# **NeuralVault: Your AI-Powered External Brain**

## **Product Requirements Document v1.0**

*"We're building the future of human knowledge augmentation - where every piece of information you've ever encountered becomes instantly queryable through natural language."*

## **🚀 Vision Statement**

**NeuralVault transforms how humans interact with their digital knowledge.** We're creating an AI assistant that doesn't just answer questions - it becomes an extension of your mind, instantly surfacing insights from your entire digital life through conversational AI.

**Market Opportunity**: The average knowledge worker spends 2.5 hours daily searching for information they already have. We're solving a $2.8T productivity problem.

## **🎯 Core Value Proposition**

**"Ask your life anything, get intelligent answers instantly"**

NeuralVault ingests, understands, and connects every piece of your digital information - emails, documents, chats, calendars, bookmarks - creating a unified knowledge graph that responds to natural language queries with unprecedented accuracy and context.

## **📊 Tiered Feature Requirements**

### **🌟 MVP (Months 1-3) - "The Foundation"**

*Goal: Prove core value with 1,000 power users*

**Core Engine**

* Personal document ingestion (PDF, DOCX, TXT, MD)
* Vector embedding pipeline using OpenAI text-embedding-ada-002
* Basic RAG implementation with ChromaDB
* Simple chat interface with memory
* Gmail integration via MCP server

**Success Metrics**

* 90% query relevance score
* <3 second response time
* 80% user retention after 7 days
* Process 10K+ documents per user

**Technical Stack**

* LangChain for orchestration
* ChromaDB for vector storage
* FastAPI backend with WebSocket support
* React frontend with real-time updates

### **🚀 Growth (Months 4-8) - "The Multiplier"**

*Goal: Scale to 10K users, $50K MRR*

**Advanced Intelligence**

* Multi-modal RAG (text, images, PDFs with tables)
* Contextual conversation threading
* Proactive insights and notifications
* Advanced query understanding with intent detection

**Integration Ecosystem**

* Google Drive, Dropbox, OneDrive via MCP servers
* Slack, Discord, Teams message history
* Calendar integration with meeting transcripts
* Browser extension for bookmark/article capture

**Enterprise Features**

* Team knowledge sharing with permission controls
* API access for third-party integrations
* Custom embedding models for domain-specific content
* Advanced analytics and usage insights

**Success Metrics**

* $4 ARPU (Average Revenue Per User)
* 95% query satisfaction rate
* 40% month-over-month growth
* <1% churn rate

### **🌍 Scale (Months 9-18) - "The Platform"**

*Goal: 100K users, Series A funding, $2M ARR*

**AI Sophistication**

* Multi-agent orchestration for complex queries
* Real-time learning from user feedback
* Predictive information surfacing
* Cross-user knowledge insights (privacy-preserved)

**Platform Expansion**

* Mobile apps (iOS/Android) with offline capability
* Voice interface with natural speech processing
* Collaborative workspaces and shared knowledge bases
* White-label enterprise solutions

**Advanced Integrations**

* CRM systems (Salesforce, HubSpot)
* Project management tools (Notion, Asana, Linear)
* Code repositories (GitHub, GitLab)
* Financial platforms (banking, investment accounts)

**AI Infrastructure**

* Custom fine-tuned models for personal data
* Federated learning across user base
* Advanced reasoning with graph neural networks
* Multi-language support with 20+ languages

**Success Metrics**

* $20 ARPU for enterprise customers
* 98% uptime SLA
* 60% of queries answered without human input needed
* 500K+ API calls daily

## **🏗 Technical Architecture**

### **Core Components**

**1. Ingestion Pipeline**

* Real-time document processing with change detection
* Intelligent chunking based on document structure
* Metadata extraction and tagging
* Deduplication and version control

**2. Vector Intelligence**

* Hybrid search (semantic + keyword)
* Dynamic re-ranking based on user behavior
* Temporal relevance scoring
* Cross-reference relationship mapping

**3. MCP Server Ecosystem**

* Standardized connectors for 50+ data sources
* Real-time synchronization with webhook support
* Rate limiting and error handling
* OAuth2 security with token refresh

**4. Conversational AI**

* Context-aware response generation
* Multi-turn conversation memory
* Citation and source attribution
* Confidence scoring and uncertainty handling

## **💰 Business Model**

### **Pricing Tiers**

**Personal** ($19/month)

* 100GB storage, 1K queries/month
* Basic integrations (email, drive, calendar)
* Standard AI models

**Professional** ($49/month)

* 1TB storage, 10K queries/month
* All integrations + API access
* Advanced AI models + custom training

**Enterprise** ($199/user/month)

* Unlimited storage and queries
* White-label deployment
* Dedicated support + SLA
* Custom model development

### **Revenue Projections**

* Year 1: $500K ARR (2.5K users avg)
* Year 2: $5M ARR (15K users avg)
* Year 3: $25M ARR (60K users avg)

## **🎪 Competitive Advantage**

**1. Privacy-First Architecture**

* Local-first with cloud sync options
* End-to-end encryption
* User-controlled data retention
* GDPR/CCPA compliance by design

**2. Universal Integration**

* MCP protocol enables any data source
* No vendor lock-in
* Cross-platform compatibility
* Open-source connector ecosystem

**3. Contextual Intelligence**

* Understands temporal relationships
* Maps information hierarchies
* Learns personal preferences
* Predicts information needs

## **🚦 Success Criteria & KPIs**

### **Product-Market Fit Indicators**

* 40%+ of users active daily
* Net Promoter Score >50
* Organic growth rate >30% monthly
* Average session duration >10 minutes

### **Technical Excellence**

* 99.9% uptime
* <2 second query response time
* 95%+ query relevance score
* Zero data breaches

### **Business Milestones**

* $1M ARR within 18 months
* Series A funding ($10M+)
* 100K registered users
* Strategic partnerships with 3+ major platforms

## **🔮 Future Vision**

**The Ultimate Goal**: NeuralVault becomes the universal interface between humans and all digital information, powering a new era of augmented intelligence where the boundary between human memory and digital knowledge disappears.

**Moonshot Features**:

* Brain-computer interface integration
* Holographic knowledge visualization
* Predictive information delivery
* Universal knowledge graph across all human information

*"We're not just building a chatbot. We're creating the next evolution of human intelligence."*