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Recommendation and suggestion System For Easy Tourism

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Abstract — *optimal route search using spatial keyword query focus on keyword searching using best keyword cover query which is a form of spatial keyword query. It operates on spatial objects stored in spatial database and comes with algorithms that can retrieve answer in a fast manner. Best keyword cover query aims to find objects associated with keywords. The method proposed considers keyword rating, keyword relevance and spatial relevance. It also helps to retrieve data based on Boolean range query. Location based social network (LBSN) services allow users to perform check in and share their check in data with their friends. In particular, when a user is traveling, the check in Data is in fact a travel route with some photos and tag information. As a result, a massive number of routes are generated, which play an essential role in many well established research areas, such as mobility prediction, urban planning and traffic management. In this paper, we focus on trip planning and intend to discover travel experiences from shared data in location based social networks. To facilitate trip planning, the prior works in provide an interface in which a user could submit the query region and the total travel time. In contrast, we consider a scenario where users specify their preferences with keywords. For example, when planning a trip in Sydney, one would have "Opera House". As such, we extend the input of trip planning by exploring possible keywords issued by users.*

Keywords - *Spatial keyword query ,spatial objects, spatial database, best keyword cover query.*

I. INTRODUCTION

Data mining is the means of extracting data from a dataset for users to use it in various purposes. The purpose of such data plays a significant role in keyword searching. Searching is a common activity happening in data mining. Searching for spatial objects from spatial database has recently sparked enthusiasm among researchers. This motivated to develop methods to retrieve spatial objects. Spatial objects consist of objects associated with spatial features. In other words, spatial objects involve spatial data along with longitude and latitude of location. Querying such data is called best keyword cover querying. Search is called best keyword cover search. Existing method to such data consider either minimum inter objective distance and keyword search. As a result new methods for best keyword cover search were developed. Traditional nearest neighbour search compute nearest neighbour by considering distance as feature. In this context, nearest neighbour search focus on finding nearest neighbours where keywords and spatial data plays a major impact.

II. LITERATURE SURVEY

1. Mining interesting locations and travel sequences from GPS trajectories
Authors: Y. Zheng, L. Zhang, X. Xie, and W.-Y. Ma

Description:
The increasing availability of GPS-enabled devices is changing the way people interact with the Web, and brings us a large amount of GPS trajectories representing people's location histories. In this paper, based on multiple users' GPS trajectories, we aim to mine interesting locations and classical travel sequences in a given geospatial region. Here, interesting locations mean the culturally important places, such as Tiananmen Square in Beijing, and frequented public areas, like shopping malls and restaurants, etc. Such information can help users understand surrounding locations, and would enable travel recommendation. In this work, we first model multiple individuals' location histories with a tree-based hierarchical graph (TBHG). Second, based on the TBHG, we propose a HITS (Hypertext Induced Topic Search)-based inference model, which regards an individual's access on a location as a directed link from the user to that location. This model infers the interest of a location by taking into account the following three factors. 1) The interest of a location depends on not only the number of users visiting this location but also these users' travel experiences. 2) Users' travel experiences and location interests have a mutual reinforcement relationship. 3) The interest of a location and the travel experience of a user are relative values and are region-related. Third, we mine the classical travel sequences among locations considering the interests of these locations and users' travel experiences. We evaluated our system using a large GPS dataset collected by 107 users over a period of one year in the real world. As a result, our HITS-based inference model outperformed baseline approaches like rank-by-count and rank-by frequency. Meanwhile, when considering the users' travel experiences and location interests, we achieved a better performance beyond baselines, such as rank-by-count and rank-by-interest, etc.

2. Exploiting geographical influence for collaborative point-of-interest recommendation
Authors: M. Ye, P. Yin, W.-C. Lee, and D.-L. Lee

Description:
In this paper, we aim to provide a point-of-interests (POI) recommendation service for the rapid growing location-based social networks (LBSNs), e.g., Foursquare, Whrrl, etc. Our idea is to explore user preference, social influence and geographical influence for POI recommendations. In addition to deriving user preference based on user-based collaborative filtering and exploring social influence from friends, we put a special emphasis on geographical influence due to the spatial clustering phenomenon exhibited in user check-in activities of LBSNs. We argue that the geographical influence among POIs plays an important role in user check-in behaviors and model it by power law distribution. Accordingly, we develop a collaborative recommendation algorithm based on geographical influence based on naive Bayesian. Furthermore, we propose a unified POI recommendation framework, which fuses user preference to a POI with social influence and geographical influence. Finally, we conduct a comprehensive performance evaluation over two large-scale datasets collected from Foursquare and Whrrl. Experimental results with these real datasets show that the unified collaborative recommendation approach significantly outperforms a wide spectrum of alternative recommendation approaches.

3. Exploring social influence on location-based social networks
Authors: Y.-T. Wen, P.-R. Lei, W.-C. Peng, and X.-F. Zhou

Description:
In recent years, with the popularization of mobile network, the location-based service (LBS) has made great strides, becoming an efficient marketing instrument for enterprises. For the retail business, good selections of store and appropriate marketing techniques are critical to increasing the profit. However, it is difficult to select the retail store because there are numerous considerations and the analysis was short of metadata in the past. Therefore, this study uses LBS, and provides a recommendation method for retail store selection by analyzing the relationship between the user track and point-of-interest (POI). This study uses regional relevance analysis and human mobility construction to establish the feature values of retail store recommendation. This study proposes (1) architecture of the data model available for retail store recommendation by influential layers of LBS; (2) System-based solution for recommendation of retail stores, adopts the influential factors with specified data in LBS and filtered by industrial types; (3) Industry density, area categories and region/ industry clustering methods of POIs. Uses KDE and KMeans to calculate the effect of regional functionality on the retail store selection, similarity is used to calculate the industry category relation, and consumption capacity is considered to state.

4. KSTR: Keyword-aware skyline travel route recommendation
AUTHORS: Y.-T. Wen, K.-J. Cho, W.-C. Peng, J. Yeo, and S.-W. Hwang

Description:
With the popularity of social media (e.g., Facebook and Flicker), users can easily share their check-in records and photos during their trips. In view of the huge number of user historical mobility records in social media, we aim to discover travel experiences to facilitate trip planning. When planning a trip, users always have specific preferences regarding their trips. Instead of restricting users to limited query options such as locations, activities, or time periods, we consider arbitrary text descriptions as keywords about personalized requirements. Moreover, a diverse and representative set of recommended travel routes is needed. Prior works have elaborated on mining and ranking existing routes from check-in data. To meet the need for automatic trip organization, we claim that more features of Places of Interest (POIs) should be extracted. Therefore, in this paper, we propose an efficient Keyword-aware Representative Travel Route framework that uses knowledge extraction from users historical mobility records and social interactions. Explicitly, we have designed a keyword extraction module to classify the POI-related tags, for effective matching with query keywords. We have further designed a route reconstruction algorithm to construct route candidates that fulfill the requirements. To provide befitting query results, we explore Representative Skyline concepts, that is, the Skyline routes which best describe the trade-offs among different POI features. To evaluate the effectiveness and efficiency of the proposed algorithms, we have conducted extensive experiments on real location-based social network datasets, and the experiment results show that our methods do indeed demonstrate good performance compared to state-of-the-art works.

III. EXISTING SYSTEM

When planning a trip, users always have specific preferences regarding their trips. Instead of restricting users to limited query options such as locations, activities, or time periods, we consider arbitrary text descriptions as keywords about personalized requirements.
Moreover, a diverse and representative set of recommended travel routes is needed. Prior works have elaborated on mining and ranking existing routes from check-in data.

Disadvantages:

- Plan according to travel agencies, which is not match to tourist.
- Sometime packages is too much costly which is not affordable by tourist.
- Sometime travel agencies promising good quality service to tourist, but that not happen actually.

IV. PROPOSE SYSTEM

We propose an efficient Keyword-aware Representative Travel Route framework that uses knowledge extraction from users' historical mobility records and social interactions.
Explicitly, we have designed a keyword extraction module to classify the POI-related tags, for effective matching with query keywords.
To provide befitting query results, we explore Representative Skyline concepts, that is, the Skyline routes which best describe the trade-offs among different POI features.
The experiment results show that our methods do indeed demonstrate good performance compared to state-of-the-art works.

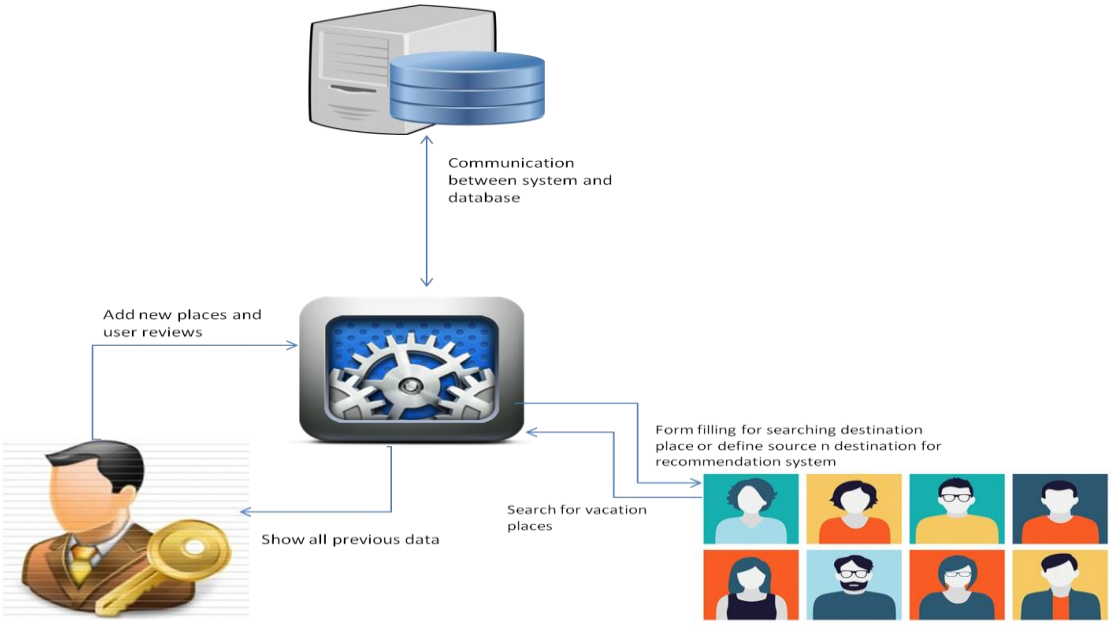

Fig.1 System Architecture

Advantages:

- Custom search
- User defined schedule planning
- Get good guidance
- Recommend user according to user place of interest

V. MATHEMATICAL MODEL

Let 'S' be the system
Where
S= {I, O, P}
Where,
I = Set of input(information related to user interest)
O = Set of output (recommended places along with information)
P = Set of technical processes
Let 'S' is the system S = {……
Identify the input data S1, S2, …. , Sn
I = {({types of places, activity}, budget, start date, distance, number of vacation days, number of people), travel options }
Searching places P with {{types of places, activity}, travelling season }=k using apriori algorithm.
K= Filter places from k where distance < user defined distance using knn algorithm
Select the places from K where, travelling cost+ staying cost+ activity cost< user defined budget

Find the user rating for recommended places.
Searching route recommended mid station for source, destination, and type of interest
R = {r1, r2 ….,r_n}
Where, each r is the recommended route for matching mid stations with user defined type of intrest. Using candidate generation algorithm.
Identify the Places as P
K means algorithm for clustering similar type of places, activities, season to visit
Places < area distance
Rp = Resultant Places
Distant from source to Rp < distance mention by user.
User input= {source, destination, type of interest, activities }
Identify the output applications as O
O = {K,R,Places, Activity, Hotel, Travelling option, Nearby attraction, distance, rating}
.

VI. SUMMERY AND CONCLUSION

These travel routes are related to all or partial user preference keywords, and are recommended based on
(i) The attractiveness of the POIs it passes,
(ii) Visiting the POIs at their corresponding proper arrival times,
The routes generated by influential users.
We propose a novel keyword extraction module to identify the semantic meaning and match the measurement of routes, and have designed a route reconstruction algorithm to aggregate route segments into travel routes in accordance with query range and time period.

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