Travel Taiwan｜TT

104031241 黃政樺、104020005 王彥翔、104000036 羅方妤、107065520 李相辰

Abstract

In this article, we use the chatbot to integrate all the platforms to provide all the travelers in Taiwan a better user-friendly experience. By using the Dialogflow to analyze the sentiment and to give the response, we can understand how to interact with the users. Besides that, we can keep improving the accuracy by training the model.

To provide the user a quick understanding of the traveling attractions, we also use the text mining technique to create the tag cloud with relative words. We crawl the top attractions and all the reviews from the TripAdvisor.

Keywords：Chatbot、Travel、Text Mining、 User-friendly

Introduction

Nowadays, we are used to opening multiple websites to collect the information for traveling, like Google Maps, Blogs, or TripAdvisors, which has played an increasingly important role as information sources for travelers (Xiang, Z et al. 2010). However, it usually costs a lot of time on searching for information.

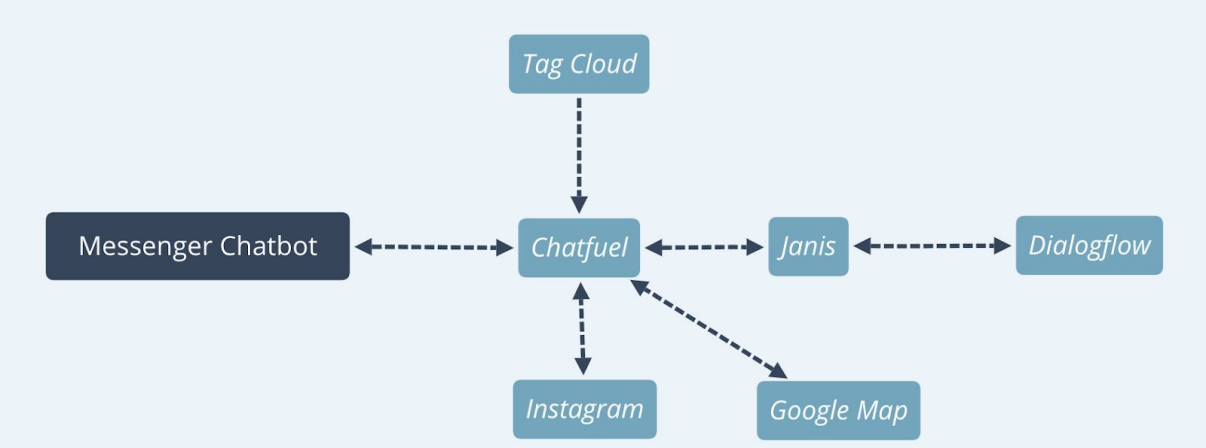
Therefore, in our final project, we decide to integrate all the online platforms together and to provide what the user's need by understanding the meaning. We aim to develop a user-friendly system by exploring the tourism reviews and using Messenger Chatbot to combine everything together. Furthermore, using the techniques learned from the class to analyze the words, creating the tag cloud, and providing the relative words of the attractions recommended by us are what we have accomplished.

Literature Review

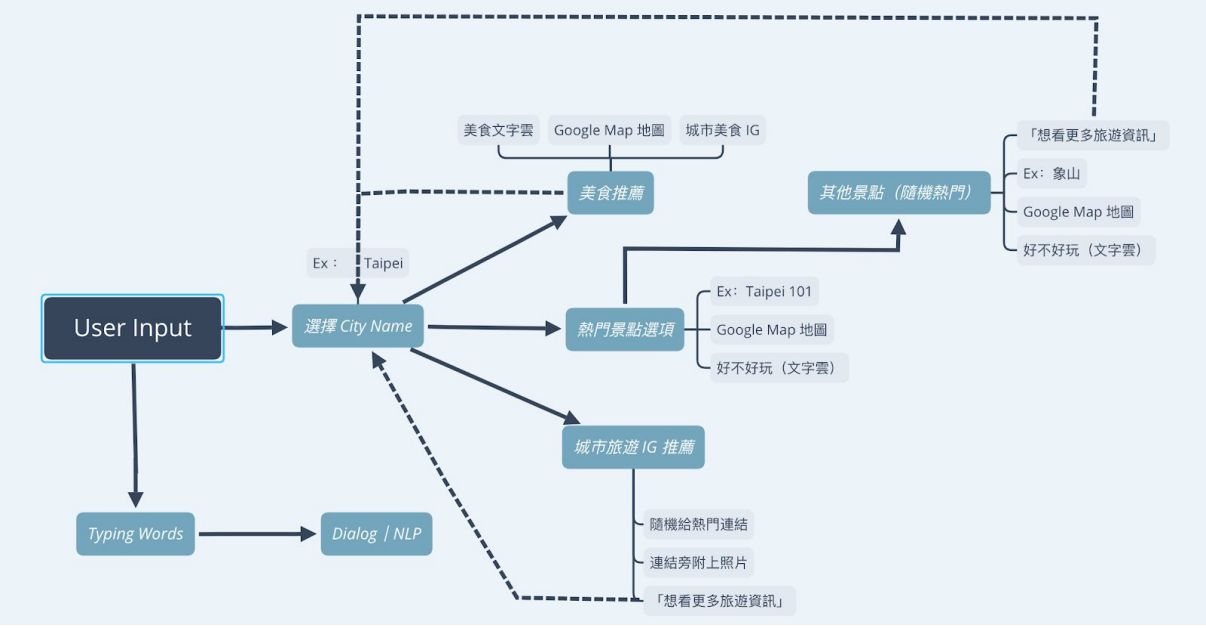
Online fan pages offer a unique opportunity for tourism managers to effect positive engagements between their brand and consumer base (Perez-Vega, 2018).

Architecture

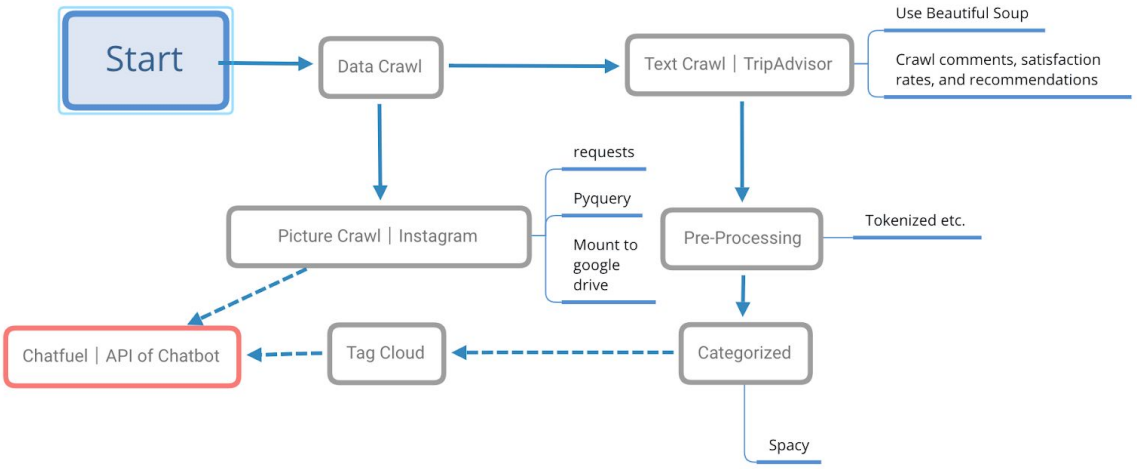
1. Integration of all the platforms in the system.



2. The interaction design structure for the chatbot.



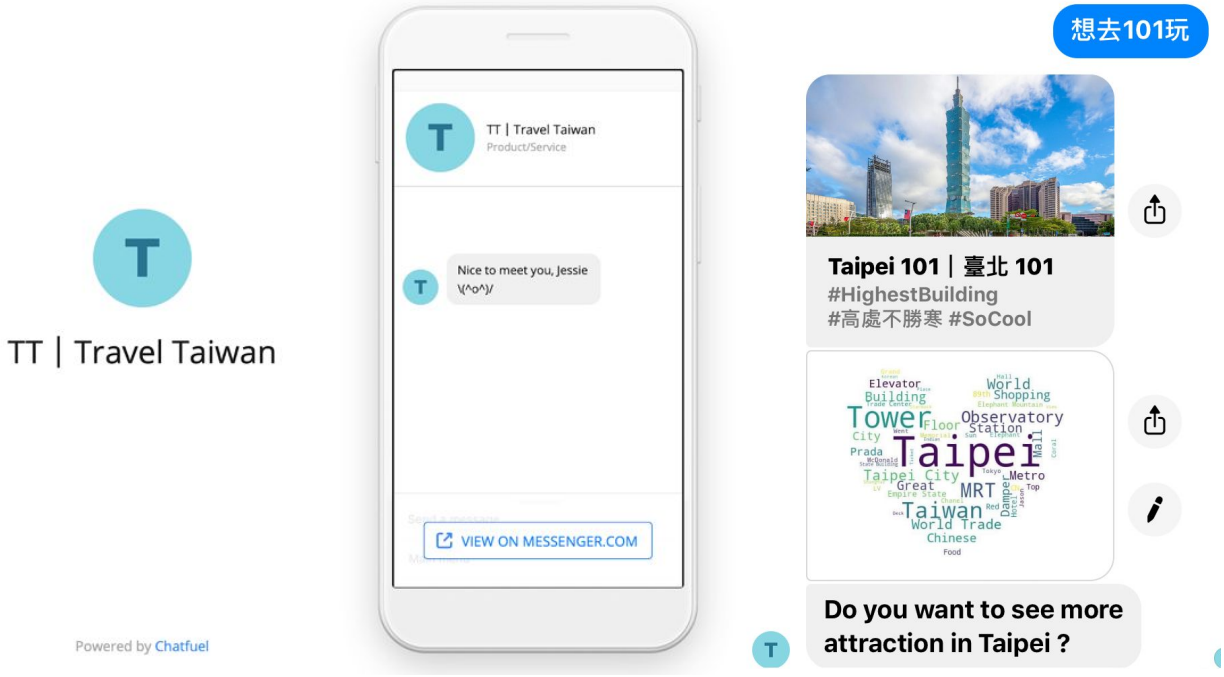
3. Text Mining for the tag cloud.



Implementation

1. We use chatbot as our user interface to reach 4 goals:
   - **Let users type everything in one window.**
   - **Combine all information from different platforms into one interface.**
   - **Let companies reach customers easily.**
   - **Use natural language processing to interact with customers.**

2. We crawl comments of the top attractions in trip advisor to build tag clouds and to train our recommendation model.



Evaluation

This part we will evaluate the performance of the system by users' surveys to see the satisfaction levels , but we haven't deployed it yet.

Discussion

1. TT｜Travel Taiwan: how we start our project

Take our project as an example: we first brainstormed the pain point of visitors, and found out that when a user is preparing for a new visit, he/she needs to search for the location of the tourist attraction via Google Map, scroll down the visit feedbacks on TripAdvisor, look for the pictures shared on Instagram, and so on. It seems to be a tedious job and takes an amount of time to settle down the plan for the upcoming visit. Therefore, to save their effort, we deliberated what we had learned from the curricula and figured out a technical solution: a trip recommendation chatbot, that is, TT Taiwan. Via web crawler, we could crawl down the review feedback from TripAdvisor. Then, we picked out the keywords and critical information by tokenization and spaCy package and generated word clouds to display the visit information in a clear way. Finally, we integrated the map information from Google map and image information from Instagram via chatbot to accelerate the process of information collection. With TT Taiwan, new visitors can save their time in seeking for information via this chatbot.

2. Improvement: how we make it better in future

It seems that TT Tawian can be a perfect project; however, we still ponder over how we can improve our product:

i. Expansion of Accessible Area and Database: TT Taiwan now are limited to tourist attractions in Taipei. We expect to expand our service area all around Taiwan.

ii. Improvement of Text Recognition Training: TT Taiwan now can only identify simple keywords like Taipei, 台北 rather than full sentence like “I would like to know the amusement parks in Taipei”.

iii. Re-design of Image Display: Some of the feedback from the audience said that attached images from Instagram were not attractive since they just accompanied with the texts. How we display images to make optimal attraction is still needed discussing.

Conclusion

There are two main goals for our final project : to save time of customers and companies and to make a transformation in traveling experience of customers in the world bombarded with lots of information. To fulfill our purposes, we combined different services that customers may be interested in while traveling in Taiwan, including recommended attractions,delicious food, ways of transportation and hotels. We built our services based on the technical methods learned in the text mining class. We are looking forward to putting this service into real world by inviting hotels, restaurants, and taxi companies to join it. In this way, we can put more thorough services on TT to create a better user experience.

References

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