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**PONDICHERRY – VILLUPURAM – CUDDALORE-CHENNAI**

## **WORAL: A WITNESS ORIENTED SECURE LOCATION PROVENANCE FRAMEWORK FOR MOBILE DEVICES**

### **ABSTRACT**

Location based services allow mobile device users to access various services based on the users' current physical location information. Path-critical applications, such as supply chain verification, require a chronological ordering of location proofs. It is a significant challenge in distributed and user-centric architectures for users to prove their presence and the path of travel in a privacy-protected and secure manner. So far, proposed schemes for secure location proofs are mostly subject to tampering, not resistant to collusion attacks, do not offer preservation of the provenance, and are not flexible enough for users to prove their provenance of location proofs. In this paper, we present WORAL, a complete ready-to-deploy framework for generating and validating witness oriented asserted location provenance records. The WORAL framework is based on the Asserted Location Proof protocol and the OTIT model for generating secure location provenance on the mobile devices. WORAL allows user-centric, collusion resistant, tamper-evident, privacy protected, verifiable, and provenance preserving location proofs for mobile devices. The paper presents the schematic development, feasibility of usage, comparative advantage over similar protocols, and implementation of WORAL for Android device users including a Google Glass based client for enhanced usability.

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### **EXISTING SYSTEM:**

Existing mechanisms overlook collusion attacks as well as the provenance of the location proofs. Related works thus far have not considered third-party endorsement and the chronological ordering for secure location proofs together, which makes the schemes vulnerable to collusion attacks and tampering with the order of the proofs. Location based services allow mobile device users to access various services based on the users' current physical location information. Path-critical applications, such as supply chain verification, require a chronological ordering of location proofs. It is a significant challenge in distributed and user-centric architectures for users to prove their presence and the path of travel in a privacy-protected and secure manner.

### **DISADVANTAGES:**

- Collusion attacks occur in the provenance of the location proofs.
- Security issues Occur

### **PROPOSED SYSTEM:**

We have introduced a novel solution for obtaining usercentric, witness endorsed, provenance preserving, and secure location proofs for mobile devices without the requirement of having a centralized model. We have presented the WORAL framework implementation; a complete ready-to-deploy suite of applications, supporting Android based devices to collect and export location proofs, including

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wearable peripheral devices, such as Google Glass. We developed the secure protocol for WORAL based on our earlier work on secure location proofs and augmented the protocol using secure location provenance preservation . We have also presented a discussion and a comparative analysis of similar protocols and a practicability analysis based on the suitable application areas.

#### **ADVANTAGE OF PROPOSED SYSTEM:**

- ⊙ Our scheme achieves confidentiality, integrity, authentication, non-repudiation, public verifiability and ciphertext authenticity.
- ⊙ The proposed scheme has neither key escrow problem nor public key certificates.
- ⊙ Our scheme has the least computational time and energy consumption.
- ⊙ Assertion oriented location provenance schemes can be effectively used in a variety of real-life scenarios.
- ⊙ Hence, these expensive devices could easily be monitored for presence at their particular locations

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## SYSTEM SPECIFICATION

### HARDWARE REQUIREMENTS

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive : 1.44 Mb.
- Monitor : 15 VGA Colour.
- Mouse : Logitech.
- Ram : 512 Mb.

### SOFTWARE REQUIREMENTS

- Operating system : Windows XP/7.
- Coding Language : ASP.net, C#.net
- Tool : Visual Studio 2010
- Database : SQL SERVER 2008

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