

# LUCY

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## Platform Documentation

Complete product, technical, and operations guide

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### Application Documentation - English

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Language: English

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# 1. Executive Summary

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Lucy is Ethiopia's full-stack freelance connect and match platform. It connects Hire Clients who post jobs with Freelancers who apply using connects. The platform includes AI-powered job matching, structured hiring pipelines, moderated messaging, contract workflows, local ETB payments via Telebirr and Ethiopian banks, identity verification, social feed and stories, Telegram bot access, and trilingual support (English, Amharic, and Oromiffa).

Production deployment: [jobs.lucyhub.org](https://jobs.lucyhub.org) | API: </api> | Swagger: </api/docs> | Contact: [partnerships@lucyhub.org](mailto:partnerships@lucyhub.org)

## 2. Platform Architecture

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### 2.1 Technology Stack

Layer	Technology	Notes
Frontend	Next.js 15 (React)	Port 3000, App Router, SSR/CSR
Backend API	NestJS 11	Port 3001, prefix /api
Database	MongoDB Atlas	Document store, Mongoose ODM
Real-time	Socket.IO	Chat and live notifications
AI	OpenAI-compatible LLM	Job matching, cover letters, assistant
Payments	Telebirr + 20+ banks	Manual verification workflow
Bot	Telegram (Telegraf)	Full marketplace in Telegram
i18n	EN   AM   OM	API and UI localization

### 2.2 Repository Structure

- apps/api - NestJS REST API, feature modules, seeds, schedulers
- apps/web - Next.js frontend, dashboards, public pages, admin panels
- docs/ - Deployment guides (VPS, Render)
- scripts/ - Deployment, translation, and utility scripts

### 2.3 Architecture Diagram

**Browser / Telegram** → **nginx (SSL)** → **Next.js :3000 + NestJS API :3001** → **MongoDB Atlas**.  
Real-time chat uses Socket.IO. AI providers connect via OpenAI-compatible API. Payments verified through admin operations console.

### 3. User Roles and Dashboards

Role	Primary Dashboard	Key Capabilities
Freelancer (Talent)	/freelancer	AI job matching, applications, contracts, wallet, profile, QR card
Hire Client	/client	Post jobs, talent discovery, hiring pipeline, billing, companies
Admin	/admin	Operations, payments, disputes, moderation
Superadmin	/superadmin	Platform settings, commissions, broadcasts

Dual-profile support: one account can hold both Freelancer and Hire Client roles with separate profiles, switchable in the web app and Telegram bot.

### 4. Core Marketplace Flows

#### 4.1 Hire Client Journey

- Post a job via 4-step wizard: category, work model, ETB budget, connects required
- Free tier: 3 job posts per 30 days; subscription plans unlock more posts
- Discover talent at /client/talent; invite freelancers to specific jobs
- Manage pipeline Kanban: Applied, Shortlist, Interview, Offer, Hired
- Pay offer via contract; platform commission unlocks full chat contact
- Track billing and ledger entries at /client/billing

#### 4.2 Freelancer Journey

- Browse AI-ranked jobs: Best Match, Recent, All Open Jobs tabs
- Apply using connects (welcome bonus + purchasable packs)
- Accept client invites without connect cost
- Chat with contact masking until offer is paid
- Accept offers, deliver milestones, receive payouts
- Build public profile with reviews, categories, media gallery, QR card

### 5. Feature Modules

Module	Description
AI Matching	Heuristic scoring + optional LLM rerank and cover letter drafts
Contracts	Milestones, delivery, disputes, auto-review scheduler
Commission	Percent-based hire commission; client and talent dues

Module	Description
Connects	Application credits; wallet and purchase flows
Subscriptions	Client plans: Free, Premium Family, Monthly, Yearly, Enterprise
Chat	Moderated messaging, contact masking, Socket.IO gateway
Social Feed	Posts, likes, comments, stories (24h-style media)
Follow System	Followers, following, requests, privacy controls
Verification	National ID / Fayda identity verification workflow
Telegram Bot	Jobs, hire, contracts, wallet, profile, dual-role switching
AI Assistant	Lucy AI chat with token wallet and RAG knowledge base
Analytics	Admin operations metrics and reporting
Referrals	Referral rewards and signup tracking

## 6. Telegram Bot

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The Lucy Telegram bot provides full marketplace access without installing the web app. Users link their account via email OTP. The bot supports English, Amharic, and Oromiffa.

### 6.1 Freelancer Features

- Browse AI-matched jobs, saved jobs, and best-match recommendations
- Apply, manage applications, contracts, and wallet balance
- Profile setup, portfolio, and identity verification prompts
- Switch to Hire Client mode or add dual profile on one account

### 6.2 Hire Client Features

- Post jobs, manage job pipeline, find talent, and send invites
- Review applications, send offers, and track commission payments
- Client wallet, billing, and subscription status
- Enable freelancer role from bot without separate account

### 6.3 Shared Bot Capabilities

- Feed posts, messages, notifications, and dashboard shortcuts
- Inline keyboards + reply menus with role-aware navigation
- Web app deep links to jobs.lucyhub.org for advanced editing

## 7. Payments and Monetization

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## 7.1 Payment Methods

- Telebirr (Ethio Telecom mobile money)
- Major Ethiopian banks: CBE, Awash, Dashen, Abyssinia, Hibret, and 15+ more
- Manual payment verification by admin after transfer reference submission

## 7.2 Revenue Streams

- Hire commission (configurable % of contract offer; default 20% per party)
- Connect packs for freelancer applications
- Client subscription plans (monthly/yearly/enterprise)
- Premium Family plan for unlimited stories
- AI token purchases for assistant usage
- Wallet deposits and platform fees on transactions

## 7.3 Subscription Plans (ETB)

Plan	Price	Job Posts	Companies	Stories/Day
Free	0	3 / month	1	1
Premium Family	199 / mo	3 / month	1	Unlimited
Client Monthly	499 / mo	Unlimited	5	1
Client Yearly	4,999 / yr	Unlimited	10	1
Client Enterprise	14,999 / yr	Unlimited	Unlimited	Unlimited

## 8. API Overview

Module	Key Endpoints
Categories	GET /api/categories?lang=en am om
Jobs	CRUD, search, geo filters, expiry scheduler
Matching	GET /api/matching/jobs, explain, talent search
Applications	Apply, pipeline status, interviews, offers
Contracts	Pay, milestones, delivery, disputes
Payments	Checkout, commission payments, wallet deposits
Chat	Conversations, messages, moderation
Posts	Feed posts, stories, likes, comments
Follow	Follow, unfollow, requests, privacy

Module	Key Endpoints
Talent	Public profiles, search, reviews
Telegram	Webhook, account linking, OTP auth

## 9. Admin and Operations

Console	Path	Capabilities
/admin	Operations	Payments, disputes, users, moderation, analytics
/superadmin	Platform	Commission rates, broadcasts, settings, seeds
Commission tab	/admin/payments	Job summary, offer %, approve/reject
Subscriptions	Admin review	Telebirr/bank payment verification

- Commission suspension blocks marketplace actions until dues are paid
- Email templates for hiring, commission, follow, and verification events
- Scheduled jobs: contract review, job expiry, commission recalculation

## 10. Security and Compliance

- JWT authentication with role-based access control (RBAC)
- Commission suspension guard for unpaid platform dues
- Contact masking in chat until contract payment
- National ID verification (Fayda) for trusted profiles
- Admin moderation for chat, payments, and disputes
- Rate limiting on sensitive endpoints (OTP, auth)

## 11. Deployment Guide

- Production: Docker Compose on VPS (nginx reverse proxy, SSL via Certbot)
- Web container on port 3000, API on port 3001
- MongoDB Atlas for production database
- Deploy script: scripts/deploy-vps.sh
- Environment: .env (MongoDbURL, JWT, SendGrid, AI keys, Telegram token)
- Seed data: categories, translations, demo accounts, subscription plans

### 11.1 Development Quick Start

- cp .env.example .env and set MongoDbURL

- npm install && npm run dev (API + web concurrently)
- Docker: docker compose -f docker-compose.dev.yml up --build
- Test accounts: admin@example.com, client@example.com, talent@example.com

## 12. Public Pages and SEO

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- / - Landing page with features, stats, FAQ JSON-LD
- /jobs and /feed/jobs - Job browse with filters and AI rerank
- /talent and /talent/[id] - Freelancer discovery and public profiles
- /hire/[id] - Client public profiles
- /connections - Followers, following, and requests
- OpenGraph images, sitemap, and structured metadata

## 13. Support and Contact

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Platform: <https://jobs.lucyhub.org> | API Documentation: </api/docs> | License: MIT. Partnerships, funding, and sponsorship: [partnerships@lucyhub.org](mailto:partnerships@lucyhub.org)