Hyv

Motto: An AI-first utility platform for everything around you.

1. Project Overview & Problem Statement

1.1 The Problem

Modern urban residents rely on fragmented, untrustworthy, and non-localized platforms (WhatsApp, Facebook Groups, OLX) for core real-world needs (rentals, local trade, activity discovery). This leads to **high user friction, rampant fraud, and ineffective discovery**.

1.2 The Solution

Hyv is a single, consolidated digital ecosystem that leverages **Artificial Intelligence and hyper-local data** to provide utility, trust, and community connection. The primary entry point is the **AI Utility Chatbot**, replacing cumbersome manual search with conversational query resolution.

1.3 Unique Selling Proposition (USP)

- **AI-First Interface:** Conversational search powered by Vector DB for instant, hyper-relevant matches.
- **Hyper-local Native:** Geo-indexed for block-level relevance, eliminating noise.
- **Trusted Ecosystem:** Multi-level, paid verification system centered on **Aadhaar KYC** for high-assurance trust.
- **Modular Utility:** A "Super App" structure combining multiple necessary services (Rentals, Marketplace, Activities).

2. Core Functional Specifications (MVP)

2.1 AI Utility Chatbot (Primary Interface)

- **Function:** Accepts complex, natural language queries (e.g., "Find me a verified roommate near Whitefield who likes board games and has a budget of 15k").
- **Architecture:** The query is vectorized and compared against user/listing embeddings stored in **Milvus DB** to retrieve hyper-relevant, filtered results which are then presented conversationally.

2.2 Roommate/Tenant Finder

- **Listings:** Users can post/search for rooms, apartments, or tenants.
- **Matching Logic:** Based on budget, location, lifestyle preferences (noise, food habits, smoking), and common interests. AI/Vector matching provides compatibility scores.
- **Communication:** In-app chat with Priority Interest feature (paid via Credits).

2.3 Buy & Sell Marketplace

- **Listings:** Items categorized (furniture, electronics, books, tickets).
- **Trust Layer:** Listings from Address-Verified or Aadhaar-Verified users are prioritized.
- **Moderation:** Automated system detects and flags/removes listings based on reverse image search (to catch common scam photos) and price deviation analysis.
- **Communication:** Negotiation chat within the app.

2.4 Local Activity Discovery

- **Creation:** Users can create public or private activity groups (running, reading, food walks).
- **Discovery:** Geo-based feed showing activities within a configurable radius.
- **Hyves System (Future):** Activities will be categorized under major interest groups (Hyves) for enhanced community organization.

3. Monetization Strategy & Model

Hyv operates on a **Credit-Based Freemium Model** (Phase 1) transitioning to an **Enterprise SaaS** model (Phase 2).

3.1 Consumer Credit System

- **Mechanism:** Users pre-purchase non-expiring Hyv Credits in lump sums.
- **Credit Usage:**
  - **Boost Listing/Item:** 25 Credits (One-time fee for high visibility).
  - **Register Priority Interest:** 10 Credits (One-time fee to flag communication as urgent).
  - **Verification Badge:** ~50 Credits (One-time fee for high-assurance trust).
- **Pro Subscription (Recurring):** Provides a bundle of benefits: 2x Credits, algorithmic priority in search results, and early-bird access to new listings.

3.2 Enterprise Monetization (Phase 2 Moat)

- **Product:** Hyv Enterprise Suite.
- **Model:** SSO-based annual licensing fee per employee/seat (B2B SaaS).
- **Features:** Private internal marketplace, corporate event management, HR dashboards.

4. Authentication and Trust Assurance

To mitigate fraud and deliver on the "Trusted Connections" promise, Hyv implements a tiered, paid verification system.

Tier	Method	Current Status	Cost/Incentive	Trust Level
L1:	Email/Phone	MVP	Free, Mandatory	Basic

Foundational	OTP, Geo-Location Check.			Anti-Spam
L2: High Assurance (Identity)	**Aadhaar KYC & Biometric Match** (via licensed third-party service).	Future Focus	Paid (~50 Credits)	Government-Verified Legal Identity
L3: Address Vetting	Proof of Residence (Utility Bill/Rent Agreement) or Physical Postcard Code.	Future Focus	Paid (~50 Credits)	Verified Current Location (Crucial for Rentals)
L4: Listing Vetting	Reverse Image Search API, Geo-Tag Confirmation.	MVP/Automated	Platform Cost	Anti-Scam/Content Integrity

5. Technical Specifications (Tech Stack)

The architecture is high-performance, polyglot, and cloud-native, designed for agility and vertical scaling of specialized services.

Component	Technologies	Purpose
Frontend	NextJS (React + TypeScript), Tanstack Query, Tailwind, ShadCN	Optimized for fast, responsive, and data-efficient delivery (SSR/SSG).
Backend Core	SpringBoot (Java)	Handles core transactional stability, security, and high-volume financial logic (Monetization, User Auth).
AI/ML Services	FastAPI (Python)	Dedicated microservices for low-latency AI inference, running vectorization, and recommendation algorithms.
Relational DB	Azure PostgreSQL	Primary storage for structured data (User Profiles, Listings Metadata, Transactions).
Vector DB	Milvus DB	Stores vector embeddings of user interests and listing descriptions to power semantic search and AI compatibility matching.
Hosting	Vercel (Frontend), Azure Cloud (Backend)	Optimized for continuous integration, performance, and enterprise scalability.

6. MVP Roadmap (6 Weeks)

This extended roadmap details the incremental feature rollout, maintaining a tight feedback loop and scaling trust features.

Week	Focus Area	Key Deliverables
Week 1	Foundation & AI Hook	Global Sign-up (Email/OTP), Detailed Profile Creation (Interests & Preferences), Geo-location/Radius setting, Basic **AI Utility Chatbot** (text-to-initial-search logic).
Week 2	Core Utility: Listings	**Roommate Finder** (Post/Search MVP), **Marketplace** (Post/Images, Negotiation Chat), Initial Backend Data Models (PostgreSQL).
Week 3	Trust & Social	**Local Activities** (Create/Join/Group Chat), **L4 Listing Vetting** (Reverse Image Scan for Marketplace), Basic User

		Reporting tools.
Week 4	**Monetization & Performance**	**Credit System Implementation**, Boost Listing Functionality (25 Credits), **Initial Vector Embedding** generation (Milvus DB), Performance tuning.
Week 5	**Pre-Launch Refinement**	**Pro Subscription Tier** activation, Full UI/UX audit, In-app tutorial/onboarding flow, Targeted internal beta testing (Bangalore micro-area).
Week 6	**Public Launch**	Implement Push Notifications, **Safety & Moderation Dashboard**, Public Launch in 1–2 Major Cities (Target: Bangalore & Hyderabad).

7. Future Enhancements

- **Hyves System:** Introduce thematic meta-communities (e.g., Hyve: Travel, Hyve: Tech) that aggregate relevant activities, marketplace listings, and discussion forums, enhancing user stickiness.
- **Advanced Discovery:** Implement Geo-indexing for sub-locality relevance, Activity

Heatmaps, and full **Vector Search** integration for hyper-accurate AI matching.

- **Enterprise Suite Rollout:** Develop SSO integration, private community tools, and HR analytics dashboards for B2B offering.