

Recommendation System for Food Delivery Application Based on Retrieval of Relevant Feedback

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Abstract: Since there are many food delivery applications which have evolved within the market since a few years now, it's difficult for the user to pick anybody application on whom they will trust and use. This paper describes a system which helps the user to pick an application by comparing the applications on various constraints.

Keywords: Recommender systems; User review analysis, User rating analysis, Aspect based opinion mining, Web scraping.

1. Introduction

Information retrieval is that the process of selectively disseminating relevant information stored among a spread of data objects. A useful method of storing these objects adopts the notion of clustering, where similar objects are placed into homogeneous groups with the expectation that objects within an equivalent group are similar and certain to be relevant to an equivalent queries.

In this project, we propose a replacement approach for an intelligent retrieval framework with feedbacks and reviews given by the purchasers on each food delivery applications and analyze the gathered information about reviews and ratings from the food delivery applications and therefore the rank the applications with the assistance of the gathered information on feedback and reviews by using various ranking algorithms.

Also there are various applications on the web which compare differing types of knowledge during a particular domain for eg. Trivago which compares various hotels and provides best deal then after clicking on the “view deal” button, similarly in our system we compare two apps which are swiggy and zomato. On the idea of reviews and ratings which can show top three restaurants on the idea of user reviews, swiggy ratings and zomato ratings.

2. Literature Survey

Yayuan Tang, Hao Wang, Kehua Guo, Yizhe Xiao, And Tao Chi, “Relevant Feedback Based Accurate and Intelligent Retrieval on Capturing User Intention for Personalized Websites”, April 2018.

With the rapid climb of networking, cyber–physical–social

systems (CPSSs) provide vast amounts of data. aimed toward the large and sophisticated data provided by networking, obtaining valuable information to satisfy precise search needs when capturing user intention has become a serious challenge, especially in personalized websites

we use real-time location and relevant feedback technology to style and implement an efficient, configurable, and intelligent retrieval framework for personalized websites in CPSSs. to enhance the retrieval results, we propose a technique of implicit relevant feedback supported click-through data analysis, which may obtain the connection between the user query conditions and retrieval results

Pratiksha Ashiwal, “Web Information Retrieval Using Python and Beautiful Soup”, June 2016.

There are number of approaches by which the live data are often obtained for research and development. One among these approaches is getting data from OpenData Portals. The open data portals provide authentic data sets for research and development in multiple domains. the info sets can be downloaded from these portals in multiple formats including XML, CSV, JSON and lots of others.

Many times data isn't easily accessible although it does exist. the maximum amount as we wish everything was available in CSV or the format of our choice – most data is published in several forms on the online.

I. K. C. U. Perera “Aspect Based Opinion Mining on Restaurant Reviews,” 2017.

Every day, people within the world share their experience and thoughts regarding various products and services on the World Wide Web. These are called opinions which are valuable in the decision-making process. Therefore, the World Wide Web has become a huge repository containing different quite of opinions and thoughts of the people. However, to urge benefits from these accumulated opinions, the contents should be extracted in to features such as “food”, “services”, “environment” within the restaurant domain and analyzed properly since those opinions are written in complex sentences and in the row text format.

Data mining extracts the hidden knowledge from the unstructured texts exists in sort of patterns and relationships.

These extracted and analyzed opinions are useful for customers as well as sellers since they will get a concession evaluating others' opinions associated with the merchandise or services intended to get.

Hence people cannot read billions of opinions manually and it's difficult to extract the important ideas from them. Data Mining techniques provide promising solutions to resolve the aforementioned issues.

3. Proposed System

Various algorithms are used to implement this project. Researchers have made great effort to improve the efficiency of information retrieval. The most common approach is based on keywords. Substantial current research work only considers single keywords without fully expressing the intentions of users. In expanded research, others use related multi-keywords queries, which make the query results more consistent with the user's requirements.

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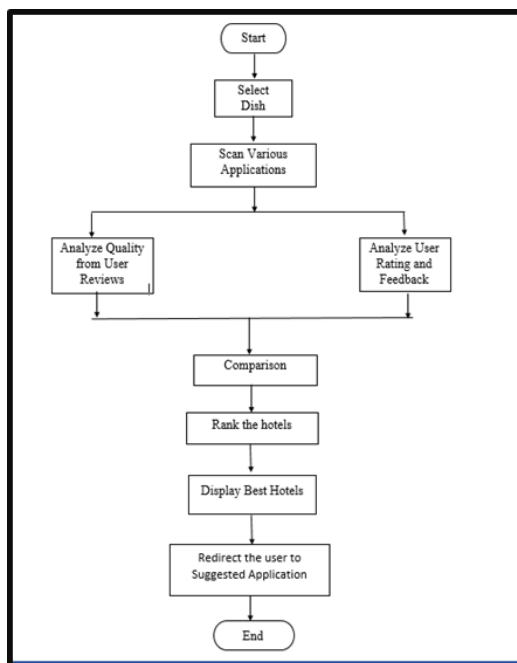


Fig. 1. Flowchart

A. Data scraping of food delivery application

Web scraping is an automatic method wont to extract large amounts of knowledge from websites. The information on the websites are unstructured. Web scraping helps collect these

unstructured data and store it during a structured form. There are alternative ways to scrape websites like online Services, APIs or writing your own code.

1) Steps for data scraping using python

- Step 1: Import the packages
- Step 2: Find the URL that you want to scrape
- Step 3: Inspecting the Page
- Step 4: Find the data you want to extract
- Step 5: Write the code
- Step 6: Run the code and extract the data
- Step 7: Store the data in the required format

2) Libraries used for web scraping

- *Selenium*: Selenium is a web testing library. It is used to automate browser activities.
- *Beautiful Soup*: Beautiful Soup is a Python package for parsing HTML and XML documents. It creates parse trees that's helpful to extract the info easily.
- *Pandas*: Pandas may be a library used for data manipulation and analysis. It is used to extract the info and store it within the desired format

B. Aspect based opinion mining on restaurant reviews

It is used to identify the aspect related opinions. Opinion mining may be a data mining technique. It uses Natural Language processing. This is finished restaurants and there are various reviews which is written by customer. It is hardly possible to read all the reviews so that is why to offer the thought a few particular restaurant opinion mining may be a solution.

1) Steps for aspect based opinion mining algorithm

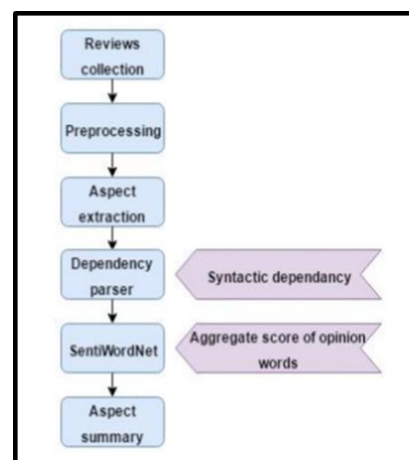


Fig. 2. Aspect based opinion mining

2) Opinion text is of two types

Subjective and Objective-Subjective sentences are classified into binary scale and multivariate scale. Binary scale classifies opinion as either positive or negative whereas multivariate scale classifies opinion as a like rating scale which may be 3 point, 5 point. It is used helps to extract the emotions involved within the opinion. Basic emotions are classified into six categories (i.e. Anger, Fear, Sadness, Enjoyment, Disgust and Surprise).

4. Conclusion

Our proposed system enables the user to order a food item effectively by comparing it on various delivery applications. We have also extracted the data from Zomato and Swiggy. We are also analyzing and understanding the working and the flow of aspect-based opinion mining.

References

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- [2] I. K. C. U. Perera, "Aspect Based Opinion Mining on Restaurant Reviews," 2017.
- [3] Pratiksha Ashiwal, "Web Information Retrieval Using Python and Beautiful Soup," June 2016.