Abstract

Smartphones and other mobile computing devices are being widely adopted globally [1]. The increasing popularity of smart devices has led users to perform all their day to day activities using these devices [2]. Hence, M-banking has become more convenient, effective and reliable [3]. It is extremely necessary to provide the security services including; confidentiality, integrity, and authentication between the financial institutions' servers and the mobile device used by the customer, as their communications are through unsecured networks such as the Internet [4]. Users' confidential information may be at risk due to fixed values-based security schemes, one level authentication, separate hard token-based authentication, hardware stealing, and Android-Based attacks. This paper specifies a comprehensive sought of how M-banking schemes can be assessed. Also it introduces a solution to mitigate most of these
Secure Android-based Mobile Banking Scheme

risks.

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**Index Terms**

Computer Science  
Security

**Keywords**

Dynamic Initialization vector  
Overlaid AES modes  
Multi-Layer Authentication  
Variable keys