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Department of ECE, Aarupadai Veedu Institute of Technology, Vinayaka Missions University,

Paiyanoor-603 104, Tamil Nadu, India

RFID Guardian: A Mobile Device For RFID Privacy Location-Aware

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Abstract-A new approach for enhancing security and privacy in certain RFID applications where by location. On the tag side, are designs a location-aware selective unlocking mechanism using which tags can selectively respond to reader interrogations rather than doing so promiscuously. On the server side, are design a location-aware secure transaction verification scheme that allows a bank server to decide whether to approve or deny a payment transaction. One Advantage is that there is no external user involvement.

Index Terms— RFID, RFID reader, Relay attack, Location sensing.

I. INTRODUCTION

Radio frequency identification (RFID) is a rapidly growing technology that has the potential to make great economic impacts on many industries. At its most basic, RFID systems consist of small transponders, or tags, attached to physical objects. RFID tags may soon

become the most pervasive microchip in history. *A* Radio Frequency Identification (RFID) is an automatic identification method, relying on storin*g and remotely retrieving data* using devices called RFID tags or transpon*ders.* The two major problems faced by organiza*tions are time consuming manual* attendance and wastage of electrical power. Our *project is going to solve these* problems by using RFID technology. A typical RFID system consists of *tags, readers, and/or* back-end servers. Tags *are miniaturized wireless radio* devices that store inform*ation about their corresponding* subject. *This renders sensitive tag* information easily subje*ct to unauthorized reading.* Information (might simply *be a plain identifier) gleaned* from a RFID tag can be used to track the owner of the tag. *Consequently,* solutions designed for R*FID systems need to satisfy the* requirements of the underly*ing RFID applications in terms* of not only efficiency and security, but also usability.

II. PROBLEM DEFINITION

The system having lack of security due to its leakage of confidential information such as username, password and also entire details about the particular authorized user. If this information is easily hacked by the attacker by choosing the random possibilities of username and password and this will lead to the inconvenience of the authorized user. A large number of these threats are due to the tag's promiscuous response to any reader requests. This renders sensitive tag information easily subject to unauthorized reading.A primary RFID security concern is the illicit tracking of RFID tags.

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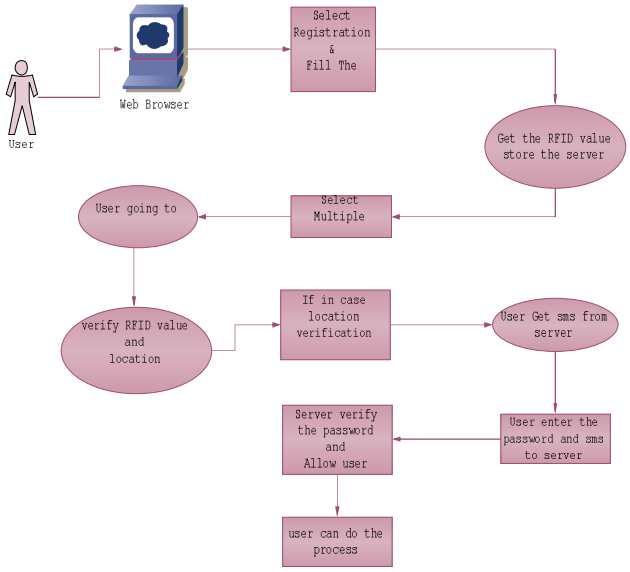
III.SYSTEM ARCHITECTURE



IV. TECHNICAL DESCRIPTION

SELECTIVE UNLOCKING

In this Technique the tags can selectively respond to reader interrogations rather than responding promiscuously to queries from any readers, a tag can utilize location information and will only communicate when it makes sense to do so, thus, raising the bar even for sophisticated adversaries without affecting the RFID usage model.

TRANSACTION VERIFICATION

This Technique is used to find the location information. This is based on a straightforward observation that, under normal scenarios, both the legitimate tag and legitimate reader are in close physical proximity, at roughly the same location.

V. CONCLUSION

RFID are basedon a current technological advancement that enables many RFID tags with low-cost sensing capabilities. The payment card stores card details such as the credit card number, name of the owner, andexpiration date. It also stores a symmetric key shared with its issuer bank. To demonstrate the feasibility of our location-aware defense mechanisms, integrated a low-cost GPS receiver with a RFID tag (the Intel's WISP) and conducted relevant experiments to acquire location and speed information from GSM.

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