

**UNIVERSITI TEKNOLOGI MARA**

**ANALYSIS OF DUO MOBILE APPLICATION  
ON ENHANCING USER AUTHENTICATION  
IN CLOUD COMPUTING**

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## **ABSTRACT**

Cloud computing is an IT service that can access remotely at any time and from anywhere through the internet. In order to secure data stored in the cloud, an efficient authentication method must be considered to overcome the security concerns. This project proposed the used of duo mobile application software as a second layer of authentication and the application is installed in the mobile device prior to login to the web page. The proposed technique is proven to mitigate few types of attacks such as Man-in-the-Middle (MITM) and session cookies stolen.

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# CHAPTER 1

## INTRODUCTION

### 1.0 Background Of The Study

Cloud computing is one of the new IT services that has moved rapidly in recent years. It means 'internet computing' that users can access and store data from anywhere and anytime in the open internet. There are many advantages of this technology, however it also has some weaknesses especially in the area of security and privacy. Authentication is the first step towards secure environment in cloud computing.

Authentication is a process to verify the identity of users. When the users decided to use cloud services, they will have to store a password in multiple cloud, so that the mere copy of the user's information will be in the database and also the user needs to exchange the authentication information. This redundant action may lead to an exploitation of authentication mechanism. Therefore, the main security issue in cloud computing is a user authentication [1].

In this dissertation, one method is proposed and implemented to authenticate cloud computing using duo layer authentication as a solution of security issue. This approach verifies user authenticity using mobile phone followed by entering the username and password as usual. It gives more security through a double authentication process which is a second layer security. This will give extra hardness to the attackers to steal the data and to protect the network resources. Following section discuss the implementation followed by analysis and conclusion.