

**AI -Powered Personalized Recommendation system - GolDEN Basket**

Customer’s Personalized wealth management recommendation system



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**Golden Basket – An automated Gen AI Powered Wealth advisor**

**Summary**

In a rapidly evolving financial landscape, customer expectations from their banking partners have transformed significantly. They now seek **not just transactional services, but holistic financial experiences** that guide them toward financial well-being and wealth creation. The vision of "Golden Basket" is to offer a **GenAI-powered, highly personalized and customized wealth management platform** that enhances the banking experience and enables customers to make informed investment decisions.

Golden Basket acts as a **digital financial companion** that understands the customer's financial dreams and risk appetite, offering tailored recommendations in stocks, mutual funds, and investment baskets using AI-driven insights. The integration of advanced technologies such as **Risk Understanding Graphs (RUG)**, **Large Language Models (LLMs)**, and **regression-based risk profiling** ensures precision and personalization.

# **Target Audience:**

* Golden Basket is designed for a diverse audience of stakeholders in the financial ecosystem:
* Retail Banking Customers: Individuals who want to invest but lack time or expertise.
* HNIs (High Net Worth Individuals) & U-HNIs: Looking for intelligent portfolio diversification.
* Bank Wealth Managers: Need AI assistance in recommending personalized portfolios.
* Product Heads in Banks: Exploring next-gen digital banking innovations.
* Digital Transformation Leaders: Seeking GenAI-powered customer engagement models.
* Regulators & Policy Makers: Interested in how AI ensures customer-centric and responsible investing.

This ideation offers a roadmap to how AI can humanize digital wealth management and help customers to build their dreams, while being scalable, compliant, and transparent.

# **Problem Statement – Why Change is Needed?**

Today’s investors face several key challenges:

**Generic Advice:** Most banks provide a one-size-fits-all product recommendation.

**Information Overload:** Customers struggle to analyse stock/fund data from various sources.

**Lack of Personalization:** Risk tolerance, goals, and life events are not adequately considered.

**Low Engagement:** Traditional platforms fail to spark emotional connection or confidence.

**Trust Deficit in AI:** Most customers don’t trust black-box AI recommendations.

Golden Basket addresses these problems by creating **tailored investment baskets with explainable AI-backed recommendations**, increasing both engagement and financial success.

# **Current Market Landscape**

Most wealth management platforms today follow:

* **Rule-based static recommendations**
* **Generic Risk Profiling using few attributes**
* **Minimal use of AI/ML**
* **No GenAI narrative generation or customer conversation intelligence**

Few institutions leverage AI in a truly explainable and personalized way. Robo-advisors are either too mechanical or too generic. There’s an urgent need for **emotionally intelligent, context-aware, personalized wealth tools**.

That’s where Golden Basket stands out — **not just as a recommendation engine, but a financial storytelling and advisory assistant**, leveraging **deep personalization through GenAI**.

# **Our Solution :**

## **Introducing “Golden Basket”**

Golden Basket is a **GenAI-powered personalized wealth management system** that enhances the banking experience and delivers customized investment solutions.

**Key Features:**

* Risk Score Prediction using Regression Modeling
* Personalized Investment Basket generation
* Natural Language Explanation using LLM
* Customer Need Analysis with RUG (Risk Understanding Graph)
* Investment Goal Mapping
* AI Storytelling – Explainable portfolio rationale
* Multi-Channel Delivery – Mobile, Web, Branch Advisor Assistance

**Customer Journey:**

1. Customer enters **goal, investment amount, time horizon**.
2. GenAI assistant **understands customer persona, risk profile, liquidity needs**.
3. System recommends **tailored asset baskets** (e.g., Tech Growth, Retirement Shield, Balanced Returns).
4. LLM **generates easy-to-understand investment rationale**.
5. Customer tracks performance, adjusts basket dynamically with AI guidance.

**A diagram of a diagram

AI-generated content may be incorrect.**

# 

# **Technical Details: RUG, LLM, Regression Model in Action**

## **RAG Architecture Overview (TinyLlama + FAISS):**

RAG stands for “Retrieval-Augmented Generation.” It’s a powerful architecture used to enhance the performance and accuracy of Large Language Models (LLMs) .

RAG = Retrieval + Generation

**Retrieval**: Before generating an answer, the system retrieves relevant information/documents from an external knowledge base, database, or document store (e.g., PDFs, websites, internal files).

**Augmentation**: This retrieved information is passed into the LLM as context.

**Generation**: The LLM then generates a response using both the user’s query and the retrieved information, leading to more accurate and contextually rich response

***User Query***

***↓***

***Embedding Model (e.g., all-MiniLM)***

***↓***

***Vector Search (FAISS over documents)***

***↓***

***Top-K Relevant Chunks***

***↓***

***Prompt = [Context + User Query]***

***↓***

***TinyLlama (Generates answer)***

## **LLM – Large Language Model:**

Used to:

* Convert AI insights into human-readable language
* Provide **portfolio storytelling**
* Answer **"Why is this fund for me?"** in simple terms
* Explain **"What if" scenarios** in goal planning

*E.g., "We recommended this Tech Growth Basket because it aligns with your moderate risk appetite, and your time horizon of 5 years favors long-term capital appreciation."*

**Let’s say a customer asks:**

“What’s the stock/fund I need to include in my investment profile for a yield of 9% over the span of 10 years to achieve my financial goal?”

* In a **pure LLM model**, it might try to guess based on training data.
* In a **RAG model**, it:
  1. Retrieves recent and accurate information about that fund from a financial database.
  2. Feeds that into the LLM.
  3. LLM then generates a natural language response like:

**Sample Response:**

**A close-up of a document

AI-generated content may be incorrect.**

**The model recommends diversified sectorsA pie chart with numbers and a few percentages

AI-generated content may be incorrect.**

## **Regression Model for Risk Scoring:**

A Regression Model is a type of machine learning model used to predict a continuous numeric value based on one or more input features (independent variables).

In our case, the goal is to predict a Risk Score (say, between 0 and 100) based on multiple customer attributes like:

* Age, income, loan exposure
* Past investment patterns (Loans , Mortgage)
* Economic indicators
* Peer benchmarking To assign a **Risk Score between 0–100** that governs portfolio mix and asset type (Equity-heavy, Debt-heavy, Balanced, etc.)

## **Personalized Investment Basket Recommendation Engine**

Each customer gets a **Golden Basket** which contains a blend of:

* Stocks
* Mutual Funds
* ETFs
* Gold/Crypto (optional based on user preference)

**Basket is generated based on:**

* Risk Score
* Time Horizon
* Sector Preference
* Liquidity Needs

## **GenAI-Powered Customer Interaction**

Golden Basket is more than an engine — it’s a **Digital Wealth Companion**.

**Features**:

Conversational AI Advisor (powered by LLM): "Hey Rahul, based on your current goals, would you like to rebalance your portfolio?"

Dream Goal Planner: "Help me save for my child’s education in 10 years."

Scenario Simulator: "What happens if I increase investment by ₹5,000/month?"

GenAI makes wealth management interactive, immersive, and human-like, which traditional platforms lack.

|  |  |
| --- | --- |
| Benefits to Customers: | Benefits to Bank: |
| Personalized Financial Empowerment | Deep customer engagement |
| Easy-to-understand investment logic | Nudge-based upsell and rebalancing |
| Confidence in AI suggestions | AI insights for advisors |
| Journey toward dream fulfilment | Regulatory-friendly explainable AI architecture |
| Increase wallet share and cross-sell |  |

**Business Value Differentiator**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Feature | **Traditional** **Platforms** | **Golden Basket** |
| Risk Profiling | Basic | Dynamic AI-based |
| Communication | Static | Conversational |
| Recommendation | Fixed list | Custom Basket |
| Explanation | Minimal | LLM-generated stories |
| Adaptability | Manual | Self-learning AI |

# **Conclusion and Future Roadmap**

Golden Basket is not just a product — it’s a **paradigm shift in digital wealth management**. By **combining AI’s precision with human-like communication**, it turns investments into stories and dreams into achievable goals by increasing customer engagement

**Future Roadmap:**

* Partner with stock exchanges for real-time data feeds
* Expand into insurance recommendation & tax advisory
* Build cross-sell opportunities via LLM-based nudges

**Golden Basket will redefine how customers perceive banks – not just as service providers, but as true financial partners.**