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## CAREER GUIDANCE AND COUNSELING PORTAL FOR SENIOR SECONDARY SCHOOL STUDENTS

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**Abstract:** This paper developed a web based Career Guidance and Counselling (CGC) portal to mitigate the problems of traditional counselor-client interaction process, which is a paper-based procedure that has a lot of flaws. These flaws include: poor record management, delay in accessing student's record and unavailability of central database to manage records electronically. Interviews and observations were used to collect data from both students and the school counselors. The portal enables students to take career guidance independently at their own convenience. It can also enable the students test themselves on some selected questions in the form of a quiz. The system is designed following a sound engineering principle i.e., from requirements gathering, software requirement specification, design and implementation, testing to deployment. Data flow diagrams and use case scenarios are used to demonstrate the functionality of the web portal. Using Hypertext Preprocessor Pages (PHP) programming language, a proof of concept was developed to illustrate the features and functionality of the portal. The outcome is a robust web Portal suitable for Guidance and Counselling that is user friendly.

**Keywords:** (ABS) Career, Paper-based System, PHP, Counsellor, Interface Ledger, Career Guidance, Career Counselling

### 1.1 INTRODUCTION

School guidance and counseling programs were introduced to assist students overcome the challenges they experience at home and school. As stated by Nziramasanga (1999) stated that because of many pressures imposed on the family; parents tend to have little time with their children to give them the necessary guidance. The parents expect the school to provide solutions to the indiscipline in secondary schools caused by their children. According to Landy (1966) in a publication titled "Guidance in American Education", Guidance and Counseling is a concept that institutions, especially schools, should promote by helping them adjust to social realities. The disruption of community and family life by industrial civilization convinced many that guidance experts should be trained to handle problems of individual adjustment. Though the need for attention to the whole individual had been recognized by educators since the time of Socrates, it was only during the 20th century that researchers actually began to study and accumulate information about guidance. This development, occurring largely in the United States, was the result of two influences. They insisted that the object of education should be to stimulate the fullest possible growth of the individual and that the unique qualities of personality require individual handling for adequate development.

Furthermore, in the early 20th century, social and economic conditions stimulated a great increase in school enrollment. These two forces encouraged a re-examination of the curricula and methods of secondary schools, with special reference to the needs of students who did not plan to enter college. The academic curriculum was revised to embrace these alternative cultural and vocational requirements.

Peer tutoring is also a protective guidance approach (Chou, 2011). On using a peer tutoring structure to explore ways to improve student learning effectiveness, the results of Zhou (2011) qualitative research show: Peer tutoring is helpful for professional learning, and the tutees' academic performance in accounting for the first and second semesters are significantly different; they made observable progress. Liu Yu-Hua (2013) also mentioned that peer-tutoring teaching strategies can enhance students' learning ability and create a good learning environment. Zhou (2011) research definitely affirmed the effectiveness of the peer tutoring system.

This paper, however focuses on the design and development of a Web based Career Guidance and Counselling portal to address the challenges faced by fresh secondary school leavers on career development through quiz. This research allows students to make subjects combinations selection where the subject can be assess based on the level of responses obtained at the end of test conducted by the students.

When people are progressing satisfactorily along their developmental path from childhood to adulthood to old age, they feel good and usually do not need counselling assistance. Counselling support becomes necessary when problems arise in their lives, these interfere with and block, the natural development process, and are not able to deal with them with their own resources including those available from peers, parents and other significant others, generally they require counsellor support. Conversely, counselling services are offered for preventive and normative developmental needs. Career guidance is an expert service with activities intended to assist individuals, of any age to make educational, training and occupational choices and to manage their careers

in which career guidance programmes are part of school-wide career guidance and counselling programmes that helps students make clear, careful, and individual choices for programmes of study, courses and careers based on their interests, passion and abilities (Neeley, 2004; Van and Loan, 2016; Oigo and Kaluyu, 2016). The choices are best enhanced through career awareness, exploration, planning and decision making activities (Balas-Timar et al., 2015).

Career guidance programmes ensure that career information is accessible by organizing it, systematizing it and making it available when and where people need it, as such, learning institutions have a responsibility to provide career information in whatever format so that students can use it to choose and decide on their programmes of study (Balas-Timar et al., 2015).

## 1.2 STATEMENT OF PROBLEM

The numbers of students needing guidance and counseling in schools are very alarming and only few numbers of staffs in guidance and counseling cannot handle the task efficiently as it is very easy to forget information about students.

Another major problem of the guidance and counseling is the mode in which information extracted from students is stored. These modes of information storage are not reliable as they make use of paper and pens to keep such records. These papers are subject to accident such as water drops and fire outbreak which can lead to complete loss of information. Also, there is also a very big delay in taking decision on students concerning their future career. This is so because referencing to student's information for decision-making takes a very long time. Against this backdrop, Web-based career guidance and counselling offers a sustainable alternative for greater efficiency

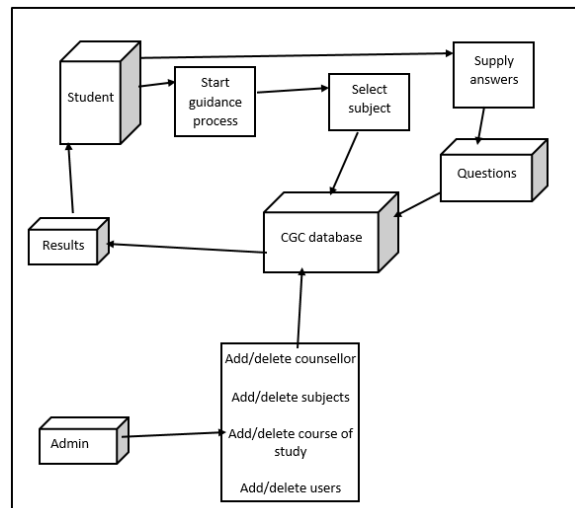
## 2.0 METHODOLOGY

This paper used top-down approach in designing the web application system. Top-down approach emphasizes having a complete understanding and plan of the system. With this approach, coding begins when a sufficient level of detail has been reached in the design of at least some part of the web application. The Top-down approach is done by putting the appropriate parts together to create each module. This, however, delays testing of each module of the system. The technique for writing a program using top-down method is to write a main procedure that names all the major functions it will need. Later, the programming team looks at the requirements of each of those functions and the process is repeated. These compartmentalized sub-routines eventually will perform actions so simple that they can be easily and concisely coded. When all the various sub-routines have been coded, the program is done.

### 2.1 Proposed Framework for the New System

In this subsection, the framework of the proposed system is presented. The framework as shown in Figure 3.1 indicates what admin, student and counsellor can do. Figure 3.1 shows what happens when a student initiates the 'Start Guidance' process. The Student will be notified that he is about to take a guidance lesson on the selected course.

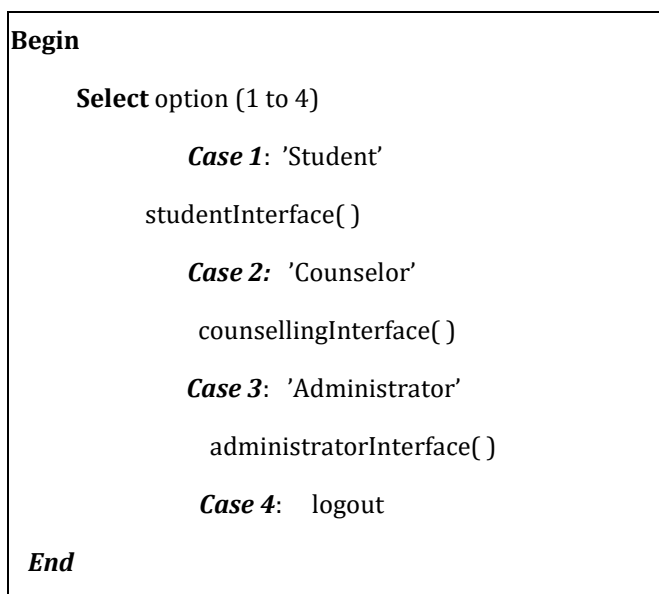
As shown in Figure 3.1, the processes that will take place in the subjects selected. It contains a menu where a student can choose a course, from a list of registered courses, to take guidance on. A report, based on the answers supplied, will be displayed at the end. Also Figure 3.1 shows how a typical authorized person (Admin) can carry out maintenance activities on the system and the result is stored in the database. These maintenance activities include add and deleting of counsellor, subjects, course of study and users of the system.



**Figure 3. 1: New System Framework**

### 2.1 Algorithm and Flowchart of the System Algorithm for Main Menu

The Algorithm for the main menu is used to display options for the three categories of the users. A user will make a choice from the three major options, if the user is a student, will select the first choice, second choice for the counsellor and third choice for the administrator. Student will be allowed to make choice based on what they want to do.



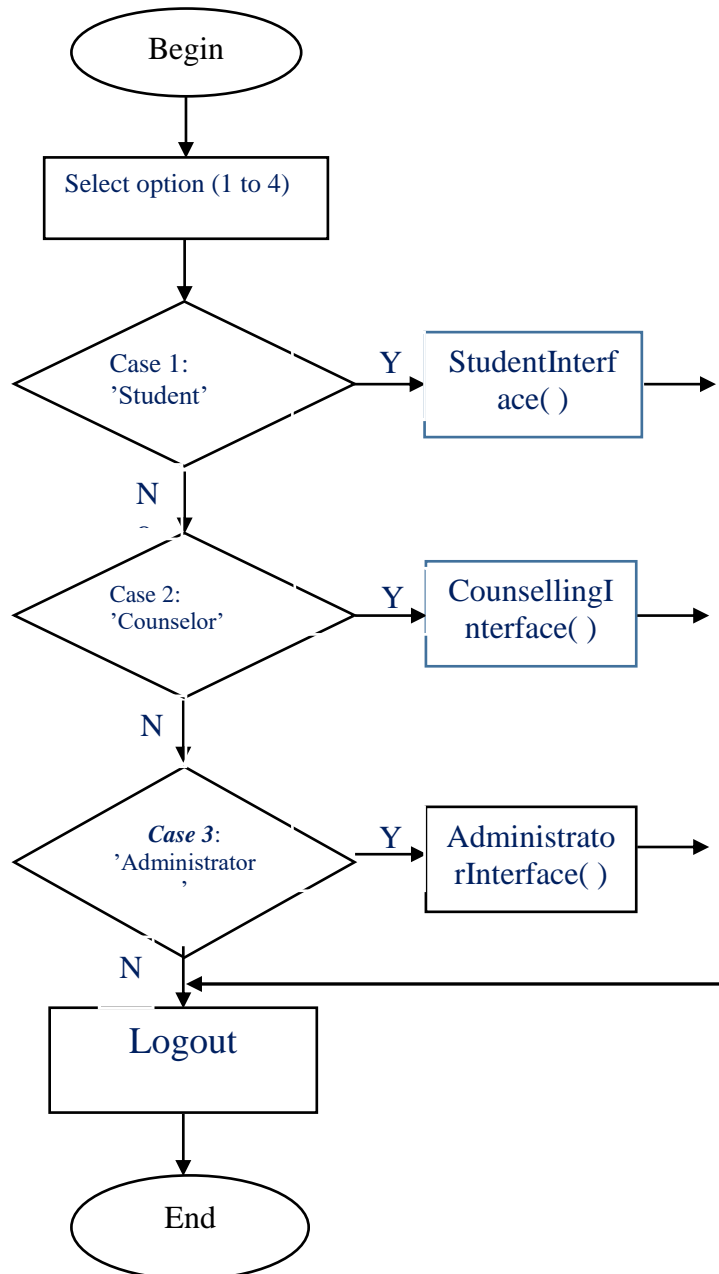


Figure 3. 2: Main menu

Figure 3.2 depicts the main menu flowchart showing options for the three categories of the users. User will make choice from the three major options, if the user is a student, will select the first choice, second choice for the administrator and third choice for the counsellor

### 3.0 RESULTS AND DISCUSSIONS

The system was implemented in three interfaces: the student interface, which handles student's registration processes; the counsellor interface, which enables interactive chat session with students that require further counselling; while the third interface performs its activities on the system. This interface is responsible for adding subjects, courses, UTME Subject combinations and so on.

#### 3.1.1 Student Interface

This interface helps students to assess their selves. The page has a navigation pane. This navigation pane is a drop down menu located at the top right hand corner of the page as shown in figure 4.1. The menus include: Update Profile, Upload Photo, Change Password, Subject Combination, Take Quiz, Support Ticket and Logout. These menus allow the user to easily move around the page.

It uses the side-link “Take Quiz” to display a list of registered courses from which a student can select the course to take career guidance on.



Figure 4. 1: Student Profile Page

At the end of the quiz session, the system calculates the performance of the student from all the subject combinations. The result of each subject is presented with the percentage obtained. The system then calculates the overall average performance of the student from each subject. Based on these percentages obtained the portal recommends list(s) of courses as depicted in Figure 4.2.

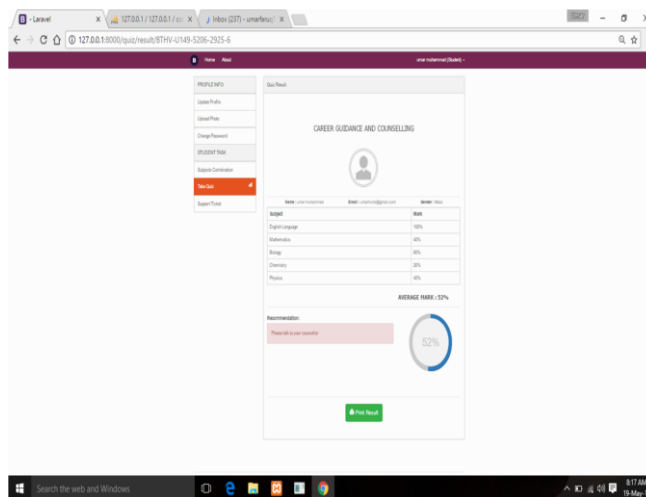


Figure 4. 2: Quiz Result Sample of a Student

### 3.1.2 Administrator Interface

The administrator controls the overall functions of the Online Guidance and Counselling. The administrator is responsible for adding, modifying and deleting: users of the system, course of study, subject combinations, and quiz questions and answers. The administrator interface is shown in figure 4.3.

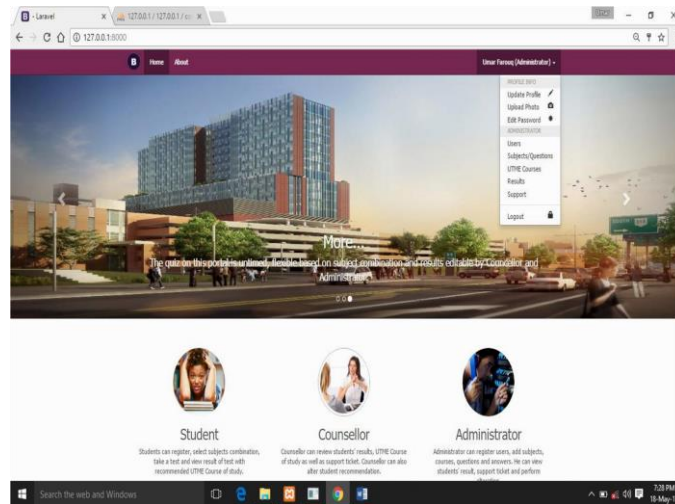


Figure 4. 3: Admin Profile Page

Figure 4.3 shows the admin profile on successful login. The page has a navigation pane. This navigation pane is a drop down menu located at the top right hand corner of the page as depicted in the figure below. The menus include: Update Profile, Upload Photo, Change Password, Users Subject Combination, UTME Course, Results, and Support. These menus allow the admin to easily move around the page.

### 3.1.3 Counsellor Interface

This page allows school counsellors to respond to student issues. These issues are treated based on tickets created by students. This page also allows the counsellor to view the total number of tickets created with dates and time. The interface counsellor is shown in figure 4.6.

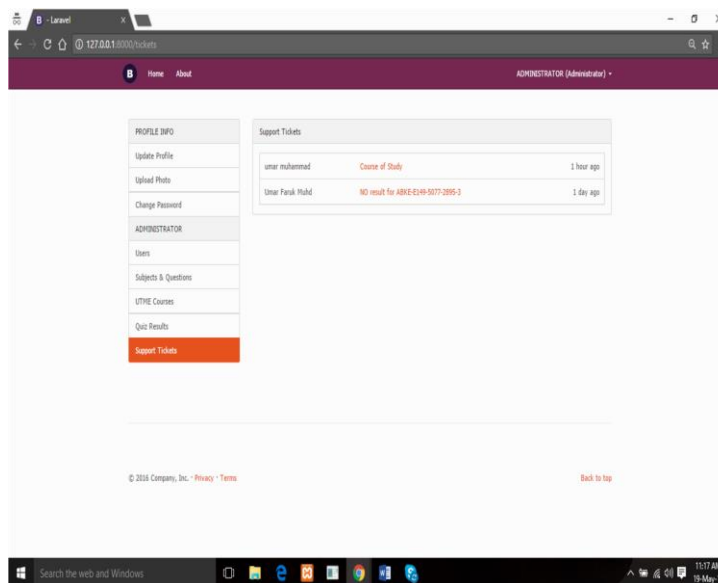


Figure 4. 6: Support Ticket Page

## 4.0 CONCLUSIONS

This newly developed portal had captured almost all the problems associated with the aspect of career selection problems infesting the young minds of most secondary school leavers. It presents a portal that can be easily accessed by students at their own convenience. Since this portal can be accessed via devices which have internet connections, this solution becomes reliable, realistic and efficient. This computerized system will go a long way in helping students to understand themselves, make careful choice of subjects and courses, and discover their areas of weaknesses and strengths in an academic program.

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