

Bank of Baroda Hackathon 2024

Your Team Name :- The Cartographer

Date :- 30/06/24

Problem Statement?

Financial Advisory :

To revolutionize financial advisory services using generative AI to provide personalized, data-driven financial advice to customers

Why did you decide to solve this Problem statement?

Empower Retail Investors:

Provide accessible, customized investment advice to help retail investors make informed decisions.

Boost Investment Confidence

Personalized recommendations increase investor confidence, encouraging participation in financial markets.

Promote Financial Inclusion

Make investment advice accessible to diverse economic backgrounds, promoting financial inclusion.

Close Financial Literacy Gaps

Educate investors on risk management and portfolio diversification to enhance financial literacy.

Leverage Technology

Utilize advanced technology to deliver high-quality investment advice to a broader audience.

Support Economic Growth

Encourage retail investor participation to contribute to the growth and stability of the Indian economy.

Pre-Requisite What are the alternatives/competitive products for the problem you are solving?

Robo-Advisors:

Platforms like Zerodha's Coin, Groww, and Paytm Money offer automated investment advice based on user inputs.

Traditional Financial Advisors:

Personalized advice from financial planners and investment consultants, though often expensive and less accessible.

Mutual Fund Apps:

Apps such as MyCAMS and KFinKart provide investment options and portfolio tracking but lack detailed personalized recommendations.

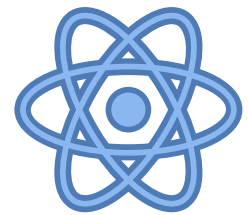
Banking Investment Services:

Banks like HDFC and ICICI offer investment services to their customers but often prioritize their products and can have higher fees.

Tools Or Resources

Tech Stack

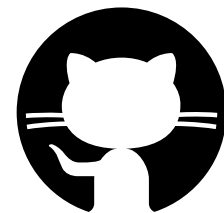
Front-End



React.js



Version
Control

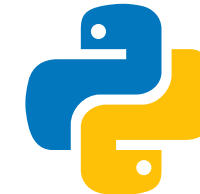


Github

Database



Machine
Learning

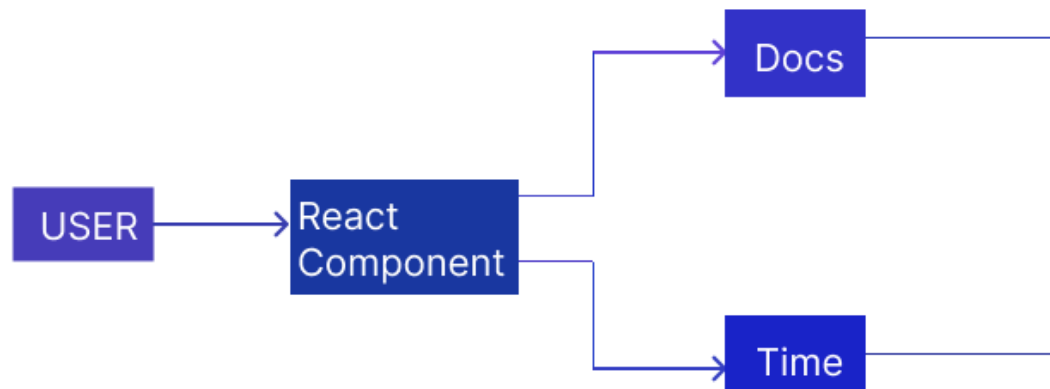


Back-End



Any Supporting Functional Document

Frontend



HTTP

Restful API

Mongoose Schema



Backend

API

Investment Option Data

Feature Engineering

ML model

Estimated Return

ML Model

Key Differentiators & Adoption Plan

How Our Solution is Better:

Personalized Recommendations :

- Uses Modern Portfolio Theory (MPT) to tailor investment portfolios based on individual risk tolerance and investment horizon.
- Dynamic adjustments to recommendations as user inputs change.

User Experience :

- Interactive, intuitive interface with clear visuals and actionable insights.
- Simplifies complex financial concepts for easy understanding.

Comprehensive Coverage :

- Integrates both initial and recurring investments into the strategy
- Provides detailed breakdowns of asset classes and potential returns.

Adoption Plan

Targeted Marketing:

Partner with financial influencers to spread awareness.

Referral Programs

Implement incentivized referral programs to encourage user growth.

Continuous Improvement

Update the platform with new tools and insights based on user needs and market trends.

User Onboarding


Offer step-by-step guides to help users understand and use the platform effectively.

Strategic Partnership

Collaborate with financial institutions, advisors, and educational platforms

Supporting diagrams, screenshots

WealthMind

HomeInvestSaveSpendBorrowLearnGet started

Set your investment goals

What is your initial investment?

\$

Do you want to make recurring contributions?

\$

Less than 1 year

1-3 years

4-6 years

7-9 years

10+ years

How comfortable are you with potential investment losses?

Risk Tolerance

0.5

☒ Very conservative

☐ Conservative

☐ Moderate




☐ Aggressive

☐ Very aggressive

20% complete

Next

■ WealthBuild

InvestTradeCryptoLearnDepositWithdraw

Your Recommended Portfolio Allocation

Based on your investment profile and goals

Initial Investment

\$5000

Recurring Investment

\$1000

Frequency

Monthly

Investment Time Horizon

5 years

Risk Tolerance

Moderate

Asset Class Allocation

100%

Equities

Bonds

Cash

Detailed Portfolio Recommendations

Asset Class	Recommended Investment	Target Allocation	Description
Equities	\$3000	60%	High risk, high return
Bonds	\$1500	30%	Medium risk, medium return
Cash	\$500	10%	Low risk, low return

Personalized Projections

Initial Investment

\$5000

Estimated Returns

10%

Time Horizon

5 years

Average Annual Return

Disclaimer

8%

Business Potential and Relevance

Business Applications

Retail Investment Advisory :

- Provide personalized investment recommendations.
- Help users build and manage diversified portfolios.

Financial Planning Services:

- Assist advisors in creating customized strategies.
- Enhance client engagement with data-driven insights.

Robo Advisory Platforms:

- Integrate for automated, personalized investment advice.
- Offer dynamic portfolio adjustments based on real-time data.
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Wealth Management :

- Support firms with scalable investment solutions.
- Improve portfolio management and client reporting.

Educational Tools :

- Develop content and tools to enhance financial literacy.
- Provide simulations to help users understand investment impacts.

Business Potential and Relevance

Relevance

Growing Retail Investment Market:

- Cater to the increasing interest in retail investing.
- Offer accessible solutions in a complex market.

Customization and Personalization:

- Provide personalized financial advice based on individual needs.
- Differentiate from generic solutions.

Technology-Driven Solutions:

- Leverage machine learning and cloud computing for accurate advice.

Regulatory Compliance:

- Ensure compliance with financial regulations.
- Offer transparency to build trust.

Uniqueness of Approach and Solution

Personalized Recommendation:

- Utilizes Modern Portfolio Theory (MPT) to tailor investment strategies.
- Considers individual risk tolerance and investment horizon for personalized advice.

User-Friendly Interface

- Simple, intuitive UI for easy interaction.
- Clear visualizations like pie charts and detailed asset class tables to aid understanding.

Real Time Adjustments

- Dynamic portfolio adjustments based on market conditions and user inputs.
- Continuous optimization for improved returns.

Comprehensive Investment Insights:

- Provides both high-level recommendations and detailed asset class information.
- Helps users understand the reasoning behind each suggestion.

Educational Value:

- Enhances financial literacy through clear explanations and projections.
- Empowers users to make informed investment decisions.

Integration Capabilities:

- Easy integration with existing financial platforms and robo-advisory services.
- Expands reach and utility across various user segments.

User Experience

Personalization:

Tailored investment recommendations based on individual risk tolerance and goals.

Intuitive Interface

Simple, easy-to-navigate UI with clear visuals like pie charts and detailed tables

Real Time Feedback

Immediate updates based on user inputs and market changes

Educational Insights

Clear explanations to enhance financial literacy and user confidence.

Seamless Integration

Smooth integration with existing financial tools for easy management.

Visual Appeal

Engaging graphics that make financial data accessible and attractive.

Scalability

1. Cloud Infrastructure:

- Utilizing scalable cloud infrastructure (AWS, Google Cloud) for handling increased user loads efficiently.

2. Microservices Architecture:

- Adopting microservices for independent scaling of application components as per demand.

3. Load Balancing:

- Implementing load balancers to evenly distribute traffic and prevent performance bottlenecks.

4. Database Scaling:

- Using scalable databases (MongoDB, PostgreSQL) with clustering and sharding for managing data growth.

5. Auto-Scaling:

- Setting up auto-scaling to adjust resources based on real-time traffic, optimizing cost and performance.

6. Distributed Data Storage:

- Deploying distributed storage systems (Amazon S3, Google Cloud Storage) for high availability and resilience.

7. Continuous Monitoring:

- Employing monitoring tools to track system metrics and proactively manage scalability challenges.

Ease of Deployment and Maintenance

Our solution ensures simplicity in deployment and ongoing maintenance:

1- Simple Deployment:

- Automated Infrastructure: PaaS handles infrastructure, enabling easy code deployment.
- CI/CD Integration: Automated testing and deployment streamline updates.

2- Scalability

- Automatic Scaling: PaaS scales resources based on traffic.
- Load Balancing: Ensures efficient traffic distribution.

3-Maintenance:

- Managed Services: PaaS offers managed databases and storage.
- Security and Compliance: PaaS handles security patches and compliance.

4-Development Tools:

- Built-in Tools: Provides development, monitoring, and logging tools.
- Collaboration Features: Includes version control and team collaboration tools.

Security Considerations

Use Established Libraries and Frameworks: Leverage well-known libraries and frameworks that have built-in security features and are regularly updated to address vulnerabilities.

Implement Secure Authentication: Utilize secure authentication methods like OAuth, OpenID Connect, or JWT (JSON Web Tokens) with strong encryption and appropriate token expiration times.

Encrypt Sensitive Data: Always encrypt sensitive data both at rest and in transit using strong encryption algorithms (e.g., AES-256) to prevent unauthorized access.

Apply Principle of Least Privilege: Grant users and components only the minimum level of access and permissions necessary to perform their tasks. Implement role-based access control (RBAC) to manage permissions effectively.

Monitor and Respond to Security Events: Implement logging and monitoring to detect suspicious activities or potential security incidents in real-time. Have an incident response plan ready to quickly respond and mitigate any security breaches.

Thank you