.5 Scheduling Rules

Rule	Description
Cutoff time	Minimum time before slot start to book (e.g., 2 hours)
Maximum advance	How far ahead bookings are allowed (e.g., 30 days)
Cancellation window	Minimum time to cancel without penalty (e.g., 24 hours)
Auto-accept	Provider can enable auto-accept for bookings within available slots
Overbooking prevention	System prevents double-booking of same slot/staff via persisted slot capacity

4.6 Service Location Impact on Scheduling

Location Type	Scheduling Behavior
at_customer	Slots include travel buffer; provider sets larger buffer time
at_provider	Tight slots possible; buffer is just cleanup/prep time
remote	Minimal buffer; back-to-back possible
flexible	Slot size adapts based on customer's chosen location

5. FUNCTIONAL REQUIREMENTS

5.1 Authentication & User Management

ID	Requirement	Priority
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ID	Requirement	Priority
FR-AUTH-001	Users can register with email, phone number, or social login	High
FR-AUTH-002	Users can login with email/phone and password	High
FR-AUTH-003	Users can reset password via email or SMS	High
FR-AUTH-004	Support OTP verification for phone numbers	High
FR-AUTH-005	Users can switch between Customer and Provider modes	Medium
FR-AUTH-006	Session management with secure token handling	High

## 5.2 Customer Features

ID	Requirement	Priority
FR-CUST-001	Customer can create and manage profile	High
FR-CUST-002	Customer can browse service categories	High
FR-CUST-003	Customer can search for services by keyword, location, price (from individuals and organizations)	High
FR-CUST-004	Customer can view provider/organization profiles with ratings, reviews, and packages	High
FR-CUST-005	Customer can book a fixed-price package directly (Path A)	High
FR-CUST-006	Customer can book by the hour with estimated duration (Path B)	High
FR-CUST-007	Customer can request a custom quote from a specific provider or organization (Path C)	High
FR-CUST-008	Customer can view, accept, or decline a custom quote	High
FR-CUST-009	Customer can negotiate a custom quote via chat before accepting	Medium
FR-CUST-010	Customer can post a task for multiple providers to bid on (Path D)	High
FR-CUST-011	Customer can review and accept provider bids	High
FR-CUST-012	Customer can select available time slot from provider's/organization's calendar	High

ID	Requirement	Priority
FR-CUST-013	Customer can add their location for <b>at_customer</b> services	High
FR-CUST-014	Customer can see provider/organization location for <b>at_provider</b> services	High
FR-CUST-015	Customer can choose location mode when service is <b>flexible</b>	High
FR-CUST-016	Customer can describe task with text and images	High
FR-CUST-017	Customer can see volume discounts applied to the booking price	Medium
FR-CUST-018	Customer can cancel a booking (with policy rules)	Medium
FR-CUST-019	Customer can rate and review provider/organization after task completion	High
FR-CUST-020	Customer can view booking history	Medium
FR-CUST-021	Customer can save favorite providers and organizations	Low
FR-CUST-022	Customer can report issues with a booking	Medium
FR-CUST-023	Customer can create a recurring booking (weekly, biweekly, monthly) from Path A or B	High
FR-CUST-024	Customer can skip or cancel individual occurrences of a recurring booking	High
FR-CUST-025	Customer can cancel an entire recurring booking series	High
FR-CUST-026	Customer can subscribe to a provider's subscription plan	High
FR-CUST-027	Customer can view active subscriptions and billing history	High
FR-CUST-028	Customer can pause or resume a subscription	High
FR-CUST-029	Customer can cancel a subscription (effective at end of current period)	High

### 5.3 Individual Provider Features

ID	Requirement	Priority
FR-PROV-001	Provider can create professional profile	High
FR-PROV-002	Provider can add profile photo and portfolio images	High
FR-PROV-003	Provider can select service categories	High
FR-PROV-004	Provider can create fixed-price service packages (name, description, price, estimated duration)	High
FR-PROV-005	Provider can set hourly rate per service category	High
FR-PROV-006	Provider can define service location type per service (at_customer, remote, flexible)	High
FR-PROV-007	Provider can define service area/radius for <b>at_customer</b> services	High
FR-PROV-008	Provider can enable/disable "accepts custom quotes" per service	High
FR-PROV-009	Provider can receive and respond to custom quote requests	High
FR-PROV-010	Provider can include a breakdown in custom quotes (per day, per item, etc.)	Medium
FR-PROV-011	Provider can configure volume discount rules (hours, days, recurring, first-time)	Medium
FR-PROV-012	Provider can set recurring weekly availability (e.g., Mon-Fri 09:00-17:00)	High
FR-PROV-013	Provider can define service duration per service/package	High
FR-PROV-014	Provider can set buffer time between appointments (e.g., 15 min)	High
FR-PROV-015	System auto-generates available time slots based on availability + duration + buffer	High
FR-PROV-016	Provider can block specific dates (holidays, personal days)	Medium
FR-PROV-017	Provider can set minimum notice time for bookings (e.g., 2 hours)	Medium
FR-PROV-018	Provider can set maximum advance booking window (e.g., 30 days)	Medium

ID	Requirement	Priority
FR-PROV-019	Provider can enable auto-accept for slot-based bookings	Medium
FR-PROV-020	Provider can browse available tasks to bid on	High
FR-PROV-021	Provider can submit bids with price and message	High
FR-PROV-022	Provider can accept/decline direct bookings	High
FR-PROV-023	Provider can mark task as started/completed	High
FR-PROV-024	Provider can view earnings dashboard	Medium
FR-PROV-025	Provider can request payouts	High
FR-PROV-026	Provider can view and respond to reviews	Medium
FR-PROV-027	Provider can set "busy" or "unavailable" status	Medium
FR-PROV-028	Provider can upload certifications/qualifications	Medium
FR-PROV-029	Services have a lifecycle: draft → pending_approval → approved → published (admin can reject)	High
FR-PROV-030	Provider can set multiple time windows per day (e.g., 09:00-12:00 and 14:00-18:00)	High
FR-PROV-031	Provider can set date-range availability rules (e.g., summer schedule)	Medium
FR-PROV-032	Provider can create subscription plans for their services (name, price, frequency, includes)	High
FR-PROV-033	Provider can manage subscription plans (activate, deactivate, update price for new subscribers)	High
FR-PROV-034	Provider can view active subscribers and subscription analytics	High
FR-PROV-035	Provider can manage recurring bookings from customers (view series, handle individual occurrences)	High

## 5.4 Organization Features

ID	Requirement	Priority
FR-BIZ-001	User can create one or more organizations (establishment profiles)	High
FR-BIZ-002	Organization has name, logo, description, and cover photos	High
FR-BIZ-003	Organization has a fixed address with GPS coordinates	High
FR-BIZ-004	Organization can set operating hours per day of week	High
FR-BIZ-005	Organization can set holiday/closure dates	Medium
FR-BIZ-006	Organization can select service categories	High
FR-BIZ-007	Organization can create services with location type (at_provider, at_customer, remote, flexible)	High
FR-BIZ-008	Organization can create fixed-price service packages per service	High
FR-BIZ-009	Organization can set hourly rates per service	High
FR-BIZ-010	Organization can enable/disable "accepts custom quotes" per service	High
FR-BIZ-011	Organization can define service duration per service/package	High
FR-BIZ-012	Organization can set buffer time between appointments	High
FR-BIZ-013	System auto-generates available slots based on operating hours + duration + buffer + staff	High
FR-BIZ-014	Organization can add team members (invite by email/phone)	High
FR-BIZ-015	Organization members have roles: owner, manager, staff	High
FR-BIZ-016	Organization can assign services to specific staff members	Medium
FR-BIZ-017	Staff members can set their own schedule within organization hours	Medium
FR-BIZ-018	System supports concurrent slots based on number of available staff	High

ID	Requirement	Priority
FR-BIZ-019	Organization can configure volume discount rules	Medium
FR-BIZ-020	Organization can respond to custom quote requests	High
FR-BIZ-021	Organization can view earnings and analytics dashboard	Medium
FR-BIZ-022	Organization can request payouts	High
FR-BIZ-023	Organization owner can view and manage all bookings for the organization	High
FR-BIZ-024	Staff members can view their assigned bookings	High
FR-BIZ-025	Organization can set minimum notice and max advance booking window	Medium
FR-BIZ-026	Organization can enable auto-accept for slot-based bookings	Medium
FR-BIZ-027	Organization services have a lifecycle: draft → pending_approval → approved → published	High
FR-BIZ-028	Organization can set multiple time windows per day for operating hours	High
FR-BIZ-029	Organization can set special hours for specific dates (override operating hours)	Medium
FR-BIZ-030	Organization can create subscription plans for their services	High
FR-BIZ-031	Organization can manage subscription plans and view subscribers	High
FR-BIZ-032	Organization can manage recurring bookings from customers	High

## 5.5 Booking & Task Management

ID	Requirement	Priority
FR-BOOK-001	System supports fixed-price package booking flow (Path A)	High



ID	Requirement	Priority
FR-BOOK-002	System supports hourly booking flow with estimated duration (Path B)	High
FR-BOOK-003	System supports custom quote request and response flow (Path C)	High
FR-BOOK-004	System supports task posting with bidding flow (Path D)	High
FR-BOOK-005	Booking has status lifecycle (pending → pending_payment → confirmed → in_progress → completed, with cancelled/disputed/expired branches)	High
FR-BOOK-006	System sends confirmation notifications	High
FR-BOOK-007	System sends reminders before scheduled tasks (24h and 1h)	Medium
FR-BOOK-008	Both parties can cancel with defined cancellation policy	Medium
FR-BOOK-009	System tracks task completion with timestamps	High
FR-BOOK-010	System supports recurring bookings (weekly, biweekly, monthly) for Path A and Path B	High
FR-BOOK-011	Provider has 24h to accept/decline a direct booking; auto-cancel on timeout	High
FR-BOOK-012	Customer has 24h to confirm completion or dispute; auto-confirm on timeout	High
FR-BOOK-013	Accepted custom quote converts into a booking with agreed price	High

ID	Requirement	Priority
FR-BOOK-014	Accepted bid converts into a booking with bid price	High
FR-BOOK-015	System applies volume discounts automatically when discount rules match	Medium
FR-BOOK-016	Custom quotes expire after 48h if not accepted	Medium
FR-BOOK-017	Task posts expire after 7 days if no bid is accepted	Medium
FR-BOOK-018	Booking tracks service_location (at_customer, at_provider, remote)	High
FR-BOOK-019	Booking tracks provider_type (individual or organization) and organization_id if applicable	High
FR-BOOK-020	Booking can be assigned to a specific staff member (for organization bookings)	High
FR-BOOK-021	System validates selected slot is still available before confirming booking	High
FR-BOOK-022	System prevents double-booking of same slot/staff via persisted slot capacity	High
FR-BOOK-023	System captures a booking snapshot at booking time (service details, slot time, pricing breakdown) for audit trail	High
FR-BOOK-024	Booking transitions to pending_payment after provider acceptance; payment must complete before confirmation	High
FR-BOOK-025	Pending payment bookings expire after configurable timeout (e.g., 30 min) if payment not completed	Medium

ID	Requirement	Priority
FR-BOOK-026	When booking is confirmed, system updates the slot's booked/available spots atomically	High
FR-BOOK-027	When booking is cancelled, system releases the slot's spots back	High
FR-BOOK-028	System auto-generates future bookings for recurring series (default: 4 ahead)	High
FR-BOOK-029	Each generated recurring booking follows the normal lifecycle independently	High
FR-BOOK-030	Customer can skip individual occurrences without cancelling the series	High
FR-BOOK-031	System applies recurring discount automatically to all bookings in a series	High
FR-BOOK-032	Recurring booking generates the next occurrence after current one is completed or at a scheduled interval	High

## 5.6 Communication

ID	Requirement	Priority
FR-COMM-001	In-app messaging between customer and provider	High
FR-COMM-002	Push notifications for new messages	High
FR-COMM-003	SMS notifications for critical updates	Medium
FR-COMM-004	Email notifications for bookings and payments	High
FR-COMM-005	Chat history preserved for dispute resolution	Medium
FR-COMM-006	Support for sending images in chat	Medium
FR-COMM-007	Custom quote negotiation happens within chat thread	High

## 5.7 Payments

ID	Requirement	Priority
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ID	Requirement	Priority
FR-PAY-001	Integration with M-Pesa mobile money	High
FR-PAY-002	Integration with e-Mola mobile money	High
FR-PAY-003	Support for bank card payments (Visa/Mastercard)	High
FR-PAY-004	Payment held in escrow until task completion	High
FR-PAY-005	Automatic release of payment on task completion	High
FR-PAY-006	Platform commission deduction from provider earnings	High
FR-PAY-007	Provider can view pending and available balance	High
FR-PAY-008	Provider can request payout to mobile money or bank	High
FR-PAY-009	Support for tipping providers	Medium
FR-PAY-010	Refund processing for cancelled/disputed bookings	Medium
FR-PAY-011	Transaction history for both users	Medium
FR-PAY-012	Invoice/receipt generation	Medium
FR-PAY-013	Payment uses a payment intent pattern: pending → processing → completed (or failed/expired)	High
FR-PAY-014	Failed payments can be retried within the payment timeout window	Medium
FR-PAY-015	Payment intent tracks individual transactions (attempts, captures, refunds)	Medium
FR-PAY-016	System supports automatic recurring payments for subscriptions	High
FR-PAY-017	System retries failed subscription renewal payments (up to 3 attempts over 7 days)	High
FR-PAY-018	System sends payment reminder before subscription renewal date	Medium

## 5.8 Subscriptions

ID	Requirement	Priority
FR-SUB-001	Provider/Organization can create subscription plans for their services (name, price, billing frequency, includes)	High
FR-SUB-002	Provider/Organization can manage subscription plans (activate, deactivate, update price for new subscribers)	High
FR-SUB-003	Customer can browse and subscribe to available subscription plans	High
FR-SUB-004	System processes initial payment on subscription creation	High
FR-SUB-005	System auto-renews subscriptions at each billing cycle (monthly, quarterly, annual)	High
FR-SUB-006	Customer can pause a subscription (no billing during pause)	High
FR-SUB-007	Customer can resume a paused subscription	High
FR-SUB-008	Customer can cancel a subscription (effective at end of current period)	High
FR-SUB-009	System sends renewal reminder before billing date (e.g., 3 days before)	Medium
FR-SUB-010	System retries failed renewal payments (up to 3 attempts over 7 days)	High
FR-SUB-011	Subscription expires (auto-cancel) after repeated payment failures	High
FR-SUB-012	Provider can view active subscribers and subscription analytics (MRR, churn, etc.)	High
FR-SUB-013	Existing subscribers keep their current price when provider updates plan pricing	Medium
FR-SUB-014	Platform commission applies to each subscription billing cycle	High
FR-SUB-015	Customer and provider can view subscription billing history	High

## 5.9 Search & Discovery

ID	Requirement	Priority
FR-SRCH-001	Search services by keyword	High

ID	Requirement	Priority
FR-SRCH-002	Filter by service category	High
FR-SRCH-003	Filter by location/distance	High
FR-SRCH-004	Filter by price range	Medium
FR-SRCH-005	Filter by provider rating	Medium
FR-SRCH-006	Filter by availability (same-day, specific date)	Medium
FR-SRCH-007	Sort results by relevance, price, rating, distance	Medium
FR-SRCH-008	Show featured/promoted providers	Low

## 5.10 Ratings & Reviews

ID	Requirement	Priority
FR-REV-001	Customer can rate provider (1-5 stars)	High
FR-REV-002	Customer can write text review	High
FR-REV-003	Provider can rate customer	Medium
FR-REV-004	Reviews are visible on provider profile	High
FR-REV-005	Average rating calculated and displayed	High
FR-REV-006	Reviews can only be submitted after task completion	High
FR-REV-007	Provider can respond to reviews	Medium

## 5.11 Verification & Trust

ID	Requirement	Priority
FR-TRUST-001	Phone number verification via OTP	High
FR-TRUST-002	Email verification	High
FR-TRUST-003	Individual provider identity document upload	High
FR-TRUST-004	Admin review and approval of provider documents	High
FR-TRUST-005	Organization verification (organization license/registration document)	High
FR-TRUST-006	Admin review and approval of organization documents	High
FR-TRUST-007	Display verification badges on provider and organization profiles	Medium
FR-TRUST-008	Background check integration (future)	Low

## 5.12 Admin Panel

ID	Requirement	Priority
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ID	Requirement	Priority
FR-ADM-001	Dashboard with key platform metrics	High
FR-ADM-002	User management (view, approve, suspend, delete)	High
FR-ADM-003	Organization management (view, approve, suspend)	High
FR-ADM-004	Provider and organization verification workflow	High
FR-ADM-005	Service category management	High
FR-ADM-005	Booking management and monitoring	Medium
FR-ADM-006	Dispute/issue management	Medium
FR-ADM-007	Payment and payout management	High
FR-ADM-008	Reports and analytics	Medium
FR-ADM-009	Platform configuration (commission rates, policies)	Medium
FR-ADM-010	Content management (FAQs, terms, etc.)	Low
FR-ADM-011	Admin can review and approve/reject new services before they become visible	High
FR-ADM-012	Admin can configure platform settings (commission rates, payment timeouts, default buffers)	High

6. NON-FUNCTIONAL REQUIREMENTS

6.1 Performance

ID	Requirement	Target
NFR-PERF-001	Page load time	< 3 seconds
NFR-PERF-002	API response time	< 500ms
NFR-PERF-003	Search results returned	< 2 seconds
NFR-PERF-004	Support concurrent users	10,000 initial

ID	Requirement	Target
NFR-PERF-005	Mobile app startup time	< 2 seconds

6.2 Scalability

ID	Requirement
NFR-SCAL-001	Architecture must support horizontal scaling
NFR-SCAL-002	Database must handle growth to 1M+ users
NFR-SCAL-003	Support for multiple regions/countries
NFR-SCAL-004	CDN for static assets and images

6.3 Security

ID	Requirement
NFR-SEC-001	All data transmitted over HTTPS/TLS
NFR-SEC-002	Passwords hashed with strong algorithm (bcrypt)
NFR-SEC-003	JWT tokens for API authentication
NFR-SEC-004	Rate limiting on APIs to prevent abuse
NFR-SEC-005	Input validation and sanitization
NFR-SEC-006	PCI compliance for payment data
NFR-SEC-007	GDPR/data protection compliance
NFR-SEC-008	Regular security audits

6.4 Availability

ID	Requirement	Target
NFR-AVAIL-001	System uptime	99.9%
NFR-AVAIL-002	Scheduled maintenance windows	< 4 hours/month
NFR-AVAIL-003	Disaster recovery plan	RTO < 4 hours
NFR-AVAIL-004	Data backup frequency	Daily

6.5 Usability

ID	Requirement
NFR-USE-001	Mobile-first responsive design
NFR-USE-002	Support for Portuguese language (Mozambique)



ID	Requirement
NFR-USE-003	Support for English language
NFR-USE-004	Accessible design (WCAG 2.1 AA)
NFR-USE-005	Offline capability for mobile (view cached data)
NFR-USE-006	Low bandwidth optimization for 2G/3G networks

## 6.6 Localization

ID	Requirement
NFR-LOC-001	Multi-currency support (MZN as default for Mozambique launch)
NFR-LOC-002	Auto-detect timezone based on user location
NFR-LOC-003	International phone format support (+258, +1, +44, etc.)
NFR-LOC-004	Flexible address format for global locations
NFR-LOC-005	Integration with maps (Google Maps, OpenStreetMap)
NFR-LOC-006	Support for region-specific payment providers
NFR-LOC-007	Locale-aware date, time, and number formatting

## 7. USER STORIES

### 7.1 Customer Stories

US-C01: As a customer, I want to register an account so that I can book services.

US-C02: As a customer, I want to search for services by category so that I can find what I need.

US-C03: As a customer, I want to filter providers by location so that I can find someone nearby.

US-C04: As a customer, I want to view provider profiles with their packages and pricing so that I can choose the best one.

US-C05: As a customer, I want to book a fixed-price package directly so that I know exactly what I'll pay (Path A).

US-C06: As a customer, I want to book a provider by the hour so that I have flexibility for time-based services (Path B).

US-C07: As a customer, I want to request a custom quote from a specific provider so that I can get a personalized price for something not in their packages (Path C).

US-C08: As a customer, I want to see volume discounts applied when I book longer durations so that I get a better deal.

US-C09: As a customer, I want to post a task so that multiple providers can bid and I can choose the best offer (Path D).

US-C10: As a customer, I want to communicate with my provider so that I can clarify task details or negotiate a custom quote.

US-C11: As a customer, I want to pay securely through the app so that my money is protected in escrow.

US-C12: As a customer, I want to rate and review my provider so that others can benefit from my experience.

US-C13: As a customer, I want to view my booking history so that I can track past services.

US-C14: As a customer, I want to cancel a booking so that I can change my plans if needed.

US-C15: As a customer, I want to select an available time slot so that I can book at a convenient time.

US-C16: As a customer, I want to see whether I need to go to the provider or they come to me so that I know what to expect.

US-C17: As a customer, I want to book services from organizations (salons, workshops) so that I have more options.

US-C18: As a customer, I want to report a problem so that I can get help resolving issues.

## 7.2 Individual Provider Stories

US-P01: As a provider, I want to create a professional profile so that customers can find me.

US-P02: As a provider, I want to create fixed-price service packages so that customers can book with price certainty.

US-P03: As a provider, I want to set hourly rates for time-based services so that I have pricing flexibility.

US-P04: As a provider, I want to receive custom quote requests from customers so that I can offer personalized pricing.

US-P05: As a provider, I want to respond to quote requests with detailed breakdowns so that customers understand my pricing.

US-P06: As a provider, I want to configure volume discounts so that I can attract larger bookings.

US-P07: As a provider, I want to set recurring weekly availability so that my schedule is consistent.

US-P08: As a provider, I want to set buffer time between appointments so that I have time to rest or travel.

US-P09: As a provider, I want the system to auto-generate time slots so that customers can easily pick a time.

US-P10: As a provider, I want to browse posted tasks so that I can find work opportunities.

US-P11: As a provider, I want to submit bids on tasks so that I can win new customers.

US-P12: As a provider, I want to accept or decline bookings so that I can manage my workload.

US-P13: As a provider, I want to communicate with customers so that I can understand their needs and negotiate quotes.

US-P14: As a provider, I want to mark tasks as complete so that I can receive payment.

US-P15: As a provider, I want to view my earnings so that I can track my income.

US-P16: As a provider, I want to withdraw my earnings so that I can access my money.

US-P17: As a provider, I want to upload my ID documents so that I can become verified.

US-P18: As a provider, I want to respond to reviews so that I can address customer feedback.

### 7.3 Organization Owner Stories

US-B01: As an organization owner, I want to create an organization profile so that customers can find my establishment.

US-B02: As an organization owner, I want to set my organization address so that customers know where to come.

US-B03: As an organization owner, I want to set operating hours so that customers know when we're open.

US-B04: As an organization owner, I want to create services with fixed

prices so that customers can book easily.

US-B05: As an organization owner, I want to set service duration and buffer time so that the system generates accurate time slots.

US-B06: As an organization owner, I want to add staff members so that multiple customers can be served simultaneously.

US-B07: As an organization owner, I want to assign services to specific staff so that bookings go to the right person.

US-B08: As an organization owner, I want staff to manage their own schedules within organization hours.

US-B09: As an organization owner, I want to view all organization bookings so that I can manage operations.

US-B10: As an organization owner, I want to respond to custom quote requests so that I can serve customers with non-standard needs.

US-B11: As an organization owner, I want to view organization earnings and analytics so that I can track performance.

US-B12: As an organization owner, I want to request payouts for organization earnings so that I can access the money.

## 7.4 Admin Stories

US-A01: As an admin, I want to view platform metrics so that I can monitor business health.

US-A02: As an admin, I want to verify provider documents so that I can ensure trust and safety.

US-A03: As an admin, I want to manage service categories so that I can organize the marketplace.

US-A04: As an admin, I want to handle disputes so that I can resolve customer issues.

US-A05: As an admin, I want to manage payouts so that I can ensure providers are paid.

US-A06: As an admin, I want to suspend users so that I can enforce platform policies.

US-A07: As an admin, I want to view reports so that I can make data-driven decisions.

## 8. DATA ENTITIES

### 8.1 Core Entities

USER (auth identity – passwords/sessions delegated to Better Auth)

- id (UUID)
- email
- first\_name
- last\_name
- roles (JSON array: ["customer", "individual\_provider", "organization\_owner", "admin"])
- email\_verified
- status (active, suspended, pending)
- created\_at
- updated\_at

PROFILE (unified – base fields + provider fields when upgraded)

- id (UUID)
- user\_id (FK, unique)
- phone\_code\_prefix, phone\_number, phone\_verified
- profile\_image\_url
- bio (nullable – set when user becomes provider)
- service\_areas (JSON, for at\_customer services)
- skills (JSON)
- portfolio\_images (JSON)
- identity\_document\_url
- verification\_status (nullable: pending, verified, rejected)
- verification\_rejected\_reason
- average\_rating, total\_reviews, total\_completed\_tasks
- created\_at
- updated\_at

ORGANIZATION

- id (UUID)
- owner\_id (FK → User)
- name
- description
- logo\_url
- cover\_photos (JSON)
- address
- address\_lat
- address\_lng
- phone
- email
- website (nullable)
- organization\_type (salon, workshop, restaurant, clinic, agency, other)
- verification\_status (pending, verified, rejected)
- verification\_document\_url (organization license)
- average\_rating
- total\_reviews
- total\_completed\_bookings
- is\_active

- └─ created\_at
- └─ updated\_at

#### ORGANIZATION\_MEMBER

- └─ id (UUID)
- └─ organization\_id (FK)
- └─ user\_id (FK)
- └─ role (owner, manager, staff)
- └─ display\_name
- └─ photo\_url (nullable)
- └─ specialties (JSON, e.g., ["haircut", "beard"])
- └─ is\_active
- └─ joined\_at
- └─ updated\_at

Note: Organization operating hours are represented by AVAILABILITY\_RULE with

owner\_type=organization and rule\_type=weekly\_recurring. No separate OPERATING\_HOURS

entity is needed – the availability model handles both display hours and slot generation scheduling.

#### SERVICE\_CATEGORY

- └─ id (UUID)
- └─ name
- └─ description
- └─ icon\_url
- └─ parent\_category\_id (FK, nullable)
- └─ is\_active
- └─ sort\_order
- └─ created\_at
- └─ updated\_at

#### SERVICE

- └─ id (UUID)
- └─ provider\_type (individual, organization)
- └─ provider\_id (FK → User, nullable)
- └─ organization\_id (FK → Organization, nullable)
- └─ category\_id (FK)
- └─ title
- └─ description
- └─ service\_location\_type (at\_customer, at\_provider, remote, flexible)
- └─ pricing\_mode (package, hourly, quote)
- └─ hourly\_rate (nullable, for hourly mode)
- └─ minimum\_hours (nullable, for hourly mode, default 1)
- └─ duration\_minutes (default service duration for slot generation)
- └─ buffer\_minutes (rest/travel time between appointments)
- └─ accepts\_custom\_quotes (boolean)
- └─ status (draft, pending\_approval, approved, published, rejected, unpublished, archived)
- └─ submitted\_at (nullable)
- └─ approved\_at (nullable)
- └─ rejected\_at (nullable)
- └─ rejection\_reason (nullable)

```

└─ published_at (nullable)
└─ created_at
└─ updated_at

```

#### SERVICE\_PACKAGE

```

└─ id (UUID)
└─ service_id (FK)
└─ name (e.g., "Regular Cleaning T2", "Men's Haircut")
└─ description
└─ fixed_price
└─ duration_minutes (overrides service default if set)
└─ includes (JSON, e.g., ["materials", "equipment"])
└─ variables (JSON, e.g., {"house_type": "T2", "rooms": 2})
└─ is_active
└─ sort_order
└─ created_at
└─ updated_at

```

#### QUOTE\_REQUEST

```

└─ id (UUID)
└─ customer_id (FK)
└─ provider_id (FK)
└─ service_id (FK, nullable)
└─ category_id (FK)
└─ title
└─ description
└─ images (JSON)
└─ preferred_date
└─ preferred_time
└─ duration_days (nullable, for multi-day requests)
└─ location_address
└─ location_lat
└─ location_lng
└─ status (pending, quoted, accepted, declined, expired, cancelled)
└─ created_at
└─ expires_at
└─ updated_at

```

#### QUOTE\_RESPONSE

```

└─ id (UUID)
└─ quote_request_id (FK)
└─ provider_id (FK)
└─ total_price
└─ price_breakdown (JSON, e.g., [{"item": "Day 1-5 cooking",
"unit_price": 4500, "quantity": 5, "subtotal": 22500}])
└─ discount_applied (nullable)
└─ discount_amount (nullable)
└─ message
└─ valid_until
└─ status (pending, accepted, declined, expired)
└─ created_at
└─ updated_at

```

#### DISCOUNT\_RULE

```

|— id (UUID)
|— provider_id (FK)
|— service_id (FK, nullable, null = applies to all services)
|— discount_type (hours_volume, days_volume, recurring, first_time)
|— threshold (e.g., 5 for "5+ hours")
|— discount_percentage
|— description (e.g., "10% off for 5+ hours")
|— is_active
|— created_at
|— updated_at

```

#### TASK\_POST

```

|— id (UUID)
|— customer_id (FK)
|— category_id (FK)
|— title
|— description
|— location_address
|— location_lat
|— location_lng
|— preferred_date
|— preferred_time
|— budget_min
|— budget_max
|— images (JSON)
|— status (open, in_progress, completed, cancelled)
|— created_at
|— updated_at

```

#### BID

```

|— id (UUID)
|— task_id (FK)
|— provider_id (FK)
|— proposed_price
|— message
|— status (pending, accepted, rejected, withdrawn)
|— created_at
|— updated_at

```

#### BOOKING

```

|— id (UUID)
|— customer_id (FK)
|— provider_type (individual, organization)
|— provider_id (FK → User, nullable)
|— organization_id (FK → Organization, nullable)
|— staff_member_id (FK → OrganizationMember, nullable)
|— service_id (FK, nullable)
|— package_id (FK, nullable, for Path A)
|— task_id (FK, nullable, for Path D)
|— bid_id (FK, nullable, for Path D)
|— quote_response_id (FK, nullable, for Path C)
|— recurrence_id (FK → BookingRecurrence, nullable, links to recurring series)
|— booking_path (package, hourly, custom_quote, task_bid)

```



```

|— service_location (at_customer, at_provider, remote)
|— scheduled_date
|— scheduled_start_time
|— scheduled_end_time
|— estimated_duration_minutes
|— actual_duration_minutes (nullable, for hourly bookings)
|— location_address (customer's or provider's, depending on
service_location)
|— location_lat
|— location_lng
|— description
|— base_amount
|— discount_amount (default 0)
|— total_amount
|— platform_fee
|— provider_earnings
|— tip_amount (default 0)
|— snapshot (JSON - captures service name, package details, slot time,
pricing breakdown at booking time)
|— status (pending, pending_payment, confirmed, in_progress, completed,
cancelled, disputed, expired)
|— started_at
|— completed_at
|— customer_confirmed_at
|— cancelled_at
|— cancellation_reason
|— payment_expires_at (nullable, deadline for payment completion)
|— created_at
|— updated_at

```

#### PAYMENT\_INTENT

```

|— id (UUID)
|— booking_id (FK, nullable, for one-time/recurring booking payments)
|— subscription_billing_id (FK, nullable, for subscription payments)
|— payer_id (FK)
|— amount
|— currency
|— payment_method (mpesa, emola, card, bank)
|— payment_processor (mpesa, emola, stripe)
|— status (pending, processing, completed, failed, cancelled, expired)
|— expires_at (nullable)
|— metadata (JSON, nullable)
|— created_at
|— updated_at

```

#### PAYMENT\_TRANSACTION

```

|— id (UUID)
|— payment_intent_id (FK)
|— processor_transaction_id (external reference)
|— amount
|— currency
|— status (pending, captured, failed, refunded, partially_refunded)
|— platform_fee (nullable)
|— provider_payout (nullable)

```

- |— webhook\_data (JSON, nullable)
- |— paid\_at (nullable)
- |— failed\_at (nullable)
- |— refunded\_at (nullable)
- |— created\_at
- |— updated\_at

#### BOOKING\_RECURRENCE (recurring booking series)

- |— id (UUID)
- |— customer\_id (FK)
- |— provider\_type (individual, organization)
- |— provider\_id (FK, nullable)
- |— organization\_id (FK, nullable)
- |— service\_id (FK)
- |— package\_id (FK, nullable)
- |— frequency (weekly, biweekly, monthly)
- |— day\_of\_week (nullable, 0–6 for weekly/biweekly)
- |— day\_of\_month (nullable, 1–31 for monthly)
- |— preferred\_start\_time
- |— service\_location (at\_customer, at\_provider, remote)
- |— location\_address (nullable)
- |— location\_lat (nullable)
- |— location\_lng (nullable)
- |— total\_occurrences (nullable, null = indefinite)
- |— occurrences\_created (count of bookings generated so far)
- |— start\_date
- |— end\_date (nullable)
- |— status (active, paused, cancelled, completed)
- |— auto\_pay (boolean, default true)
- |— created\_at
- |— updated\_at

#### SUBSCRIPTION\_PLAN (provider-defined subscription offerings)

- |— id (UUID)
- |— service\_id (FK)
- |— provider\_type (individual, organization)
- |— provider\_id (FK, nullable)
- |— organization\_id (FK, nullable)
- |— name (e.g., "Monthly Accounting Basic")
- |— description
- |— price (per billing cycle)
- |— currency
- |— billing\_frequency (monthly, quarterly, annual)
- |— includes (JSON, e.g., ["monthly statements", "tax filing", "2h consultation"])
- |— max\_subscribers (nullable, capacity limit)
- |— is\_active
- |— sort\_order
- |— created\_at
- |— updated\_at

#### SERVICE\_SUBSCRIPTION (customer subscription to a plan)

- |— id (UUID)
- |— customer\_id (FK)

```

|— subscription_plan_id (FK)
|— provider_type (individual, organization)
|— provider_id (FK, nullable)
|— organization_id (FK, nullable)
|— service_id (FK)
|— billing_frequency (monthly, quarterly, annual)
|— price_per_cycle (locked at subscription time)
|— current_period_start
|— current_period_end
|— next_billing_date
|— status (pending, active, paused, cancelled, expired)
|— started_at
|— paused_at (nullable)
|— resumed_at (nullable)
|— cancelled_at (nullable)
|— cancellation_reason (nullable)
|— created_at
|— updated_at

```

#### SUBSCRIPTION\_BILLING (billing history per subscription)

```

|— id (UUID)
|— subscription_id (FK → ServiceSubscription)
|— payment_intent_id (FK → PaymentIntent, nullable)
|— billing_period_start
|— billing_period_end
|— amount
|— currency
|— platform_fee
|— provider_earnings
|— status (pending, paid, failed, refunded)
|— retry_count (default 0)
|— paid_at (nullable)
|— failed_at (nullable)
|— created_at
|— updated_at

```

#### PAYOUT

```

|— id (UUID)
|— provider_id (FK)
|— amount
|— currency
|— payout_method
|— payout_destination
|— status (pending, processing, completed, failed)
|— processed_at
|— created_at
|— updated_at

```

#### MESSAGE

```

|— id (UUID)
|— conversation_id
|— sender_id (FK)
|— receiver_id (FK)
|— booking_id (FK, nullable)

```

- └─ content
- └─ image\_url (nullable)
- └─ is\_read
- └─ created\_at
- └─ updated\_at

#### REVIEW

- └─ id (UUID)
- └─ booking\_id (FK)
- └─ reviewer\_id (FK)
- └─ reviewee\_id (FK)
- └─ overall\_rating (1-5)
- └─ punctuality\_rating (1-5, nullable)
- └─ quality\_rating (1-5, nullable)
- └─ communication\_rating (1-5, nullable)
- └─ comment
- └─ response (nullable)
- └─ response\_at (nullable)
- └─ created\_at
- └─ updated\_at

#### NOTIFICATION

- └─ id (UUID)
- └─ user\_id (FK)
- └─ type
- └─ title
- └─ message
- └─ data (JSON)
- └─ is\_read
- └─ created\_at
- └─ updated\_at

#### AVAILABILITY\_RULE (flexible availability rules for individuals and organizations)

- └─ id (UUID)
- └─ owner\_type (individual, organization, staff)
- └─ owner\_id (FK → User, Organization, or OrganizationMember)
- └─ rule\_type (weekly\_recurring, date\_range, one\_time)
- └─ days\_of\_week (JSON array, e.g., [1,2,3,4,5] for Mon-Fri; for weekly\_recurring)
- └─ start\_date (nullable, for date\_range rules)
- └─ end\_date (nullable, for date\_range rules)
- └─ date (nullable, for one\_time rules)
- └─ effective\_from (date)
- └─ effective\_until (nullable, date)
- └─ is\_active (boolean)
- └─ description (nullable, e.g., "Summer schedule")
- └─ created\_at
- └─ updated\_at

#### AVAILABILITY\_TIME\_WINDOW (multiple time windows per rule)

- └─ id (UUID)
- └─ availability\_rule\_id (FK → AvailabilityRule)
- └─ start\_time (HH:mm format)

- └─ end\_time (HH:mm format)
- └─ sort\_order

#### AVAILABILITY\_EXCEPTION (block or override specific dates)

- └─ id (UUID)
- └─ owner\_type (individual, organization, staff)
- └─ owner\_id (FK → User, Organization, or OrganizationMember)
- └─ exception\_type (blocked, special)
- └─ date
- └─ reason (nullable, e.g., "Holiday", "Personal day")
- └─ created\_at
- └─ updated\_at

#### EXCEPTION\_TIME\_WINDOW (custom hours for SPECIAL exceptions)

- └─ id (UUID)
- └─ availability\_exception\_id (FK → AvailabilityException)
- └─ start\_time (HH:mm format)
- └─ end\_time (HH:mm format)
- └─ sort\_order

#### SCHEDULING\_CONFIG (per-owner scheduling settings)

- └─ id (UUID)
- └─ owner\_type (individual, organization)
- └─ owner\_id (FK → User or Organization)
- └─ advance\_booking\_days (default 30)
- └─ cutoff\_hours (minimum hours before slot, default 2)
- └─ buffer\_minutes (default rest/travel time, default 0)
- └─ timezone (nullable, auto-detect if not set)
- └─ created\_at
- └─ updated\_at

#### SLOT (persisted time slots for capacity tracking)

- └─ id (UUID)
- └─ owner\_type (individual, organization)
- └─ owner\_id (FK → User or Organization)
- └─ service\_id (FK → Service, nullable)
- └─ start\_date\_time
- └─ end\_date\_time
- └─ capacity (1 for individual, N for organization based on staff)
- └─ booked\_spots (default 0)
- └─ available\_spots (= capacity - booked\_spots)
- └─ source\_type (rule, exception)
- └─ source\_id (FK → AvailabilityRule or AvailabilityException)
- └─ created\_at
- └─ updated\_at

#### PLATFORM\_SETTINGS

- └─ id (UUID)
- └─ commission\_percentage (default platform commission rate)
- └─ default\_payment\_timeout\_minutes (default 30)
- └─ default\_cutoff\_hours (default 2)
- └─ default\_advance\_booking\_days (default 30)
- └─ default\_cancellation\_window\_hours (default 24)
- └─ default\_quote\_expiration\_hours (default 48)

└─

default\_task\_expiration\_days (default 7)

└─

default\_booking\_acceptance\_hours (default 24)

└─

default\_completion\_confirmation\_hours (default 24)

└─

created\_at

└─

updated\_at

## 9. INTEGRATIONS REQUIRED

Integration	Purpose	Priority
M-Pesa API	Mobile money payments	High
e-Mola API	Mobile money payments	High
Stripe / Payment Gateway	Card payments	High
Firebase Cloud Messaging	Push notifications	High
Twilio / SMS Gateway	SMS notifications	Medium
SendGrid / Email Service	Email notifications	Medium
Google Maps API	Location services	High
AWS S3 / Cloud Storage	Image/file storage	High
Identity Verification Service	Provider verification	Medium

## 10. ACCEPTANCE CRITERIA SUMMARY

### MVP (Minimum Viable Product) Scope

1. User registration and authentication
2. Individual provider profile creation with service packages
3. Organization/establishment creation with services and staff
4. Rule-based availability model (weekly recurring rules, multiple time windows/day, blocked exceptions)
5. Persisted slot capacity tracking with auto-generation from availability rules
6. Scheduling config (cutoff hours, advance booking days, buffer minutes, timezone)
7. Service lifecycle with admin approval (draft → pending\_approval → approved → published)
8. Fixed-price package booking (Path A)
9. Hourly booking (Path B)
10. Custom quote request and response (Path C)
11. Task posting with bidding (Path D)
12. Booking lifecycle with pending\_payment state and payment timeout
13. Booking snapshot (captures service/slot/pricing at booking time)
14. Service location types (at\_customer, at\_provider, remote, flexible)
15. Service catalog with categories and search
16. In-app messaging (including quote negotiation)
17. Payment intent pattern with M-Pesa integration and escrow
18. Basic ratings and reviews (overall + sub-ratings)

19. Basic volume discounts (hours/days)
20. Recurring bookings (weekly, biweekly, monthly) for Path A and B
21. Service subscriptions (monthly, quarterly, annual) with auto-billing
22. Subscription plans, subscriber management, billing history
23. Platform settings (commission, timeouts, defaults)
24. Mobile app (at least one platform)
25. Web application

## Post-MVP Features

- e-Mola integration
- Card payments
- Date-range and one-time availability rules (summer schedules, special events)
- Special date exceptions (custom hours override)
- Multi-staff concurrent slot management
- Staff-level availability rules
- First-time customer discounts
- Quarterly and annual subscription billing frequencies (MVP: monthly only)
- Advanced analytics for providers and organizations
- Background checks
- Multi-language support
- Multi-currency support for global expansion
- Provider-suggested packages based on category templates
- Organization verification with document upload
- Staff performance tracking and analytics
- Promo codes / promotional discounts
- Favorite providers/organizations lists

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## 11. OPEN QUESTIONS

1. What is the platform commission percentage? (*configurable via PLATFORM\_SETTINGS*)
2. What is the cancellation policy (timeframes, refund percentages)?
3. Minimum payout threshold for providers?
4. Should there be different user tiers (basic, premium)?
5. Will there be promotional features (featured providers, ads)?
6. Dispute resolution process and SLA?
7. Data retention policies?
8. Should hourly bookings have a maximum cap to protect customers from bill shock?
9. Should custom quotes require a deposit or full payment upfront?
10. Maximum discount percentage a provider can set for volume discounts?
11. Should the platform suggest package prices based on market averages for each category?
12. Should organizations be verified before they can accept bookings?
13. Maximum number of staff members per organization plan/tier?
14. Should the platform support video calls for remote services, or rely on external links?
15. Slot regeneration strategy: triggered on availability config change vs scheduled batch job?
16. Service approval SLA for admins (e.g., 24h to review new services)?

17. Should payment intent support partial payments or deposits for high-value bookings?
  18. Should the snapshot include provider profile data (name, photo) or only service/pricing data?
  19. Subscription cancellation policy: immediate or end-of-period? Allow mid-cycle refunds?
  20. Maximum number of subscription plans per service?
  21. Should recurring bookings allow auto-pay (charge automatically) or require manual payment each time?
  22. How many bookings ahead should the system generate for recurring series (default: 4)?
  23. Should subscription plans support a trial period (e.g., first month free)?
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**Document Status:** Draft **Next Steps:** Review and validate requirements with stakeholders