

ACCOUNT VERIFICATION TO PREVENT MALICIOUS USERS ACCESS IN
WEB-BASED FORUMS

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This project is dedicated to my family for their endless support and encouragement.

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ABSTRACT

This project aims to address the issue of malicious accounts that are created and used to imitate real users in web-based forums. In fact, form bots are used to create fake users on forums for several purposes. As a result hundreds of fake users start appearing in the forums and normally placing spam URLs. For forum administrators/managers/moderators, it is a frustrating job to keep members' list clean. In order to overcome this issue, a novel approach is proposed that would be useful in order to prevent malicious users' access and decrease rate of deception in web-based forums. We present a comparison between the proposed approach and IDology approach. The results illustrate that our proposed approach addresses the issue more efficiently as compared with IDology approach. The proposed approach is tested and some future works are suggested at the end of this study.

ABSTRAK

Projek ini bertujuan untuk menangani isu akaun *malicious* (berniat jahat) yang dicipta dan digunakan untuk meniru pengguna sebenar dalam forum berasaskan web. Malah, bentuk bot digunakan untuk mencipta pengguna palsu di forum-forum bagi beberapa tujuan. Hasilnya, beratus-ratus pengguna palsu mula muncul dalam forum dan biasanya meletakkan URL spam. Sebagai pentadbir forum/pengurus/moderator, ia adalah satu pekerjaan yang mengecewakan untuk menyimpan senarai ahli bersih. Dalam usaha untuk mengatasi isu ini, pendekatan novel telah dicadangkan bagi mencegah akses pengguna *malicious* dan mengurangkan kadar penipuan forum berasaskan web. Kami membentangkan perbandingan diantara pendekatan yang dicadangkan dengan pendekatan *IDology*. Hasil kajian menunjukkan bahawa, pendekatan yang dicadangkan adalah lebih cekap berbanding dengan pendekatan *IDology*. Pendekatan yang dicadangkan diuji dan beberapa kerja untuk masa depan dicadangkan di penghujung kajian ini.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

User verification has become a vital problem specially by increasing the forums among the internet. Internet users always are looking for open discussion forums to express or share their idea and find their answers among these vast free shared knowledge platforms. Nowadays security is the most important part of life which by developing internet, cyber security and social security connected together as each particular internet user tries to use more trusted websites and they are always looking for new security services to insure about their security.

This chapter is going to identify the problem background and define the objective and the limitation during the research.

1.2 Problem Background

Since the advent of web-based forums in 1994 and by increasing their users forums faced by problems such as fraud, imitating celebrity people, posting fake posts and URLs. On the other hand forum administrator can't track malicious users' activities and still they have this problem in their system. Also attackers try to access

user's information and using that particular information to fraud, defamation, physical threat, and emotional threat and sometimes just for fun. So the web-based forums are the best platform for bad guys and attacker to operate their misuse plan because they can cheat other users by imitating celebrities or try to damage users system and even stealing their vital information just by sharing fake URL that redirect users to unknown websites (Invernizzi, et al., 2012).

Even forums admin suffer from bot robots which always trying to break forums security layer and usually create a fake users in forums and try to post an URL to advertise something or having same plan as hackers to steal users information such as credit and debit card related information. However forums developer try to block them by using technology like CAPTCHA or random questions but sometimes it annoy real users in order to create new profile and benefit from that forum.

Due to mentioned issues this project represents service in order to minimize these problems.

1.3 Problem Statement

Due to existing problems in web-based forums such as fraud (Hindochoa & Chien, 2003), imitating others, posting malicious URLs, physical thread and low level of protection about users membership information this project done to prevent malicious users to access web-based forums by account verification . Finally this project determine by the result which this approach would be more secure and faster for account verification or not.

1.4 Project Goal

The big issue which this service will be address is to avoid fake accounts in web-based forums to imitate others people in such forums and make a trustable atmosphere in forums and avoid imitating celebrity people. And it is frustrating to be a Forum administrator, at least if you want to keep your member list clean. Form bots out there create fake users on your site in the hopes that your member list will show their spam URL. It's been an ongoing and losing battle, to keep them out. This project is going to propose the new service for verification of the users in order to Prevent Malicious Users Access in Web-based Forums.

1.5 Project Objectives

The main goal of this project is to securing forums by avoiding malicious users to create fake accounts and decrease rate of fraud to represent secure environment in forums based on proposed approach which is more secure and faster than other proposed approaches. It is becoming increasingly important for web-based forums to properly verify their users' accounts. In order to have a verified account, users need to register in our service and supply some form of official documentation to prove their identity or prove their identity through mutual partner. Also users are able to use their verified account credential in order to login to the other supported forums or websites. This project follow the below objectives:

- i. To study existing account verification services for problem analysis
- ii. To propose and develop account verification approach in order to use in web based forums to avoid fraud and impersonating other users.
- iii. To test the approach on web-based forums and verify the results in terms of security and verification speed.

1.6 Project Scope

All the users know that it can be difficult to filter the malicious users from other users on some forums, such as fake profiles or scammers in forums. In order to decrease the violations in forums the key role of account verification is very important, In fact if anyone can ensure security of these forums in consequence it secure the real life of the users who use this forums as a daily habit to connect with other people because they are more in danger in this forums to be a prey of attackers.

So, this project proposed a new approach to verify the users' identity .Thus users by registering and using proposed service known as verified user in forums. And this service tested and represent the result based on www.utmclub.com forum which is a place that UTM (University Technology Malaysia) student can post their properties in order to sale or share their project topic to find interested students to cooperate with them and discuss about any issue which they cope with.

1.7 Project Significance

In general, malicious users are trying to disrupt the operation of the forums, and prevent the legitimate users from achieving their objectives. More specifically, they could try to break the security of the forums, or privacy of the legitimate users. Beside the former security approaches ,this recommended approach can fulfill most of users forums needs because of this integrated proposed security approach it would be an evolution not only in web-based forums even in cyber space. The challenges which must be covered or prevented by this approach are the risks such as fraud, posting malicious URLs, impersonating others and other misbehave that could be done by malicious users (Wu & Yang, 2011). More over tracking the activity of the unknown user is difficult for forum administrators in web-based forums (G., et al., 2009) .This approach could be used as a service which is able to verify the user's identity online to prevent malicious user's access to web-based forums.

1.8 Organization Of Report

This study consists of six chapters. The chapters are organized according to different works that involved in this study. The detailed organization of this report is described in following paragraphs. This section presents how this report is organize in different chapters.

Chapter 1 of this report consists of overview of the study, problem background, problem statement, objectives, scope and significance of this study. Chapter 2 is about a review of the literature related to the research area. It discusses about three Identity Management services and two Identity verification services. Chapter 3 consists of the research methodology that will be used in this project. The project operational framework is also included in this chapter. Chapter 4 is about the analysis and design of the research which means the initial design of the proposed framework. Chapters 5 discuss about the prototype implementation as well as experimental results and user acceptance testing. In the last chapter conclusion made from the experimental analysis and also future work proposed.

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