CityPoint: World Based Positioning System

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Abstract— Existing Local location Based News Systems simply send the most applicable news to their android mobile users. The main limitation of this system is that, the messages contain in Information Feed may not related to the different category or the different type like, hospital, police, entertainment, food or sport, and other. A location and knowledge based citypoint information feed that is City point framework designed for the system to generate information feed for mobile user as per user requirement and also to enter the local news. This system is used to generate the message to the user and it also helps users to discover new places and activities happening in the city as well as emergency services. A City point considers a mobile environment that makes our location and knowledge based citypoint system unique and more challenging. User travels from one city to another city, If user is new to the city then he/she must know about the current happenings in the city (News, Geo information, Entertainment, sports, hospitals, police stations etc.). This system is used to provide the required information automatically about the user's location and user will able to apply filters on the information. Mobile device immediately display the content of City point and database is used to store the user-generated messages and display to user. Information feed filter is used to filter the information for the mobile user. Location detection technique is improving the quality of information by detecting multiple info for mobile user simultaneously. City point provides efficient and high quality information to mobile user.

Key words: News Services, Location Based Information, Mobile Computing, Local News, Hospital Services

I. INTRODUCTION

The basic idea is to overcome of the system which is currently in use for the news feed can simply provide the news data in the form of relevant messages to the user. It is provide with some limitation like the system can only give the current location of the user. So the system called 'CITY POINT: Location and Knowledge Based Information feed using Big Data Analytic' is proposed. CITY POINT gives the newly enter user the different kinds of various information about that city. It may include the news related to entertainment, food, sport, weather, politics, etc.

It includes the following services:

- Location Tracking
- Social Services
- News Feed-up
- Hospital Services
- Police Services
- School Data
- Hotel Data
- Google Map Service

II. MOTIVATION OF THE PROJECT

1) Difficulty in finding routes (Time consuming)
2) Lost and Found cases
3) Distributed data of social activities

III. LITERATURE SURVEY

Authors of paper 'Citypoint: A Location-Based News Information Framework for Moving Users' is stated that the advantage of this paper is wireless communication and GPS-enabled mobile devices, social network systems have recently become location-aware. Geo Feed focuses on optimizing static queries to pre-compute the most recent messages over a set of registered locations by deciding whether a user-specified distance of a registered location for an offline user. The framework designed for scheduling news in Mobile for mobile users. These two functions to generate news feed scheduler works for a mobile end user at his current and predict locations have the best overall good quality. The drawbacks of Geo-Tagged are to decide when he/she should update her current location and send a new query to the server for moving user. The process of displaying news and services, location based information does not do the relevance of a message to a user. The each query region was selecting l most applicable messages as a news feed even if Geo information takes the relevant of news to a user into account, there is not optimized overall quality of news and hospital. Location based news information scheduler is equipped with a news Feed and emergency services, to provide high-quality news for moving users which works with the location search and relevance measure methods.

Authors stated some points in paper 'A Location-based and News Feed System for Mobile Users'. It added advance features is emergency and the local of GPS-equipped smart phones, User satisfaction is unable to capture the broader aspects in relevance alone. Users expect to receive the highly relevant messages to their interests, the certain number of categories to belonging messages in a news feed. The major limitation of that system is a news feed may contain messages related to the same point-of-interest or the same division of locations. The objective of this paper is to efficiently schedule news for a mobile user at her current and detected locations, such that each news feed contains to at least l different categories belonging messages, and their total relevance is maximized for the user. News information is a common functionality of existing location based social news system. It post Geo-tagged news if it enables mobile users and nearby user-generated messages are received as news at anytime and anywhere. Unfortunately, relevance alone is not able to get the broader aspects of user satisfaction. Users receive news to their expectation that are highly relevant to their interests.

The Man Lung Yiu is a author of the research paper 'Citypoint: A Location based News information System for Mobile Users'. A research of the location based citypoint news is how to simply schedule the k most related messages for a user and display them on the user's mobile device. Mobi Feed that is location based news framework designed for

social network systems to schedule news for mobile users. Limitation of this research is that, Information Feed may contain messages related to the same location or the same category of locations for example, food, entertainment or sport, etc. It was enables mobile users to post only geo-tagged messages and receive nearby user-generated messages.

The authors of 'Location Service Based on News feed' stated the Location based news and location based social network systems have lot of attention from different research communities, it doesn't focused on the how to schedule news for mobile users. The major limitation of this research is news feed may related to the same category of locations for specific messages and their point-of interest for ex., food, entertainment or sport. A news feed is a Common functionality. The objective of diversity constraints is to provide a methodical way to compare the performance of those constraints. Diversity helps to discover new places and activities to the users and it is very important feature of Geo Feed. News Feed is two times lesser than Mobile news it usually obtains a relevance score, and Mobile news scale ups the large number of Geo-tagged messages.

IV. PROBLEM STATEMENT

As per survey it is found that the main limitation of existing system is that, the messages contain in Information Feed may not related to the different category or the different locations like, entertainment, food or sport, etc. There is no such a system which provides multiple data feeds in single application and which is reliable, easy to use, efficient and robust.

Now a days it is a big problem which is faced like application not having proper information about the current city where the mobile user actually present, so this application will help to give proper information to the mobile user

A. Goals and Objectives

- It Provide different news feed for mobile users with the help of using various functions/algorithms.
- This application intends to fulfill social aspects of citizens.
- It Provide different hospital data for mobile users with the help of using various functions/algorithms.
- This application provide efficient and high quality information feed and also social activities, police database, school etc for mobile user.
- This application focuses on challenges in providing location-based news and social services for mobile users.
- Some instant actions be taken for problems related to social services

B. Statement of Scope

The major problems of cities now days are the city having so many small areas or road so because of these the city is unknown for the newly entered mobile user, so it simply creates different problems for newly entered mobile user. Here, we are thought to solve these particular issues with very interactive and convenient ways that could make efficient role and major contribution to provide city related all information and help to common people.

Now a day every second user of mobile phones uses smart phones and different smart applications released and invented for some smart purpose, we have same intention for this just we have focused to not only finding the Geo-locations but also take information like news, weather forecast, sports, and entertainment. So many issues to be get by our application instantly via less interaction of end user which is mobile user.

In the system using big data, proposed system is examining the large amount of informational data obtained by the device with this technology it is possible to analyze this big amount of data and to get the appropriate information through it. It is speedy and efficient process. Implementation of big data analysis for the end use that they can easily trace the responsiveness to the generated system from the mobile users like number of information which is mobile user want and if some problems will created so they can solved in statically view from this smart android application.

V. ARCHITECTURAL DESIGN

Basically the architecture displays the overview of the CITY POINT Framework. CITY POINT stores user generate message in database. Big data analytic is used to store user generate messages in a data sets. Data set is a term for Big Data that are so large or complex that is traditional data processing applications are inadequate. Challenges include analysis, capture, search, sharing, storage, transfers, visualization, querying, and updating information privacy.

Information Feed Filter is used to interacts with the Location Detection and Knowledge Based Measurement function to select the collection of messages from the database as information feed for a moving user at the exact location.

User generated messages are store in database in a data sets. It is defined as a tuple (Message ID, Sender ID, Content, Category, Time-stamp) where Message ID is its Identifier, Sender ID is its Sender's Identifier, Content is its Content, Time-stamp is its submission time. For the Category attribute, we group messages into categories based on their location and keywords. Each message is categorized by its associated venue, e.g. restaurant, shopping mall and museum.

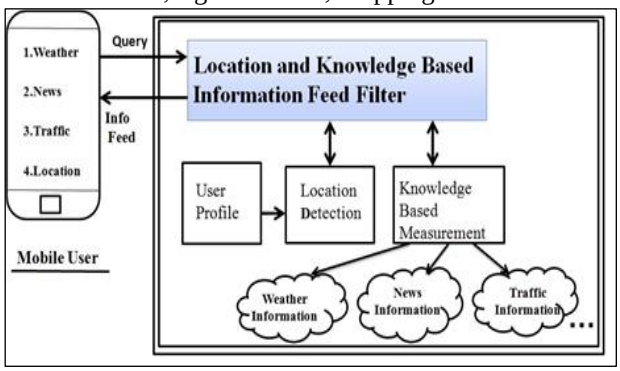

Fig. 1: System Architecture

In CITY POINT, a mobile user u is able to post a new message with a current extent, and receive at most u.k message within us a specified limited distance u.D, when GPS- enabled on a mobile device information feed direct at a given time period. Mobile user issued an information feed queries by detailed description of the information feed size

(u.k), the limited distance (u.D), and minimum message display time (u.td). Then, CITY POINT computes information feed for u by selecting messages based on their knowledge to u and us movement. Each selected message must be displayed on us mobile device without any interruption for at least us specified minimum display time u.td. Assume, Mobile user u reports its location to the server at every time period (n+1) u.td. After receiving us location update, n+1 information feeds are computed for u. us Mobile device immediately displays the first information feed and then displays each of the remaining information feed one by one for every u.td. It is important to notice that location and knowledge based filter usually support the user specified limited distance because users would be more interested in nearby messages or events and limited distance to trim the entire message set into much a smaller candidate message set for querying processing. It improves querying performance

Figure 1 depicts the system architecture of D-MobiFeed, which is designed based on the framework in [39]. D MobiFeed consists of two major entities. Category-associated geo-tagged messages. We use M to denote the message collection in D-MobiFeed. Each message mj ∈ M is defined as a tuple (MessageID, SenderID, Content, Timestamp, Spatial, Category), where MessageID is a message identifier, SenderID is its sender's identifier, Content is its content, Timestamp is its post time, Spatial is its spatial extent, and Category is its category. D-MobiFeed supports three types of spatial extent, namely, points, regions, and venues. As our running example depicted in Figure 3a, m4 is geo-tagged by a circular region, m5 is geo-tagged by a point location, and {m1,m2,m3}, {m6,m7,m8,m9}, and {m10,m11} are geo-tagged with venues A, B, and C (represented by rectangles), respectively. In DMobiFeed, each message is associated with exactly one category, and set C = {c1, c2, . . . , ch} denotes all categories. If the explicit category of messages is not available, clustering methods can beapplied to assign a category for each message [38]. Figure 3b shows the category for each message in our running example. System users. In D-MobiFeed, a mobile user u equipped with a GPS-enabled mobile device can post a new message tagged with a spatial extent. A location- and diversity-aware news feed query consists of four parameters: (1) the number of messages in a news feed (k), (2) the minimum number of categories for the messages in a news feed (l), (3) the message display time for a news feed (td), and (4) a query range distance (D). The user is able to specify these four query parameters based on his/her preferences. In practice, the system could provide default values. For these query parameters. For example, the simplest way is to set these parameters to the most common values or the average values.

In other words, the user is able to receive at most u.k messages within her specified range distance u.D (i.e., the query region of a news feed) as a news feed. D-MobiFeed computes a news feed for u by selecting messages based on their category, their relevance to u and u's movement. Since the user needs some time to read the messages, each news feed will be displayed on u's mobile device for a time period u.td. Note that each message can be displayed to a user only once. Assume the look-ahead step is n, u reports its location to the server at every time period (n + 1) × u.td. After receiving u's location update, n + 1 news are computed for u. u's mobile device immediately displays the first news feed, and then displays each of the remaining news one by one for every u.td.

A. *Functionality Overview*

The functionality provided by this simulator is summarized as follows.

1) Database:

Database stores all the activity and the data information gathered by the server. This will simply going to get changes as requirement of the user are getting registered and resolved instantly.

2) Mobile Application:

Mobile application is the platform for the actors all of the cities for which it is going to be developed with server. This app will contain two different login according to their position in the system i.e. Consumer.

3) Mobile User:

This are the main user of the system will be newly entered mobile user in the city to collect the required information or news and any Geo location related to that city.

VI. PROJECT ANALYSIS OF ALGORITHMIC DESIGN

A. *Idea Matrix*

1) The Idea Matrix is a project management model of a software development project. This model requires no special resources other than those normally assigned to a software development project and has proved to be effective in coordinating the work of many people, managing the operations of the project, reducing the complexity of the software development process, and producing high quality results.
2) In this model, the work is represented by a matrix of activities, such as Each row of the matrix represents a type of task (for example, writing specifications, developing an information model, coding, etc.) and each column represents a subsystem for which the task must be performed. Each box on the matrix therefore represents an activity, preferably of a few weeks duration, for which there is a well-defined output object: a requirements document, a set of structure charts, a collection of code, or the like.

Metrics are one of many tools to monitor the performance of a process. For idea generation, there are no general metrics which span across industries. Instead, an innovation manager must select idea generation metrics based on the strategy of their company and their current idea needs. The following white paper will discuss the selection of metrics for idea generation projects, and the management of the process given its inputs and outputs. Further, a management chart tool is introduced to aid in managing the process.

B. *Knowledge canvas*

Innovation depends on ideas generated through creativity and the knowledge and research that make it possible to put ideas to work. However, these two activities are very dependent on the people who perform them. Creativity plays an essential role in the innovation process because it generates the ideas

that will initiate innovation Ideas emerge at every level of the process and they correspond to various challenges, such as responding to an issue, meeting a target objective, solving a problem, making use of knowledge, or understanding a phenomenon. But it is knowledge that makes it possible to put ideas to work and hence to innovate. In addition, knowledge feeds creativity, and ideas stimulate research. Thus, the success of innovation relies largely on these two activities, which are very dependent on people who perform them.

C. Problem Classification

The algorithm in which every operation is uniquely defined is called deterministic algorithms. The algorithm in which every operation may not have unique result, rather there can be specified set of possibilities for every operation, such algorithms are called Non deterministic algorithms. Non deterministic means no particular rule is followed to make guess.

VII. SOFTWARE REQUIREMENT SPECIFICATION

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS. The aim of this document is to gather and analyze and give an in-depth insight of the complete Marvel Electronics and Home Entertainment software system by defining the problem statement in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high-level product features. The detailed requirements of the Marvel Electronics and Home Entertainment are provided in this document. The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops.

To discover a system the most important part is to capture the dynamic behavior. To clarify in details, dynamic behavior means the changing behavior of the system when it is running operating. So only static behavior is not sufficient to model a system rather dynamic behavior is more important than static behavior. In UML there are five diagrams available to model dynamic nature and use case diagram is one of them. As we discuss that the use case diagram is dynamic in nature there should be some internal and external factors for making the interaction.

A. Detailed Design Document

The systems which are currently in use for the information feed can simply provide the informational data or news in the form of relevant messages to the user. It is provided with some limitations like the system can only give the current location of the user. It is unable to provide any variety of information. So the system called CITY POINT Location and Knowledge Based Information Feed Using Big Data Analytics is proposed to overcome the drawbacks of existing systems. CITY POINT gives user the different kinds of variable news about that city. It may include the news related to entertainment, food, sport, weather, politics, etc. When the user enters any particular new city he/she is unaware of location and happening activities in that city so the system gives the user the ability of location detection. It consists of three main functions, CITY POINT consist of three main functions, Location detection, Knowledge based measurement and Information Feed filter. The Location Detection function is used to detect the mobile users locations based on an existing path such as, speed, prediction or direction. The Knowledge based measurement is a tool, that implement the combination of current and future location at his/her interest to determining the mobile user to send the appropriate messages. The Information Feed filter to generate information feed for a user at her current or look ahead location. Mobile device immediately capture and stored the contents of CITY POINT and data base is used to store the user generated messages. Simultaneously, multiple of information is available for the user.

Basically the architecture displays the overview of the CITY POINT Framework. CITY POINT stores user generate message in database. Big data analytic is used to store user generate messages in a data sets. Data set is a term for Big Data that are so large or complex that is traditional data processing applications are inadequate. Challenges include analysis, capture, search, sharing, storage, transfers, visualization, querying, and updating information privacy.

VIII. CONCLUSION AND FUTURE WORK

The proposed system presented CITY POINT that is a location and knowledge based information feed using Big data Analytic framework designed to schedule the information feeds for mobile users. The proposed system described the three key functions of CITY POINT namely, location detection, knowledge based measurement, and information feed filter. This helps users discover new places and activities as per requirement.

Our future direction is to measure the dissimilarity of messages in terms of their category information and study a new multi-objective optimization problem of finding a set of news, in which each news feed satisfies the l-diversity constraint and the dissimilarity of the messages in each news feed is maximized while maximizing the total relevance of a set of n+1 news for mobile users (where n is the look-ahead step)

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