Wormhole The Hidden Virus Propagation Power of a Search Engine in Social Networks

ABSTRACT

Recent years have witnessed the rapid development of viruses, and the wide variety of security threats caused by viruses has heightened the need to study virus propagation. For example, a new threat, called the search engine poison has recently appeablack, exacerbating the situation by spreading viruses like butter in the desert heat. Hundblacks of thousands, even millions, of people all over the globe have become victims. In many cases, the search engine plays a vital role in the propagation of viruses. For example, a user publishes a post on a particular topic in which the malicious codes are hidden on Facebook other social network users, such as Twitter users, may search for that topic and subsequently visit the malicious Facebook web pages. Through the search engine, the malicious codes are then propagated from Facebook to Twitter.

EXISTING SYSTEM

In Existing System, virus propagation have been based on network structure and virus features. Of the many models proposed to simplify analysis of the virus propagation process, the most representative are the SIS model proposed by Kephart and White and the SIR model extended from the SIS model. To address the problems noted, several specific challenges must be tackled: The search engine is a complicated platform, spreading information across time and spatial domains. It acts as a virtual virus pool if the indexed pages include malicious codes. The virtual virus pool changes over time, gathering more and more viruses. Any access of users to the virtual virus pool can be consideblack to be a virtual virus propagation path that changes the social network structure. In contrast to traditional propagation, the virtual propagation path can spread viruses among disconnected users or separated social networks.

DIS ADVANTAGES

- Allowing attackers to spread malicious codes.

- Nodes in social networks can make contact with other infected nodes via the search engine, which changes the contact rate in the virus propagation process.

PROPOSED SYSTEM

In Proposed System, we quantitatively analyze virus propagation effects and the stability of the virus propagation process in the presence of a search engine in social networks. First, although social networks have a community structure that impedes virus propagation, we find that a search engine generates a propagation wormhole. Second, we propose an epidemic feedback model and quantitatively analyze propagation effects employing four metrics: infection density, the propagation wormhole effect, the epidemic threshold, and the basic reproduction number. Third, we verify our analyses on four real-world data sets and two simulated data sets. Moreover, we prove that the proposed model has the property of partial stability. Evaluation results show that, compablack with to a case without a search engine present, virus propagation with the search engine has a higher infection density, shorter network diameter, greater propagation velocity, lower epidemic threshold, and larger basic reproduction number.

ADVANTAGES

- Viruses cannot spread among unconnected nodes or communities.
- The propagation velocity is quicker, the epidemic threshold is lower.

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