Semantic and Emotional-Based Conversation Management in Customer Consultation

**Motivation**

- **Strategic integration of Customer Relationship Management (CRM) & call-center systems**
  - Efficient customer service and contact
  - Requires quick access to accurate information by the agent
  - Minimal support available in CRM systems (e.g. based on the telephone number)
- **Provide context-relevant information to optimize telephone-bound customer processes**
  - Better customer service
  - Optimization of CRM data based on the feedback of the agent

**Architecture**

- **Speech Recognition module monitors conversations between agent and customer**
  - Transcriptions
  - Emotion detection
- **Parallel, iterative search for documents and CRM data**
  - Matching textual query by author
  - Relevant in the context
- **Relevance feedback given by the agent**

**Contributions**

1. Provide efficient interfaces to third-party components that facilitate integration of IR to telephony
2. Implement Information Retrieval module to search full-text documents utilizing Semantic Retrieval methods to support the conversation
3. Iterative refinement / filtering of search results to enable quick and efficient information access

**Goal**

1. Provide real-time support (information from CRM database and document archives) for call-center agents by monitoring the conversation
2. Provide and rank search results from multiple sub-systems according to the actual context (current topic of telephone conversation)
3. Relevance judgment of full-text search results using Semantic Retrieval methods

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