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**Multifactor User Authentication for Web Based Online Platforms
Using QR Code and Encrypted Expiry Set OTP**

A dissertation by

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ABSTRACT

The evolvement of technology in the digital era has changed the complexity of the lifestyle of human. With this change, the traditional systems have been migrated to web environments where the consideration on user authentication and other information security related aspects has been increased drastically. Security breaches based on user logins in web based online systems has been increased, where mechanisms were required to strengthen the user authentication. With these aspects, number of researchers and information security related experts have presented with many solutions to answer various issues raised in user authentication in web based online systems.

In this research, a solution has been presented to overcome the identified information security issues in user authentication on web based online systems. The proposed solution in this research is enabled with multifactor user authentication with the use of username, password, a QR Code and encrypted, expiry set OTP. The proposed solution will be developed into a live product and demonstrated as a part of this research.

The results based on the testing of proposed solution are successful where the attempts breach the security barriers of the proposed solution had become unsuccessful.

Keywords: multifactor authentication, user authentication, breaches, encrypted

Subject Descriptions:

Security and Privacy → Systems Security → User Privacy → User Authentication

Web Security → Multifactor Authentication