

SYNTROPIC BOT

WHAT IS SYNTROPIC AGROFORESTRY?



WHAT IS SYNTROPIC AGROFORESTRY?

- Farming method that **mimics natural ecosystems**
 - **Synergistic** relationships between plants
 - **Self-sustaining** agricultural systems
 - Soil **regeneration**, enhanced fertility
 - Increases **biodiversity**, water retention
- Without any input of fertilizers, pesticides, or fungicides. —

CHALLENGES

- Limited **Awareness** and **Understanding**
- Lack of **Technical Knowledge** and **Training**
- Learning materials are **diverse, disperse** and mainly in **Portuguese**

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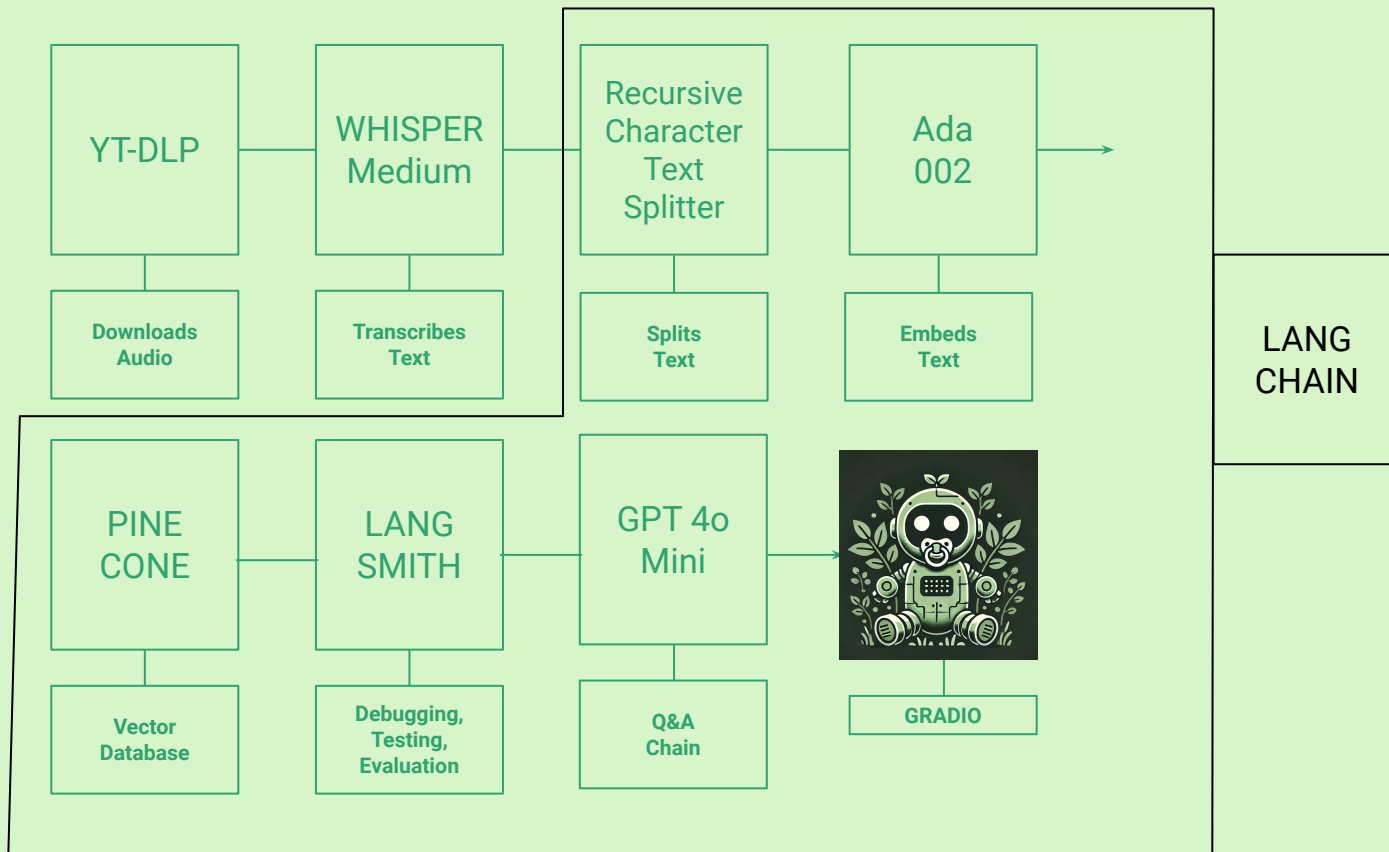


SYNTROPIC BOT

- **Compiles** diverse videos about Syntropic Agroforestry from YouTube
- **Answers** your questions based on those videos



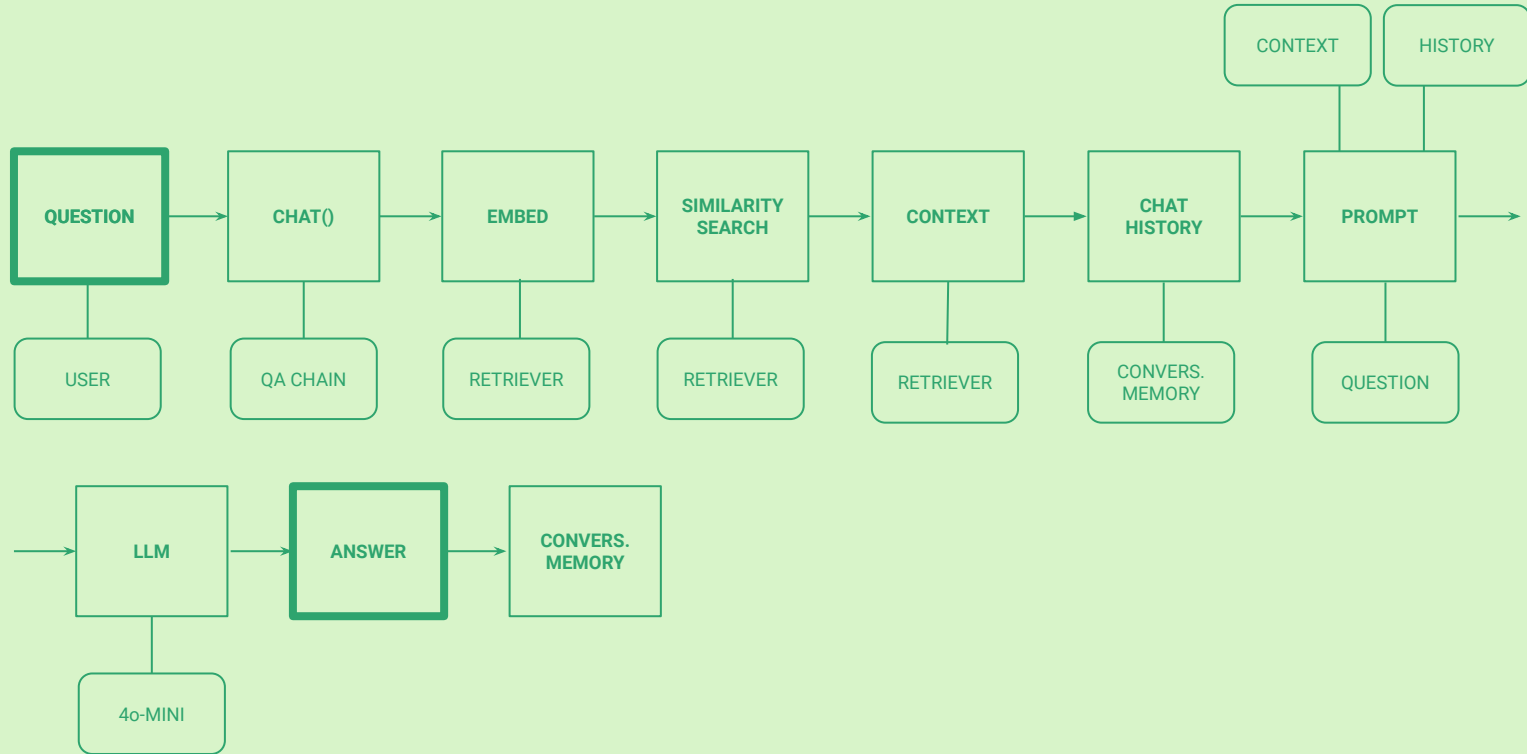
ARCHITECTURE



DATASET

- Handpicked videos from **YouTube**
- Downloaded the full list (**only audio**)
- Videos in **Portuguese, Spanish and English**
- **No preprocessing:**
 - Talks and conversations
 - Good transcriptions
 - Gpt-4o-mini handles misspellings

Q&A



TOOLS

- **YouTube Downloader**
- **Whisper**
- **Pinecone**
- **World Flora Online**
- **YouTube API**

EVALUATION

LANG
SMITH

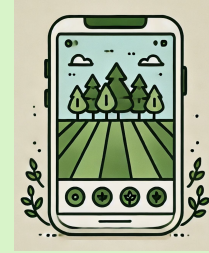
- Answers out of context - **Prompt**
- Context not being retrieved - **Pinecone**
- No memory - **Q&A Chain + Prompt**
- World Flora Online
- YouTube API

EVALUATION

LANG
SMITH

- **To improve:**
 - No answer with dense prompts
 - Sometimes still mixes languages
 - Tendency to search for queries in same language
 - Sometimes needs a second attempt to answer

CONCLUSION



DEMO

SYNTROPIC BOT

Your Question

🌿 What are the different types of strata of a Syntropic Agroforestry?

Send

Clear

Syntropic Bot Response

In Syntropic Agroforestry, there are four different strata based on light intensity preferences of the plants. These strata are:

1. **Emergent Strata**: This is the very top layer, where plants receive full sun.
2. **High Strata**: Located just beneath the emergent layer, these plants also prefer high light conditions but may not be as exposed.
3. **Medium Strata**: This layer consists of plants that thrive in moderate light conditions, often requiring some shelter from direct sunlight.
4. **Low Strata**: The lowest layer, where plants prefer heavily filtered light and are often shaded by the layers above.

These strata help in understanding how to organize species in a food forest based on their light requirements.

Here are some suggestions 📌

Examples

🔗 What do I need to consider about the soil when starting a Syntropic Agroforest? 🌿 What are the different types of strata of a Syntropic Agroforestry?

🤖 What are the challenges of Syntropic Agroforestry? ✳️ If I want to start a Syntropic Agroforest, what are the main things to consider at the beginning?

☕ Where can I buy me a coffee?

DEMO

SYNTROPIC BOT

Your Question

Give me examples of plants for each one

Send

Clear

Syntropic Bot Response

In Syntropic Agroforestry, here are examples of plants for each stratum:

1. **Emergent Strata**:

- Examples: Eucalyptus, Mahogany, and certain large fruit trees like Avocado.

2. **High Strata**:

- Examples: Citrus trees (like Oranges and Lemons), and medium-sized fruit trees such as Peaches and Plums.

3. **Medium Strata**:

- Examples: Banana plants, Papaya, and some shrubs like Blueberries.

4. **Low Strata**:

- Examples: Herbs such as Basil and Mint, as well as ground cover plants like Strawberries.

These examples illustrate how different plants can occupy various strata based on their light requirements and growth habits.

Here are some suggestions 📷

Examples

🔗 What do I need to consider about the soil when starting a Syntropic Agroforest? 🌱 What are the different types of strata of a Syntropic Agroforestry?

🤖 What are the challenges of Syntropic Agroforestry?

✳️ If I want to start a Syntropic Agroforest, what are the main things to consider at the beginning?

🛒 Where can I buy me a coffee?

DEMO

SYNTROPIC BOT

Your Question

🗨️ What are the challenges of Syntropic Agroforestry?

Send

Clear

Syntropic Bot Response

In the context of Syntropic Agroforestry, some challenges include:

1. ****Access to Information****: Much of the foundational material is in Portuguese, which can make it difficult for non-Portuguese speakers to access and understand the principles and practices.
2. ****Crop Volume Management****: Balancing the diversity of species while still achieving a good volume of the main crop (like coffee) can be challenging. It requires careful planning to maintain light levels and organic material production.
3. ****Design Complexity****: The design process can be intricate, as it involves understanding the growth habits of various plants and how to effectively layer them in the agroforestry system.
4. ****Resource Management****: Managing organic material and ensuring biodiversity while maintaining productivity can be a complex task, especially in larger systems.

These challenges require thoughtful consideration and planning to overcome in order to successfully implement Syntropic Agroforestry practices.

Here are some suggestions 📌

☰ Examples

🌱 What do I need to consider about the soil when starting a Syntropic Agroforest?

🌳 What are the different types of strata of a Syntropic Agroforestry?

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☕ Where can I buy me a coffee?

DEMO

SYNTROPIC BOT

Your Question

☕ Where can I buy me a coffee?

Send

Clear

Syntropic Bot Response

I can't find the answer. Please ask another question!

Here are some suggestions 📌

Examples

🔗 What do I need to consider about the soil when starting a Syntropic Agroforest?

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