

TOURISM BASED HYBRID RECOMMENDATION SYSTEM

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ABSTRACT

Social recommendation is the most popular and successful for different urbanite property concern such as products recommendation, online sharing and shopping services. Users make use of the applications to form various implicit social networks through their daily social interactions. The users in the social networks rate some interesting tour places and then give comments. To better understand how tourists move throughout the world, a data-driven strategy is used to harvest travels from location-based social networks.

The spatial factor is considered in this given recommendation mechanism. With the waterway devolution of service of position founded cultural system, attribute substance step by step affects both the caliber and statistics of rating and then recommendation of visiting places. This project proposed cosine similarity of peoples travel the route and trip route organizing by tour agencies, where similarity measurement between users' route and trip's route were measured. This project evaluated tourist place recommendation with the entire packages addressable for a several user's travel route. The results show that proposed recommendation algorithm is more effective in recommending the places with better consideration of user's preference and location. The project was developed using Visual Studio .Net 2010 as front end and SQL Server 2008 as the back end. To develop the application, C# is used the coding language.

Keywords : *Social networks , Cosine similarity , Hybrid recommendation system.*

1. INTRODUCTION

A multi-ethnic scheme work (SNS) is the most important computing system to material body friendly scheme or cultural social copulation among people share their similar interests, activities and backgrounds or real-life connections. A ethnic system company exist of the cooperation of each user often a biography, her or his ethnic links, and a miscellany of other extra employment. Ethical system sites are web-based services which allow individuals for creating a public profile, make over a position of users with whom to share the connections, and view/cross the connections within system.

Most social network services are normally web-based and provide means for users for interacting over the Internet, like e-mail and instant messaging. Social network sites are different and they incorporate new recent information and communication tools like, photo, video, sharing and mobile connectivity. The Online community services are considered sometimes a social network service, though in the broader sense, social network service means usually an individual- centered service whereas online community services are also group-centered. Social networking sites permit users to share their ideas, posts, activities, pictures, events, and interests with people in their network.

2. USES OF SOCIAL NETWORKING

Social Networking became the following features and they are the popular trends in modern days. With its immense popularity, even small business houses also started using social networking websites for their brand promotion .Today's age is an age of the advanced technology. With boon of Internet reaching almost each and every corner of the world, there is an immense transformation in all fields. Be it setting up the better platform of communication and or connecting the world under a common network, Internet has truly contributed in making the world much a smaller place to survive in. From video chats to conferencing, from online marketing to socializing using social media, Internet truly and surely blessed for the global societies. Social media marketing is (SMM) also referred to denote certain websites which facilitate inter-personal communication through particular websites where in people create their own profile page and communicate with friends and associates through the online messages

or notes/scraps. The user create a network of friends, create group, initiate or take part in particular group discussion. Social Media websites became a way/tool that paved way for advanced mode of communication between all networks and internet users.

Social Networking soon became the way for brand Marketing and promotion on the social sphere, whereby, the enterprises started using these online communities or websites to develop contacts and driving traffic to their corresponding websites. These social networking websites form main tool of the social media marketing. The most commonly used websites are Facebook and Twitter. Facebook is a popular Social Networking Site that helps colleagues and friends for sharing dialogues with each other through Messages, Wall Posts and Comments.

From the available social networking web site, Facebook has reached more than 350 million members and still it is counting. This site experiences more than 2 million clicks per day. Statistics stated that users are spending an average of 20 minutes per day in Facebook. Facebook is one of the powerful tools in SMM and SMO.

Twitter is an active social media platform in which the users 'tweet' to keep in connection with friends and the 'followers' within his/her circle. Twitter permits posting "tweets" to all the people in their group on online network. Twitter became a tool also for social media marketing,

The business posting a Tweet button on every post on its blog thus makes it easy for any person who reads post to tweet the same to their followers. This helps channelizing the information to spread out from one source to another, and then creating proper brand awareness. Tweeting the recent information of the business could be a great source of reaching a mass of audience. LinkedIn is one of the powerful professional social media websites in which a stream of professional has the chance for reviewing and interacting with their counterparts. LinkedIn also offers a solid platform to establish new business relationships. LinkedIn by facilitating more of a user's communication between the corporate/businessprofessionals can help their business development.

MySpace also has a massive impact in social networking world; once registered with MySpace, the user can not only announce all the networking circle about the likes and dislikes but also present videos. This enables in building the brand awareness as well as can be of immense help to develop small business houses.

Social Media networking Sites is not only contributed to take the inter-personal communication to the different level, but it also is a great marketing tool for small businesses developments. Planned approach for social media marketing, these are the future in social media marketing.

3. RELATED WORKS

In this paper [1] the authors stated that Online Social Rating Networks (SRNs) such as Epinions and Flixter, permits users to form various implicit social networks, through their daily interactions like co-commenting on similar products, or similarly co-rating the items. The majority of the earlier works in Rating Prediction and Recommendation of products (e.g. Collaborative Filtering) mainly takes into the account ratings of users on products.

However, in SRNs users can built their explicit social network by adding each other themselves as friends. In this paper, they were proposed Social-Union, a method which combines similarity matrices derived from heterogeneous (unipartite/bipartite) explicit or implicit SRNs. In addition, they also proposed an effective weighting strategy of SRNs influence based upon their structured densities. They also generalized their model to combine multiple social networks. They performed an extensive experimental comparison of proposed method against the existing rating prediction as well as product recommendation algorithms, using two synthetic real data sets.

Social networking sites, such as Epinions and Flixter, also attracted huge attention after the widespread adoption of new Web 2.0 technology. In such systems, people belong to multiple implicit or explicit social networks because of the various interpersonal interactions. For example, in Epinions and Flixter, they add each other as friends constructing the large unipartite friendship network.

Still, besides the explicit friendship relations among them, there are other implicit relations also. Take for example, they could co-comment on the products and they could also co-rate the products. A similar situation stands for authors co-authored those research papers, but also has co-cited the same papers and attended the same conferences.

But, they didn't use a weighting strategy of SRNs influence based on the structured data density. In this paper, they proposed Social-Union, a method that combined multiple similarity matrices derived from the heterogeneous explicit or implicit social networks.

Social-Union takes into account the local as well as global characteristics of the graphs like user's profile density, graph density nodes structure etc. In addition, they presented a well-defined framework to combine heterogeneous social networks, i.e. unit partite/ bipartite networks. It is also clear that not all the social networks contribute equally and/or contain valuable information.

In addition, even though a social network is informative, several features may be irrelevant and noisy for a specific user. For these reasons, they proposed an effective automatic weighting strategy of social networks influence based on the structured density. In particular, they took into account local (i.e. user's profile density) and global

(i.e. network's density) the characteristics of multimodal social graphs. Based on these characteristics, for each target user they analogously calibrated the influence of each social network. For example, a user could have very few friends in friendship network, but many interactions are in co-commenting or co-rating products (i.e. user to items rating network). In such a case, the weighting strategy of their model promoted the information given by the user-item rating network.

Finally, they generalized proposed model for combining various social networks. In particular, their model could incorporate more unit partite (e.g. user-user) and/or bipartite (e.g. user-item) social networks.

In this proposed system they introduced a generalized framework which exploits multi-modal social networks for providing product recommendations in SRNs. The extensive experimental result was comparison of their method Social-Union, against existing well-known item recommendation algorithms, uses two synthetic real data sets (Opinions/Flixter). In the near future, except trip/item recommendations, they intended to apply their framework for friend recommendations (i.e. Link Prediction), in which the majority of earlier works infer new future interactions among users by mainly focusing on the structural properties of the single type of network. Finally, other than uni-partite and bipartite graphs and would extend this framework through incorporating also other higher-order implicit social networks like tri-partite graphs (e.g. social tagging systems with users, items/tags).

In this paper [2] the authors introduced a new algorithmic approach to content recommendation based on adaptive clustering for exploration-exploitation ("bandit") strategies. The proposed system provided a sharp regret analysis of the algorithm in standard stochastic noise setting, demonstrated its scalability properties, and proved its effectiveness on the number of artificial and real-world dataset. Their experiments showed a significant increase in performance of prediction over the state-of-the-art methods for bandit problems.

Presenting personalized content to users is now a crucial functionality for many online suggestion/recommendation services. Due to ever-changing set of available option, these services need to exhibit strong adaptation capabilities while trying to match users' preferences. Coarsely speaking, underlying systems repeatedly learn the mapping between available users and content, mapping being based on *contextual* information (i.e., features set) which is typically extracted from both the users and contents.

The urge to focus on content that raises users' interest, combined with need of exploring new content so as to improve globally users' experience, generated a well known exploration/exploitation dilemma, which is formalized commonly as a multi-armed bandit problem and therein references) rapidly become a reference algorithmic technique to implement adaptive recommender systems.

Within the above scenario, the widespread adoption of the online social networks, in which users are engaged in the technology mediated social interactions (making trip endorsement and word of mouth advertising the common practice), increases further challenges and opportunities to place recommendation systems: On one hand, because of mutual influence among the friends, business partners, acquaintances, etc., users having strong ties more likely to exhibit same interests, and therefore similar behaviors.

While on the other hand, nature and scale of such interactions calls to adaptive algorithmic solutions are also computationally affordable. Incorporating such social components into bandit algorithms lead to a dramatic increase in quality of recommendations. For instance, we want to serve content to group of users by taking advantage of the underlying network of social relationships among those users.

These social relationships are either explicitly encoded in a graph, whereas adjacent nodes/users are deemed equal to one another, or implicitly contained in data, and given as outcome of an inference process that identifies similarities across users based on their past behaviors.

Example of second approach is the more traditional content-based filtering, collaborative filtering and hybrid approaches. Both approaches have several drawbacks hindering the practical deployments. One obvious drawback of the explicit network approach is that, social network information is misleading (see, e.g., experimental evidence reported by or simply unavailable).

In addition, even in case when the information is indeed available useful, algorithmic strategies for implementing the needed feedback sharing mechanism might result in severe scaling issues, when the number of targeted users is large.

4.METHODOLOGY

The existing system maintains the trip route details and user's required travel details. The application is capable of checking only whether the user's desired location is available in the trip route or not. The point of interest such as which place is suitable for which kind of entertainment is maintained for all locations. The user's interest is keyed in using user query. If the user's interest is present in point of interest, the trip route is made as suitable for that user. Drawbacks are:

- All the trip routes available for user's interest based on user travel route information are not possible.

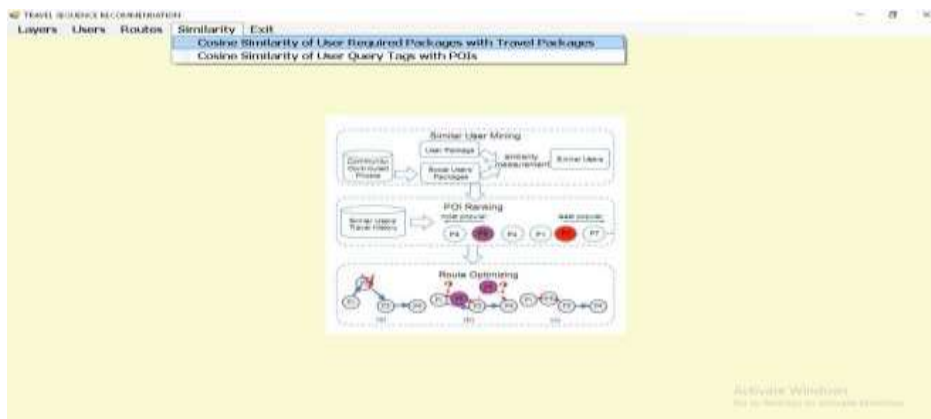
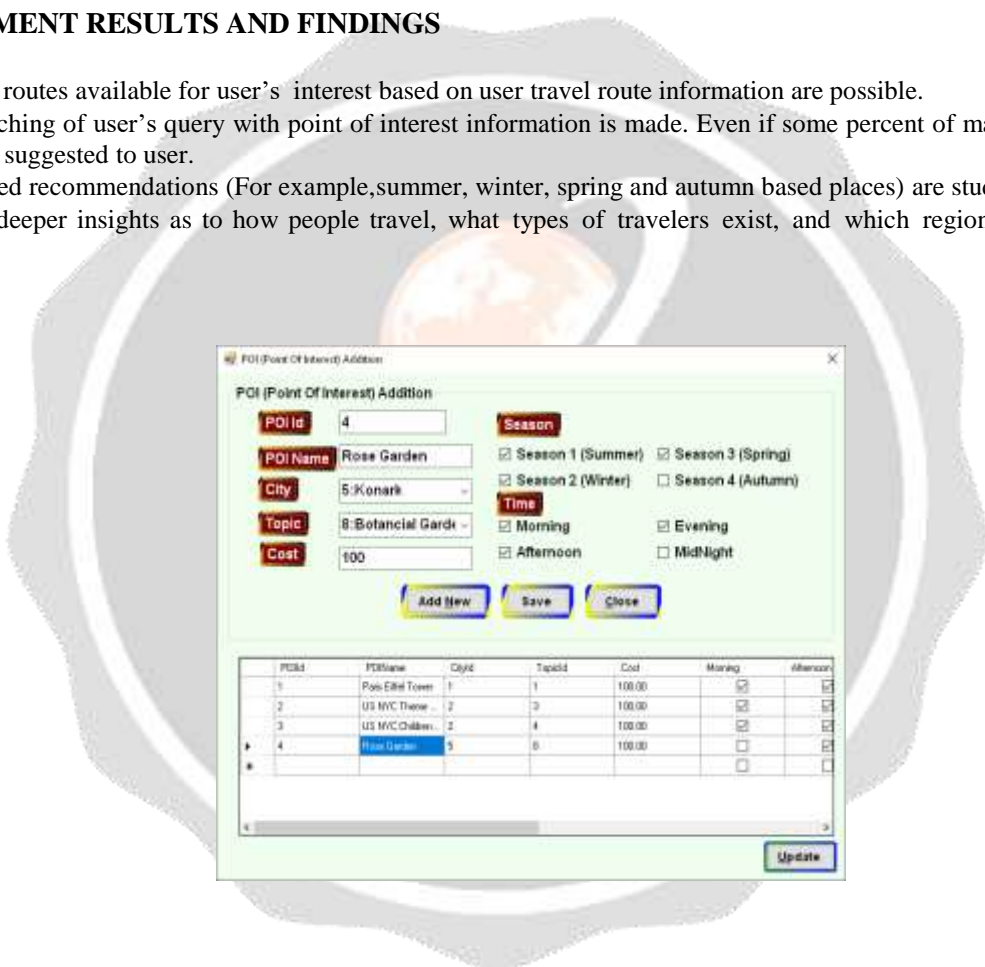
- Partial matching of user’s query with point of interest information is not made. If no full match, then the POI area is not suggested to user.
- Season based recommendations (For example,summer, winter, spring and autumn based places) are not studied.
- Does not consider deeper insights as to how people travel, what types of travelers exist, and which regions one should travel to.

In addition with all the existing system mechanism which maintains the trip route details and user’s required travel details, the proposed system is capable of partial matching of user’s query with point of interest information is made and so even if some percent of match, then the POI area is suggested to user.

The application is capable of checking only whether the user’s desired location is available in the trip route or not. The point of interest such as which place is suitable for which kind of entertainment is maintained for all locations. The user’s interest is keyed in using user query. Season based recommendations (For example, summer, winter, spring and autumn based places) for users are also considered.

4. EXPERIMENT RESULTS AND FINDINGS

- All the trip routes available for user’s interest based on user travel route information are possible.
- Partial matching of user’s query with point of interest information is made. Even if some percent of match, then the POI area is suggested to user.
- Season based recommendations (For example,summer, winter, spring and autumn based places) are studied.
- Considers deeper insights as to how people travel, what types of travelers exist, and which regions one should travel to.



5.CONCLUSION

This project investigates the rating prediction and generates location-sensitive recommendations mining trip information. It presents spatial social union, an approach that combines cosine similarity matrices between user travel routes and travel package routes. Further, the recommendation algorithm is devised for various cities, topic, POI and tag based area. It evaluates and compares the proposed approach to the existing rating prediction and place recommendation methods. As the dramatic growth of online social network sites continues, the social recommendation in location-based ad-hoc social networks is widely used everywhere. From a social sustainable perspective, it plans to develop similar techniques in other urban sustainable applications, e.g, Tour fields, to confirm that the approach is universally applicable in various domains.

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