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A System for Identifying Voyage Package Using Different Recommendations Techniques

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Abstract:- Recommendation system is very useful Technique for both Traveler and providers. And it's provides various techniques to voyages to choose best tour package. However, most voyage recommender systems available are complicated and Confusing and usually rely on explicit user ratings to recommend, travel packages. However, user ratings for travel data are sparse, therein reducing their effectiveness in recommending travel packages.The unique characteristics of Voyage l packages are area of interest, session and travel mode. The tour spots are distributed in many geographical locations. In e- commerce the recommender system are having great victory. Here I proposed to develop new voyage system based on user's interest and spatial-temporal correlations that exist within sets of locations, seasons and attractions. Further, I will assess relationships between travel users so than common users can be arranged into travel groups or the people who wants to travel as a group with their family or friends can also be arranged into travel groups.

Keywords: collaborative filtering , recommender systems , AI techniques , Voyage Package.

1. INTRODUCTION:

Travel and Voyage is most favored activity when people have vacations. Many tourism facilities are provided by many organizations. The people or the tourist chooses his own travel package according to his personal interest. The travel companies focus on the interest of tourist so that to increase their market value and provide huge packages. So there is needed to make travel package more effective. Recommender systems are a developing area and attraction towards it is growing day by day[1]. Through recommender systems the number of product recommendation are achieved while dealing with customer. In e- commerce the recommender system are having great victory. Recommender systems are categories into

- Collaborative filtering systems- it rely on the similar factors of user and or items. Preferences of different users for same item are recommended by system.
- Content based system- in this item recommendation in analyzed. It retrieves the information and filters it for research. For ex if a tourist goes to hill stations

Many times then database contains "hill station" as recommendation.

The recommendation system is applied in many fields [1] [2] [3]. There are many problems in recommending a travel package. The first one is there is less amount of data as while comparing to other recommendation system like movie recommendation. The second problem is each travel spot contain complex relationship like landscapes, area, session etc… Tour packages are dynamic that is the new packages will be replaced by old packages over time to attract more customers. There are two types of packages, static and dynamic. Static packages do not change over time. But dynamic packages change over time.

2. RELATED WORK.

Recommendation system is a huge research topic. The lot of work is done on recommendation system in industry as a developing approach. Interest in recommended systems is high as it represents research in problem rich. It has huge amount of applications that help the user to get a personal recommendation as well services. The example of this application is recommending books, CD and etc. The recommendation system still needs improvements at current situation as to make it effective in areas like financial services to investors, real-time appli-

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cations and smart shopping cart [1]. Tour recommendation is different from other recommendation as the tourist interest in package is directly affected by its cost. Cost aware recommendation of package is need of the recommender system. The travel logs are collected from different agents of company then analyzed for time and financial cost connected to every travel package. The tourist has different level of affordability for aspect of cost. The recommendation system focuses on such factors to make it more effective [3].

Collaborative filtering is a technique which filters the information using different technique of collaboration for different data sets. The large data sets of applications are involved for collaboration filtering. It is a approach that recommender system are interested in. Neighborhood models are the foundation of the Collaborative filtering. The Collaborative filtering is based on rating of items for different sets [4].

Recommender systems propose items from different choices for user by analyzing earlier interest or behavior. The user's behavior has impact from unseen interests of user. To invest on getting information about the interest of user is unfavorable to make good recommendations. The present recommender systems based on collaborative-filtering focuses on user's interaction with the system. The information about inactive user is discarded. The topic model collaborated so that to find out the personalized ranking. The aim to generate the item oriented collaborative filtering model. It deals with different problems that represent in old collaborative filtering scheme like overspecialization and cold start problem [5].

Recommender system focuses on advising user for interesting objects in personalized way for huge options. Content base recommendation schema recommends the similar items that the user had used those items earlier. The content based recommender matches the attributes users profile so that to get sorted set of interest with the object of attributes. Then recommend the interesting items to the user as per the sets [6].

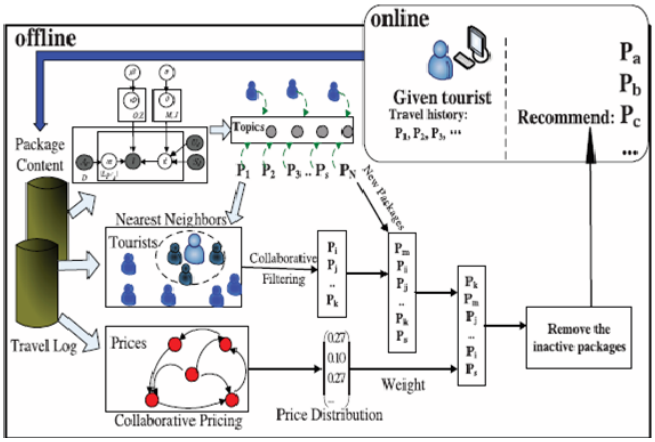

Fig 1. Architecture of Travel package system

3. SYSTEM STUDY

In the proposed system, to make the travel selection easier, the recommendation is provided to the tourists. This analyzes the characteristics of the existing travel packages and develops a tourist-area-season topic model. TAST model represent travel packages and tourists by different topic distributions, where the topics are conditioned on both the tourists and the intrinsic features (i.e., locations, travel seasons) of the landscapes. Based on topic model representation, propose a cocktail approach to generate the lists for personalized travel package recommendation. Furthermore, extend the TAST model to the tourist-relation-area-season topic (TRAST) model for capturing the latent relationships among the tourists in each travel group. Finally, evaluate the three models TAST, TRAST and the cocktail recommendation approach on the real-world travel package data. To address these challenges, in our preliminary work, proposed a cocktail approach on personalized travel package recommendation. Specifically, first analyze the key characteristics of the existing travel packages. In this travel time and travel destinations are divided into different seasons and areas. TAST model, which can represent travel packages and tourists by different topic distributions. In the TAST model, the topics are generated on both the tourists and the intrinsic features (i.e., locations, travel seasons) of the landscapes. As a result, the TAST model can well represent the content of the travel packages and the interests of the tourists. A cocktail approach is developed for personalized travel package recommendation by considering some additional factors including the seasonal behaviors of tourists, the prices of travel packages. The experimental results on

real-world travel data show that the TAST model can effectively capture the unique characteristics of travel data and the cocktail recommendation approach performs much better than traditional techniques.
The tourist-relation-area-season topic (TRAST) model, understand the reasons why tourists form a travel group. It is helpful for capturing the latent relationships among the tourists in each travel group. In addition, conduct systematic experiments on the real world data. TRAST model can be used as an assessment for travel group automatic formation but also provide more insights into the TAST model and the cocktail recommendation approach.

Advantages of Proposed System: It goes beyond personalized package recommendations and is helpful for capturing the latent relationship among the tourists in each travel group. It aims to make personalized travel package recommendations for the tourists

3.1. TAST MODEL (TOURISTS AREA SESSION TOPIC)

This model represents different landscapes and tourists based on topic distributions. In the TAST model, the extraction of topics is conditioned on both the tourists and the intrinsic features (i.e., locations, travel seasons) of the landscapes. As a result, the TAST model can well represent the content of the travel packages and the interests of the tourists. Based on this TAST model, a cocktail approach is developed for personalized travel package recommendation by considering some additional factors including the seasonal behaviors of tourists, the prices of travel packages, and the cold start problem of new packages. Finally, the experimental results on real-world travel data show that the TAST model can effectively capture the unique characteristics of travel data and the cocktail recommendation approach performs much better than traditional techniques.

Algorithm

Input : A location L
Output: list of landscapes
Algorithm:
Step 1: open the database connection
Step2: create a linked list
Step3: search for the areas with the string "select * from area where areaname='L'"
Step4: for each result in the select query
Step5: add the result to linked list
Step6: return the linked list

3.2. TRAST MODEL (TOURIST RELATION AREA SESSION TOPIC)

TRAST helps to understand the reasons why tourists form a travel group. This goes beyond personalized package recommendations and is helpful for capturing the latent relationships among the tourists in each travel group. In addition, we conduct systematic experiments on the realworld data. These experiments not only demonstrate that the TRAST model can be used as an assessment for travel group automatic formation but also provide more insights into the TAST model and the cocktail recommendation approach. In summary, the contributions of the TAST model, the cocktail approaches, and the TRAST model for travel package recommendations are shown in Fig. 1, where each dashed rectangular box in the dashed circle identifies a travel group and the tourists in the same travel group are represented by the same icons.

Algorithm

Input: request for a package
Output: a recommended package
Algorithm:
Step1: monitor the user request for a given time Step2: get the most popular areas
Step3: list the areas
Step4: the admin selects few areas from the list
Step5: create a new package
Step6: admin enters the prince
Step7: return the package

4. RECOMMENDER SYSTEMS

The System The travel package recommender system will allow the user or administrator to search for packages based on various criteria. The options that the user can search by are:

4.1. Recommendation by Themes This option does not consider travel area and travel season factors and recommends packages based on the theme selected. Results are retrieved from a travel data set through a simple selection by Theme.

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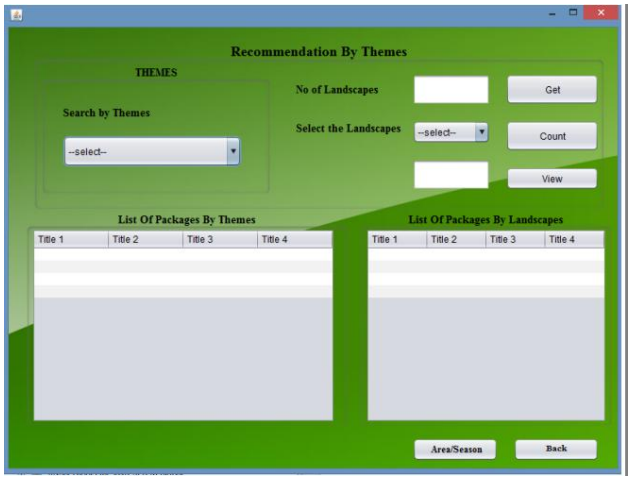

Fig 2. Recommendation by Themes

4.2. Recommendation by Area This option provides package recommendations based on user-entered Area and also provides results for the Area by Season. Results are retrieved from a travel data set through a simple selection by Area.

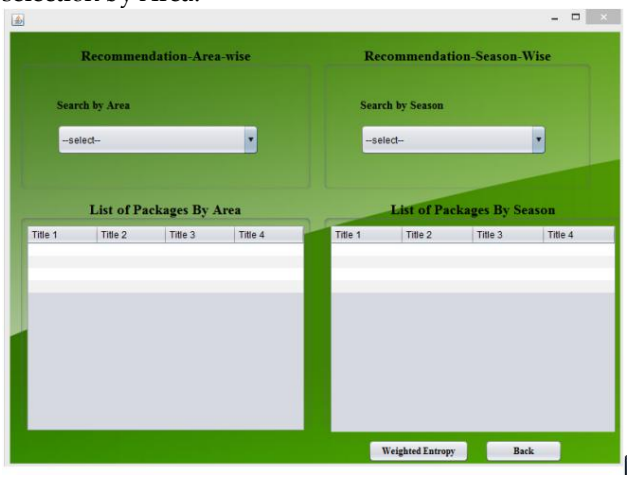

Fig 3. Recommendation by Area

4.3. Recommendation by Seasons This option calculates the Average Weighted Entropy for each Area for a user-entered Theme. The weighted Entropy is then used to recommend packages by Season for a selected Area. Entropy of the season S^P is $Ent(S^P) = \sum_{i=1}^{|Sp|} pilog(pi)$ Where $|Sp|$ is the number of different packages in SP and pi is the proportion of package Pi in this season.

Fig 4.Recommendation by Seasons

4.4. Travel Group Recommendation This option provides common packages in a particular Theme for two tourists when they select an Area and a Season.

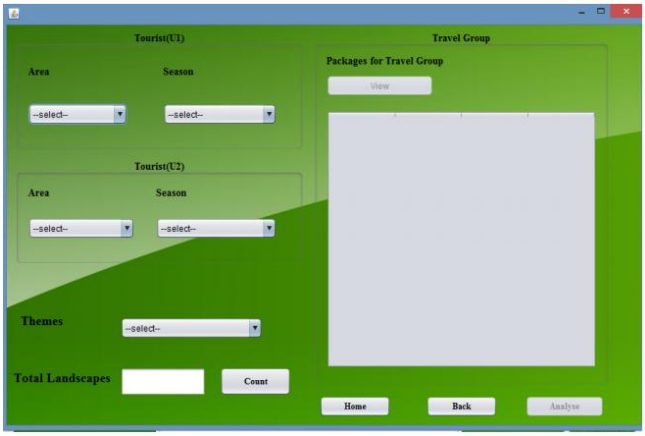

Fig 5.Travel Group Recommendation

5. CONCLUSION

There is need to understand the different sets of users interest to provide a felicitous package. While recommending the peregrinate package different topics and cognate information is analyzed. Then develop the TAST model which outputs the topic and season recommendation. It finds the tourist interest for recommending package. It additionally discovers tourist interest and gives the spatial-temporal correlations for landscapes. The TAST model is utilized to build cocktail approach for personalized recommendation for peregrinate package. The cocktail approach is predicated on hybrid recommendation strategy. TAST model is elongated to TRAST model which acquire the cognations

between tourists in each group. TRAST model is utilized for efficacious analysis of automatic formation.

REFERENCES

[1] G. Adomavicius and A. Tuzhilin, "Toward the Next Generation of Recommender Systems: A Survey of the State-of-the-Art and Possible Extensions," IEEE Trans. Knowledge and Data Eng., vol. 17, no. 6, pp. 734-749, June 2005.

[2] Y. Ge et al., "An Energy-Efficient Mobile Recommender System," Proc. 16th ACM SIGKDD Int'l Conf. Knowledge Discovery and Data Mining (SIGKDD '10), pp. 899-908, 2010

[3] B. Sarwar, G. Karypis, J. Konstan, and J. Riedl, "Application of Dimensionality Reduction in Recommender Systems-a Case Study," Proc. ACM WebKDD Workshop, pp. 82-90, 2000.

[4] M. Xie, L.V.S. Lakshmanan, and P.T. Wood, "Breaking Out of the Box of Recommendations: From Items to Packages," Proc. Fourth ACM Conf. Recommender Systems (RecSys '10), pp. 151-158, 2010.

[5] Y. Ge et al., "Cost-Aware Travel Tour Recommendation," Proc. 17th ACM SIGKDD Int'l Conf. Knowledge Discovery and Data Mining (SIGKDD '11), pp. 983-991, 2011.

[6] http://en.wikipedia.org/wiki/Package_tour

[7] "Travel Agents Could Lose Out in the Dynamic Packaging Battle". First Conferences Ltd. 2005.Archived from the original on 6 February 2005.Retrieved 19 January 2005.

[8] Method and apparatus for the composition and sale of travel-oriented packages". United States Patent Number 7,136,821 Inventors: Kohavi, Bar-david, et al. 2006. Retrieved 16 November.

[9] J. Delgado and R. Davidson, "Knowledge Bases and User Profiling in Travel and Hospitality. Recommended Systems, 2002 Conf. (ENTER '02), pp. 1-16, 2002.

[10]U.M. Fayyad and K.B. Irani, "Multi-Interval Discretization of Continuous-Valued Attributes for Learning

[11]F. Fouss et al., "Random-Walk Computation of Similarities between Nodes of a Graph with Application to Collaborative Recommendation," IEEE Trans. Knowledge and Data Eng., vol. 19, no. 3, pp. 355-369, Mar. 2007

[12]Y. Ge et al., "Cost-Aware Travel Tour Recommendation," Proc. 17th ACM SIGKDD Int'l Conf. Knowledge Discovery and Data Mining (SIGKDD '11), pp.983-991, 2011.

[13]Y. Ge et al., "An Energy-Efficient Mobile Recommender System," Proc. 16th ACM SIGKDD Int'l Conf. Knowledge Discovery and Data Mining (SIGKDD), pp. 899-908, 2010.

[14]M. Gori and A. Pucci, "ItemRank: A Random-Walk Based Scoring Algorithm for Recommender Engines," Proc. 20th Int'l Joint Conf. Artificial Intelligence (IJCAI '07), pp. 2766-2771, 2007.

[15]U. Gretzel, "Intelligent Systems in Tourism: A Social Science Perspective," Annals of Tourism Research, vol. 38, no. 3, pp. 757-779, 2011.

[16]T.L. Griffiths and M. Steyvers, "Finding Scientific Topics," Proc. Nat'l Academy of Sciences USA, vol. 101, pp. 5228-5235, 2004.

[17]Q. Hao et al., "Equip Tourists with Knowledge Mined from Travelogues," Proc. 19th Int'l Conf. World Wide Web (WWW '10), pp. 401-410, 2010.

[18]J. Herlocker, J. Konstan, L. Terveen, and J. Riedl, "Evaluating Collaborative Filtering Recommender Systems," ACM Trans. Information Systems, vol. 22, no. 1, pp. 5-53, 2004.

[19]A. Jameson and B. Smyth, "Recommendation to Groups," The Adaptive Web, vol. 4321, pp. 596-627, 2007.

[20]J. Herlocker, J. Konstan, L. Terveen, and J. Riedl, "Evaluating Collaborative Filtering Recommender Systems," ACM Trans. Information Systems, vol. 22, no. 1, pp. 5-53, 2004.