**Influence Maximization in Trajectory Databases**

**ABSTRACT:**

In this paper, we study a novel problem of influence maximization in trajectory databases that is very useful in precise location-aware advertising. It finds k best trajectories to be attached with a given advertisement and maximizes the expected influence among a large group of audience. We show that the problem is NP-hard and propose both exact and approximate solutions to find the best set of trajectories. In the exact solution, we devise an expansion-based framework that enumerates trajectory combinations in abest-first manner and propose three types of upper bound estimation techniques to facilitate early termination. In addition, we propose a novel trajectory index to reduce the influence calculation cost. To support large k, we propose a greedy solution with an approximation ratio of (1-1/e), whose performance is further optimized by a new proposed cluster-based method. We also propose athreshold method that can support any approximation ratio \_ 2 (0; 1]. In addition, we extend our problem to support the scenario when there are a group of advertisements. In our experiments, we use real datasets to construct user profiles, motion patterns and trajectory databases. The experimental results verified the efficiency of our proposed methods.

**EXISTING SYSTEM:**

Barbieri et al. proposed the Topic-Aware Influence Cascade (TIC) model. In the TIC model, the relationship strength between two vertices was computed by their topic preference learned from history activities on a social network.

Based on the TIC model, Barbieri et al. proposed a similarity-based method, INFLEX, and Chen et al. developed a preprocessing based strategy, MIS, for topic-aware influence maximization.

Chen et al. Proposed abest effort method which has an influence spread guarantee while keeping high performance.

**DISADVANTAGES OF EXISTING SYSTEM:**

Both INFLEX and MIS have no influence spread guarantee

Leads to performance bottleneck because a seed user can influence a huge number of other users.

**PROPOSED SYSTEM:**

In this paper, we make the first attempt to transplant the concept of influence maximization from social-aware advertising to location-aware advertising.

We will formulate the trajectory influence maximization problem and prove it to be NP-hard. To find the exact top-k trajectories, we propose an expansion-based framework thate numerates the trajectory combinations in a best-first manner. The algorithm starts by calculating the influence score of each trajectory w.r.t. to the advertisement. The trajectories are then sorted by the influence and accessed accordingly.

We devise an expansion-based framework with three effective upper bound estimation techniques and a novel trajectory index.

**ADVANTAGES OF PROPOSED SYSTEM:**

The algorithm terminates when the upper bound influence score of all the incomplete combinations are smaller than the best result ever found.

We are the first to study and formulate the influence maximization problem in trajectory databases.

We propose three approximate methods with performance guarantees to solve the problem when k is large. In addition, we extend the influence maximization problem to find k best trajectories for a group of advertisements.

**HARDWARE REQUIREMENTS:**

System : Pentium Dual Core.

Hard Disk : 120 GB.

Monitor : 15’’ LED

Input Devices : Keyboard, Mouse

Ram : 1 GB

**SOFTWARE REQUIREMENTS:**

Operating system : Windows 7.

Coding Language : .Net,JAVA/J2EE

Tool : Netbeans 7.2.1

Database : MYSQL