**Goals for the Dental AI Agent**

This document outlines the primary goals for developing and testing a dental AI agent designed to handle insurance verification calls efficiently and accurately.

**Key Objectives**

1. **Ensure Timely Responses**
   * **Goal:** The agent should only respond after the other party has finished speaking or asking a question. This is crucial for maintaining a natural and coherent conversation flow.
2. **Understand Different Accents**
   * **Goal:** The agent must accurately recognize and interpret various accents to ensure effective communication with diverse users.
3. **Accurate Information Retrieval**
   * **Goal:** Ensure that the agent correctly extracts and fills in the necessary data structures with the retrieved information. This data is crucial for updating the database accurately.
4. **Clear Pronunciation of Member ID**
   * **Goal:** The agent should clearly pronounce member IDs to avoid any confusion or errors during verification.

**Detailed Considerations**

1. **Speech-to-Text Accuracy**
   * **Challenges:**
     + Handling different accents
     + Correcting misheard terms (e.g., "co-insurance" being misheard as "car insurance")
2. **Text "Sanity Check"**
   * **Goal:** Detect and correct misheard or hallucinated text based on context to ensure the accuracy of the information.
3. **Handling Interruptions**
   * **Goal:** Ensure the agent can gracefully handle interruptions and continue the conversation without losing context.
4. **Dialog Graph**
   * **Challenges:**
     + Managing dialogues where questions are asked in response to questions
     + Handling conditional answers based on the context of the conversation
5. **Hold Detection**
   * **Goal:** Identify when the conversation is put on hold and manage the transition smoothly.
6. **Extracting Answers from Transcript**
   * **Goal:** Accurately extract answers from the conversation transcript and fill in the data structure to be sent to the database.
   * **Provide Reason or Action Item:** When an answer is missing, provide a reason or an actionable item (e.g., "call back later").
7. **Text-to-Speech**
   * **Goals:**
     + Find a suitable model for generating speech
     + Optionally, be able to change the voice sound for better user experience
8. **Large Language Model (LLM)**
   * **Goal:** Ensure that the LLM's performance is good enough by benchmarking and testing with a set of predefined metrics.
9. **Monitoring**
   * **Goals:**
     + Ensure all components are performing as expected (e.g., detecting model drift, data drift)
     + Continuously evaluate and improve the tech stack

These goals guide the development and testing of the dental AI agent, ensuring it can handle insurance verification calls efficiently, accurately, and professionally. By focusing on these objectives, we aim to create a robust system that enhances the user experience and operational efficiency.