

**News Feed System for Mobile user based on Location**Ameya Dixit<sup>1</sup>, Rahul Gade<sup>2</sup>, Amol Kadam<sup>3</sup>, Ashwini Khilare<sup>4</sup>

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**Abstract---** A LANF(Location Aware News Feed) system generates news feeds for a mobile user built on user spatial preference (i.e., user current location ) and user interest. Existing Location Aware News Feed systems simply send the most relevant location based messages to their users. The major limitation of an existing approach is that, a news feed may contain messages related to the same location or the same category). Here diversity is a very important feature for location aware news feeds because it helps users see new places and activities.

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**Keywords---** News Feed , Location Aware , User mobility ,Online Schedule

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**I. INTRODUCTION**

Advancement in the wireless communications and the ubiquity of GPS-equipped smartphones, social network apps have become more widespread and location-aware, as widely known as Location-based Social Networks (LBSNs). A news feed is a common functionality of existing LBSNs. It enables mobile users to post geo-tagged messages and receive nearby user-generated messages as news feeds at anytime, anywhere. For example, "Bob can receive a news feed with 3 messages that are most significant to him among the messages within 1 km from his location every 10 seconds". Figure 1a represents an application scenario. The geolocation of a message could be a point , a circular region , or the spatial region of a venue . Besides, geotagged messages can be categorized by their underlying venues; for instance, m6 and m7 are posted from users at restaurant R1, so they are intuitively categorized to a "restaurant" category. Existing Location Aware News Feed system send the most relevant geo-tagged messages to their users. Unfortunately, the major limitation of such an existing approach is that, news feed may contain messages related to the same location (i.e., point-of-interest) or the same category of locations (e.g., food, entertainment or sport). Existing diversification problems focus on retrieving an individual list of items with a certain level of diversity. Mobi-Feed is motivated by the fact that, if the news feeds are only computed based on a user's location at the query time. Unfortunately, relevance alone is unable to capture the broader aspects of user satisfaction. Although users expect to receive messages that are highly relevant to their interests, they may prefer a location-aware news feed with a certain level of diversity (i.e., the messages in a news feed belong to a certain number of categories). In conventional web search or recommender systems, topic diversification is a key method to improve user satisfaction. Existing LANF system send the most relevant geo-tagged messages to their users. Unfortunately, the major limitation of such an existing approach is that, news feed may contain messages related to the same location (i.e., point-of-interest) or the same category of locations (e.g., food, entertainment or sport). Existing diversification problems focus on retrieving an individual list of items with a certain level of diversity. Existing LANF system send the most relevant geo-tagged messages to their users. Unfortunately, the major limitation of such an existing approach is that, news feed may contain messages related to the same location (i.e., point-of-interest) or the same category of locations (e.g., food, entertainment or sport). Existing diversification problems focus on retrieving an individual list of items with a certain level of diversity. To this end, we propose D-Mobi Feed, a framework that takes both the relevance and diversity of news feeds into account when scheduling news feeds for moving users. In this paper, we aim at designing D-Mobi Feed by further considering the diversity in news feeds to address this challenge. Specifically, D-MobiFeed is composed of four key functions: location prediction, relevance measure, h-diversity constraint checker and news feed scheduler.

Location-aware news feed systems:-Most existing news feed systems only provide publish/subscribe services that simply forward messages to subscribed users . Bao et al. injected the location-awareness into a news feed system, which enables a message to be associated with a spatial extent to control where users can receive it. We proposed a framework MobiFeed that is designed to schedule news feeds for mobile users. MobiFeed takes the limitations of mobile devices and the user's preferences into account, and schedules the most relevant geo-tagged messages to mobile users. Unfortunately,

Mobi-Feed has a major limitation that only considers the relevance of messages to users, so a news feed may contain messages related to the same category; and thus it would impede users to discover new places and activities. In Conventional web search/recommender systems, topic diversification is a key method to improve user satisfaction.

## **II. LITERATURE SURVEY**

### **1. Improving Personalized Web Search using Result Diversification.**

**AUTHORS:** Filip Radlinski, Susan Dumais

They present and evaluate methods for diversifying search results to improve personalized web search. A common personalization approach involves reranking the top N search results such that documents likely to be preferred by the user are presented higher. The usefulness of reranking is limited in part by the number and diversity of results considered. We propose three methods to increase the diversity of the top results and evaluate the effectiveness of these methods.

### **2. Feeding Frenzy: Selectively Materializing Users Event Feeds**

**AUTHORS:** Adam Silberstein, Jeff Terrace, Brian F. Cooper<sup>1</sup>, Raghu Ramakrishnan  
In this paper, they formalize this important class of applications as a type of view materialization problem. They introduce the abstraction of a producer, which is an entity that generates a series of Time - ordered, human-readable events for a particular follow- able interest. Thus, a producer might be a friend, a website, or aggregator of content on a particular topic collected from multiple sources. The goal of a follows application is to produce a " " for a user, which is a combined list of the latest events across all of the producers a user is following. For example, a feed might combine recent status updates from all of the user's friends on a social site, or recent stories on all of the user's topics on a content aggregation site. In some cases a user wants a combined feed, including both social and topic updates. An important point to keep in mind for optimization purposes is that we need only show the most recent events (specified in terms of a window of time or number of events) when a consumer checks his feed.

### **3. Rank and Relevance in Novelty and Diversity Metrics for Recommender Systems.**

**AUTHORS:** Sal Vargas and Pablo Castells

They present a formal framework for the definition of novelty and diversity metrics that unifies and generalizes several state of the art metrics. They identify three essential ground concepts at the roots of novelty and diversity: choice, discovery and relevance, upon which the framework is built. Item rank and relevance are introduced through a probabilistic recommendation browsing model, building upon the same three basic concepts. Based on the combination of ground elements, and the assumptions of the browsing model, different metrics and variants unfold. They report experimental observations which validate and illustrate the properties of the proposed metrics. The proposed framework roots recommendation novelty and diversity metrics on a few ground concepts and formal models. They identify three essential concepts: choice, discovery and relevance, upon which the framework is built. The metric scheme takes at its core an item novelty model discovery-based or distance-based which mainly determines the nature of the resulting recommendation metric.

### **4. Instant Message Clustering Based on Extended Vector Space Model.**

**AUTHORS:** Le Wang, Yan Jia, and Weihong Han

They propose an instant message clustering method called WRK Means, which can automatically scan instant message corpora, construct conversations and enhance traditional TF-IDF model by adding relevant words in conversations. WR-KMeans performs clustering on this evolved model of conversations like k-means. WR-Kmeans method is evaluated and compared with two other well-known text clustering methods which is based on traditional TF-IDF model. How Net knowledge base is used to quantify the relation strengths between words in conversations during the experiments. Experimental evidence shows that WR-KMeans is significantly outperformed. Furthermore, HowNet is Chinese-English bilingual linguistics, so WRKMeans and its components can be smoothly transformed to process Chinese.

### **5. MobiFeed: A Location-Aware News Feed System for Mobile Users.**

**AUTHORS:** Wenjian Xu, Chi-Yin Chow, Man Lung Yiu, Qing Li, Chung Keung Poon

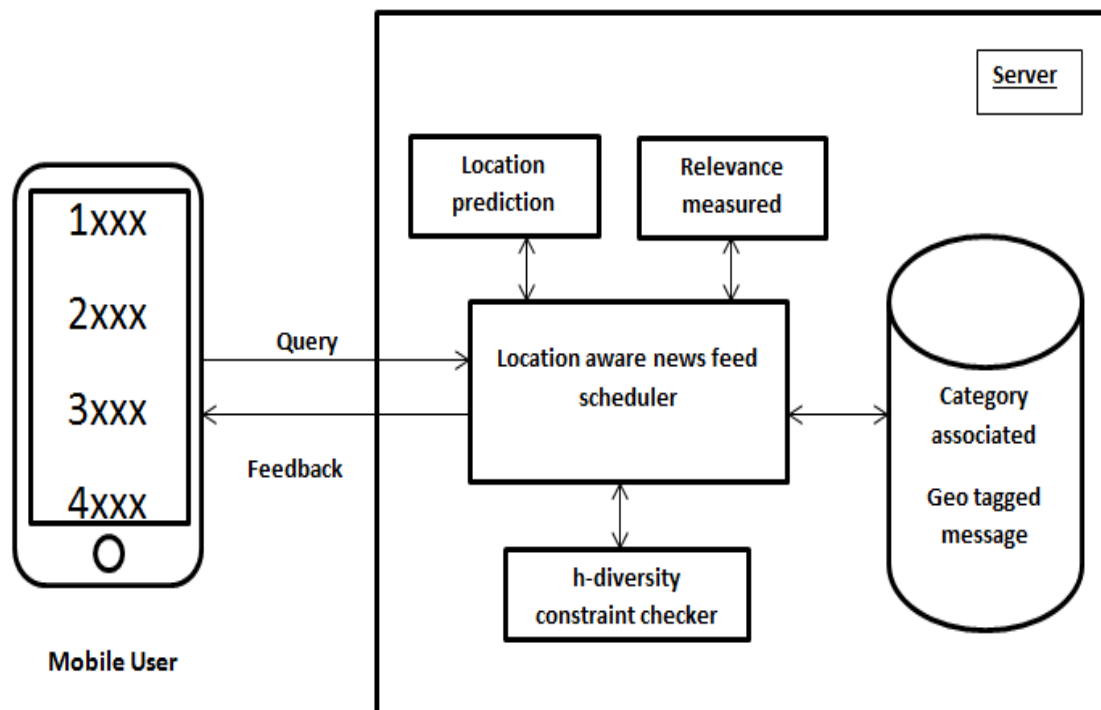
A location-aware news feed system enables mobile users to share geo-tagged user-generated messages, e.g., a user can receive nearby messages that are the most relevant to her. In this paper, we present MobiFeed that is a framework designed for scheduling news feeds for mobile users. MobiFeed consists of three key functions, location prediction, relevance measure, and news feed scheduler. The location prediction function is designed to predict a mobile user's locations based on an existing path prediction algorithm. The relevance measure function is implemented by combining the vector space model with non-spatial and spatial factors to determine the relevance of a message to a user. The news feed scheduler works with the other two functions to generate news feeds for a mobile user at her current and predicted locations with the best overall quality. To ensure that MobiFeed can scale up to a larger number of messages, we design heuristic news feed scheduler.

### III. PROPOSED SYSTEM

In this system a mobile environment makes user location and diversity-aware news feed system unique and more challenging as well as it is improving the quality of news feeds by scheduling multiple location and diversity news feed simultaneously.

With the geographical distance between a news and a mobile user in a relevance measure model, the relevance of a message to a mobile user is changing as the user is moving. In such a dynamic environment gives an opportunity to employ location prediction technique to system efficiency.

### IV. SYSTEM ARCHITECTURE



*Figure 1. System Architecture*

### V. MATHEMATICAL MODEL

Let 'S' be the system

Where

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

Where,

I = Set of input News, user Query

O = Set of output (User Queries result)

P = Set of activities of process

Let S is the system

$S = \{ \dots \}$

Identify the input data  $S_1, S_2, \dots, S_n$

$I = \{ \text{News, User Queries} \}$

Identify the output applications as O

$O = \{ \text{location based News} \}$

Identify the Process as P

$P = \{ \text{location capturing, adding news, searching records, recommending, filtering news} \}$

## VI. CONCLUSION

D-MobiFeed location-aware news feed framework takes the relevancy and variety of stories feeds into consideration once programming news feeds for moving users. DMobiFeed users will specify the minimum variety of classes. During an exceedingly news feed as an h-diversity constraint, and it aims at maximizing the whole relevancy of generated news feeds and satisfying the h-diversity constraint. There is a target of 2 key issues in D-MobiFeed, namely, call and optimization issues. The choice downside is sculptural as a most flow downside and modifies D-MobiFeed to choose whether or not it will fulfill the h-diversity constraint for a news feed.

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