

Assistive Chatbot (at your service)

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Is it unique?

Most of the conversational agents – be it generative or retrieval based – are stateless. They cannot remember the information from previous questions.

We present a **stateful, retrieval based** AI pipeline for an assistive conversational agent with powerful entity and intent recognizers.

The framework is capable of getting plugged with any web-services, APIs etc. which are specific to specific use cases*. Relevant training examples with entity tagging would make the bot ready for any use-cases, ***almost instantly!***

*We demonstrate our prototype with examples related to packaging/ price related queries. We also have FAQs answered.

AI Pipeline

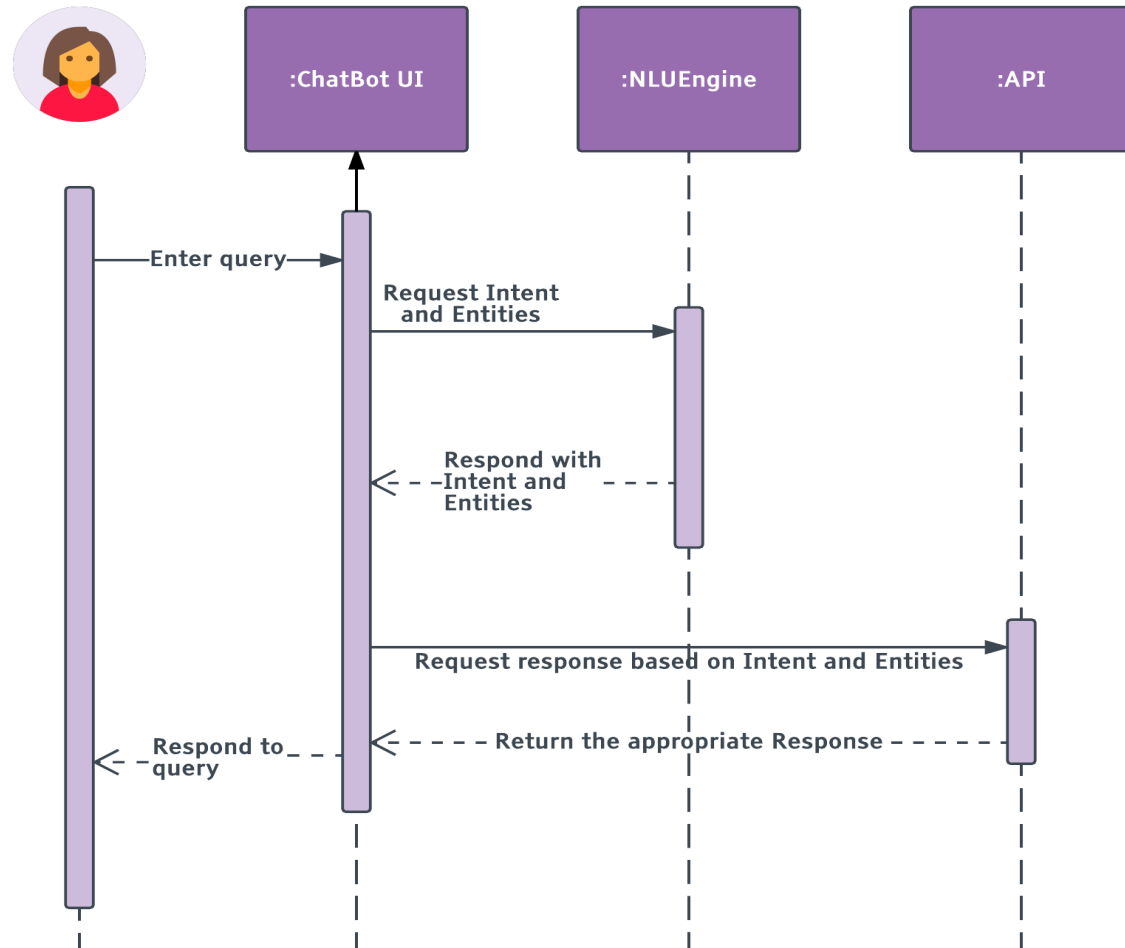
NLU Engine has two components

1. Intent Classifier

2. Entity Extractor

The framework is **stateful**

Flow-aided interaction via guided questions



NLU Engine

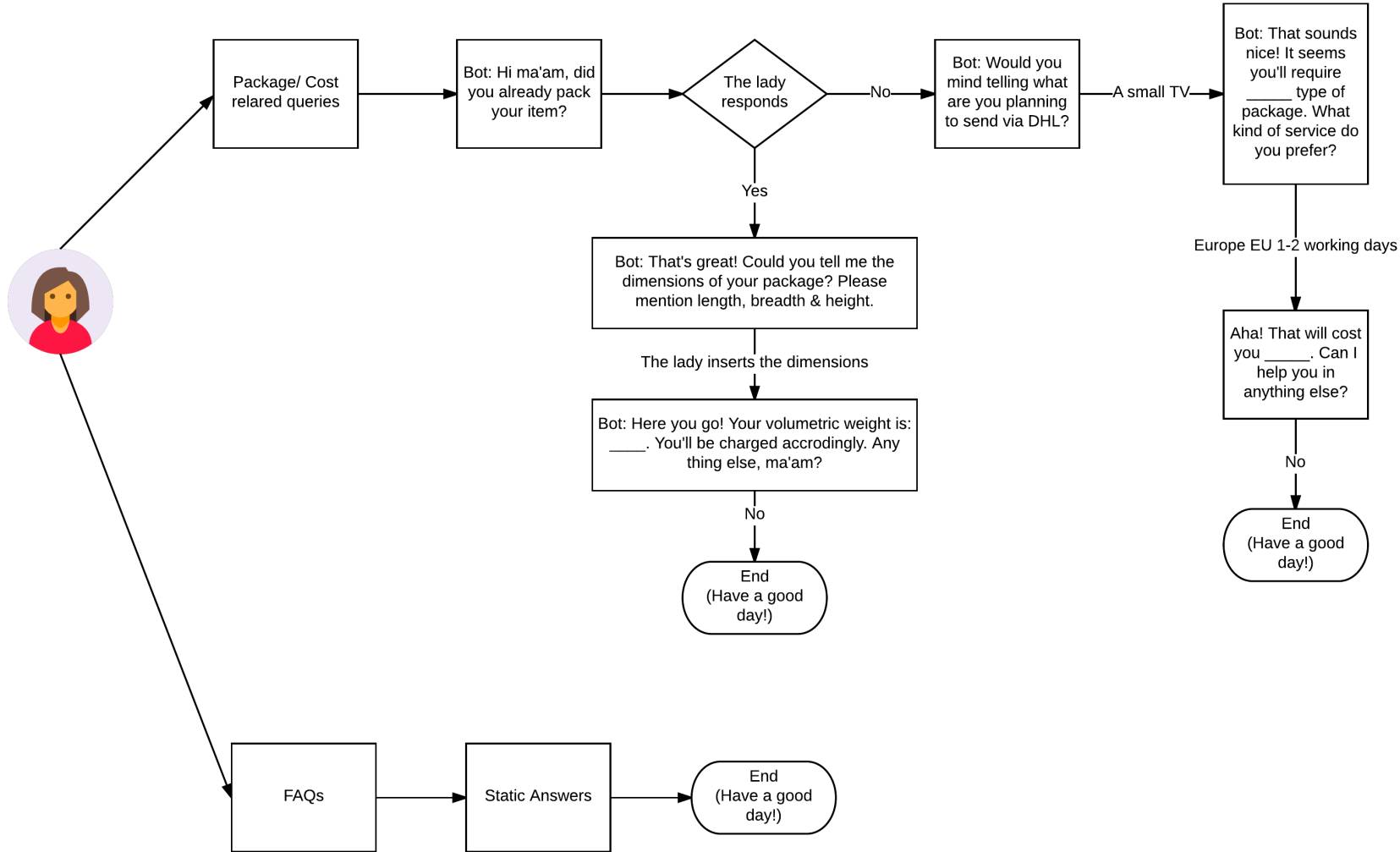
Intent Classifier

- Contextual **word-embeddings** are used to generalize the word representations
- Weighted convex combination to concatenate word-vectors to create sentence representation
- **Multiclass SVM** with Gaussian Kernel
- Optimized with Stochastic Gradient Method

Entity Extractor

- **Sequence to Sequence labelling** with entity labels – agnostic of entity values
- **Linear Chain Conditional Random Field (LCCRF)** which predicts the tag for a particular word considering the predicted tags for neighboring words
- Preserves syntactical information
- Fast implementation with CRFSuite

Milady asks...



Example State Diagram

Query-based + Flow based conversations

Branch with static answers based on various query intents