Case Study : Sales Executive Chatbot, Coffee Shop

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Objective

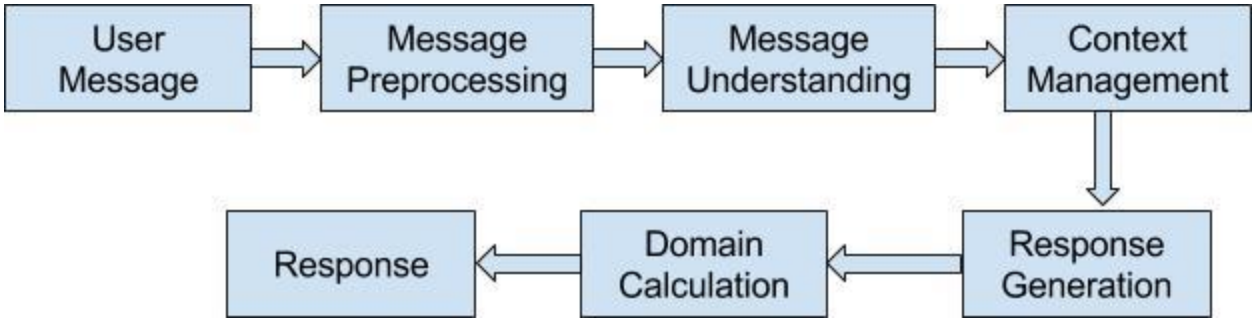
As a Sales Executive, Chatbot of Coffee shop, In our conversation we need to primarily take care of these things :

1. Welcome the customer by acknowledging and greeting : There will be some professional and simultaneously cool type of greeting, so that customer can feel relaxed. Like Hi, Welcome to Pact Coffee, This is your friend Pact bot, How may I help you.
2. Understand their needs & want through analysis : Ask them questions in friendly manner so that they don't feel like they are talking to bot and also doing some appreciation when they order the same thing. Oh.. may be this is your favourite. Nice choice.
3. Recommend & advice : We will recommend new products based on their past purchases based out of some recommendation system.
4. Answer customer queries & concern : Gather information from our knowledge base and provide it to customer so they can be in ease while purchasing.
5. Get their feedback

Approach :

Our approach for building a chatbot for coffee shop sales executive is firstly building a chatbot out of some rule based approach, then converting it into more of a learning model.

The pipeline of our approach is :



In Message Understanding Block we try to understand which type of objective customer is asking for. Is it related to query or concern or recommendation.

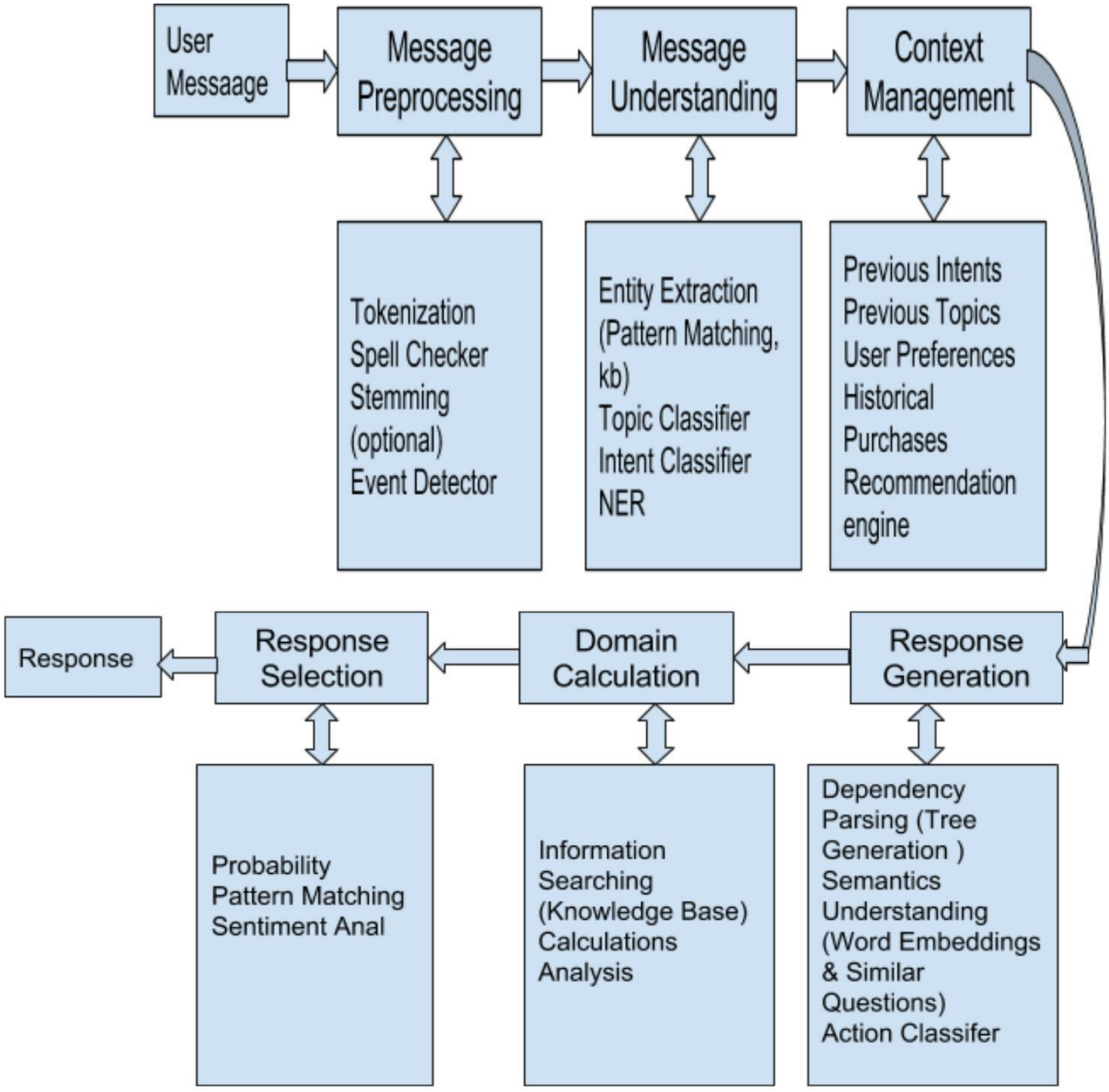
In context Management block we try to take previous preferences & historical purchases.

In Domain calculation block we will calculate or fetch any information required to answer the query.

Architecture :

Front End : Front end is a kind of a chat box with a logo of the company in the screen. User will type and send the query.

Back end And NLP Training



NLP Training :

We will train our model on dependency parsing tree based on context free grammar. We will also check for Build similar question algorithm which will try to detect if question asked by user and any other question in our dataset has same semantics. We will train out topic classifier on broad level classes like greeting, query, feedback, problems and then we will make more intents in each category of topics like problems topic there are classes like intents related to quality, wifi, behaviour like this more of a rule based approach. We will maintain the entity extraction module based on some knowledge base, wordnet and pattern matching. We will also try to include some recommendation engine in our module to improve the customer sales.

Personalization :

We are taking context management to make it more personalized to the customer. In training our dependency parser, we will also keep in mind their preferences and historical purchases. We will make some recommendations based on object-object and people-people collaborative filtering. At last we will check for our responses and do sentiment analysis on that it should be positive to make a good impact on the customer.