Notification Alert System for Mobile Users Depending on Spatial Geo Locations

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Abstract- *The system is intended for mobile user to get news alert from mobile locations. It helps users to discover new places and activities. The location aware news feed system generates a news feed depending on the user's spatial preferences like user's current location and future locations and also non spatial preferences like users interest. Existing Location aware news feed system is much expensive and not so robust because it simply send the most relevant geo tagged messages to the users of the system and most of the messages from existing system are related to same location or same category of location. The proposed system contains a minimum number of message categories for the messages in the news feed system. The main objective of this system is to efficiently schedule news feeds for mobile users at her current and predicted locations so that each news feed contain messages only belongs to the particular category of messages so that total relevance feedback has been improved. For achieving this objective system has been partitioned into two parts, one is for decision problem and second is for optimization problem. The system uses three- stage heuristic algorithm to implement optimization problem.*

KEYWORDS- **Diversity constrain, online scheduling, location based services, user mobility, location aware news feeds.**

1. INTRODUCTION

A news feeds for mobile users is a common functionality of existing location aware and social network systems. It enables smart phone users to post news related to the geo preferences and receive nearby user-generated messages. Since a location-aware and social network system usually has a large number of messages, there are many messages for a users which are related to the user's query. Coupled with user mobility, the main difficulty for location prediction system is how to efficiently schedule the most relevant and location predicted messages for a mobile users and notify them on the user's smart phones. The location-aware news feed system and social network systems have exited a lot of attention from different researches, none of these applications has focused on how to alert or notify mobile users for news feeds. The relevance measure function is implemented by collecting non-spatial and spatial factors into the vector space model to calculate the relevance and prediction of a message to a user. We designed a heuristic news feed scheduler that works with the other two functions to create news feeds for a user at her current and look-ahead locations.

The increasing growth of online information, it has very important to provide new mechanisms that improves to find information quickly for use. Conventional IR systems rank and assimilate documents based on maximizing relevance feedback of the user location to the user predicted query. In some cases when there will be a vast sea of potentially relevant matched documents, mostly redundant with one other containing partially or fully same or duplicative information, we have to utilize means beyond original relevance for document ranking. A proposed document ranking method is when each document has the ranked list that is selected according to a combination of criteria of queries relevance of information. Then it measures the degree of variance between the document that is considered and previously selected has already in the ranked list of course. The recommender systems states that a progressively well-known and considerable hard of quick techniques that help people to use the technique through the large number of information. This systems attempt to find out the relevance ratings of exotic items or products for particular user that uses the system, in consideration with the other users relevance ratings and recommended the predicted items with the maximum expected ratings. The objective of this system is to expertly schedule news feeds for the mobile user that are registered with the system at her current and predicted locations, so that each news feed has messages belonging to at least n different categories of messages, and their total relevance ranking to the use's messages is improved. To perform this objective, we divided the problem into two phases, a decision problem and an optimization problem. In the decision problem, the system provide an exact solution to the users by modelling it in a maximum flow problem that states its correctness.

2. RELATED WORK

[1] W. Xu, C.-Y. Chow, M. L. Yiu, Q. Li, and C. K. Poon. MobiFeed: Location-aware news feed system for mobile users. In ACM SIGSPATIAL GIS, 2012

The location prediction function is designed to predict mobile users locations based on an existing path prediction algorithm that will predict the future locations from the current location of user's smart phone. The relevance measure function is implemented by combining the vector space model with non-spatial as well as spatial factors has to be determine the relevance of a message to a user.

[2] J. Bao, M. F. Mokbel, and C.-Y. Chow. GeoFeed: Location-aware news feed system. In IEEE ICDE, 2012.

It distinguishes itself from all existing news feed systems and notification alert system in that it enables users to post

message with spatial extent rather than static point locations, and takes into their locations when computing news feed for them. It also supports location-aware news feed function for its mobile users.

[3] C.-Y. Chow, J. Bao, and M. F. Mokbel. Towards location-based social networking services. In ACM SIGSPATIAL LBSN, 2010.

This paper with the advances in the location-aware hardware and software technologies, location-based and spatial basics for social networking applications have been proposed to provide services for the smart phone users, taking into account for both the spatial and social aspects of the system.

[4] H. Jeung, M. L. Yiu, X. Zhou, and C. S. Jensen. Path prediction and predictive range querying in road network databases. VLDB Journal, 19(4):585–602, 2010.

This paper advances in automotive applications; movement path prediction function enables system to the delivery of predictive and relevant services to drivers, e.g., reporting and analyzing traffic conditions and also gas stations along the route ahead.

[5] J. Carbonell and J. Goldstein. The use of mmr, diversity-based reranking for reordering documents and producing summaries. In ACM SIGIR, 1998.

This paper presents a method for combining query-relevance with information-novelty in the context of text retrieval and summarization. The Maximal Marginal Relevance criterion strives to reduce redundancy while maintaining query relevance in re-ranking retrieved documents and in selecting appropriate passages for text summarization.

3. PROBLEM STATEMENT

The common establishment of the recommendation problem depends on the idea of ratings, i.e., recommender systems calculate ratings of items (or products) that are still to be used by users, based on the ratings of items already used. Recommender systems usually system try to calculate the ratings of each items for each user of the system, also using other users' ratings, and recommend top items with the largest predicted ratings. Accordingly, there have been many concepts on developing new algorithms that can be improve the predictive accuracy of recommendations. The quality of recommendations can be calculated along with a number of dimensions that relying on the corrections of recommendations alone not be sufficient to find the most relevant and prediction items for each user.

4. PROPOSED SYSTEM

Following are the two core program structures that are used in this approach:

a) Location-aware news feed systems.
b) Diversity-aware recommender systems.
c) Diversity-aware web search systems.

a) Location-aware news feed systems: In this phase of the system determines the location and diversity based news feeds to the user of the system and then create a feeds for the particular user.

b) Diversity-aware recommender systems: In this phase of the system all the decisions made depending on the location and diversity added new feature to calculate news feeds depending on the users point of interest to the news feed category and his current as well as his predicted future location. So the system uses three stage heuristic algorithms to achieve this purpose.

Two different forms of input are processed by this approach, and those are:

1) The users will be able to search or get news feeds on the web search by explicit query.

2) The user will able to get push notification for the new and predicted news feed using the GCM.

The system will flow in three steps:

1) Candidate message step
In this step the user specifies the point of interest and depending on the user interest messages has to be calculated to query region detected from users.

2) Decision step:
After the candidate message step, we have n+ 1 set of candidate messages associated with their category and relevance score to user.

3) Scheduling step:
The news feed scheduler finally solves the intertwined problem by computing n + 1 news feeds that satisfy the minimum total diversity and have the maximum total relevance score.

5. MOTIVATION

A smart phone environment that improves the location as well as diversity aware news feed system unique and to much challenging. In the geographical distance between a message from category and a smart phone user in a relevance feedback measure model that relevance of a message to a mobile user is rapidly changing as the user is moving from one location to other location. This is a dynamic environment provides an opportunity to engage location prediction technique that increase the quality of news feeds and also the system efficiency. In the existing diversification problems that relies on retrieving only an individual list of items with a some level of diversity.

6. OBJECTIVE

Following are the modules to be developed:

1] Web database admin panel

It provides a structure to manage all the users and overall application performance.

2] Web search engine

It will provide a way to set an explicit query i.e. keyword. The query, however, is also ambiguous and has more than one interpretation. One possible way to address this problem is to produce a set of diversified results that cover different interpretations of the target query.

3] Web service framework development

In his module, these actual users will be interacted using the web services to the system database. And also system can communicate with registered users with the system.

4] Mobile notification manager

In this module system uses GCM (Google Cloud Messaging) for the push notification service to notify user for their predicted news feeds.

7. CONCLISION

In the proposed system, system designed Expeditious News Alert and Notification system; a location-aware newsfeed framework takes the relevance measures and diversity constrains of news feeds into account when scheduling news feeds or messages that are predicted by system for moving users. The system users can specify the some number of categories of a news feed as diversity constraint that the user's current and predicted locations, and that focuses at maximizing the total relevance of generated news feeds and satisfying the h-diversity constraint for users. We focus on two key problems or issues in the proposed system, prediction decision and relevance optimization problems. The prediction decision problem is modelled as a maximum flow problem and enables system to choose whether it can satisfy the h-diversity constraint for a news feed of the user. For the optimization problem, in proposed system design an efficient three-stage heuristic algorithm to maximize the total relevance of users news feeds under the h-diversity constraint checking. Experimental results based on a real social network data set crawled from Foursquare and a real road network show that system can effectively provide location- and diversity-aware news feeds when maintaining their high quality in terms of relevance for news feed.

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