



# Tech Task Ammagamma

---

Braceschi Matteo

30 Ottobre 2024

# Agenda

---

- Introduzione
- Spiegazione RAG: OlympicGPT
- Gestione risposte Out-of-KB
- Valutazione & Risultati
- Possibili sviluppi



# Introduzione



## Obbiettivo:

Sviluppo di un sistema RAG la cui knowledge base è basata sulle seguenti pagine Wikipedia:

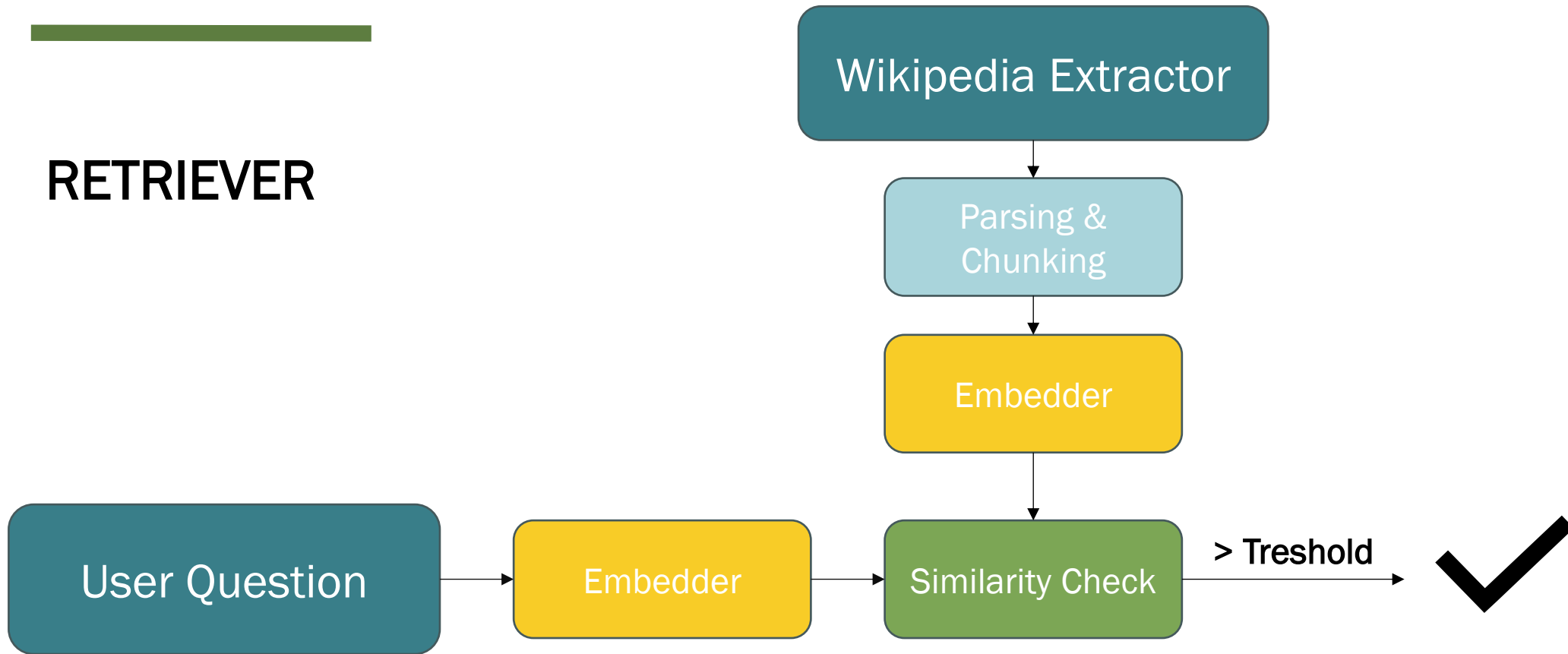
- [https://en.wikipedia.org/wiki/Olympic\\_Games](https://en.wikipedia.org/wiki/Olympic_Games)
- [https://en.wikipedia.org/wiki/Summer\\_Olympic\\_Games](https://en.wikipedia.org/wiki/Summer_Olympic_Games)

## Presupposti:

Sviluppo del sistema RAG in **lingua inglese** per limiti di risorse

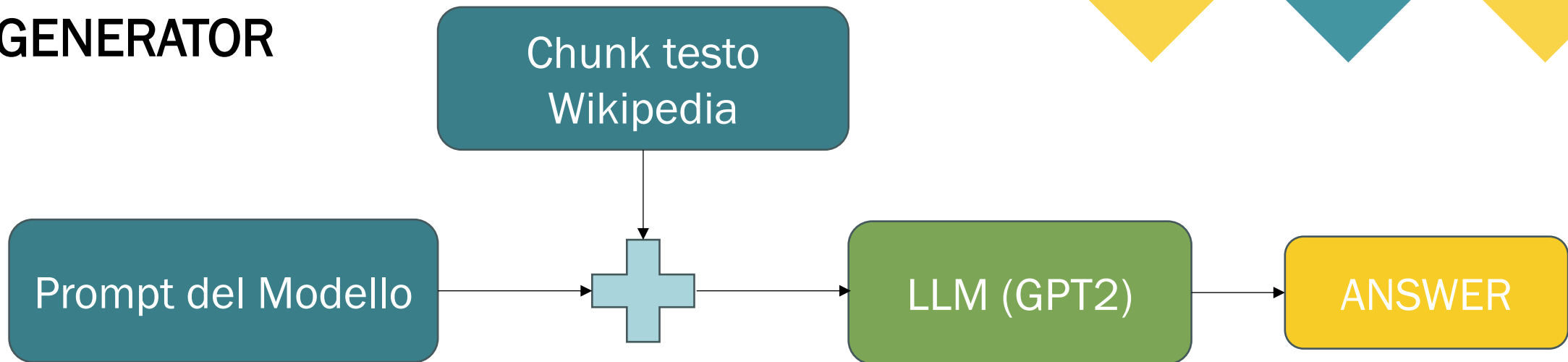
# Spiegazione RAG: OlympicGPT

## RETRIEVER



# Spiegazione RAG: OlympicGPT

## GENERATOR



# Preview – Olympic GPT

## Olympic GPT

Ask a question about the Olympics, and I will provide you with an answer!

Type your question here:

Which city hosted the first modern Summer Olympic Games? In what year?

### Question:

Which city hosted the first modern Summer Olympic Games? In what year?

### Response from the model:

The summer Olympic Games, which took place in 1896 in Athens, Greece, and the most recent was held in 2024 in Paris, France. The first modern Summer Olympic Games were held in 1896 in Athens, Greece, and the most recent was held in 2024 in Paris, France.

The 1896 Summer Olympics were held in the following cities:

The 1896 Summer Olympics were held in the following countries:

The 1896 Summer Olympics are often called the first modern Summer Olympic Games. The 1896 Summer Olympic Games were held in Athens, Greece, and the most recent was held in 2024 in Paris, France.

The 1896 Summer Olympics were held in the following cities:

The 1896 Summer Olympics are usually called the first modern Summer Olympics. The 1896 Summer Olympics were held in Athens, Greece, and the most recent was held in 2024 in Paris, France.

### EVALUATION:

Correct answer: Athens hosted the first modern Summer Olympic Games in 1896.

BLEU Score on Full Response: 0.0106

BLEU Score on Truncated Response : 0.0000

ROUGE-1 on Full Response: 0.0412

ROUGE-1 on Truncated Response: 0.4242

# Gestione risposte Out-of-KB



- Richiesta di riformulazione della domanda all'utente
- Estensione del Retriever ad altre fonti esterne tramite agenti o API
- Dichiarazione esplicita che il modello non ha trovato la risposta e suggerimento di ulteriori ricerche

# Valutazione & Risultati

**Domanda:** Which city hosted the first modern Summer Olympic Games? In what year?

**Risposta:** The Summer Olympic Games were held in 1896 in Athens, Greece, and the first modern Olympic Games, held in 1896, took place in the capital, Athens, Greece. The first modern Olympic Games were held in 1896 in Athens, Greece, and the first modern Olympics....(repeated text)

**Risposta corretta:** Athens hosted the first modern Summer Olympic Games in 1896.

Metrica	Misura	Ris. Intera	Ris. Troncata
ROUGE-1	Sovrapposizione di singole parole (unigrammi).	0.0442	0.4242
ROUGE-2	Sovrapposizione di bigrammi (due parole consecutive).	0.0247	0.1935
ROUGE-L	Basato sulla sequenza comune più lunga (LCS).	0.0393	0.3636
BLEU	Valuta la precisione degli n-grammi, con penalità di brevità.	0.0106	0.0000



# Possibili sviluppi

---

- Cambiare modello per avere performance migliori
- Sviluppo di altri agenti Retriever che prendono informazioni esterne



# **Grazie per l'attenzione**

---

Matteo Braceschi