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A Novel Approach to Recommend the Places by Using User's Social Media Point of Interest

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ABSTRACT: The fast development of online travel information imposes rising challenges to tourists that must prefer from several travel packages to meet their customized needs. On contrary, the travel companies understand preferences of tourists and serve-up more relevant packages. Proposed system will get social media Point of interest (POI) of user using Aho-corasick algorithm. Relevant package space including representative tags, the distributions of cost, visiting time and visiting season of each area, is mined to bridge the vocabulary gap between users travel preference and travel routes. User can view places by applying different preferences filter. User can add his own travelogue as well his photo in system. Travelogues are processed to get time, season, cost of each place. User will get recommendation on basis of collaborative filtering. Also the similar places are recommended using collaborative filtering method.

KEYWORDS: Aho-corasick algorithm, Geo-tagged photos, Multimedia information retrieval, Online interest, Social media, Travel recommendation.

I. INTRODUCTION

While, moving around the world travelling is more important. This work propose an learning algorithm called topical package model which learns users travel preferences from textual descriptions related with geo-tagged photos[8]. A set of geo tags is used to compute a location similarity model between two different territory[10]. Optimized the top ranked well-known travel sequences are recommended as persimilar users travel records. The fast development of cities resulting in increasing number of POIs. Recommending POI of users according to their location and past activities. The last recommendation of POIs is derived from combination of predicted rating on content and the location of POI. Users destination recommendation are formed by comparing the query against the representative tags or images under the premise if you like that place[9]. Along with the enhancement of living standards, even middle class families could travels economically. Many travel companies, such as expedia, provide online services. On contrary, the travel companies understand preferences of tourists and serve-up more relevant packages. Thus, need for smart travel services, from both ends, that is customers and service providers is projected to raise severely. As recommended system applied to increase service quality for customers.

II. REVIEW OF LITERATURE

1. Shuhui Jiang, et al[1] By understanding package model from huge multi-source social media and community shared pictures, paper has presented a personalized travel sequence recommendation system. This system automatically mine users interest and routes travel topical preferences such as the topical interest, cost, time and season. It recommends not only POIs but also sequence of travel.

2. Junge Shen, et al[2] presented the system which worked on a novel query-dependent landmark ranking system based on heterogeneous travel information fusion to facilitate a smart travel guide. With the help of text matching, this system

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gets the preliminary ranking list of places. This system increases the fulfillment and reduce the information load. Drawback of this system is, it has lesser efficiency.

3. Shuhui Jiang, et al [3] For personalized POI recommendations method author has proposed collaborative filtering to assist broad POIs recommendation for users. The disadvantage of this system is, dataset is too small and only text information of geo-tagged is considered.

4. Huiji Gao, et al [4] According to properties of POIs, user interests, and indications, author has presented system content information on LBSNs. It demonstrate its power to enhance POI recommendation performance on LBSNs. Drawback of it, it contains small dataset.

5. Quan Yuan, et al [5] To focus on recommendation of a listed POIs for users to visit at a given time, author has presented the system which worked on the difficulty of time-based POI recommendation, which can also use both geographical and mtemporal influences in time-aware POI recommendation. The disadvantage is, it takes more time.

6. Jing Li, et al [6] With approach of unsupervised image GPS location estimation and also with the help of hierarchical global feature clustering and local feature refinement author has presented this system. It includes two parts: offline and online system. The drawback is data security is less in online system.

7. Yang Ji, et al [7] Based on a users location history, author has presented the time-clustering based behavior analyses (TCBA) to mine user daily behavior.

III. MATHEMATICAL MODEL

Notations:

1. User Topical Interest Distribution = $\alpha^{(U)}$

2. The summation of the all tag's distribution represents the topic distribution

$$\alpha^{(U)} = [\in 1^{(U)}, \dots, \in 2^{(U)}, \dots, \in N^{(U)}]$$

3. The user's topical interest towards $C_k = \in i^{(U)}$

4. The score of the i-th tag to the k-th topic = $X_{i,k}$,

5. POI's topical distribution =

$$\alpha^{(P)} = [\in 1^{(P)}, \dots, \in k^{(P)}, \dots, \in N^{(P)}]$$

Equation:

1. Sum the scores of all the tags of the user towards c_k as:

$$\in i^{(U)'} = \sum_{i=1}^{n_U} X_{i,k}, \dots \dots \dots [1]$$

2. The normalized topic score of the k-th topic, which is obtained as

$$\in k^{(U)} = \in k^{(U)'} / \sum_{i=1}^N \in i^{(U)'} \dots \dots \dots [2]$$

3. User's topical interest

$$\alpha^{(U)} = [\in 1^{(U)}, \dots, \in 2^{(U)}, \dots, \in N^{(U)}] \dots \dots \dots [3]$$

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IV.SYSTEM ARCHITECTURE

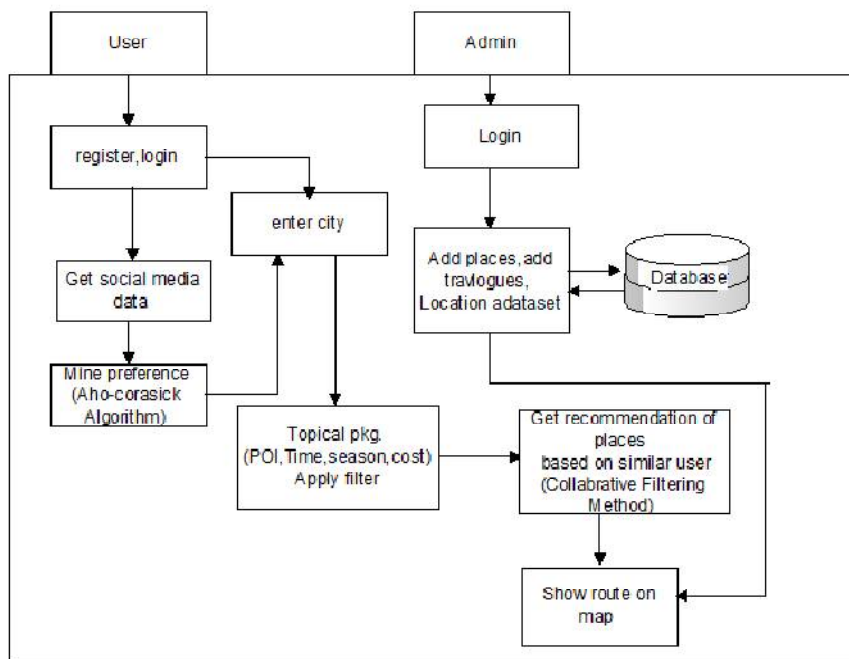


Fig. 01] System architecture

V.SYSTEM OVERVIEW

Fig.1 presents proposed system will uses social media interest according to preferences. It will extract users POI, routes and travel area preferences such as user interest, cost, time and season as per places. Administrator adds places for each place in city. He can view the users details as well as each users interest. User register to the system with its Facebook developer access token that used to get user's Facebook data and from that we are mining users preference by Aho-corasick algorithm. User can add travelogues detail and his community contributed photos. Travelogues details are used to get user preferred season for travelling. From dataset travelogues are mined to get time season cost for eachplace. When user enters the query to search places use get details according to his preference which is get at the time of registration. According to user entered likes his offline preference is updated and again according to that user gets result. 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. will get recommendation on basis of collaborative filtering.

VI.ALGORITHMS

1. Aho-corasick algorithm

The Aho-corasick algorithm is used to get POI mining from data which we get from Facebook at the time of registration.

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Input:

1. Preference
2. Facebook data from token

Process: This algorithm will check user's preference count in Facebook data.

Output: Location at which preference is present.

2. collaborative filtering technique

The collaborative filtering technique is used for recommendation the places according to similar interest of two user's.

Input: Take user's query

Output: Get similar POI recommended places

Step 1: Take poi on entered query user's.

Step 2: Take past POI of all user's.

Step 3: Match, that current user's POI with past POI.

Step 4: Select past matched POI.

Step 5: Get the places based on the likes of user's past POI

Step 6: Get the places to recommendation.

Step 7: Recommend the places based on similar user's travel records

VII.EXPERIMENTAL RESULT

1.Comparison Graph:

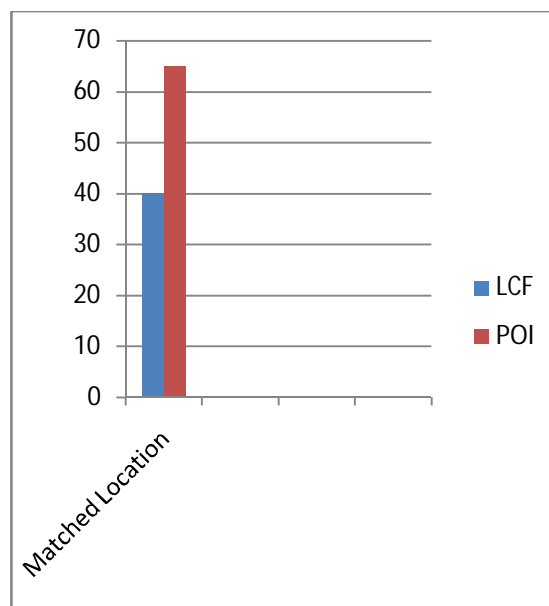


Fig.02]Comparison of LCF recommendation and POI recommendation.

Explanation: To LCF, similar social users are measured based on the location co-occurrence of previously visited POIs. In proposed system gets POI from Facebook by using Aho-corasick algorithm.

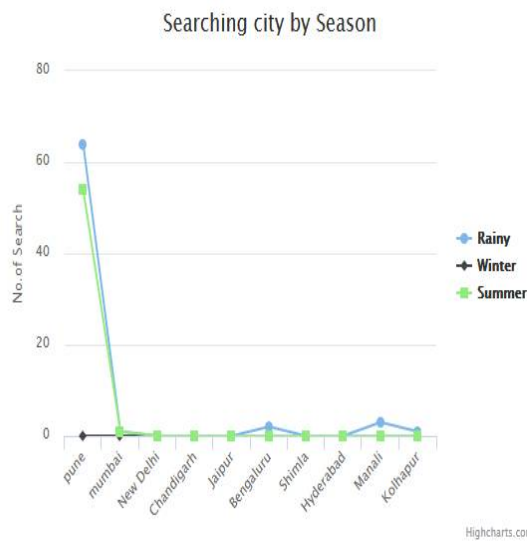
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2.Result:



Graph 1.Shows no. of searches for each season of particular city

Explanation: Graph. Shows no. of searches for each season of particular city in one month

Result Table:

	summer	winter	Rainy
Pune	55	3	21
mumbai	2	4	2
chandigarh	2	2	3
jaipur	3	1	2
bengaluru	3	4	1

Table 01.Shows no.of searches for particular city in different season for one month.

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VIII. CONCLUSION

This paper presents the system which mine users POI from Facebook. Based on POIs places are recommended to users. The system will show travelogues mined, time, season and cost of each place. User can apply different filter while searching places. Routes are displayed on map for mined packages. User gets recommendation based on his preference of similar users by collaborative filtering method.

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