Impact of Computer Programming Languages on the Proliferation of Computer Use in Different Careers

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ABSTRACT

The way computer is pervading all spheres of human endeavors is increasingly interesting that the reason it is so need to be investigated. This research centers on what makes computer system popular in various careers of human endeavors. An x-ray of various software packages was thoroughly highlighted. And it was revealed that computer programming which produces software's was responsible for the use of computers in all spheres of human endeavor.

KEYWORDS: Proliferation; Software; Programming languages; user; programmer

INTRODUCTION AND BACKGROUND

Computers are used in so many fields in our daily life. From Engineering to Medicine, governance, education, e.t.c all use computers to perform one task to the other. With greater precision and accuracy and less time taking computers can do a lot in short time while that task can take a lot of time while doing manually. Computers have taken industries and businesses to a whole new level. They are used at Home for work and entertainment purposes, at Offices, in hospitals, in government organizations.

The computer is one of the most brilliant gifts of science. Computers are constantly being updated to make out lives better. In fact the computer is a wonderful electronic brain that we have come to rely on in our everyday life. The computer has proved a friend and servant of science, technology and industry. The computer is a boon to all.

Computers have gained importance as they have increased the productivity and efficiency of work done. Large amounts of data in the personal lives as well as in businesses and industrial sectors are stored on computers. Computers have also brought a revolution in the field of medicine. Not only clinics and hospitals can store data, the doctors can also make use of the computer to scan patients' bodies and even perform surgeries that would have been quite complex and dangerous to do so without the finesse provided by the computers. Computers has help out a lot, in our daily lives where many of us can't live without one, by using computers and going on the internet, we can find any information on a person we want. By using computers we can check up on the weather, before we go to work or school. So by checking the weather we already know if it's going to Rain or if it could be sunny.

By using our computers to shop on the internet we can find the product we are looking for, without going inside the retail store to look for it, only to find out it's sold out. Since, computers appear in our life, they are not only tools for working, studying but also entertainment also. By shopping on the internet it saves some a lot of trouble from looking for something that is not there. Computer is the backbone of information technology whose major application lies in internet. Internet has some very useful applications in our day to day life. The computer gives us many benefits. The importance of computers in our daily lives can be judged by the number of people using them each single day. Computer is not only used by professionals, but also by the little children and grownups at our homes. Eventually, computers come into every family and effectively influence our usual life. Thus computer has become an indispensable part of our daily life.

Computer system consists of two major elements: software and hardware. The computer hardware refers to the physical elements of a computer. This is also sometime called the machinery or the equipment of the computer. Examples of hardware in a computer are the keyboard, the monitor, the mouse and the processing unit. However, most of a computer's hardware cannot be seen; in other words, it is not an external element of the computer, but rather an internal one, surrounded by the computer's casing (tower). Software commonly known as programs, consists of all the electronic instructions that tell the hardware how to perform a task. These instructions come from a software developer in the form that will be accepted by the platform (operating system + CPU) that they are based on. For example, a program that is designed for the Windows operating system will only work for that specific operating system. Hardware and Software have a symbiotic relationship, this means that without software hardware is very limited; and without hardware, software wouldn't be able to run at all. They need each other to fulfill their potential.
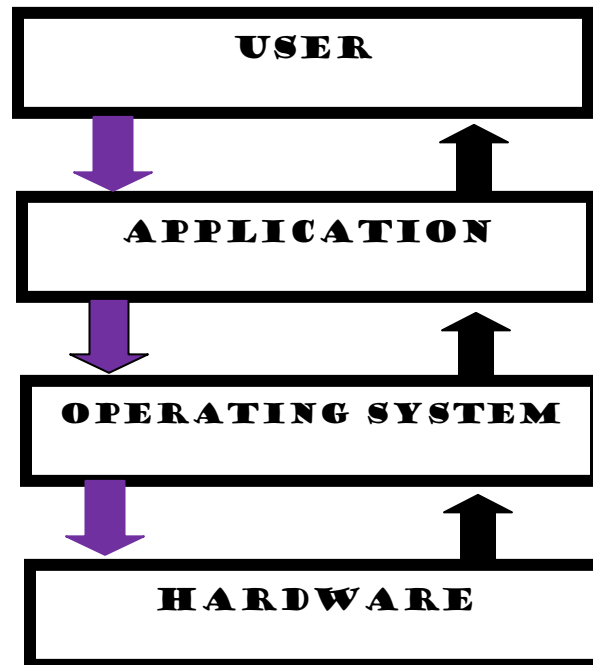

Fig 1: A layer structure showing the relation existing among computer user, software and hardware

Software is capable of performing many tasks, as opposed to hardware which only perform mechanical tasks that they are designed for. Computer hardware is only as effective as the instructions we give it, and those instructions are contained in software. Software not only directs the computer to manage its internal resources, but also enables the user to tailor a computer system to provide specific business value. Software consists of computer programs, which are sequences of instructions for the computer. The process of writing (or *coding*) programs is called *programming*, and individuals who perform this task are called programmers. Unlike the hardwired computers of the 1950s, modern software uses the stored program concept, in which stored software programs are accessed and their instructions are executed (followed) in the computer's CPU. Once the

program has finished executing, a new program is loaded into main memory and the computer hardware addresses another task. Computer programs include documentation, which is a written description of the functions of the program. Documentation helps the user operate the computer system and helps other programmers understand what the program does and how it accomplishes its purpose. Documentation is vital to the business organization. Without it, if a key Computers truly came into their own as great inventions in the last two decades of the 20th century. But their history stretches back more than 2500 years to the abacus: a simple calculator made from beads and wires, which is still used in some parts of the world today. The difference between an ancient abacus and a modern computer seems vast, but the principle—making repeated calculations more quickly than the human brain—is exactly the same (Swade, 2001).

Ever since the invention of Charles Babbage's difference engine in 1822, computers have required a means of instructing them to perform a specific task. This means is known as a programming language. Computer languages were first composed of a series of steps to wire a particular program; these morphed into a series of steps keyed into the computer and then executed; later these languages acquired advanced features

programmer or user leaves, the knowledge of how to use the program or how it is designed may be lost. The computer is able to do nothing until it is instructed by software. Although computer hardware is, by design, general purpose, software enables the user to instruct a computer system to perform specific functions that provide business value.

PERTINENT REVIEWS

such as logical branching and object orientation. The computer languages of the last fifty years have come in two stages, the first major languages and the second major languages, which are in use today.

Programming languages have been under development for years and will remain so for many years to come. They got their start with a list of steps to wire a computer to perform a task. These steps eventually found their way into software and began to acquire newer and better features. The first major languages were characterized by the simple fact that they were intended for one purpose and one purpose only, while the languages of today are differentiated by the way they are programmed in, as they can be used for almost any purpose. And perhaps the languages of tomorrow will be more natural with the invention of quantum and biological computers (Anthony, 2004).

Generation	First Generation	Second Generation	Third Generation	Fourth Generation
Technology	Vacuum Tubes	Transistors	Integrated Circuits (multiple transistors)	Microchips (millions of transistors)

Size	Filled Whole Buildings	Filled half a room	Smaller	Tiny - Palm Pilot is as powerful as old building sized computer

Table 1: Major features of computer generations.

COMPUTER PROGRAMMING DEFINED

The process of developing and implementing various sets of instructions to enable a computer to do a certain task. These instructions are considered computer programs and help the computer to operate smoothly. The language used to program computers is not understood by an untrained eye (http://www.businessdictionary.com). Computer programming is the craft of writing useful, maintainable, and extensible source code which can be interpreted or compiled by a computing system to perform a meaningful task. Programming a computer can be performed in one of numerous languages, ranging from a higher-level language to writing directly in low-level machine code (that is, code that more directly controls the specifics of the computer's hardware) all the way down to writing microcode (which does directly control the electronics in the computer). A program is a set of step-by-step instructions that directs the computer to do the

The computer system can only garbage out what is garbaged into it. The services a computer can render to an individual is direct proportional to the individual's ability to command the computer. Computers are commanded by series of logical instructions written in compliance with a lay down syntax and semantics of a given programming language. Wikibooks defined Computer programming as the craft of writing useful,

tasks you want it to do and produce the results you want. A set of rules that provides a way of telling a computer what operations to perform is called a programming language. There is not, however, just one programming language. In general, the programmer's job is to convert problem solutions into instructions for the computer. That is, the programmer prepares the instructions of a computer program and runs those instructions on the computer, tests the program to see if it is working properly, and makes corrections to the program. The programmer also writes a report on the program. These activities are all done for the purpose of helping a user fill a need, such as paying employees, billing customers, or admitting students to college.

PROGRAMMING LANGUAGE AS A TOOL FOR COMPUTER APPLICATION DEVELOPMENT

maintainable, and extensible source code which can be interpreted or compiled by a computing system to perform a meaningful task. Programming can only be done with the numerous programming languages available which have evolved a great deal since the beginning of IT ranging from low level languages to high level languages. Computer can be applied to many areas of human endeavour courtesy of programming.
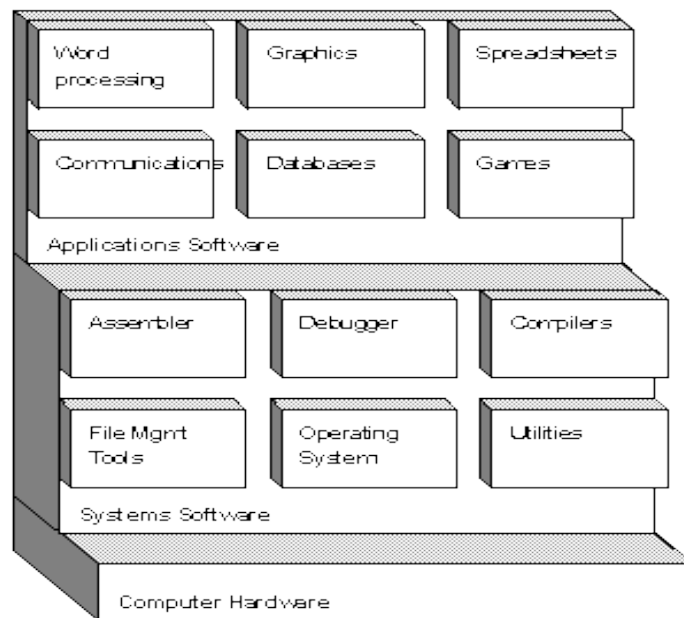
Figure 2: Layers of Application softwares
(source: http://www.webopedia.com/TERM/A/application.html)

The figure above showed various application areas that software application packages have been developed through the tool of programming some of which are outlined as follows:

1.) Word processor which is software application that performs the task of composition, editing, formatting, and sometimes printing of documents and document publishing had packages such as Microsoft word, word perfect, Abi word, Applix word, libreoffice writer, notabene, etc.

2.) The spreadsheet which is an electronic document in which data is arranged in the rows and columns of a grid and can be manipulated and used in calculations. The horizontal grids are known as rows and the vertical grids are known as columns. The intersection of the row and column produces the cell where the data is actually stored. Examples of spreadsheets are Microsoft excel, flexisheet, libreoffice calc, lotus 1-2-3, Gnumeric, Apple iworks numbers, Accel spreadsheet, kingsoft spreadsheet, etc.

3.) Database management software is a software package designed to define, manipulate, retrieve and manage data in a database. A DBMS generally manipulates the data itself, the data format, field names, record structure and file structure. It also defines rules to validate and manipulate this data. A DBMS relieves users of framing programs for data maintenance. Examples are Microsoft Access, oracle, mysql, Datacom, filemaker, interbase, oracle lite, etc.

4.) Graphics is a computer program or collection of programs that enable a person to manipulate visual images on a computer. These are the application software which lets the user to create and manipulate any type of computer graphics with the use of an operating system. Examples include coreldraw, adobe photoshop, isometric projection, micrographix designer, Autocad, orthographic projection, maya, blender, etc.

5.) Communication software is an application or program designed to pass information from one system to another. Such software provides remote access to systems and

transmits files in a multitude of formats between computers.Communication software forms a part of communication systems with software components classified according to functions within the Open Systems Interconnection Model (OSI Model). Examples include skype, AOL messenger, ICQ messenger, yahoo messenger, etc.

6.) Media authoring Software is used to create electronic interactive presentations that can include text, images, video, audio, and animation. Examples are dazzler, flying popcorn, hyperstudio, movie works, create together, etc.

7.) A Personal Information Manager (PIM) software that includes an appointment calendar to schedule activities, an address book to maintain names and addresses, and a notepad to record ideas, reminders, and important information. Examples are RSS feed, instant messenger, project manager, etc.

8.) Educational software teaches a particular skill and is available for any subject. It is often used to aid the teaching of the subject. Examples are Disney toddler, cartopedia, 3D Indiana, aqion, matlab, etc.

Computer phobia is associated with the anxiety of learning to use computer or not being able to learn to successfully use computer. The initial perception of many staff of many establishments is that computers will throw them out of job. This made them to view computer technology as an enemy rather than a friend who has come to help them to do their work more easily. The phobia exhibited by people spans from worries about embarrassments, looking foolish or even damaging the computer. The level of illiteracy in

1.) Awareness Creation: Proper awareness must be created that will carry everybody along before the introduction of computer technology in the organization.

2.) Adequate Training: The users of the technology (computer) must

9.) Home design/landscaping software assists with planning or remodeling. Examples are garden visualize, garden planner, showoff virtual designer, realtime landscaping plus, home designer suite, smartdraw, etc.

10.) Reference software provides valuable and thorough information for all individuals in different fields and career. Examples are Encarta, thesaurus, encyclopedia, atlas, etc.

11.) Groupware is a software application that helps groups of people on a network work together and share information. Examples are Microsoft share point, Microsoft lync server, mindjet, nefsis, openproject, conceptDraw office, etc.

12.) Video editing software and audio editing software can be used to modify video and audio segments. Examples are ms movie maker, ms producer, ms media encoder, audacity, apple imovie, techsmith camtasia, etc.

COMPUTER PHOBIA AND HOW TO OVERCOME IT

Nigeria contributed a lot to the anxiety of some people (staff) to conclude in their mind that they will never do well learning or using computer. The other cause of this is the fear of possible health hazard that the computer will pose to them. Some argue that constant fixing their eyes on the screen will eventually lead them to loss of sight. Some others indulge in computer phobia as a result of their religion. Whatever may be the cause of this phenomenon the following strategies be devised to deal with it.

be adequately trained to adapt to its usage.

3.) Employee participation: This will build employee's commitment and rebuild their confidence that the computer has come help them do their job better and not to take over their job.

DISCUSSION

The proceedings so far have revealed that computer software is almost in all spheres of human career. The medical practitioners (Doctors, Nurses, etc) uses Epocrates software to look for drug information and interactions and several other softwares available for their practice. Engineer uses Autocad, google sketchup, sap2000, etc to assist in their project design. Teachers uses lanschool to manage their classroom, studycloud is a cloud based software for students etc. Farmers uses agrivi software which guides the farmers how to increase their It is clearly established in this paper that computer programming that eventually produces softwares is the reason why computer has pervaded all spheres of human endeavour. It has become the singular factor for the dynamism of computer. It was also observed that programming

production and their productivity, tractorpal software helps farmers to keeps inventory and maintenance records for all your personal agriculture machines and attachments, including cars and trucks of all brands. The list is endless, almost all the profession of man has a software to assist him to do his job better. This is as a result of computer programming done under the platform of programming languages.

CONCLUSION

is becoming easier and is highly attracting the attention of non-professionals in the field. Many persons have delved into the field of programming not minding their academic background.

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