PROJECT REPORT ON

SEQUORO: QRCODE BASED OPEN AUTHENTICATION

Submitted in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE AND ENGINEERING

Of

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

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**CERTIFICATE**



*This is to certify that the project work entitled*

SEQUORO: QRCODE BASED OPEN AUTHENTICATION

*Submitted by*

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*In partial fulfillment for the award of Bachelor of Technology in computer science and engineering from Cochin University of Science & Technology is a bona-fide record of the work done by them during the period of* ***JULY 2014*** *to* ***MARCH 2015.***

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**ABSTRACT**

The design of secure authentication protocols is quite challenging, considering that various kinds of root kits reside in PCs (Personal Computers) to observe user’s behavior and to make PCs untrusted devices. Involving human in authentication protocols, while promising, is not easy because of their limited capability of computation and memorization. Therefore, relying on users to enhance security necessarily degrades the usability. On the other hand, relaxing assumption sand rigorous security design to improve the user experience can lead to security breaches that can harm the users’ trust. In this project, we demonstrate how careful visualization design can enhance not only the security but also the usability of authentication. To that end, we propose two visual authentication protocols: one is a one-time-password protocol, and the other is a password-based authentication protocol.

Our approach to solving the problem is to introduce an intermediate device that bridges a human user and a terminal. Then, instead of the user directly invoking the regular authentication protocol, she invokes a more sophisticated but user-friendly protocol via the intermediate helping device. Every interaction between the user and an intermediate helping device is visualized using a Quick Response (QR) code. The goal is to keep user-experience the same as in legacy authentication methods as much as possible, while preventing key- logging attacks.

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