

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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A PROJECT REPORT ON

“Secure Data Aggregation In Wireless Sensor Networks”

Project report submitted in partial fulfillment of the requirements
for the award of the degree of *Bachelor of Engineering* in
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ABSTRACT

Efficient data collection is challenging in Wireless Sensor Networks. Use of Mobile Agents for various operations like data collection and software updates in Wireless Sensor Networks is receiving significant attention recently as it increases the lifetime of the network. Mobile Agents are privileged hence they are attractive targets. Compromised mobile agents may be used to launch various attacks in turn may compromise the entire network. Also an adversary may deploy some malicious nodes to launch various attacks. In order to provide security for the network in this project we are implementing two authentication schemes for heterogeneous sensor network based on tree based key management scheme, which uses mobile agents for efficient data collection. The proposed scheme is used to identify malicious nodes acting as mobile agents.

In this project we have implemented two protocols for authentication of mobile agents. The protocols deal with securely sharing data between mobile agents and cluster heads, which results in confidentiality. We deal with two protocols: Time Stamp Authentication Protocol and Secret Sharing Authentication Protocol. These protocols are simulated using event driven simulator – PowerTOSSIM. And power consumption patterns are analyzed.