Efficient Algorithms for the Identification of Top-k Structural Hole Spanners in Large Social Networks

ABSTRACT

With the unparalleled scale growth of network size, there are high demands for developing efficient yet scalable algorithms to explore some unique properties of such massive networks. Most social networks exhibit the so-called community structure property. That is, the vertices in a network can be grouped into different sets of cohesive groups (communities), where vertices in the same community share similar attributes, interests and resources.

EXISTING SYSTEM

The individuals in a social network can be divided into different groups of densely connected communities, and these individuals who bridge different communities, referred to as structural hole spanners, have great potentials to acquire resources/information from communities and thus benefit from the access. Structural hole spanners are crucial in many real applications such as community detections, diffusion controls, viral marketing, etc. In spite of their importance, little attention has been paid to them. Particularly, how to accurately characterize the structural hole spanners and how to devise efficient yet scalable algorithms to find them in a large social network are fundamental issues.

DRAWBACKS

- Gives late and large solutions
- Solutions are less effective and accurate

PROPOSED SYSTEM

We study the top-k structural hole spanner problem. We first provide a novel model to measure the quality of structural hole spanners through exploiting the structural hole spanner properties. Due to its NP-hardness, we then devise two efficient yet scalable algorithms, by developing innovative filtering techniques that can filter out unlikely solutions as quickly as possible, while the proposed techniques are built up on fast estimations of the upper and lower bounds on the

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cost of an optimal solution and make use of articulation points in real social networks. We finally conduct extensive experiments to validate the effectiveness of the proposed model, and to evaluate the performance of the proposed algorithms using real world datasets.

ADVANTAGES

- Gives quick and optimal solutions
- Solutions are effective and accurate

SYSTEM REQUIREMENTS

H/W System Configuration:-

Processor	-	Pentium –III
RAM	-	256 MB (min)
Hard Disk	-	20 GB
Key Board	-	Standard Windows Keyboard
Mouse	-	Two or Three Button Mouse
Monitor	-	SVGA

S/W System Configuration:-

Operating System	:	Windows95/98/2000/XP
Application Server	:	Tomcat5.0/6.X
Front End	:	HTML, Jsp
Scripts	:	JavaScript.
Server side Script	:	Java Server Pages.
Database	:	MySQL 5.0
Database Connectivity	:	JDBC

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