Practical Troubles Appear on Computer Architecture on the Interface User (Desktop) Operations

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Abstract

This paper describes the troubles and problems appear by indication of what are occurring on the Graphic User Interface (GUI). Any operation happen indication for system case and the Architectural case for the users. During use operations and the usual programs are used speed and response could see the global case of machine system. Every peripheral storage device (main or secondary) also could be indication for system state need troubleshooting or not. Opening and closing some programs and type of operation could check what is problem and trouble what is. Practical operations in a network or not could appear the irregularity of this proposal. The Used Methodology is checking operations users use like storage, inputting and outputting, data transferring, doing equations and connect the peripherals devices. These operations are done with considering global computer system case and another conditions regard system controlling of other units.

Aims and Objectives

Every computer has its independent system, with its OS. This Operating System has set of instruction must follow to do specific function within and with limits of the peripherals and attached input and output of the computer.

Based on that the computer system architecture is defines the conceptual structure and functional behavior of a computer system, it is necessitating to check the system risks and troubles that cause to unorganized and non-synchronized operations that they done every day by the clients.

The GUI is appearing and clear screen for the user to see and check if there are any risks or there are problems or irregular in the system work.

It is very easy to see irregularity in the computer system just by notify the Graphic User Interface alarms, or troubles appear, or even disruption in the desktop usual operations notified by the user.

After understand of the conceptual architecture of the computer system, it is very easy to note that there are some specific operations disturbed are not work properly or precisely.

The aims of this project study can be concise in these points:

- Studying the signs of system irregularity

- To make easy know what happen for the user about the system troubles by note the GUI by testing some system operations on the desktop

- Know the architectural work flow of the computer system and to be familiar

- Identify the computer system troubles and disruptions abstractly on the desktop

Keywords: System; Architectural; Troubles; Operations; GUI; Irregularity

Introduction

Computer has system work through it. This system is consisting of sets of instructions the OS can follow, when do any operation or more than one operation with coordinated with System Clock. It is coordinates the CPU (Central Processing Unit) with memory and RAM.

The cycle inside the Computer System (Architecture) is controlled and conducted by the Speed Clock measured in Megahertz or Gigahertz which are Millions or thousands of Millions of cycles happened per Second. The pulses are used within the processor to keep it internally synchronized in each tick or pulse another operation can be started. That is all controlled by the Speed Clock to synchronizing the client operations.

Usually the executing of single instruction in the computer is consists of cycle of four stages: Fetching, decoding, Executing and Storing.

In the architectural system of the computer if there is any difference or non-systematic (Known Instructions) in the input or output or process of the data or working of any application in non-organized method, it will appear troubles and mistakes happening in the computer system. This appear by using the Graphic User Interface (GUI) of the computer and usual use of desktop and its applications operations.

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The identifications of Computer Architecture are how interaction happening of software and hardware with each other with specific platform, or in other words how the computer system designed.

The four parts of computer system that are must work together properly are as followed as in Figure 1.

Wang et al. [1] in their article reported that the Graphical User Interface (GUI) is today's de facto standard for desktop computing. They said that GUIs are optimized for using with a mouse and keyboard input devices. They mentioned that disabilities may face problems in operating these devices. Based on translation purpose can replace these devices with PDA (Personal Digital Assistance) and wireless use remotely also using such application for support speech recognition. They argued that here is change in the formal model of usual architecture of the computer system and in use of its components and peripherals accord to specific architectural system.

Literature

According to Marcos et al. [2] said that the concept of Graphical computer interface operations interact with the computer system or computer architecture, includes not only the hardware and software aspects of communication, but also the cognitive and emotional aspects of the users' experience. By the collaborative environment or problem, it represented a human-computer interface with major indices of accessibility, facility of use and user involvement.

Lewis et al. [3] mentioned about disrupting of the computer system within the users, spoken about users misplacing and troubles way fining of the files. They called it "Lost in Hyperspace" which is missing the Desktop Icons place. Their paper is concentrates on the conceptual issues regard the icons, memory and scenery to date. The writers in this proposal made attention to generate visually distinctive icons "VisualIDs" automatically, while allowing the user to replace the icon if desired.
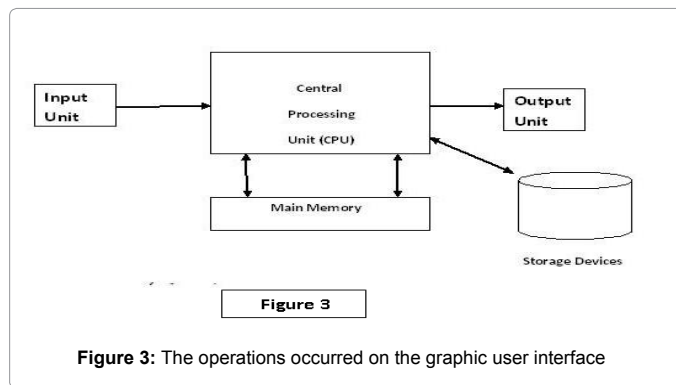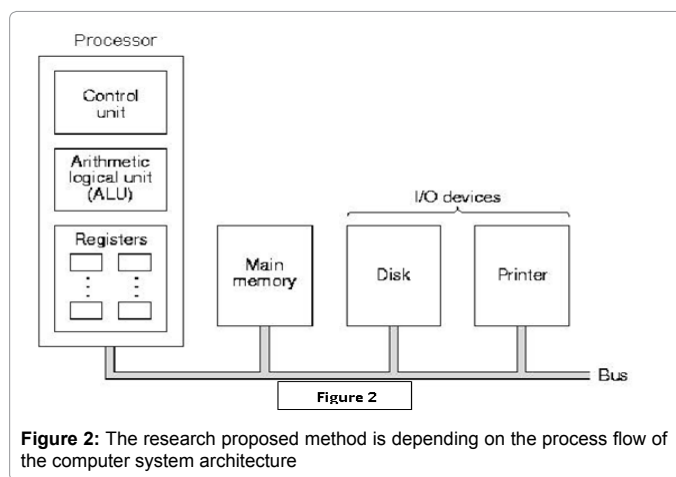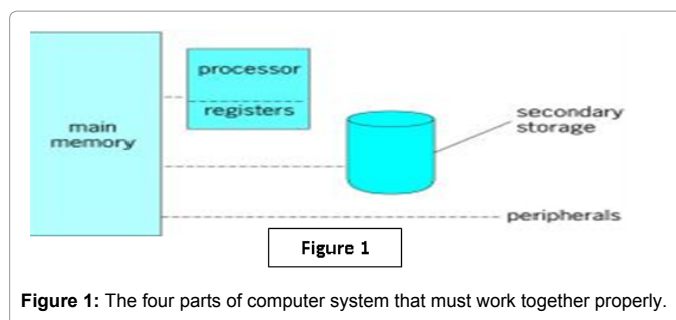
Therefore, this is from the GUI troubles facing the clients using their computer and it may cause irregularity in arrangement of icons of the computer desktop, and it may cause computer system architecture troubles. By changing and missing or even manipulating files and icons of the system.

Adaptive Systems, a solution to usability problems is article for David Benyon [4]. He mentioned the usability of computer system is very important for HCI (Human-Computer Interaction). Simply improvement of interface user is tending to engineering of usability for the users' system clients. He said to that approach there is more analysis for studying the interface as well as the system to be full usability improvement and to avoid users' usability of the computer system problems and get solutions. David Benyon tried to improve the Interface User to be more usable approach to the computer system architecture and find accurate solutions regard this approach (Figure 2).

David Benyon [5], speaking about modeling approach and method for the system design. They all require user models to be maintained and exploited as part of the designs. There are user models in human-computer interaction design offers a common architecture for the adaptive systems. A common methodology for the development of system architecture is being worked on per them.

Research Importance and Purpose

The common identification of computer system architecture is what looking for in this paper for all types of users by knowing the facing the computer system irregularity, problems, troubles and not

Figure 1: The four parts of computer system that must work together properly.

Figure 2: The research proposed method is depending on the process flow of the computer system architecture

Figure 3: The operations occurred on the graphic user interface

properly working in the interface user which is the desktop in the computer (Figure 3).

By note some operations on the computer can note if there are any troubles that are not usual in the computer and compare it with computer system architecture and its instructions.

The total purposes are concluded as:

- Identification how the computer system architecture work

- State the operations that out of the total compute system work

- State the troubles and problems the user face on the user interface

- By using the Interface User can catch the points are not common compare with the computer system

- Sate the role of the User Interface (desktop) operations in detect the computer architecture

Procedures and Method

The research proposed method is depending on the process flow of the computer system architecture. The operations occurred on the graphic user interface must be matching the computer architecture. That method is as follow diagrams:

Procedures

On a specific computer, the procedures of the research are in the following Graphic User Operations in contrast with system architecture work flow:

1- Input operations on the desktop (input units)

2- Output operations on the desktop (output units)

3- Processing of charts, equation pictures and text editing (Arithmetic –control processing unit)

4- Default storing documents, files and folders (storing units)

5- Data transferring and units' communication (Buses- CPU-control Unit)

6- Connect the peripherals devices to the computer (peripheral units)

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