Presentation
Bank of Baroda Hackathon 2024

Your Team Name : LogicLeap

Your team bio : Code to generate

Date : 29/06/24

Personalized Content Generation

We have chosen the idea of Personalised content generation leveraging AI ,as it can be an effective strategy for banks to enhance customer engagement and experience for several reasons:

1. Relevance: AI can analyse customer data to create highly targeted content that speaks to each individual's specific financial needs and goals.

2. Scalability: Generative AI allows mass personalisation and creates unique content for many customers efficiently.

3. Improved customer experience: Personalised content makes customers feel understood and valued, potentially increasing satisfaction and loyalty.

4. Increased engagement: Tailored content is more likely to capture attention and drive more interaction with bank services and products.

5. Data-driven insights: The process can provide valuable insights into customer preferences and behaviours.

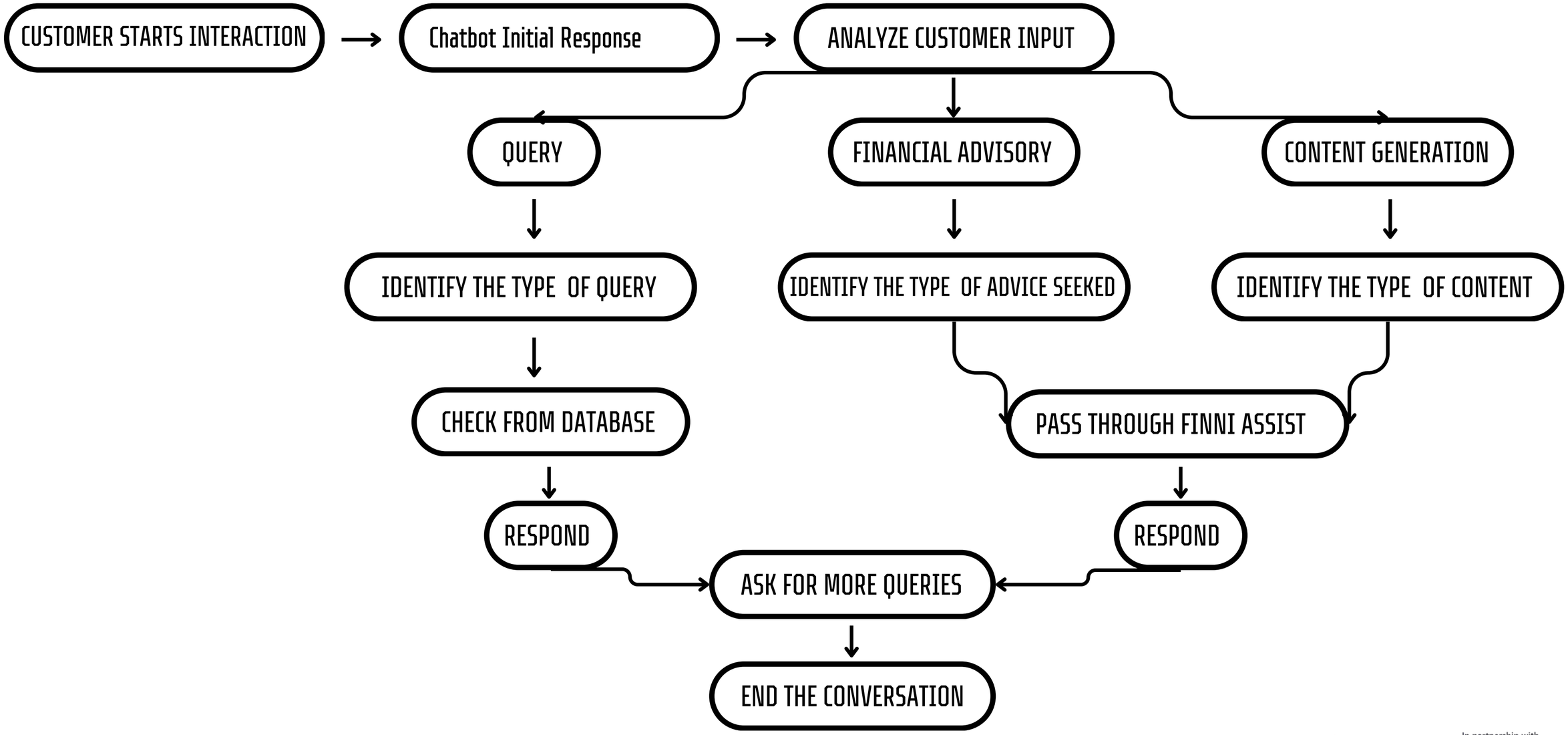
Pre-Requisites

- Data from CRMs, Banks, market charts and more.
- Knowledge for the required tech stack
  - Python
  - Web scraping (Selenium, Beautiful Soup 4)
  - NLP and Gen AI
  - Hugging faces for transfer learning
  - API fetching
  - Devops

Tools or resources

- Azure Bot Service: This provides a comprehensive framework for building, testing, and deploying chatbots.
- Azure Language Understanding (LUIS): This natural language processing tool can help the chatbot understand user intents and extract key information.
- Azure Cognitive Services: Specifically, the Language service can be used for text analysis, sentiment analysis, and entity recognition.
- Azure OpenAI Service: This could be leveraged for advanced language generation capabilities.
- Azure Machine Learning: For training and deploying custom AI models if needed.
- Azure Functions: To create serverless backend logic for the chatbot.
- Azure Cosmos DB: For storing and retrieving customer data and personalisation information.
- Azure QnA Maker: To create a knowledge base for frequently asked questions.
- Azure Speech Services: If voice interactions are desired.
- Azure Monitor: For tracking performance and usage of the chatbot.

Functionality



Key Differentiators & Adoption Plan

Potential advantages over alternatives:

1. Higher degree of personalisation: AI can analyse vast amounts of data to create more enhanced, individual-specific content as compared to rule-based systems.

2. Scalability and efficiency: AI can generate personalised content for millions of customers quickly, outperforming manual or semi-automated approaches.

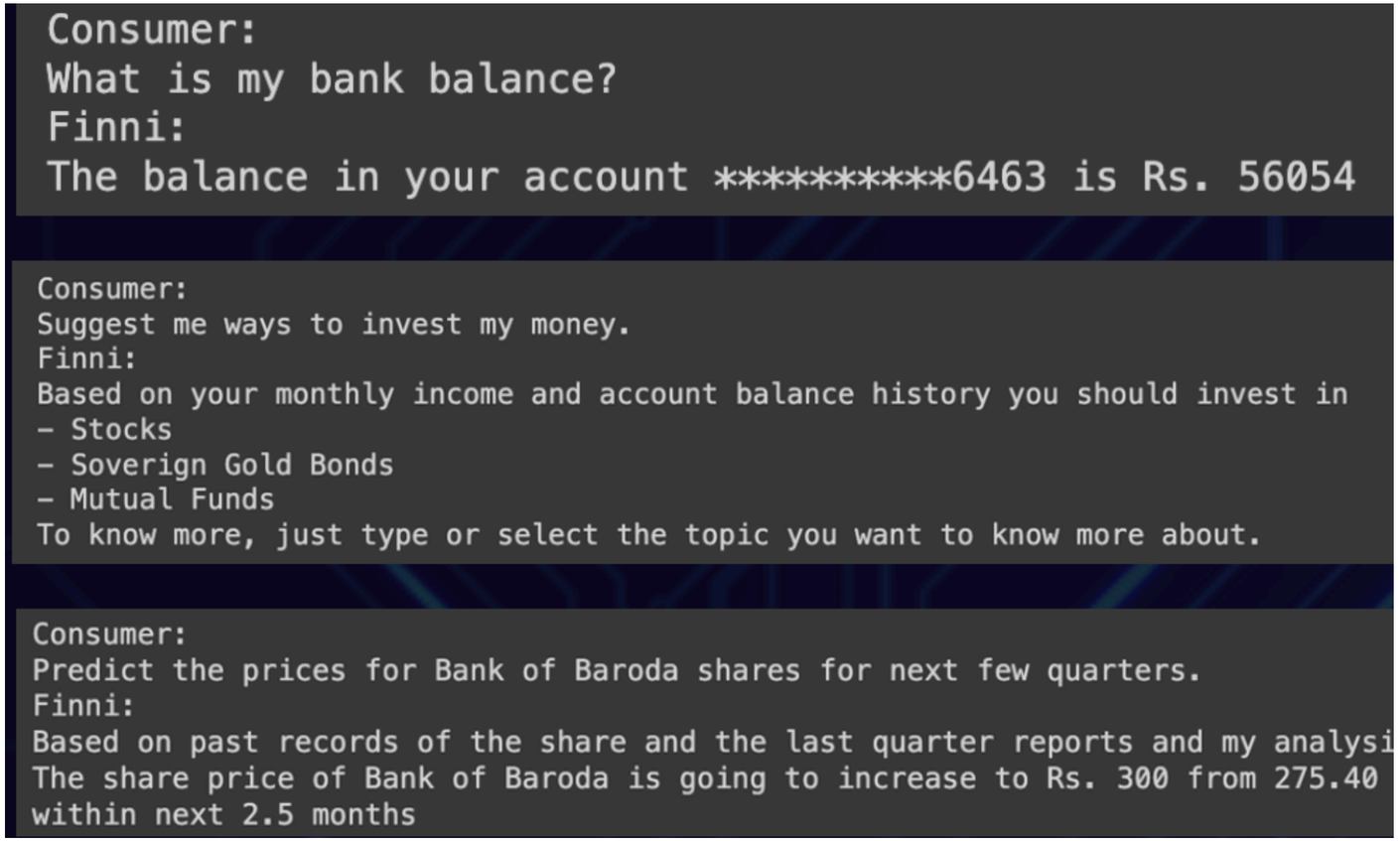
3. Continuous learning and improvement: AI systems can adapt based on customer interactions and feedback, constantly refining the personalisation.

4. Cross-channel consistency: AI can ensure personalised messaging is consistent across multiple touch points (e.g., email, web, mobile app).

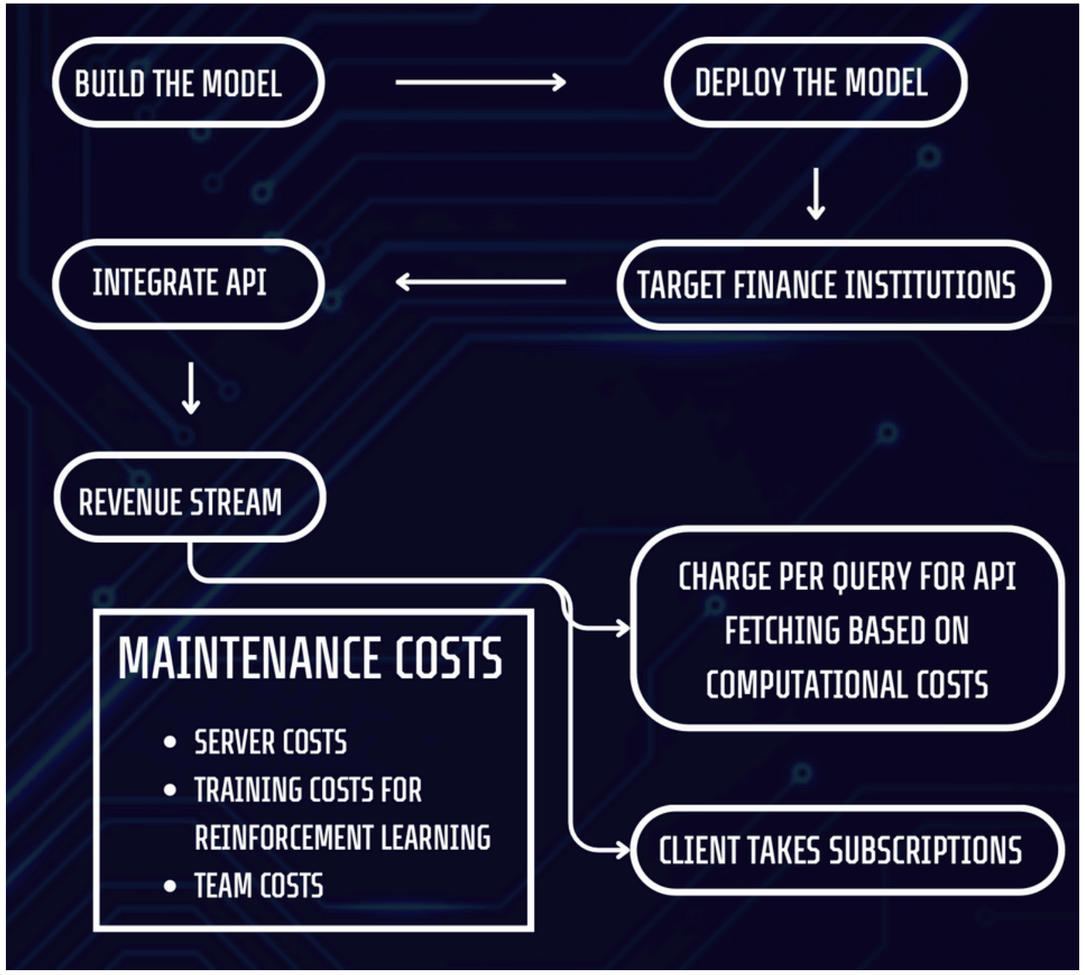
5. Predictive capabilities: AI can anticipate customer needs and preferences, offering proactive recommendations.

GitHub Repository Link & supporting diagrams, screenshots, if any

GitHub Link- https://github.com/AshmitCajla/BankOfBaroda_LogicLeap



Business Potential and Relevance



Our business model outlines a process for developing and monetising an AI-based solution, likely for financial institutions. The steps are:

- Build the model
- Deploy the model
- Target finance institutions
- Integrate API

The revenue stream is generated through:

- Charging per query for API fetching, based on computational costs
- Client subscriptions

Maintenance costs include:

- Server costs
- Training costs for reinforcement learning
- Team costs

Uniqueness of Approach and Solution

The unique aspects of our proposed advanced AI-driven banking assistant lies in its comprehensive integration of three key components, each leveraging cutting-edge AI technology to transform the banking experience:

1.Intelligent Customer Service Chatbot:

- Provides personalised support across multiple channels
- Offers proactive assistance, anticipating customer needs
- Enhances efficiency and responsiveness in customer service

2. AI Financial Advisor:

- Utilises generative AI for personalised, data-driven financial advice
- Revolutionises traditional advisory services with scalable, AI-powered insights
- Offers real-time, adaptive recommendations based on individual financial situations

3. Smart Content Generator:

- Creates tailored marketing and educational content using generative AI
- Boosts customer engagement through personalized communications
- Enhances financial literacy with customized educational materials

User Experience

Our advanced AI-driven banking assistant will significantly enhance the user experience in several ways:

1. Personalised and proactive support
2. Enhanced financial decision-making
3. Improved financial literacy
4. Seamless omnichannel experience
5. Time-saving and convenience
6. Tailored product recommendations
7. Continuous improvement

Scalability

Our AI-driven banking assistant solution is designed with scalability as a core feature, allowing it to effectively accommodate growth without compromising performance:

1. Saving some standard prompts as results from database like balance and transaction history.
2. Cloud-based architecture:
    - Leveraging cloud services (likely Azure) for dynamic resource allocation
    - Ability to scale computing power and storage on-demand
3. Load balancing:
    - Distributes traffic evenly across multiple servers
    - Maintains performance during peak usage
4. Caching mechanisms:
    - Reduces database load and improves response times for frequently accessed data
5. API management:
    - Optimizes and throttles API calls for smooth integration as user base grows
6. Auto-scaling policies:
    - Automatically adjusts resources based on predefined metrics
7. Content Delivery Networks (CDNs):
    - Faster delivery of static content, reducing primary server load
8. Continuous monitoring and optimisation:
    - Proactively identifies and addresses performance bottlenecks
    - Regular audits ensure system keeps pace with growth

Ease of Deployment and Maintenance

Implementation:

- Requires integration of multiple advanced components (chatbot, AI advisor, content generator)
- Needs setup of cloud infrastructure and microservices architecture
- Involves implementation of various scalability features like load balancing and caching

Ongoing maintenance:

- Cloud-based architecture allows for easier updates and resource management
- Microservices design enables independent maintenance of each component
- Auto-scaling and monitoring tools help automate some maintenance tasks
- Modular AI model deployment allows for updates without disrupting the entire system

Security Considerations

1. Not training AI on personal data
2. Data encryption: Strong encryption for data at rest and in transit to protect sensitive financial information.
3. Secure API management: Implementing robust authentication and authorisation for API calls.
4. Monitoring and threat detection: Real-time monitoring for unusual activities or potential security breaches.
5. Secure AI model deployment: Protecting AI models from tampering or unauthorized access.

Thank You

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