

# INTERNATIONAL JOURNAL FOR ADVANCE RESEARCH IN ENGINEERING AND TECHNOLOGY

WINGS TO YOUR THOUGHTS.....

## NEW PROPOSED SCHEME TO CHECK THE EFFECT OF GOLD PLATING ON NEURAL NETWORK BASED SYSTEMS

Jasmine Sidhu<sup>1</sup>, Neha Malhotra<sup>2</sup>

Lovely Professional University  
Jalandhar, Punjab  
<sup>1</sup>sidujasmine7@gmail.com

**Abstract:** The nature and complexity of the system software's can change significantly in the last 30 years. With the change in the nature of the software the user requirements also changed. As, with the advancement in the technology the user interfaces of the system software are more complex and present time software's can run on multiple platforms like windows,linux etc. The nature of the software will getting complex day by day when bugs get arises in the software ,it is very difficult get remove the bugs in the complex software. The developers add some of the extra features in the software system to get extra credit. Due to the addition of these extra features, certain type of bugs arise in the system software .To check the effect of the extra effect on the software performance ,gold plating technique is used .In this paper, we review the gold plating technique and how gold plating technique is used in the software engineering. In this paper, we also propose that how gold plating technique is used for the neural network.

**Keywords:** Gold plating, Platforms, neural network, bugs, factors, complex

### 1. INTRODUCTION

The nature and complexity of the software systems had changed significantly in the last 30 years. The previous applications run on single processor and produce fixed output .But with the advancement in the technology application are having the complex user interface and these applications run on the various systems simultaneous like applications which support client server architecture. Today applications can run on various operating systems due to the nature and complexity of the applications we need to evaluate the performance and other factor of the application .To evaluate the performance of the application we need to define some set of rules. Therefore, we adopt the concept, strategies and practices of the software engineering. With the use of the software engineering concepts and strategies we can evaluate the applications performance and other factors. We have to check the some major failures that will leads to software failure before delivering the application to the user. When a developer develops any application requirement analysis is done before starting the development. In the requirement analysis developer gather the

requirements of the user according to the requirement of the user developer develops an application. To get the extra credit developer add some extra features by themselves .These extra feature addition by the developer to get extra credit is called gold plating. Sometimes gold plating will lead to degrade the performance of the application. For analyzing that which extra feature will degrade the performance of the application we use certain tools. To analysis that which extra feature will have greater impact on the application performance we will use certain set of rules .According to the rule which we study in the literature survey .We select 15 inputs according to that 15 inputs we analysis 5 outputs which we get after giving 15 inputs. The factor which will have the greater impact on the application will be excluded or modified to enhance the system performance.

In this paper, we previous works are discussed in the section 2 Neural network will be discussed in the section 3 new Proposed scheme will be discussed in section 4 new proposed scheme will be discussed in section 5.Conclusion and future work will be written section 6.

# INTERNATIONAL JOURNAL FOR ADVANCE RESEARCH IN ENGINEERING AND TECHNOLOGY

WINGS TO YOUR THOUGHTS.....

## 2. LITERATURE REVIEW

Theodore L. Kottas et al .They had discussed about Fuzzy Cognitive Maps (FCMs) have found many applications in social financial political problems. In this paper they proposed a method of FCM operation, which can be used to represent and control any real system, including traditional electro-mechanical systems [1].

S.1 LONGE had discussed about the security of software systems because many organizations depend largely on them for their day-to-day operations. Since we have not seen a software system that is completely secure, there is need to analyze and determine the security risk of emerging software systems. This work presents a technique for analyzing software security using fuzzy expert system. The inputs to the system are suitable fuzzy sets representing linguistic values for software security goals of congeniality, integrity and availability [2].

Jason R. Cole had proposed to use of fuzzy cognitive maps FCMs as a tool for creating Meta knowledge and exploring hidden implications of a learner's understanding. Two specific educational applications of FCMs are explored in detail and recommendations are included for further investigations within educational contexts [3].

Patrick Reignier et al had proposed the use of fuzzy cognitive maps as a tool to model emotional behavior of virtual actors improvising in free interaction within the frame-work of a "nouvelle vague" scenario, as could Godard do. They show that how fuzzy cognitive maps can be delocalized on each agent level to model autonomous agents within a virtual world [4].

Ambareen Siraj et al discussed that the computer network needs to be assessed and protected in the same manner as the health of a person. The task of an intrusion detection system is to protect a computer system by detecting and diagnosing attempted breaches of the integrity of the system. A robust intrusion detection system for a computer network will necessarily use multiple sensors, each providing different type's information about some aspect of the monitored system [5].

Surbhi Anand discussed about the software engineering. Software Engineering is a profession to provide high quality software to the customers. It is a systematic approach to analysis, design, implementation, maintenance and re-engineering of software. But there are many factors that affect the

quality of software. These factors can cause various problems in the projects like increase in complexity, use of more resources, and increase in time and budget of the project etc. If effects of risk factors are not estimated it will lead to the failure of the project [6].

## 3. NEURAL NETWORKS

The artificial neural network is the processing paradigm and is inspiring by the human nervous system. Artificial neural system performs tasks similar to human brain .Neural system should also learn from past experiences. Neural network contains large number of interconnected processing elements and these elements work simultaneous to solve a specific problem. The common applications of neural network or system are face reorganization, pattern reorganization and voice or speech reorganization. The artificial neural network has the ability to derive the new results or outputs from past results or from the past stored results. The neural network provides us the answer to the question when there is the situation of "what if". A simple neural network is having three layers. One is input layer second is hidden layer and the third is output layer. Input layer is attached with synaptic weights that are used to learn the neural network system. We can learn the neuron network system by changing these weights. The simple design of neural network is shown in figure 1.

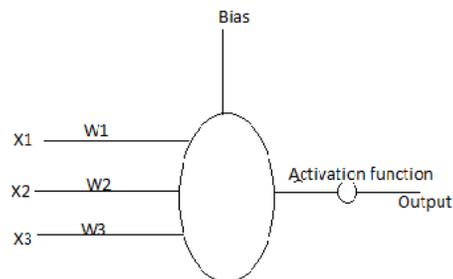


Figure 1: Design of neural network

Neural network is classified into two types:

- Feed-forward Network: In feed-forward type of network signal travels only in one direction .i.e. from input to output. There is no feedback .i.e. output layer don't provide input to input layer.
- Feed-backward Network: In feed-backward type of network signal can travel in both directions i.e. forward and backward.

# INTERNATIONAL JOURNAL FOR ADVANCE RESEARCH IN ENGINEERING AND TECHNOLOGY

*WINGS TO YOUR THOUGHTS.....*

## 4. NEW PROPOSED SCHEME

With the advancement of the technology software complexity and requirements has been changed in past decades. To develop efficient application, software developers need to follow certain set of rules. Before developing any application developer need to do requirement analysis. If system developed as per the requirements and software development rules are strictly followed then there will be a more chance that efficient software will developed. To get extra credits developer adds some extra features. In the literature study analysis of gold plating tool is developed and this tool is based on the brute forcing strategy. They had taken 15 inputs and 5 outputs on the basis of this assumption they had analysis that which factor greatly degrades the performance of the system which are added by developer and are not specified in the requirements analysis. In our work we are considering the artificial neuron system. This artificial neuron system can be face recognition system, voice recognition system or pattern recognition system. We assume that these systems are developed as per the requirements. When we did simulation base study of these systems they worked efficiently. When we add some extra features to this system the performance of this system degrades. In our work we will define certain set of rules which will check that which extra features degrades the performance of the system and also check the impact of these features.

## 5. NEW PROPOSED SCHEME

In our work, we will design an automation tool to check the effect of gold plating on the neural network. We check the effect of gold plating on voice reorganization based neural network. In automation tool we show the effect of different factors on the voice reorganization based neural network.

## 6. CONCLUSIONS AND FUTURE WORK

In this paper, we review the gold plating technique and effect of gold plating on the system software and how the extra features which are added by the developer to get the extra credit effects the software performance. In this paper, we also propose a new approach in which we develop the new tool which checks the effect of gold plating on the neural network systems like face recognition, voice recognition etc. In our future work, we work on the

implementation of the new tool which checks the effect of gold plating on the neural network systems.

## References

- [1] Theodore L. Kottas, Yiannis S. Boutalis Department of Electrical and Computer Engineering, Democritus University of Thrace, Xanthi, Hellas (Greece)
- [2] A. S.1 LONGE H. O. D.2 FASAN O. M.3, Christodoulou Department of Electronic and Computer Engineering, Technical University of Crete.
- [2] P.Latha Selection .grade Lecturer, Department of Electrical and Electronics Engineering, Government College of Engineering, Karaikudi- 630004.
- [3] Jason R. Cole,1, Kay A. Persichitte2,1 Nashoba Regional School District, 50 Mechanic St.,Bolton, Massachusetts 01740 2 Ed Tech / McKee 518, University of Northern Colorado, Greeley, Colorado 80639.
- [4] Marc Parenthoen, Patrick Reignier, Jacques Tisseau.
- [5] Ambareen Siraj Susan M. Bridges Rayford, B.Vaughn Department of Computer Science Mississippi State University Msstate, MS 39762.
- [6] Surbhi Anand Assistance Prof CT Institutes, Jalandhar, Punjab,India. Vinay Chopra Assistance Prof Daviet,Jalandhar, Punjab,India.
- [7] Neha Malhotra,Manisha Bhardwaj, Rajwinder Kaur, (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 3 (4) , 2012,4806-4808.