Impact and Challenges of Implementing Management Information System

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Abstract

With the recent improvement of computer technology, the application of computer software technology is very widespread. Software systems have also improved the development of all walks of life rapidly. The development of software systems has greatly enhanced the management of schools and students. This paper mainly analyzes and summarizes the significance and the main design of the student information management system and its disadvantages.

Keywords: Management Information System (MIS), Personal Computer (PC), Visual Studio, Students Records, Easy Accessible.

INTRODUCTION

The early management information system (MIS) for organizations, industries, institutions, and schools was first established in the year 1978 by a researcher named Raymond Billy when he was a student at Asheville High School. It was then firstly established by a researcher named Philip Neal, a teacher at Lea Manor High School, from the year 1982 to 1983. Bedfordshire County Council (Lea Manor's local education authority) then further developed this product, which began being used by other schools in 1984. In 1988, an advertisement company, SIMS Ltd, was supported to additional develop SIMS. SIMS Ltd was no heritable by Capita cluster in 1994. In December 2020, Capita decided to sell their Education Software Solutions business (whose flagship product is SIMS) to private equity house Montagu to reduce debts. Montagu has stated that they intend to continue developing SIMS with a plan to release the latest version; SIMS 8 after the acquisition process has been completed [1]. With the hasty improvement of the higher educational system, the enrolment scales of major universities and colleges continue to magnify. The quantity of students at school has improved cuttingly, and numerous new disciplines and majors have been opened in the schools or institutions. The types, batches, and majors of the college's students are miscellaneous. These make the individual data management of students very byzantine. Counting the students' data needs a lot of time and energy in daily teaching work. Faced with this enormous quantity of data, to work efficiently, we have to create a student personal information management system to manage this data. The information management system is primarily to manage the important data of the students in institutions, schools, and colleges. The Student data is an essential bystander of student development. As a significant folder data of students, the utilization and management of the student data are very imperative. The old-fashioned management style is mostly bifurcated by the academic management departments of the different majors of the institutions, schools, or colleges to physically maintain and enter the student data. Due to the shortage of a fused data broad management podium, joined with high-intensity information processing workload and regionalized management of data, the speed of data collation is slow, information loss is prone to occur, statistical errors, query work is inopportune, and management personnel spends a lot of money. Time and energy have had a certain influence on other work in terms of data management. Thus, an integrated management system for the individual data of the whole institutions, colleges, and schools is required for the management of colleges and universities information. The establishment of the system cannot merely realize data sharing, facilitate inquiry and management, speed up the import of related data, streamline manpower, free management staff from monotonous information processing tasks, and strengthen the relationship between different professions and departments. There is information exchange between the college and students, parents'

understanding of the students' situation at school, and data analysis of the students. Figure 1 below shows the student's information management system.

Fig_1: Student information management system

RELATED WORKS

A ChatBot is software that simulates human communication via speech or text. One of the initial Chatbot was developed and established for discussion among the machine and the user. This Chatbot is fabricated based on the user interface, permitting this user to type the probe and assent the response in the text as well as speech. The college inquest Chatbot is installed on artificial intelligence algorithms that study the user interrogations and sense the user`s message. With the assistance of the artificial algorithms, the Chatbot answers the interrogation asked by the students without physically being available in the college. It uses artificial intelligence methods such as Natural Language Processing, image and video processing, and audio analysis. Porter Stemmer formula and order Similarity between Sentences is employed for removing the suffixes from the word in English. The system assisted many organizations to ensure good services and customer satisfaction with the less human intervention [3]. Additional seminal Chatbot, known as UniBOT was established for University Data System.

The Chatbot provides information associated with university OR college and likewise about student happenings. As the student has to visit the college or institute to collect different information or notices like Tuition Fees, Defaulter List, Academic schedule. This practice can be time-consuming and tedious and to overcome this Chatbot is introduced. Besides the academic information, this Chatbot can likewise be used to provide extra data using Natural Language Processing [4]. Applying the Robotic Process Automation (RPA) in administrative processes of public administration provides the benefits of RPA and applications of RPA in diverse areas. This automates the functions and processes by decreasing the cost through the introduction of the robotization process. Modern technologies are carried out in all the areas of activity speedily. Technologies are meant to improve or optimize the process of management and development of organizations, by bringing the new level of proficiency of quality of services. Smart devices and intelligent machines perform many jobs and operations in manufacturing. The RPA is used as specialized software that simulates human interaction with the data system to carry out a business process. [5]. In Explained Analysis of Robotic method Automation Tools, an in depth study of the leading RPA platforms specifically, UiPath Studio, Automation anyplace (AA), and Blue Prism (BP) is shown. When swiftness is expected in all the sectors, the speed of execution of different processes becomes an essential factor. They compared these tools considering different factors such as Front office automation, back-office automation, security, its code-free and user-friendly nature [6]. RPA has likewise been found to be critical in automating processes within an ERP system. ERP-based processes are structured by first identifying significant business processes, aligning different activities in an order of events, and aligning all processes based on definite business logic. Research showed that using RPA technology, information mining processes using BOTs can replace human processes and thereby enhance ERP processing [7]. Mistreatment RPA and ChatBot, it will be incontestable that the coed data Management at intervals Associate in Nursing ERP system will be expeditiously managed with no errors. It will not only automate repeatable tasks but will allow efficient management of numerous functions based on set business rules [8].

Management Information Systems provides the following advantages

1. It simplifies scheduling: The MIS improves the eminence of plants by providing significant data for sound pronouncement making. Due to an upsurge in the size and complexity of organizations, managers have lost personal contact with the scene of operations.

2. In minimizing information overload: Management information systems (MIS) change the larger amount of information into a summarized form and thereby avoid the confusion which may arise when managers are flooded with detailed facts.
3. Management information system (MIS) Inspires Decentralization: Decentralization of authority is possible when there is a system for monitoring operations at lower levels. MIS is with success used for measure performance and creating necessary changes within the structure plans and procedures.
4. It brings Co-ordination: Management information system (MIS) facilities integration of specialized activities by keeping each department aware of the problem and requirements of other departments. It connects all call centers within the organization.
5. It makes control easier: Management information system serves as a connection between managerial planning and control. It increases the ability of management to improve and evaluate performance. The used computers have increased the information processing and storage capabilities and reduced the cost.
6. Management information system assembles, processes, Retrieves, stores, evaluates and disseminates the information [9].
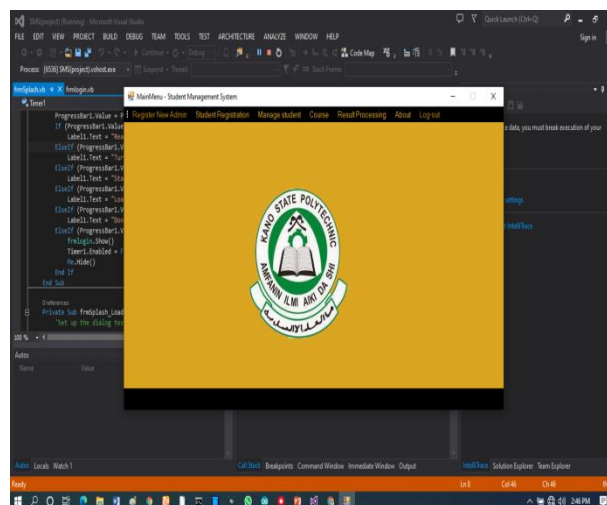
MANAGEMENT INFORMATION SYSTEMS PROVIDES THE FOLLOWING DISADVANTAGES
1. It is highly sensitive and needs constant monitoring.
2. The Budgeting of management information systems is enormously challenging.
3. Quality of outputs is ruled by the standard of inputs
4.   Lack of tractability to update itself.
5. Helpfulness decreases due to frequent changes in top management [9].

RESULT AND DISCUSSION

The computer software application was designed to have three main sections, namely; the login window, the main menu, and the sub-menu. The login window requests a valid username and password from the administrator to be able to gain access to the software. The administrator is any staff that is authorized by the management of the institution to be in charge of the exams and records unit; hence he should have a valid username and password created by him to be able to login to the software. Main Graphical User Interface (GUI).

The GUI is a way to interact with a computer using pictures and other visual elements displayed on the computer. The graphical user interface is important to make the user an easy to understand what he needs to do to use the program to make the GUI functions work properly, must insert Microsoft visual studio coding of its elements. The main interface of the system contains all the sub interfaces, the sub-interfaces are the admin form, register new students, and display student information. The login window enables the user to enter his/her password. If the password entered is valid, the package can then show the most menu. Nevertheless, if the password is not valid the user will be denied access to the program.
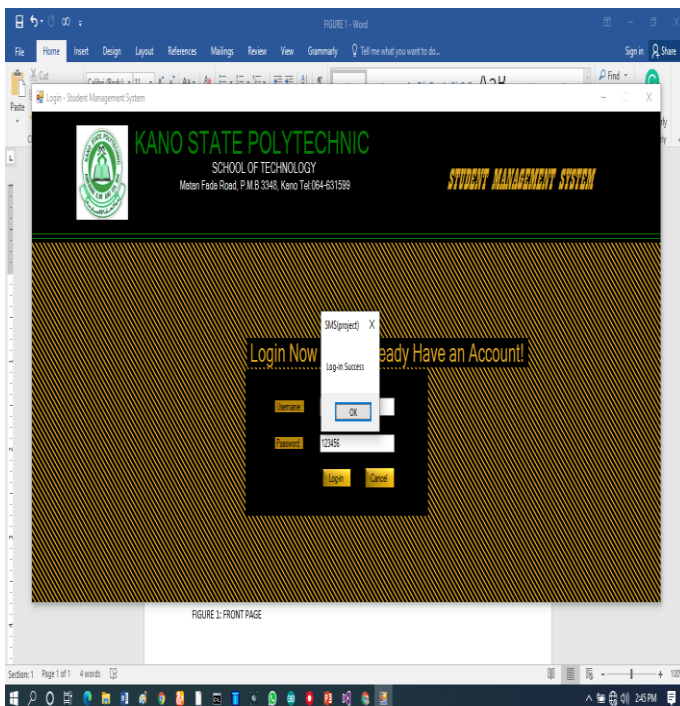

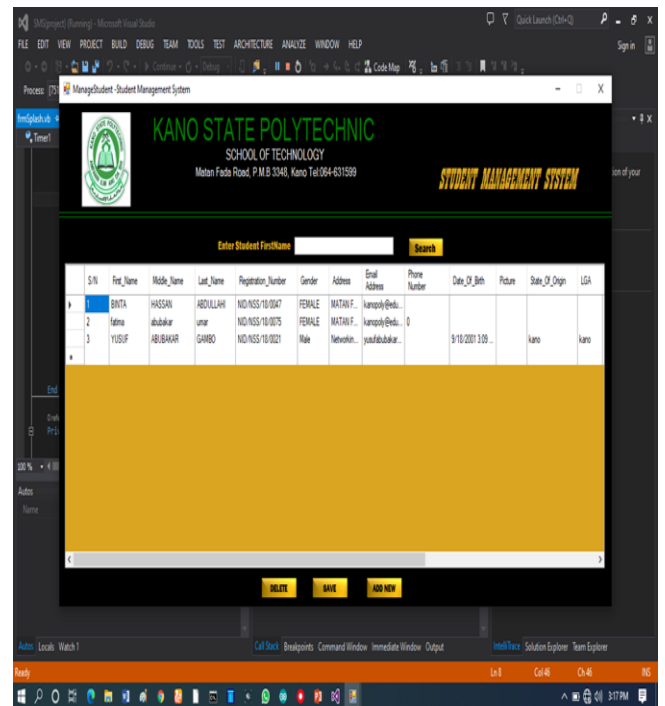**Fig_2:** Student management information system (Main Interface)
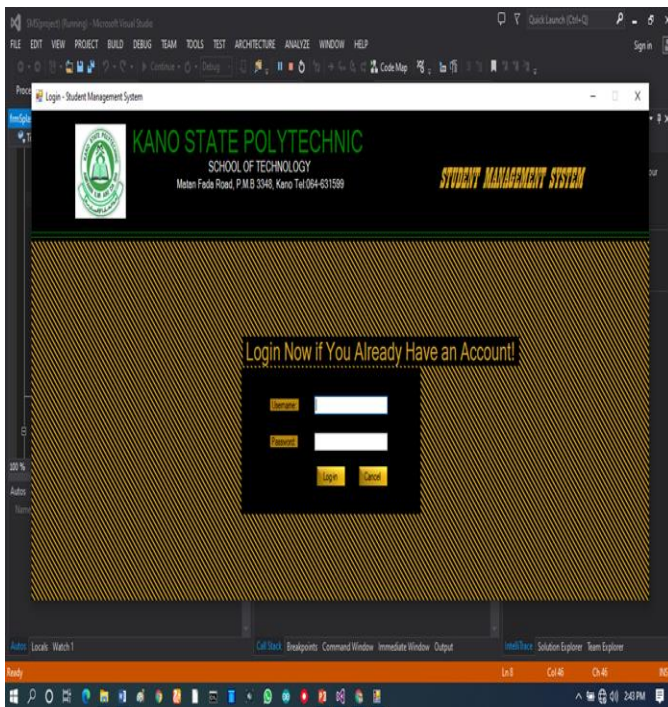
Fig_3: Login interface
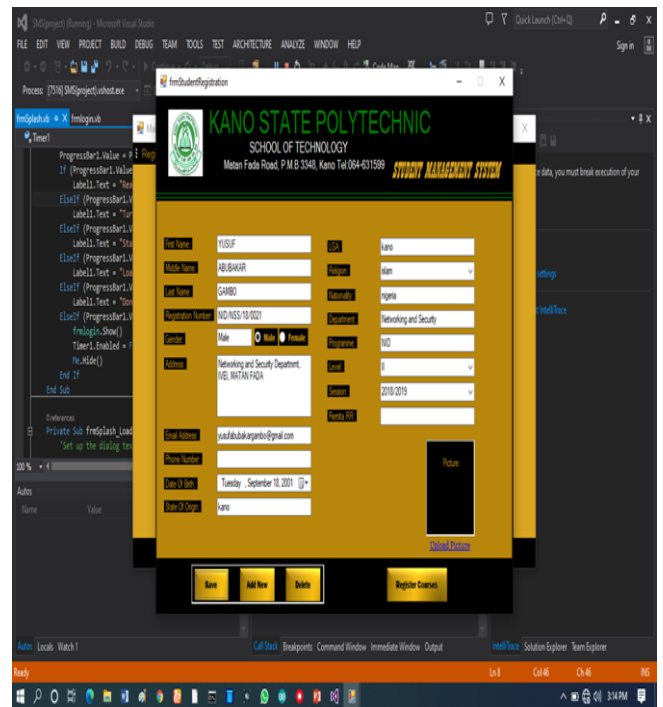
Fig_5: How record is uploaded in the system

Fig_4: Login successful

Fig_6: The saved records uploaded

CONCLUSIONS

With the development of society and technology, it is an expected development to apply computer management systems to school student management. This cannot merely manage student data better, but likewise, advance the reasonable management of student information. This can also promote the effective development of school education.

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