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Empowering Medical Devices Team

A Journey into Generative AI

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Introduction

Problem Statement

- The field team faces challenges in promptly sharing information when cardiologists or surgeons require additional details about the products.
- This delay in information dissemination could impact the team's ability to effectively address the needs of medical professionals, potentially hindering sales opportunities and customer satisfaction.

AI-Powered Support

- In the evolving healthcare landscape, characterized by continuous advancements in medical technology, the role of field teams in medical device companies emerges as crucial.
- Company is strategically focused on enhancing customer interactions within the cardiologist and cardiac surgeon community across the United States.
- To meet this objective, Device team plans to deploy a cutting-edge solution leveraging Generative Artificial Intelligence (AI) technology tailored specifically for supporting their field team.
- This innovative system not only aims to facilitate timely access to product information but also seeks to empower the field team through proactive training, ultimately elevating their productivity and effectiveness in engaging with healthcare professionals.

Business Objective

Strengthen Relationships

Enhance Device team relationships with cardiologists and cardiac surgeons nationwide through improved interactions and communication.

Streamline Information Access

Enable quick access to product information during customer interactions.

Enhance Productivity

Improve the efficiency of the field team interactions with cardiologists and cardiac surgeons across the US.

Proactive Training

Facilitate proactive training for the field team to better prepare them for engaging with healthcare professionals.

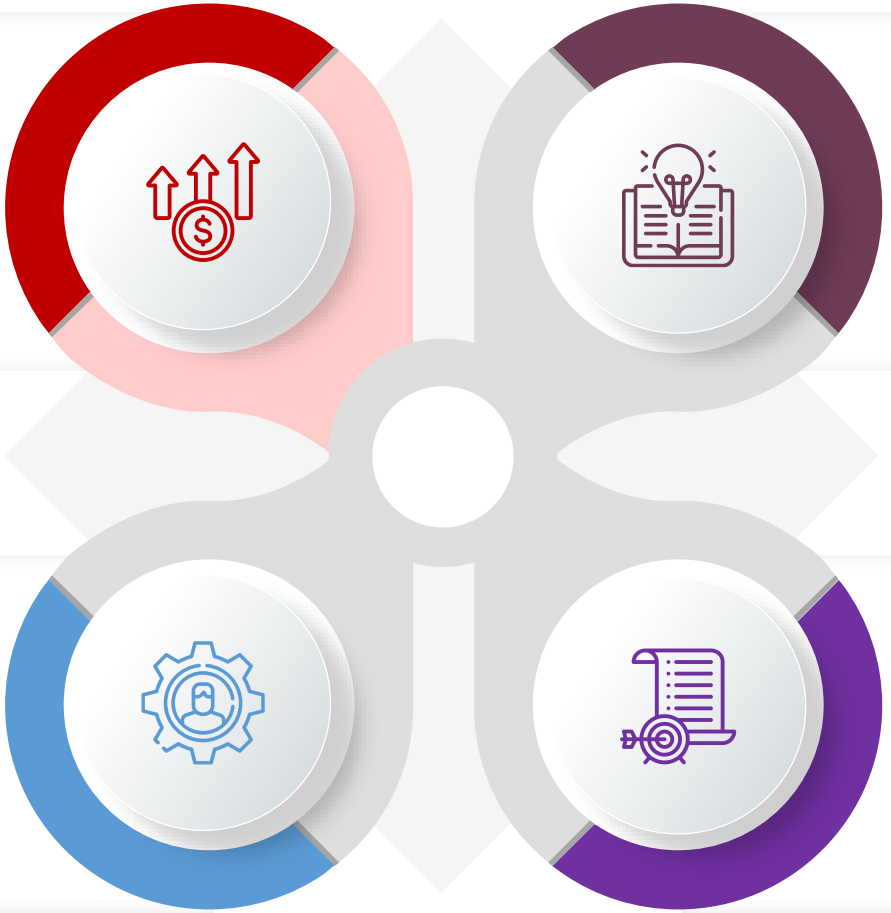
Optimize Customer Interactions

Improve the quality of customer interactions by ensuring the field team is well-prepared and equipped with relevant information.

Key Insights

Revolutionize Sales Effectiveness

Transform the sales approach of the field team by incorporating innovative learning methodologies and interactive avatar role-plays.



Utilize Active Learning Techniques

Implement active learning methods such as active recall questions and role-plays to engage field team members and reinforce knowledge retention.

Integrate Avatar Role-Plays

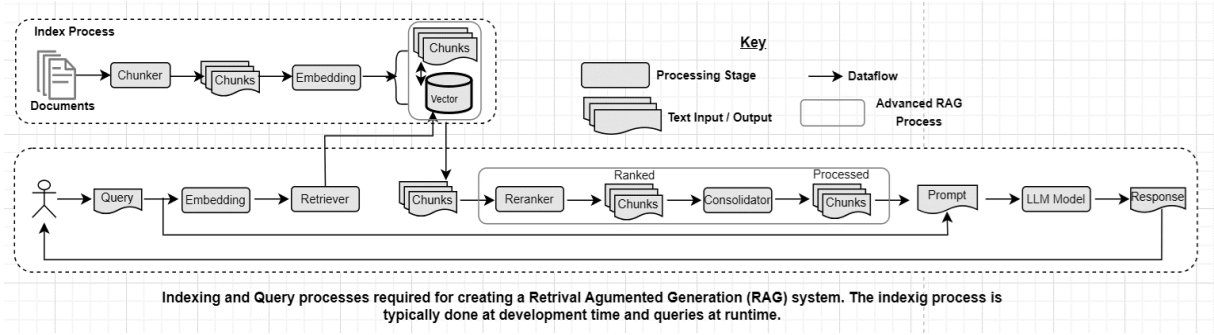
Introduce lifelike avatars equipped with lip-sync and speech synthesis technology to simulate real-world sales scenarios and provide realistic feedback.

Personalize Learning Plans

Tailor learning plans for individual field team members based on their specific knowledge gaps and learning preferences, optimizing their professional development journey.

Overview Solution Flow

The Retrieval-Augmented Generation (RAG) process for a chatbot involves combining retrieval-based methods with generation-based methods to enhance the chatbot's performance. Here's a breakdown of the RAG process:



Indexing and Query processes required for creating a Retrival Agumented Generation (RAG) system. The indexig process is typically done at development time and queries at runtime.

Retrieval Phase 01

- **Document Retrieval:**
  The chatbot retrieves relevant documents or knowledge sources based on the user's query. This can involve searching through a database, knowledge base, or pre-indexed documents.
- **Candidate Selection:**
  From the retrieved documents, the chatbot selects a set of candidate passages or responses that are potentially relevant to the user's query.
- **Scoring**
  Each candidate passage is scored based on its relevance to the query, using metrics like TF-IDF (Term Frequency-Inverse Document Frequency), BM25, or semantic similarity measures.

Augmentation Phase 02

- **Context Augmentation:**
  The chatbot utilizes the retrieved passages as additional context to augment its understanding of the user's query. This context helps the chatbot generate more accurate and contextually relevant responses.
- **Fine-tuning:**
  The chatbot fine-tunes its language model based on the augmented context and the user's query. This process adapts the model's parameters to the specific domain and context of the conversation.

Generation Phase 03

- **Response Generation:**
  Using the augmented context and the fine-tuned language model, the chatbot generates a response to the user's query. The response is formulated to be coherent, relevant, and natural-sounding.
- **Ranking:**
  If multiple responses are generated, they can be ranked based on their quality or relevance before being presented to the user.

Key Outcomes

Improved Efficiency

Enhance the overall efficiency of field team by streamlining access to product information and training resources.

Higher Customer Satisfaction

Elevate customer satisfaction levels as healthcare professionals receive more personalized and informed interactions from the field team.

Enhanced Customer Engagement

Improve the quality of customer interactions as the field team becomes more equipped to address queries and concerns with accurate and timely information.

Enhanced Training Effectiveness

Measure the effectiveness of proactive training initiatives through improved knowledge retention and application during customer interactions.

Increased Productivity

Boost the productivity of the field team members as they spend less time searching for information and more time engaging with customers effectively.

Strengthened Market Position

Solidify position in the medical device industry by demonstrating a commitment to customer support excellence and innovation in field team operations.

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Thank You

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