

NET-A-PORTER

NAP – UCL Project Team 28 Customer Service Chatbot

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Bi-Weekly Report #3
27/2/2017

Project Overview (10/2/2017 – 27/2/2017)

In these two weeks, we have prepared our individual work on the chatbot for its integration next week. We have the components of IBM Conversation workspace, the front-end user interface, and the back-end server. We had planned many use cases for the chatbot, but for now we have implemented one of the use case. We now focus on integrating the components together before finishing off the other use cases. Once the integration is done, we would be able to show it to our client to get their feedback.

Meetings Summary

We had no face-to-face meetings these two weeks as it was reading week and scenario week. However, we gave progress updates to one another through our group chat with images of our work.

Tasks Completed

- Exported “Categories” and product sort information from API call to JSON files
- Wrote scripts to convert JSON files to CSV files
- Uploaded CSV files to populate above mentioned entities efficiently
- Populated synonyms for above mentioned entity values using Regex
- Crafted dialog for product recommendation intent
- Tested IBM Conversation service call from application

Problems to be Resolved Before Next Meeting

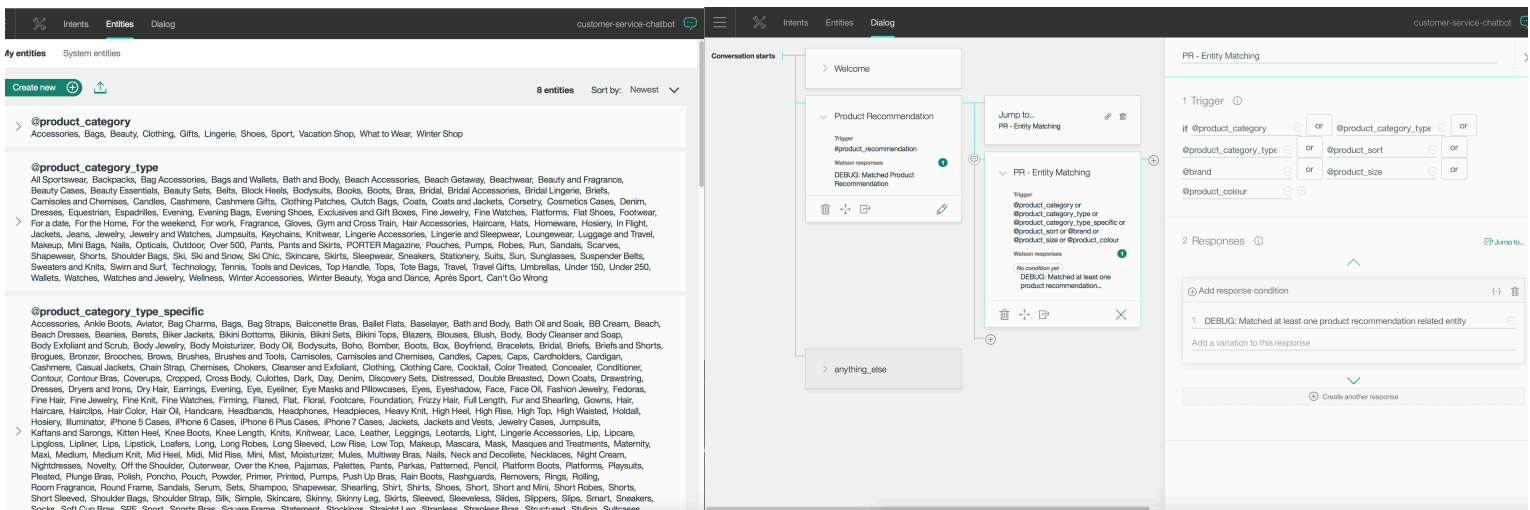
While we are able to get user intents and entities from their input, specifying how product information is shown to users is a big design problem. We wanted information output from the chatbot to be easily read and processed by users, and also for them to prefer using the chatbot than to just browse the website or google any queries they might have. Another problem is to make sure that our integration between the 3 components will be smooth.

Plan for Next Two Weeks

The plan is to integrate the 3 components together. Following that, it will continue involving us working on the individual components as working in parallel is more efficient. For the IBM Conversation workspace, it will involve planning and creating several more intents such as Site Redirect, FAQ, Returns Policy, Promotions, Fashion Advisor, etc. The front-end will involve user interface design in terms of representing the output information. The back-end needs work on exposing a simple API that the front-end can use (potentially available for use next time with other NAP teams), which inputs a string message (user query) and outputs the answer in JSON.

Contributions

Wayne Tsui



Populated entities from CSV file (example shown here is Product Categories from NET-A-PORTER)

Dialog flow for Product Recommendation

```
Waynes-MacBook-Pro:~$ node app.js
Hello there! What can I do for you?

ENTIRE OUTPUT:
{ intents: [],
  entities: [],
  input: {},
  output:
   { log_messages: [],
     text: [ 'Hello there! What can I do for you?' ],
     nodes_visited: [ 'Welcome' ] },
  context:
   { conversation_id: '9be5077e-c041-4307-baca-8d9f7fd6f65b8',
     system:
      { dialog_stack: [Object],
        dialog_turn_counter: 1,
        dialog_request_counter: 1,
        _node_output_map: [Object] } } }

>> Ola wants to see view some black suits by balenciaga in size m, from lowest to highest price
Detected intent: #product_recommendation
Detected intent - value: #product_recommendation
Detected entity: @product_sort
Detected entity - value: price-desc
Detected entity: @product_colour
Detected entity - value: Black
Detected entity: @product_category_type
Detected entity - value: Suits
Detected entity: @brand
Detected entity - value: Balenciaga
Detected entity: @product_size
Detected entity - value: M
DEBUG: Matched Product Recommendation

ENTIRE OUTPUT:
```

```
>> Ola wants to see view some black suits by balenciaga in size m, from lowest to highest price
Detected intent: #product_recommendation
Detected intent - value: #product_recommendation
Detected entity: @product_sort
Detected entity - value: price-desc
Detected entity: @product_colour
Detected entity - value: Black
Detected entity: @product_category_type
Detected entity - value: Suits
Detected entity: @brand
Detected entity - value: Balenciaga
Detected entity: @product_size
Detected entity - value: M
DEBUG: Matched Product Recommendation

ENTIRE OUTPUT:
{ intents:
  [ { intent: 'product_recommendation',
    confidence: 0.9840542078018188 } ],
  entities:
  [ { entity: 'product_sort',
    location: [Object],
    value: 'price-desc' },
    { entity: 'product_colour', location: [Object], value: 'Black' },
    { entity: 'product_category_type',
    location: [Object],
    value: 'Suits' },
    { entity: 'brand', location: [Object], value: 'Balenciaga' },
    { entity: 'product_size', location: [Object], value: 'M' } ] ],
  input: { text: 'Ola wants to see view some black suits by balenciaga in size m, from lowest to highest price' },
  output:
  { log_messages: [],
    text:
     [ 'DEBUG: Matched Product Recommendation',
       'DEBUG: Matched at least one product recommendation related entity' ],
    nodes_visited: [ 'Product Recommendation', 'PR - Entity Matching' ] },
  context:
  { conversation_id: '9be5077e-c041-4307-baca-8d9f7fd6f65b8',
    system:
     { dialog_stack: [Object],
       dialog_turn_counter: 2,
       dialog_request_counter: 2,
       _node_output_map: [Object] } } }

>>
```

Test IBM Conversation service call from external application

I have been working on exporting the NET-A-PORTER product categories into the IBM Conversation workspace. It involves breaking down the categories into 3 different layers, as I have to work with the structure of how it is represented in the JSON response from the API call.

After the intents and entities are populated, I crafted a dialog for how user would query with the intent for product recommendation. The response would clearly provide the necessary information (such as colour, brand, product type, etc if available) for the back-end to call the correctly configured API call.

Lastly, as we were all working in parallel and yet to integrate, I wrote a simple script to test the IBM Conversation service by calling it from an external application. Seen above is a test query and the response from the Conversation service, correctly identifying the product information found in the query.

Aouss Sbai

During the past 2 weeks, I have been working on implementing intent and entity identification from the IBM Watson output file. That is to say that I have tried to polish the parsing process in order to recognize a broader range of queries and make the appropriate API calls.

The latter part has also been a difficult part to handle. In fact, conceiving the structure that builds the API queries from the intent recognition has caused me issues.

The objective is now to standardize the output file so it is usable and exploitable by the front end.

Jason In

For the past 2 weeks, I have been focusing on the front-end design of the chatbot. The languages that I have been using are AJAX, HTML, CSS and JavaScript.