

**Instructions for Participants**

* Please make a **copy** of this document and rename it as:  
  *“TeamName\_InstituteName\_IdeaName”*
* Fill out all sections clearly and concisely.
* Use narrative, bullet points, visuals, or diagrams if needed.
* Submit the **Google Docs shareable link** with “Viewer” access.

**Team Details:**

**Team name:**

Team member’s Name, University, Department, Latest Certificate:

1. Md. Yousuf Hossain
2. Abdul Al Mahin
3. S M Nabil Ausaf,Dhaka International University, CSE,
4. Ummey Hafsa

**Team Summary:**

Our team combines deep technical expertise in AI and machine learning with a thorough understanding of the telecom industry. We are committed to making digital payments simpler and more efficient for millions of users across India, starting with Vodafone Idea subscribers. Together, we bring a mix of skills, industry knowledge, and passion for innovative solutions.

**Core Idea**

**Main Concept：**  
We propose “FinWise LLM”—a domain-specialized language model that acts as a stock-market expert analyst， combining financial filings， news， social sentiment， and price data to deliver accurate summaries， cited insights， and backtested trading signals—all through a conversational interface.

**Problem Addressed：**  
Retail investors and researchers face information overload： earnings reports are dense， news is noisy， and social media sentiment is unverified. Most AI chatbots lack financial grounding， hallucinate facts， or ignore source credibility—leading to poor decisions. There is no lightweight， open， and transparent LLM that functions as both a research assistant and a signal generator for financial markets.

**Proposed Solution：**  
**FinWise LLM uses：**

* Retrieval-Augmented Generation (RAG) to pull real-time data from SEC filings， financial news APIs， and social platforms，
* LoRA-based fine-tuning on financial corpora (10-Ks， earnings transcripts， analyst reports) to embed domain knowledge，
* A signal engine that converts sentiment and events into quantifiable trading ideas，
* Citation-aware responses that link every claim to its source (e.g.，“Per Apple’s Q3 2024 10-Q， revenue grew 5% YoY”).

**Unique/Innovative Aspect：**  
Unlike generic LLMs (e.g.， ChatGPT) or black-box trading bots， FinWise LLM is：

* Transparent： Every output includes verifiable sources，
* Lightweight： Runs on a single consumer GPU (e.g.， RTX 4090) via quantization，
* Multi-functional： Serves as a chatbot， research tool， and signal generator in one，
* Backtest-integrated： Users can simulate strategy performance before acting.

**Feasibility & Growth Potential**  
Explain how your idea can realistically work and scale.

**Realistic Implementation：**

* Built on open-source LLMs (e.g.， Mistral-7B or Llama-3-8B) with LoRA adapters for efficient fine-tuning，
* RAG pipeline powered by LlamaIndex or LangChain with vector DB (Chroma/FAISS)，
* Data sources： SEC EDGAR API， Yahoo Finance， Twitter/X API， and Reddit (r/stocks)，
* Signal logic implemented in Python + Backtrader/Zipline for historical validation.

**Practicality：**  
The system requires no proprietary models—only public data and open weights. Fine-tuning uses <10GB VRAM； inference runs on modest hardware. Designed for individual analysts， students， and indie quants who lack Bloomberg terminals but need reliable insights.

**Market Differentiation：**  
**Existing tools are either：**

* Too generic (ChatGPT gives uncited financial advice)，
* Too expensive (Bloomberg， Koyfin)， or
* Too opaque (AI trading bots with no explainability).  
  FinWise LLM fills the gap： open， affordable， cited， and actionable.

**Growth Potential：**

* Phase 1： Open-source release for academic and retail use，
* Phase 2： SaaS version for fintech startups and research labs，
* Phase 3： API integration with trading platforms (e.g.， Alpaca， Zerodha)，
* Long-term： Expand to crypto， forex， or ESG investing with modular data adapters.

**Technology Stack & AI Tools**  
Describe the technologies you plan to use.

**Programming Languages：**  
Python for LLM pipeline， signal generation， and backtesting，  
JavaScript for optional web dashboard.

**Frameworks & APIs：**  
LangChain / LlamaIndex for RAG orchestration，  
Hugging Face Transformers + PEFT for LoRA fine-tuning，  
SEC EDGAR API， Yahoo Finance API， Twitter API v2 for data ingestion.

**AI Tools：**  
Mistral-7B or Llama-3-8B as base LLM，  
Sentence-BERT for financial text embedding，  
Backtrader for strategy backtesting，  
MLflow for experiment tracking.

**Cloud Tools：**  
AWS EC2 (for cloud inference)，  
Google Cloud Storage (for financial document caching)，  
Weights & Biases (for model monitoring).

**Security Protocols：**  
No user financial data stored； all queries processed in-memory，  
API keys encrypted via AWS Secrets Manager，  
Rate-limiting and input sanitization to prevent prompt injection.

**Projected Impact**  
Show the potential real-world impact of your idea.

**Target Users：**

* Retail investors seeking reliable， cited market insights，
* Finance students and researchers exploring NLP in trading，
* Indie quants building systematic strategies without expensive tools，
* Fintech developers needing a financial reasoning API.

**Impact Metrics**：

* 70% reduction in time spent reading 10-Ks or earnings calls，
* 50% increase in source-aware decision-making (measured via user surveys)，
* 100+ open-source contributors within first year of release，
* 20+ academic papers citing FinWise as a financial NLP benchmark.

**Social & Economic Impact**：

* Democratizes access to institutional-grade financial analysis，
* Promotes responsible AI in finance through transparency and citations，
* Accelerates research in AI-driven market efficiency and behavioral finance，
* Reduces reliance on misinformation from unverified trading influencers.

Example： *“If adopted by 10,000 retail investors and 50 universities， FinWise LLM could improve financial literacy， reduce speculative trading， and serve as a public benchmark for trustworthy financial AI.”*

