

**now put these into the PRD , make it more wholesome with detailed text in it.**

Below is a comprehensive, updated **Product Requirement Document (PRD)** for your HNI Market Insight Tool. This version incorporates AI agents modeled closely on real-world figures, dynamic news/context grounding, and best-practice open-source tool integration for a state-of-the-art, market researcher–focused platform.

**Product Requirement Document (PRD)**

**Title**

**Dynamic HNI AI Insight Tool – MVP**

**Prepared For**

Enterprise Market Research & Brand Insights Team

**Date**

July 27, 2025

**1. Purpose**

To empower market researchers with a cutting-edge digital platform that simulates a panel of High Net-Worth Individual (HNI) AI agents—each closely modeled on notable public figures. The tool gathers and analyzes in-depth, sentiment-aware brand feedback from these AI HNIs, grounding each interaction in up-to-the-minute news and personal context, supporting advanced research, comparative insight, and granular analytic filtering.

**2. Scope & Design Principles**

* **AI HNIs as Digital Personas**: Each HNI is an AI agent drawing on the persona of a specific real-world notable figure, with responses informed by both their enduring worldview and very recent news/biographical context.
* **Open Source and Transparent**: Utilizes an open, explainable tool stack (LangChain, React, Node.js, spaCy, etc.), with all LLM prompts and context exposed to the user.
* **Researcher-Centric**: UX is optimized for question-driven exploration, rapid iteration, context discovery, and direct analytics.
* **MVP Roster**: 20 unique agents per key HNI persona type (4 types, 80 total), all dynamically updated.
* **Multi-Account Support**: Allows for segmentation of queries and analytics by research/client account.

**3. HNI Persona Blueprints & Real-World Figures**

Each HNI type in the application is modeled on a living archetype that embodies the segment’s philosophy, behavior, and influence patterns. Each AI agent’s responses are kept current by ingesting the latest 10 news stories/social posts about their real-world inspiration.

|  |  |  |
| --- | --- | --- |
| Synthetic HNI Type | Archetype Figure | Current Context Coverage |
| Modern Minimalist Professionals | Joshua Fields Millburn | Minimalism movement, Netflix/YouTube documentary, decluttering course, public talks, latest opinions |
| Heritage Enthusiasts | Loyd Grossman | British heritage, Royal Parks leadership, new product launches, awards, media interviews, advocacy |
| Sustainable Fashion Advocates | Emma Watson | Sustainable fashion/activism, new academic/professional activities, recent brand launches, public roles |
| Creative Industry Professionals | George Lois (legacy) | Creative campaign history, ad culture commentary, perennial reference in creative industry |

**Agent Design Principle:**  
Responses are constructed by conditioning the GPT-4o mini LLM on:

* Detailed profile prompts (bio, values, historical positions of the figure)
* A digest of the figure’s last 10 media/news/social events (web-scraped per query)
* Specific instructions to answer in the style and perspective of the mapped figure

**4. Roles & Permissions**

* **Market Researcher:** Submit questions, view/search Q&A history, filter analytics, review agent context
* **System/Platform:** Orchestrate agents, manage data, keep prompts/news up-to-date, ensure transparency

**5. Functional Requirements**

**5.1 Account & Session Management**

* Secure authentication and multi-account selection per researcher
* All queries, responses, and analytics tagged by account

**5.2 HNI Ask Page**

* One unified, prominent input bar for brand questions
* Searchable, filterable repository of all historical Q&As per account
* Click any previous Q to view all underlying agent responses and context used

**5.3 AI Agent Response Engine**

* For each submitted question:
  + Scrape and extract the 10 latest news/posts for each mapped figure (using open source scraping or APIs)
  + Form a prompt for each agent, blending persona, psychographics, and news context
  + Feed prompt to GPT-4o mini via open source agent orchestration (LangChain)
  + Collect unique responses for each agent

**5.4 Analytics/Insights Dashboard**

* Response aggregation and display:
  + Sentiment breakdown (positive/neutral/negative, via spaCy/NLTK/Huggingface and/or GPT-4o analysis)
  + "Likes" and "dislikes": most salient features highlighted per agent/segment
  + Concerns/acceptance, annotated by profession/gender/location/audience type
  + AI explanation of what recent news/events drove the sentiment, per agent or cluster
* Advanced filter panel:
  + By HNI type (archetype/figure)
  + By profession, gender, city, or “last event context” (e.g., only agents with specific recent news triggers)
* All statistics and opinion summaries are downloadable as CSV/screenshots

**5.5 Contextual Transparency Panel**

* On hover or click for any agent response: shows the combined bio + last 10 news headlines/summaries that grounded the reply

**6. Open Source & Technical Framework**

* **Frontend**: React.js (modular, interactive UI)
* **Backend/API**: Node.js/Express, FastAPI (Python) for NLP and scraping orchestration
* **Database**: PostgreSQL or MongoDB (Q&A, agent profiles, news history)
* **LLM**: OpenAI GPT-4o mini, via securely managed API keys
* **Agent Orchestration**: LangChain (open source, rich context injection)
* **Scraping**: BeautifulSoup, newspaper3k, Selenium (as needed), RSS/official APIs for speed/context freshness
* **Analytics**: spaCy, NLTK, Huggingface Transformers (for custom sentiment/topic analytics)
* **Charts/UI**: Chart.js, D3.js (open source, for interactive/visual dashboards)
* **Authentication**: Auth.js, or alternative federated open source identity system

**7. Application Workflow**

1. **Researcher Log-in**
2. **Account Selection / Ask Page**
   * Researcher submits a brand question
   * Repository sidebar displays searchable Q&A archive
3. **Agent Response Engine**
   * Scrapes and preprocesses last 10 news per agent
   * Prompts each AI HNI with persona and up-to-date life context
   * Collects and stores agent responses
4. **Insights Dashboard**
   * Automated aggregation of sentiment, likes/dislikes, concern/acceptance clusters
   * Enables powerful analytics filtering (by archetype/real-figure, profession, gender, city, recency of context)
   * For any agent/response: show news/events driving their insights
5. **Exploratory Review**
   * Drill down into any opinion, review how agent's current context influenced response
   * Export analytics as needed
6. **Repeat/Iterate**
   * Every new question updates all agent contexts; Q&A and insights evolve organically

**8. Special Features & Value-Adds**

* **Persona Authenticity**:  
  Each synthetic agent’s output is transparently traceable to both enduring character and most recent contextual influences—no generic, “stale” opinions.
* **Dynamic Context**:  
  Even for new/repeat questions, agent “opinions” are subject to the flow of new events/news, keeping the insight panel truly current.
* **Trust & Explainability**:  
  At every layer—prompt, news, profile—the provenance of agent opinions is clear to the researcher, with clickable citation trails.

**9. UI/UX Specification (Summary)**

**Page 1: Ask an HNI**

* Account dropdown
* Big ask bar
* Submit button
* Sidebar: Searchable archive of all previous Q&As

**Page 2: Agent Analytics**

* Sentiment breakdown (charts)
* Likes/dislikes/concerns—tables filtered by HNI profile/real-figure/other demographics
* Drill-down to agent/context
* Filter panel (by HNI type/profession/gender/city, “recent context events”)
* Raw answers: expandable bio/context window for each agent’s reply

**10. MVP Acceptance Criteria**

* Platform generates 20 unique, context-grounded responses per audience type (4×20=80) per brand question
* Analyst can ask questions, search previous questions, and view all agent-level responses
* Analytics dashboard computes sentiment/consensus/segment breakdowns using open source tools
* All analytics filterable by HNI real-figure persona, as well as other demographics/context
* Context for each agent is transparent (can view the latest 10 news that shaped reply)
* System can be expanded with new agent types/profiles/news sources with minimal engineering

**End of PRD**