



Attica Zoological Park's chatbot assistant

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Visiting Attica Park

- Attica Zoological Park is located in Spata, the outer suburbs of Athens.
- Public transport and weather information can be challenging to acquire for this specific area.
- Visitors need practical, real-time info before and during the visit.

Solution: A conversational agent that incorporates all of this info.

It features:

- **Real-Time Accuracy:** Connects to live external systems for relevant data.
- **Context-Awareness:** Doesn't just give data, gives advice (i.e., weather warnings).
- **Instant Access:** Eliminates the need to search multiple apps (OASA, Weather, Zoo Website).

System's architectures and capabilities

A hybrid system combining **Real-Time APIs** and **Static information**.

It Handles natural language queries and routes them to the correct handler.

Data Sources:

- **Transport:** OASA Telematics API (Live).
- **Weather:** OpenWeather API (Live).
- **Schedules and Ticket prices:** Internal Mock Database and NLU-based static knowledge.

Scenarios- Transport and Weather

Real-Time OASA Integration

- Connection to OASA Telematics API to get live arrival data.
 - Targets Stop 440119, the closest stop to the park.
 - Maps numeric `route_codes` to human-readable route descriptions.
- User Value: Displays minutes remaining and general route info.

Real time OpenWeather integration

- **Source: OpenWeather API** using the park's specific geographic coordinates.
 - It provides meaningful advice based on conditions, not just data.
 - For instance: If Raining, the system advises the user against visiting.

Demonstration - Dialogue Flows

Transport Scenario:

User: "Πότε έρχεται το λεωφορείο;" (When is the bus?)

Bot: Έχε υπόψη σου ότι το δρομολόγιο εκτελείται από τις 7:45 π.μ. έως τις 20:40 μ.μ. Η κυκλική διαδρομή μπορεί να σε φέρει στο Αττικό πάρκο από Δουκ. Πλακεντίας ή να σε πάρει από το πάρκο και να σε επιστρέψει εκεί.

Επόμενα λεωφορεία κοντά στο Αττικό Ζωολογικό Πάρκο:

- Γραμμή ΣΤ. ΔΟΥΚ. ΠΛΑΚΕΝΤΙΑΣ - ΠΑΛΛΗΝΗ - ΕΚΠΤ. ΧΩΡΙΟ ΣΠΑΤΑ (ΚΥΚΛΙΚΗ): σε 5 λεπτά

Weather Scenario:

User: "Τι καιρό έχει;" (What is the weather?)

Bot: Καιρός στο Αττικό Ζωολογικό Πάρκο:- Συνθήκες: ελαφρές νεφώσεις

- Θερμοκρασία: 12.76°C

Ο καιρός φαίνεται κατάλληλος για επίσκεψη.

Scenarios- Tickets and Schedules

1. Ticket Prices (NLU Static Knowledge):

- Prices are stable and publicly available, no API needed.
- Implemented as structured static knowledge within the NLU.

2. Animal Schedules (Simulated Task):

- It's Simulated Task Execution
- Uses a Mock Database to mimic a real zoo system.

Demonstration - Dialogue Flows

Ticket Scenario:

User: "Πόσο κάνουν τα εισιτήρια;" (How much are tickets?)

Bot: Τα εισιτήρια για εσάς είναι:

Γενική είσοδος: 25€

Παιδιά 3-12 ετών: 19€

Κάτω των 3 ετών: Δωρεάν

Schedule Scenario:

User: "Πρόγραμμα για πιγκουίνους;" (When are the penguins?)

Bot: Αφρικανικοί Πιγκουίνοι: 14:00

Challenges and Solutions

Challenge 1: The "Circular Route" Problem

- Stop 440218 had no live data because the route is circular.
- Switched logic to Stop 440119, serving both arrivals and departures.

Challenge 2: API Data

- OASA returns numeric codes, not names.
- Implemented `webRoutesForStop` endpoint mapping.

Challenge 3: Configuration

- YAML syntax errors with Greek text.
- Enforced strict quoting and validation.

Conclusion and future directions

Achievement: Successfully unified Live Data (OASA/Weather) with Static Knowledge (Tickets/ Schedules).

Resilience: Handles failures by providing meaningful feedback to the user (e.g., "Data not available").

Future Steps:

- Replace the static knowledge with a real time data, probably by scrapping the park's website.