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A Survey on Social Media Based Personalized Travel Sequence Recommendation

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ABSTRACT: A personalized travel sequence recommendation system to uses users Facebook data Interest (POIs), topical interest, cost, time and season to recommend places. The rapid growth of online travel information imposes an increasing challenge for tourists who have to choose from a large number of travel packages to satisfy their personalized requirements. On the other side, to get more business and profit, the travel companies have to understand these preferences from different tourists and serve more attractive packages. Proposed System is not only personalized to users travel interest but also able to recommend a travel sequence rather than individual Points of Interest (POIs). Topical package space including representative tags, the distributions of cost, visiting time and visiting season of each topic, is mined to bridge the vocabulary gap between user travel preference and travel routes. We map both users and routes textual descriptions to the topical package space to get user topical package model and route topical package model (i.e., topical interest, cost, time and season). Proposed system will Book the user Pkg. in that user will get all cost for the mined places and will view route on map from user current location

KEYWORDS: POI, Geo-tagged photos, GPS, Social media-Facebook API, Multimedia information retrieval. Online interest, Travel recommendation,

I. INTRODUCTION

Automatic travel recommendation is an main issue in both research and industry. Big media, especially the flourish of social media (e.g., Facebook, Flickr, Twitter etc.) offers great opportunities to address many challenging problems, for instance, GPS estimation and travel recommendation. These data are not only useful for reliable POIs (points of interest) mining, travel routes mining, but give an opportunity to recommend personalized travel POIs and routes based on user's interest. There are two main challenges for automatic travel recommendation. First, the recommended POIs should be personalized to user interest since different users may prefer different types of POIs. Second, it is important to recommend a sequential travel route (i.e., a sequence of POIs) rather than individual POI. It is far more difficult and time consuming for users to plan travel sequence than individual POIs. Because the relationship between the locations and opening time of different POIs should be considered. Existing studies on travel recommendation mining famous travel POIs and routes are mainly focused on from four kinds of big social media, GPS trajectory, check-in data geo-tags and blogs (travelogues).



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II. EXISTING SYSTEM

Existing system on travel recommendation mining famous travel POIs and routes are mainly from four kinds of big social media, GPS trajectory, check-in data, geo-tags and blogs (travelogues). However, general travel route planning cannot well meet users' personal requirements. Personalized travel recommendation recommends the POIs and routes by mining user's travel records. The most famous method is location-based collaborative filtering (LCF). To LCF, similar social users are searched based on the location co-occurrence of previously visited POIs. Then POIs are ranked based on similar users' visiting records.

III. MOTIVATION

Automatic travel recommendation [2] is an important problem in both research and industry. There are two main challenges for automatic travel recommendation. First, the recommended POIs should be personalized to user interest since different users may prefer different types of POIs. Second, it is important to recommend a sequential travel route (i.e., a sequence of POIs) rather than individual POI. It is far more difficult and time consuming for users to plan travel sequence than individual POIs. Because the relationship between the locations and opening time of different POIs should be considered. For example, it may still not be a good recommendation if all the POIs recommended for one day are in four corners of the city, even though the user may be interested in all the individual POIs. general travel route planning cannot well meet users personal requirements. Personalized travel recommendation recommends the POIs and routes by mining users travel records[10].

IV. REVIEW OF LITERATURE

Paper name	Author name	Algorithm	Advantage and Disadvantage
Recommendation of Points of Interest from User Generated Data Collection	Karol Waga, Andrei Tabarcea, Pasi Fránti	Recommendation model: Collaborative filtering	Advantage: commend services ,photos and Routes
Travel Recommendation by Mining Geo-Tagged Photos Using Internal Search Path Algorithm	S.Monika,B.Divya Bharathi,M.Kave Priadarsni,R.Bagath Singh	Internal Search Path Discovering Algorithm	Advantages: It Automatic travel route plan by mining the geo-tagged photos.Disadvantages: Not consider users POI.
Collaborative location and activity recommendations with gps history data	V. W. Zheng, Y. Zheng, X. Xie, and Q. Yang,	COLLABORATIVE LOCATION AND ACTIVITY RECOMMENDATIO S	Advantages: Recommend activity related data .Disadvantages: User personalize information not considers.
A WORLDWIDE TOURISM RECOMMENDATION SYSTEMBASED ON GEOTAGGED WEB PHOTOS	L. Cao, J. Luo, A. Gallagher, X. Jin, J. Han, and T. Huang,	Algorithm: Mean-shift based GPS Clustering	Advantages: Usefull for tourism recommendation. Disadvantehes: Datset is limited



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“Personalized recommendation combining user interest and social circle	X. Qian, H. Feng, G. Zhao, and T. Mei,	Algorithm: Matrix factorization	Advantages: It considers interpersonal social network Disadvantages: Not recommend route of recommended places.
Schedule a Rich Sentimental Travel via Sentimental POI Mining and Recommendation	P. Lou, G. Zhao, X. Qian, H. Wang, and X. Hou,	Algorithm: Sentiment-based POI Mining	Advantages: It considers Sentiment of places and then recommend places. Disadvantages: Not considers the users POI to recommend places.
Generating Location Overviews with Images and Tags by Mining User-Generated Travelogues	Q. Hao, R. Cai, X. Wang, J. Yang, Y. Pang, and L. Zhang,	Technique: Travlog mining	Advantage: Used in travel recommendation Disadvantage: Need to investigate more effective image selection strategies to take full advantage of the information mined from travelogues.
Preprocessing Techniques for Text Mining - An, M.	Dr. S. Vijayarani, Ms. J. Ilamathi,	Data Cleaning Data Integration Data Transformation Data Reduction Data Discretization	1)Accompanies a text on data mining. 2)Systems for natural language processing .Disadvantage: It takes more time to perform these processes

IV. SYSTEM ARCHITECTURE

PROPOSED SYSTEM ARCHITECTURE-

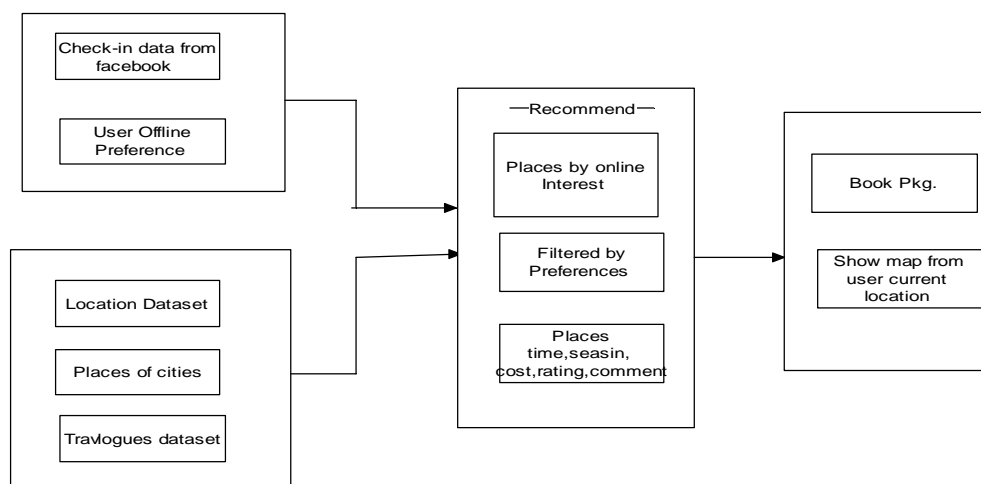


Fig.1: System architecture



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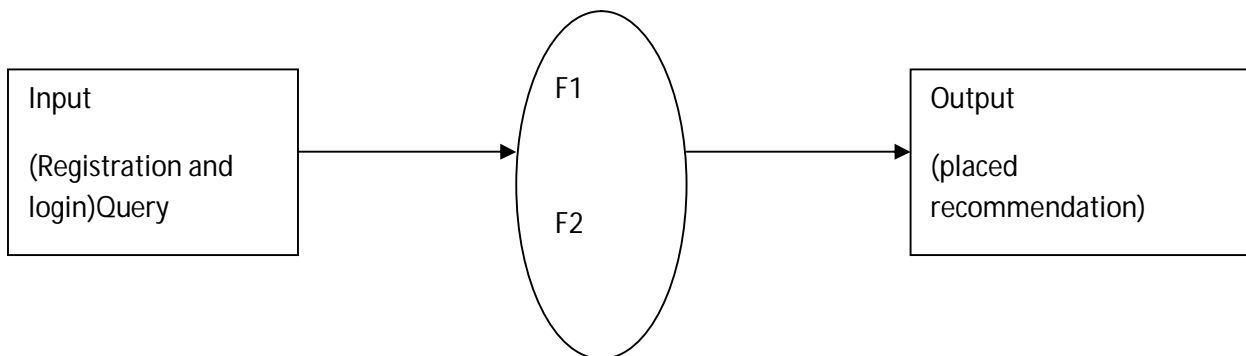
SYSTEM OVERVIEW-

Fig.1:Propose the system mines users POI From Facebook.For that user have to register with his Facebook developer API. Admin login to system and can add places for each place in city. He can view the user’s details as well as each user’s interest. User register to the system with its Facebook developer access token that used to get users Facebook data and from that we are mining user’s preference by Lavenstine Distance Algorithm .To generate Facebook token user have to create developer account.User can add travelogs detail and his community contributed photos. Travelogs details are used to get user preferred season for travelling .From dataset travelogs are mined to get time season cost for each place. When user enters the query to search places use get details according to his preference which is get at the time of registration. User can give rating, comment to each place. User can get optimized package according to his preference of similar user. User can view places recommendation by Rating, Online interest, Preference, activity, Season .He can view his package that contain best season, cost, and preference package detail. User can view online interests package. User can view places on map. User can view multiple preferences package detail.User can view places on map.

ADVANTAGES-

- 1 It recommends places by mining user online point of interest and show package by mining user interest from Facebook data.
- 2 User updates his interest after some days
- 2 It also give recommendation using similar user interest and according to that gives recommendation to user.
- 3.Applies filter on searching places.

VI. MATHEMATICAL MODEL



Let us consider S as a system for automatically recommend places.

$S = \{ \dots \}$

INPUT:

- Identify the inputs

$F = \{f_1, f_2, f_3, \dots, f_n\}$ 'F' as set of functions to execute commands. }

$I = \{i_1, i_2, i_3, \dots\}$ 'I' sets of inputs to the function set }



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$O = \{o_1, o_2, o_3, \dots\}$ 'O' Set of outputs from the function sets, }

$S = \{I, F, O\}$

$I = \{\text{Query submitted by the user, i.e. query}\}$

$O = \{\text{Output of desired query, i.e. Places recommendation}\}$

$F = \{\text{Functions implemented to get the output, i.e. Lavenstine Distance Algorithm, POI Mining}\}$

VII. CONCLUSION

In this paper, we have proposed a personalized travel sequence recommendation system by learning regional package model from social media. The advantages of our system are: 1] the system automatically mined users and routes travel topical preferences including the regional interest, city, topical interest, cost, time and season. 2.] We recommended not only POIs but also travel sequence and considering users travel preferences, activity ,online interest at the same time. 3] Provides map of travel sequence. We mined places based on the similarity between user package Finally map of travel sequence is provided from current location

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