Food Delivery Chatbot

Group-4

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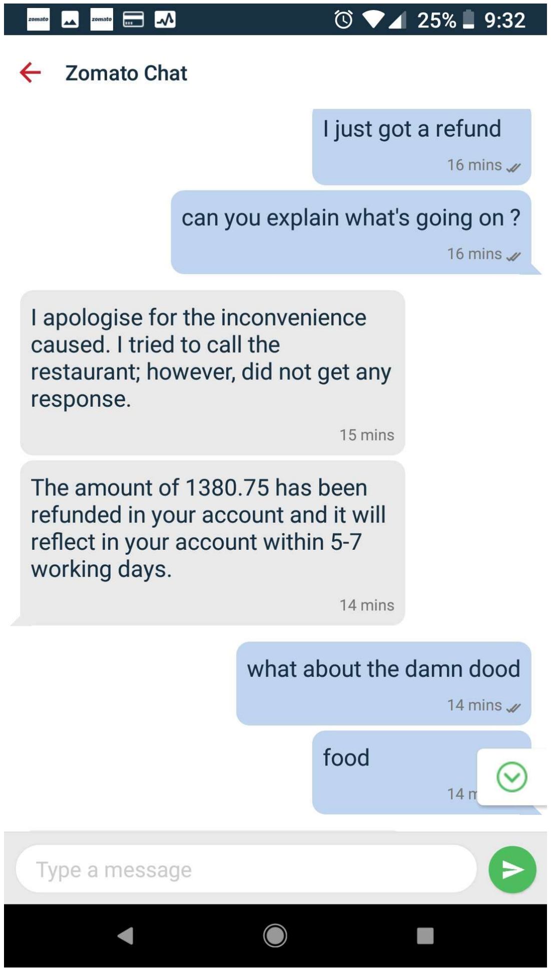
Chatbots

- A chatbot is artificial intelligence (AI) software that can imitate a natural language discussion (or chat) with a user via messaging apps, websites or mobile apps.

Why Chatbots?

- For faster and transparent order processing
- To know order patterns and to keep track of loyal customers
- To assess customer feedback.
- Foodtech chatbots are more interactive, easy to use, scale ,and can be easily automated.

Zomato Chat:



I just got a refund
16 mins

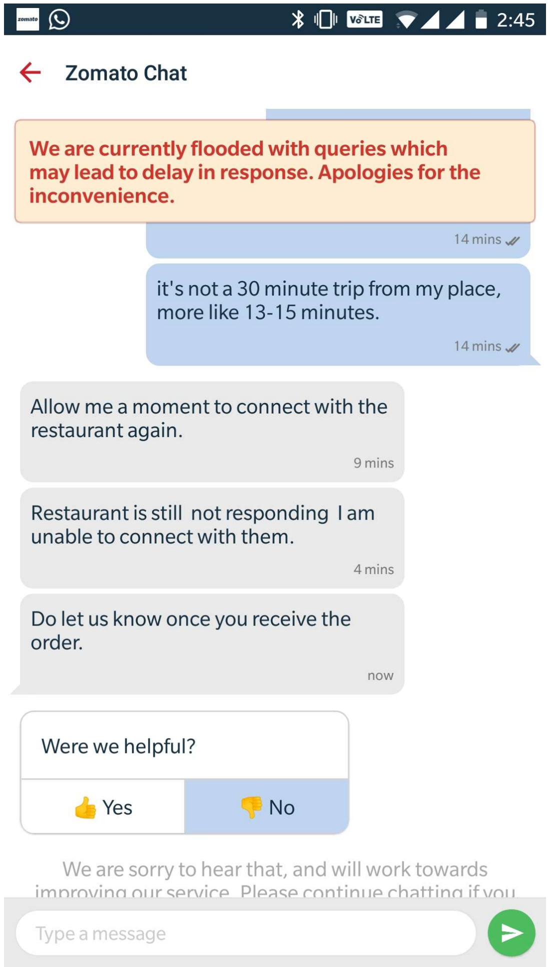
can you explain what's going on ?
16 mins

I apologise for the inconvenience caused. I tried to call the restaurant; however, did not get any response.
15 mins

The amount of 1380.75 has been refunded in your account and it will reflect in your account within 5-7 working days.
14 mins

what about the damn dood
14 mins

food
14 m



We are currently flooded with queries which may lead to delay in response. Apologies for the inconvenience.

14 mins

it's not a 30 minute trip from my place, more like 13-15 minutes.
14 mins

Allow me a moment to connect with the restaurant again.
9 mins

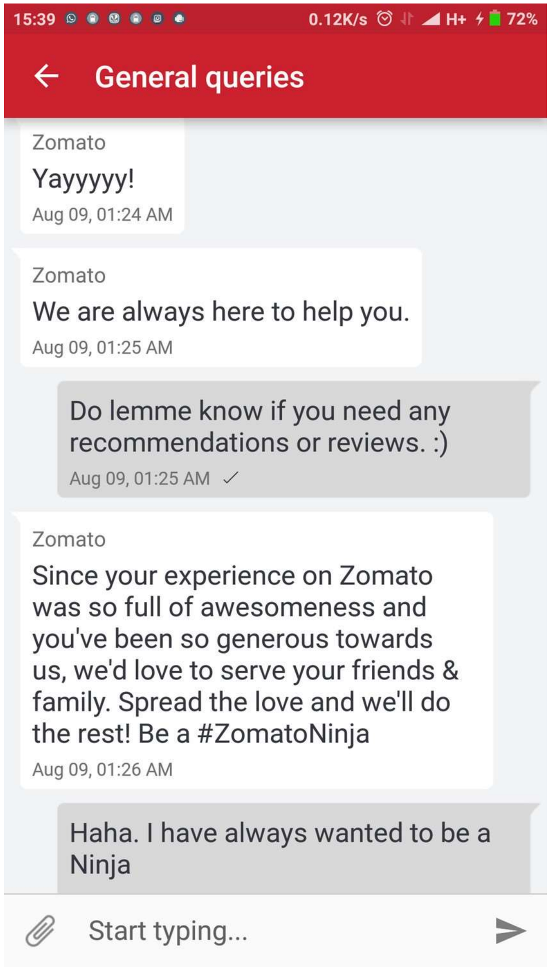
Restaurant is still not responding I am unable to connect with them.
4 mins

Do let us know once you receive the order.
now

Were we helpful?

👍 Yes 👎 No

We are sorry to hear that, and will work towards improving our service. Please continue chatting if you



Zomato
Yayyyyy!
Aug 09, 01:24 AM

Zomato
We are always here to help you.
Aug 09, 01:25 AM

Do lemme know if you need any recommendations or reviews. :)
Aug 09, 01:25 AM ✓

Zomato
Since your experience on Zomato was so full of awesomeness and you've been so generous towards us, we'd love to serve your friends & family. Spread the love and we'll do the rest! Be a #ZomatoNinja
Aug 09, 01:26 AM

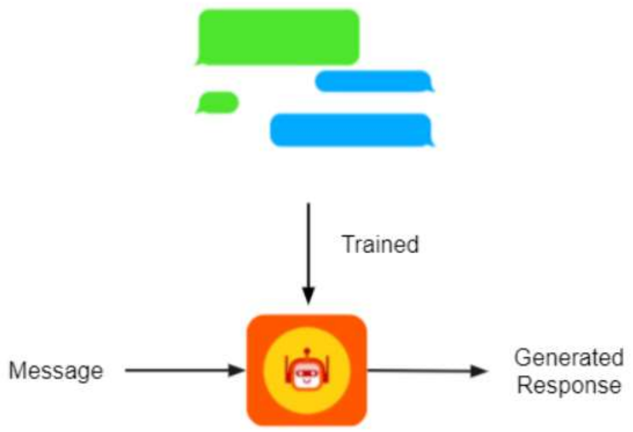
Haha. I have always wanted to be a Ninja

Types of Chatbots

- Generative based

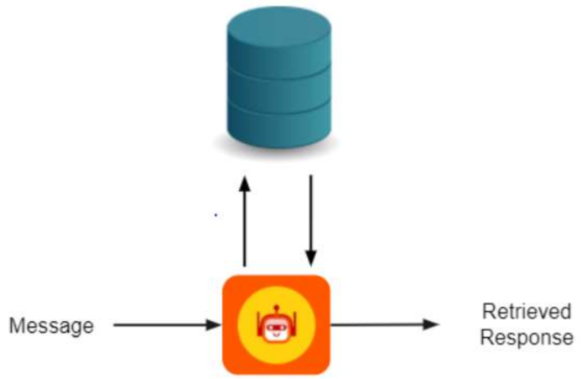
Generative chatbots use a combination of supervised learning, unsupervised learning & reinforcement learning. A generative chatbot is an open-domain chatbot that creates unique language combinations rather than selecting from a list of pre-defined responses.

Chatbots that use generative methods can generate new dialogue based on large amounts of conversational training data.



- Retrieval based

Retrieval-based systems are limited to predefined responses.

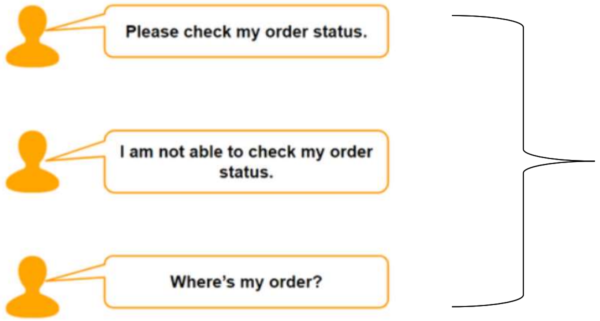


In this we can use Intent Recognition method. Intent classification or intent recognition is the task of taking a written or spoken input, and classifying it based on what the user wants to achieve

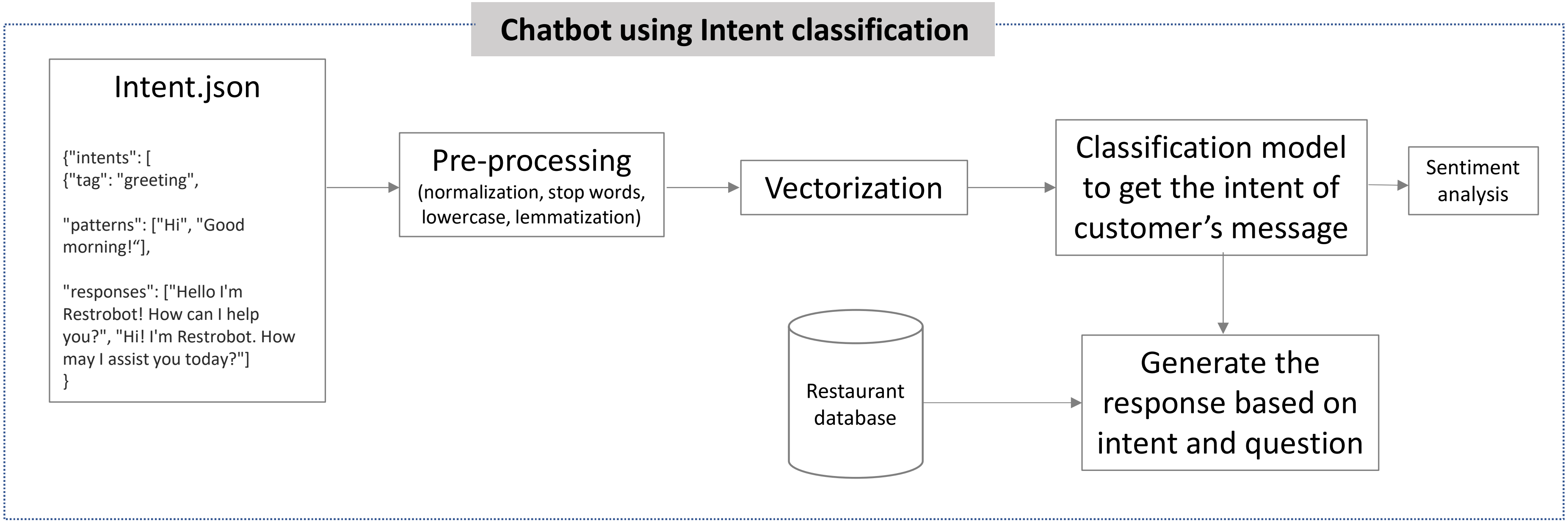
Source: https://www.techlearn.live/

Method 2: Retrieval based chatbot

This can be done using Intent classification. Intent classification or intent recognition is the task of taking a written or spoken input, and classifying it based on what the user wants to achieve.


Please check my order status.
I am not able to check my order status.
Where's my order?

They all want to check their order status



Chatbot using Intent classification

Intent.json

```
{"intents": [
{"tag": "greeting",

"patterns": ["Hi", "Good
morning!“],

"responses": ["Hello I'm
Restrobot! How can I help
you?", "Hi! I'm Restrobot. How
may I assist you today?"]
}
```

Pre-processing (normalization, stop words, lowercase, lemmatization)

Vectorization

Classification model to get the intent of customer's message

Sentiment analysis

Restaurant database

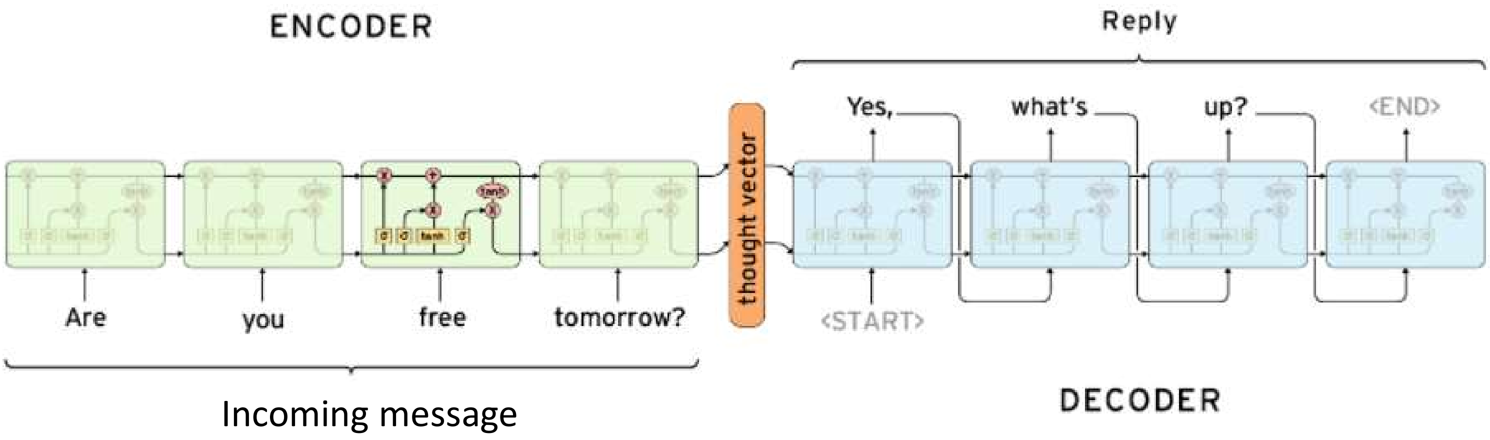
Generate the response based on intent and question

Method 1: Generative method based chatbot

As we have seen, Chatbots that use generative methods can generate new dialogue based on large amounts of conversational training data. Here, we can use Sequence to sequence learning.

Sequence to Sequence Learning:

- The Sequence to Sequence model (seq2seq) consists of two RNNs - an encoder and a decoder.
- The Encoder reads the input sequence, word by word and **emits a context** (a function of final hidden state of encoder), which would ideally capture the essence (semantic summary) of the input sequence.
- Based on this context, the Decoder generates the output sequence, one word at a time while looking at the context and the previous word during each timestep.

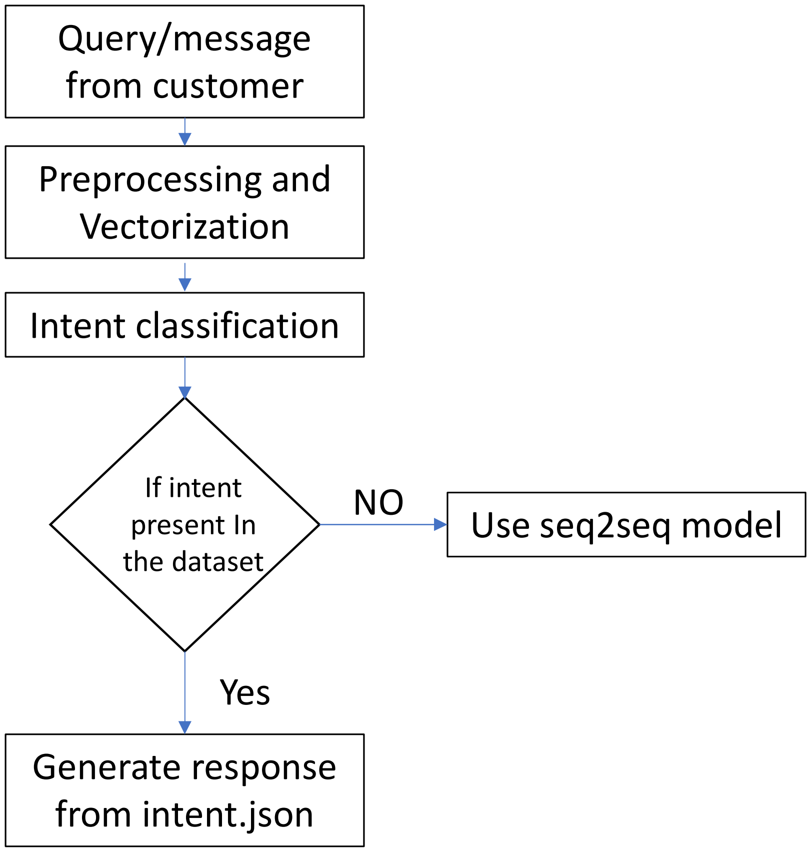


Source: parctical seq2seq

Datasets

- Json file with intents : dataset
- Cornell movie dataset for Seq2Seq model : dataset

Using combination of both Method 1 and 2



Query/message from customer

Preprocessing and Vectorization

Intent classification

If intent present In the dataset

NO

Use seq2seq model

Yes

Generate response from intent.json