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The New Intelligent System for the Protection of E-learning from Penetration

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ABSTRACT

This paper focuses on the design new intelligent system to prevent the e-learning from attack. electronic learning (e-learning) systems are becoming widely used tools for distance education/training and enhancement of regular in-person programs, of the importance of e-learning and the role of effective senior he had shown during the past few years needed to protect it from penetration and unauthorized access. We designed a defense system increases the defensive power of the educational site to protect it from any attacks and this increases the reliability of education and pay it forward. Using Artificial neural networks, which is one of the areas of artificial intelligence, design a system that has much to distinguish between this is a right to access to information or not depending on the properties is challenging and can be of these properties are similar for each person characteristics that are different from each other. Thus we have obtained an education system that drives the scientific enterprise secretary and the result of this artificial system with excellent is a penetration rate of non-existent.

Introduction

The Information Technology world is now witnessing the development of large and fast in all fields and most of the areas that have received this development are the e-learning. The education system is one of the elements of life of modern societies, and the role of this system is not to fetch and display information and sources for students, but also how to display this information and evaluation. E-learning is a new education concept by using the Internet technology, it deliveries the digital content, provides a learner-orient environment for the teachers and students. The e-learning promotes the construction of life-long learning opinions and learning society [1]. After the place filled in the field of Information Technology has become e-learning of important areas and this needed to protect and deter anyone who tries to penetrate or subvert the educational, so we designed an intelligent system able to detect any malicious and the same time preventing it from achieving the goals only. For artificial intelligence applications in many important areas of life, including today was used in the protection or development of e-learning through maintain it and prevent unauthorized access, which in turn will be influential on Performance. One of the applications of AI is neural networks terms of which will be building an intelligent system has the ability to detect the unauthorized access by the process as well random access after the training of the network and after the training will be tested. The term neural network was traditionally used to refer to a network or circuit of biological neurons [2]. The modern usage of the term often refers to artificial neural networks, which are composed of artificial neurons or nodes.

THE CONCEPT OF E-LEARNING

E-learning is a way of teaching by using the communication mechanisms of modern computer and networks, and multimedia of sound and picture, graphics, and search mechanisms, and electronic libraries, as well as Internet portals, whether remotely or in the classroom is important intention is to use the technology of all kinds in the delivery of information to the learner the most direct Time and less effort and greater utility. Security in E-Learning for many universities has become assets critical to production. It is thus imperative to evaluate all of the generic requirements confidentiality, integrity, and availability) during a process of risk assessment [3]. The first step in

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such a process is to understand security as including all factors enabling technology. Only when systems work reliably will users trust them and use them [4].

LTRETURE REVIEWS

The field of E-learning plays an important part in our life so many papers and researches are published to solve the E-learning problems. Some of these papers are explained below:

Jianming Yong demonstrated a new mechanism to implement security modeling for e-learning. Under this new security modeling, e-learning systems can be better implemented by all stakeholders. A security modeling for e learning system illustrates the relationships among e learning stakeholders. This is still earlier stage to apply separated security attributes to overall e-learning system [5].

Edgar Weippl, et al. Presented New services on the Internet can be swiftly integrated into existing applications; students can create MashUps, for instance, using a variety of services on the Internet. The main risk comes from the fact that students and teachers are not entirely aware that their institution does not control these services. The servers are located in a variety of countries, thus privacy laws also differ [6].

Roberto G´omez C´ardenas et al. described the design of a security mechanisms in e learning systems must be standard based, flexible and interoperable, to ensure that they work with others' systems. They must also work in multi-tier architectures with one or more middle tiers such as web servers and application servers [7].

Sigrid Schubert et al. focuses on this interdisciplinary field and investigates e-learning from perspectives of both disciplines to develop a security concept that provides a sufficient level of security without negatively influencing the learning process [8].

E. Kritzinger et al. focuses on e-learning and how important it is to ensure that proper Information Security measures are put in place to ensure that all information within the e-learning environment is properly protected [9].

ARTIFIAL INTELLEGENT

Artificial Intelligence (AI) is the area of computer science focusing on creating machines that can engage on behaviors that humans consider intelligent [10]. Applications of the AI important and enter into all areas of life and have an important and effective role was used in this research to improve E learning.

A. Neural Network

Neural networks have many applications; Feed forward neural network consists of one or more layers. The processing elements belonging to the neighboring layers are connected by sets of synaptic weights [2]. Single layer nets based on linear model functions have very limited classification and approximation capabilities [11]. For that, to enhance the classification of the attack and approximation capabilities, multilayer networks (together with the back-propagation training method after than test) are usually adopted. In linear systems, there is no real benefit to cascading multiple layers of linear networks, since the equivalent weight matrix of the total system is simply the product of weight matrices of different layers [2].

THE PROPOSED TO IMPROVE THE E-EARNING

A. *MOTIVATION.*

Motivation of this study is that there are many obstacles that stand in front of the application or the success of e-learning, and these obstacles: the development of standards, methodology, *privacy and confidentiality*, the filtering of digital, the response of the students with the new style and interaction with, the need to train learners how to education using the Internet, awareness of community members in this type of education and not to stand the negative of it, finally can say that it should be re- drafting of laws and regulations to preserve the rights of copyright, in order to protect these rights from infringement, as well as applied in e-learning.

B. PROSAL DESCRIPTION.

We will impose that every user of e-learning site has a user name and password number, will be the password for the user (the student) to code this code will be dealt with by our proposed Intelligent. Will describe the user name and password, and then you will learn how to be a legal distinction between the user and the user's illegal, and this will shield the system from intruders or hackers:

***USER CARD*:**

This card will contain the user ID and password and within the password there will be codes and these codes are:

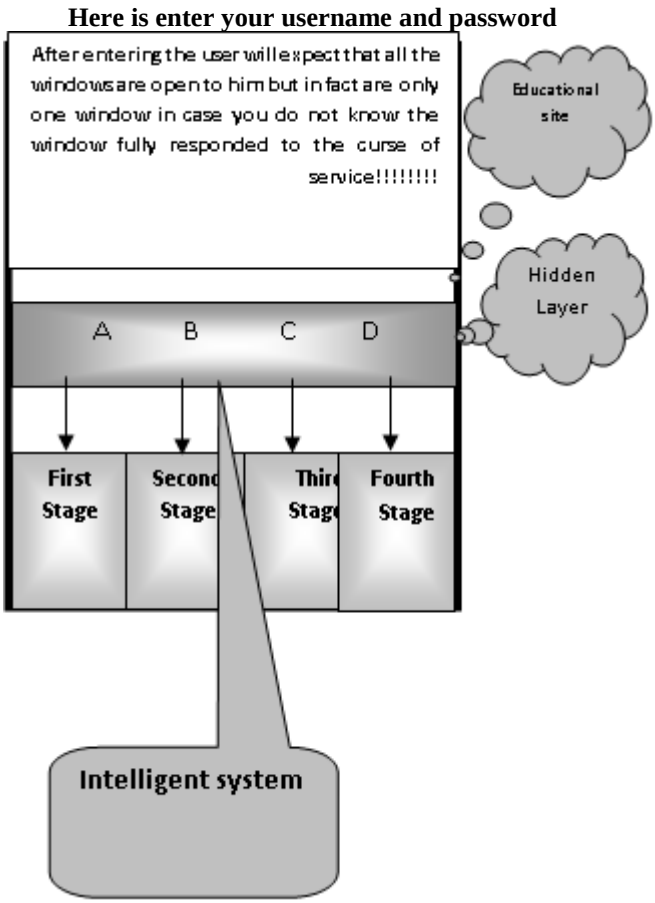
A: Represents or indicates the *First* Stage.
B: Represents or indicates the *second* Stage.
C: Represents or indicates the *Third* Stage.
D: Represents or indicates the *Fourth* Stage.
Example of positioning within the symbols password:

ID	Ahmed
Pass Word	8768**B**96

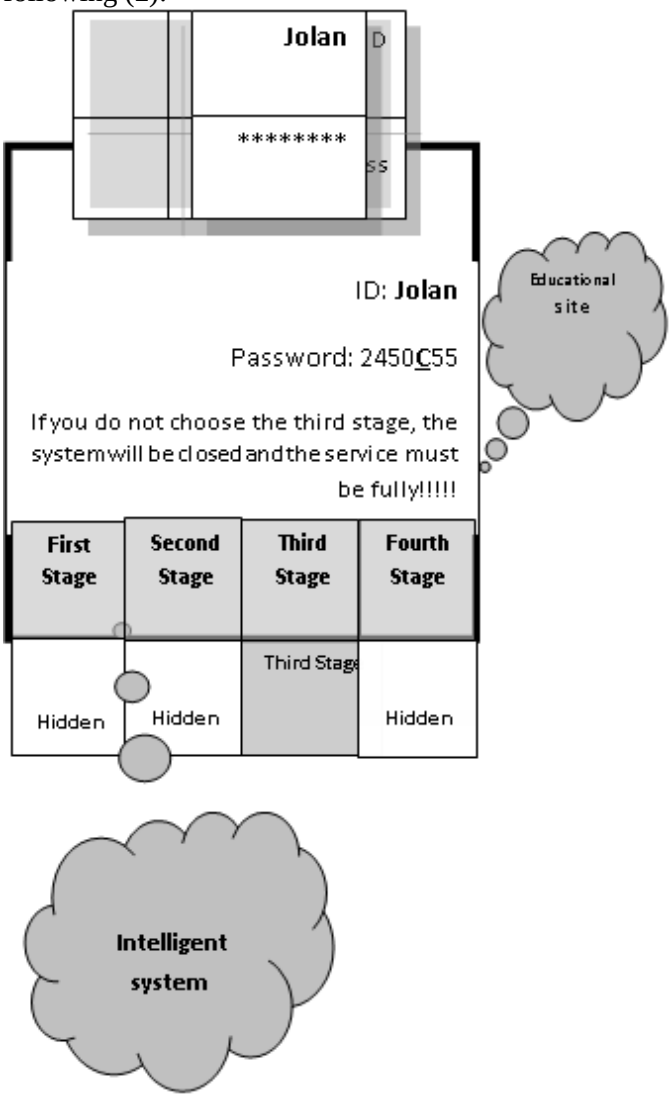
By looking at the password for the card user or student know that this is in the second Stage.

1. *INTELLIGENT SYSTEM PROPOSED*

Is an intelligent system proposed for the protection of the education systems and to reduce the penetration and tampering with sites and through the *Character* in the student card, This system is the process of classification of users ,only through the character in above the card, namely through the analysis of the code (of letters) and based on this character will determine the home system, for example, the card's previous will enable the user to enter only the decision of the second stage, after getting your password and user name that is, until after obtaining the card can not absurd to Active or to enter any of the decisions, and that we have reduced the process of tampering and unauthorized access and we were able to protect the educational site may possible and the following figure (1) illustrates the work of the proposed system:



We will take the following example to explain the work of the proposed system and as shown in the following (2):



For information, enter the card number and stored in the system and the card number will be closing any number in the case refused to admit him again and give you a letter asking you to review the site.

RESULT

After training neural networks and get on the outcome of training is 100% the next step is to test the system by making some test on the cards the students and see if the result is 98% and this result we have obtained on the immune system defense through even if the student has the card, the tastiest gets their cases will not be able to enter any educational system, but only on the course. In the event that the inside does not know the system and clicking on any other decision, the system will be closed completely and that we have got the immune system believes in the institution.

CONCLUSIONS

After training neural networks and testing it is clear to us that we have received your immune system strong fortifies educational sites from intruders and the system is as follows consists of a card which number the user and password, and after this can the student access to the decisions of its own just about any part of the stage and this improves the performance of site, as well as after this there is important to note too that in the case of theft or lost card, the person's home on the site if you did not enter the Special Rapporteur by the service would remove him completely and that even if the card is lost, the location could not enter him again until the review of management of the site direct.

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نظام جديد ذكي لحماية التعلم الإلكتروني من الاختراق

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الخلاصة:

تركز هذه الورقة على نظام التصميم الذكي الجديد لمنع التعلم الإلكتروني من الهجوم .التعلم الإلكتروني)التعليم الإلكتروني (نظم أصبحت الأدوات المستخدمة على نطاق واسع للتعليم عن بعد /التدريب وتعزيز العادية في شخص برامجها، لأهمية التعليم الإلكتروني ودور كبار الفعال الذي قد أظهرت خلال السنوات القليلة الماضية لحاجة حمايتها من الاختراق والوصول غير المصرح به .قمنا بتصميم نظام دفاعي يزيد من القوة الدفاعية للموقع التعليمية لحمايتها من أي هجمات، وهذا يزيد من موثوقية التعليم ودفعها إلى الأمام .باستخدام الشبكات العصبية الاصطناعية، والتي هي واحدة من مجالات الذكاء الاصطناعي، وتصميم نظام تملك كثيرا من التمييز بين هذا هو الحق في الحصول على المعلومات أم لا اعتمادا على الخصائص هي صعبة ويمكن أن يكون من هذه الخصائص هي مماثلة لكل خصائص الشخص التي تختلف عن بعضها البعض .وبالتالي لقد حصلنا على نظام التعليم الذي يدفع وزير المشاريع العلمية ونتيجة لهذا النظام الاصطناعي مع ممتازة هو معدل تغلغل غير موجودة.