SAPTHAGIRICOLLEGE OF ENGINEERING

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Department of Computer Science and Engineering

Certificate

Certified that the project work entitled **"Optimal Distributed Malware Defense System in Mobile Networks with Heterogeneous Devices"** carried out by **Gururaj M Nandur (1SG12CS402), Manjunatha K N (1SG12CS408), Srikar Prakash (1SG08CS078),** bonafide students of **Sapthagiri College of Engineering,** in partial fulfillment for the award of **Bachelor of Engineering** in **Computer Science and Engineering** of **Visvesvaraya Technological University, Belgaum** during the academic year **2014-15.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said degree.

Signature of the Guide	Signature of the HOD	Signature of the Principal
Mr.Rajeev Bilagi	**Dr.C.M.Prashanth**	**Dr.Aswatha Kumar M**
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ABSTRACT

Malware attacks become more frequently in mobile networks, deploying an efficient defence system to protect against infection and to help the infected nodes to recover is important to prevent serious spreading and outbreaks. The technical challenges are that mobile devices are heterogeneous in terms of operating systems, the malware infects the targeted system in any opportunistic fashion via local and global connectivity. In this project the problem of how to optimally distribute the content-based signatures of malware, which helps to detect the corresponding malware and disable further propagation, to minimize the number of infected nodes. Module the defence system with realistic assumptions addressing all the above challenges that have not been addressed in previous analytical work. Based on the framework of optimizing the system welfare utility, which is the weighted summation of individual utility depending on the final number of infected nodes through the signature allocation, Project proposes an encounter-based distributed algorithm based on Metropolis sampler. Through theoretical analysis and simulations with both synthetic and realistic mobility traces and show hat the distributed algorithm achieves the optimal solution, and performs efficiently in realistic nvironments.