Data Mining and Mobility Data Warehousing

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Abstract – Modern progress on tracking technologies facilitates the compilation of spatio-temporal data in the form of trajectories. The analysis of such data can express knowledge in prominent applications, and mining collection of moving objects turns out to be a valuable mean to model their movement.

Keywords: Warehouse, Mobility, Data Mining, Data Warehouse

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INTRODUCTION

The knowledge of phenomenon related to movement not only of people and vehicles but also of animals and other moving objects – has always been a key concerns in many areas of scientific study or social analysis. Many applications track the movement of mobile objects, using location- gaining technologies such as Global Positioning System (GPS), Global System for Mobile Communications (GSM) etc., and it can be symbolized as sequences of time stamped locations. [7,8] TD consists of movements of objects, which record their position as it evolves over time, the concept of indecision appears in various ways; data vagueness due to sampling and/or measurement errors, indecision in querying and answering, uncertainty by purpose during pre-processing for preserving secrecy, and so on. Although indecision is inherent in TD, to the best of our knowledge there is no related work in the database literature that studies its consequence in the knowledge discovery process [8].

REVIEW OF LITERATURE:

Moving objects are objects that change their location and/or shape over time. Moving objects are classified into 2 main categories moving points (e.g. cars, buses, planes, mobile users, etc.), and moving regions (e.g. hurricanes, forests fires, etc.). Being designed to deal with new data, moving objects databases required new techniques that were lately investigated in several research works. Modeling moving objects was one of those issues. Modeling moving objects was introduced in [1- 4] where discrete, continuous, and constraint models were presented. Also, indexing of moving objects is still considered a crucial research direction.

Inspired by the importance of spatial data warehouses, several research works studied this area. In [5] the authors proposed a method to perform a selective materialization based on the relative access frequency of the sets of mergeable spatial regions, that is, the sets of mergeable spatial regions should be pre-computed before accessed. In [6] the authors classified the spatial data warehouses' dimensions in to 3 categories: descriptive, temporal, and spatial.

INCREMENTAL DATA MINING:

Incremental' means changes in the accessible database i.e. placing of new data into the database or removal of existing data from the database. This is sometimes called '% of delta change in the database'. This is a significant issue now a day. Because at present most of the databases are dynamic in nature. So, we need to develop some new data mining algorithms which can grip the dynamic feature of the database resourcefully and effectively. The objective of incremental data mining algorithms is to reduce the scanning and calculation attempt for newly added records. Here we get better the competence of newly added record updating problem. These are the few prime factors that cause to apply the incremental Mining [9-10].

CONCLUSION:

In this paper we found that the moving object congregation prototype represents an incident that involves enabling the prediction of anomalies in traffic system, congregation of moving objects. Effectively and efficiently discovering the specific congregation pattern turns to be a lingering challenging issue since the large number of moving objects generates a large quantity of trajectory data.

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