

A Web Based Career Guidance Information System

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Abstract- *Web Based Career Guidance is very important to our Educational System. We have an existing Manual Career Guidance System with human counselors in charge, but this system is plagued with the following problems: few numbers of human counselors, unavailability of a counselor in a good number of schools, few number of counselors attending to students during school hours and the office of a counselor in schools are so unpopular that students hardly meet them for career counseling. We have been able to design an Online Career Guidance Information System targeting students in pre tertiary institutions in Nigeria to solve the above- mentioned problems. The Online Web Based Career Guidance system was designed and implemented using data collected from interviewing human counselors and surveys. The following scripting languages were employed: PHP, MySQL, HTML, Java Script and CSS.*

effectiveness. In career guidance, counseling is used as one of the interventional strategies.

The British Association of Counselors (BAC) now the BACP, were the very first professional association that adopted a definition of professional counseling (Dawn, 2012), in 1986 they published this definition:

“Counseling is the skilled and principled use of relationship to facilitate self- knowledge, emotional acceptance and growth and the optimal development of personal resources. The overall aim is to provide an opportunity to work towards living more satisfyingly and resourcefully. Counseling relationships will vary according to need but may be concerned with developmental issues, addressing and resolving specific problems, making decisions, coping with crisis, developing personal insights and knowledge, working through feelings of inner conflict or improving relationships with others.” (BASP, 1986)

I. INTRODUCTION

Guidance is a term sometimes used broadly to refer to advising or helping an individual with any kind of educational, vocational or personal problem. It can also be referred to as a service provided by the particular school to help young persons in making clever decision and changes so as to develop their potentials as an individual and a contributing member of the society. Guidance activities are usually associated with educational professionals known as counselors as well as the involvement of parents, relatives, teachers, administrators, other educational specialists, spiritual leaders etc. The meaning is so broad that it does not deal with education alone but also aspects of life that affects an individual, therefore we can say that guidance is also a process of helping a person to realize and grow his/her vocational, educational, and psychological potentials and also achieving an the best level of individual happiness and societal usefulness.

The counselor’s role is to facilitate the clients work in ways that respect the client’s values, personal resources and capacity for self-determination.

„Why do we need a web based career system“ some may ask. It has become absolutely necessary because:

1. The internet has become a place where students(youths) visit often to interact(social network), shop(online shopping), be entertained(online video, music and radio services) etc. its only proper that the internet is also used for something as productive and as important as interacting with an information system that helps
2. If properly designed and implemented, an online career counselor can be more effective and accessible than a real life counselor.
3. iii. It can be used to complement real life counselors; it can serve as a tool used by them.

II. RELATED WORKS

LinkedIn:

LinkedIn is a primary professional networking platform, LinkedIn offers career guidance through its job

search functionalities, professional networking opportunities, skill endorsements, and career-focused content..

Glassdoor:

Glass door known for company reviews and salary information, Glassdoor also provides job listings and career advice. It offers insights into company cultures, interview experiences, and career growth opportunities.

CareerBuilder:

Careerbuilderisa platform which hosts a wide range of job listings and provides resources for job seekers, including resume building tools, career tests, and personalized job recommendations.

Monster:

Monster is another popular job search website that offers career advice, resume assistance, job matching, and resources for career development.

Indeed:

Indeed is known for its extensive job listings, Indeed also provides career-related articles, company reviews, salary information, and forums for job seekers to share experiences and advice.

MyNextMove:

MyNextMove is a website provided by the U.S. Department of Labor. It offers an interactive tool called the "O*NET Interest Profiler" to help individuals find careers that match their interests

CareerExplorer:

CareerExplorer is an online career test that assesses a person's interests, personality, and values to suggest suitable career paths and provides detailed information about various professions.

PathSource:

PathSourceis a mobile app that offers career assessment tools, resume building features, job search capabilities, and career advice videos.

Good&Co:

Good&Co is an app uses quizzes and assessments to help users discover their work personality and find job and company matches based on culture fit.

ZipRecruiter:

ZipRecruiter provides job listings but apart from this it also offers career advice articles and resources to help job seekers navigate the job market effectively.

These platforms use various methods like assessments, job listings, networking, and career-related content to assist individuals in finding suitable career paths and opportunities. They often integrate technology, data analysis, and user-centric interfaces to offer guidance.

III. METHODOLOGY

3.1 PROPOSED SYSTEM

Our proposed system takes inputs from GUI, which will process it and gives two job fields. We will be using various ML models for classification and prediction. We want the student not to get confused between so many fields. This model makes it easy for the student by recommending two fields that are most suitable for them based on their input.

1. Requirement Analysis:

Gather insights from students, educators, and industry professionals about career guidance necessities and expectations. Identify key functionalities, including academic, psychometric, user interaction requirements.

2. Data Collection and Profiling:

Gather and profile various data types, such as academic records, skill assessments, and psychometric evaluations.

3. Design Phase:

System Architecture Design:

Define the overall structure, modules, and components required for the Intelligent Career Guidance System (ICGS).

User Interface Design:

Design a user-friendly interface for student registration, test-taking, skill assessment, and result display.

DatabaseDesign:

Develop a database schema to store student profiles, assessment data, and recommended career paths.

AlgorithmSelectionandIntegration:

Choose suitable machine learning algorithms like KNN and design their integration for skill prediction and recommendation.

4. Prototyping

GUIPrototyping

Create prototypes for the graphical user interface (GUI) usingHTML, CSS, andJavaScripttosimulate user interactions.

Algorithm Implementation Prototype:

DevelopbasicimplementationoftheKNNalgorithm For skill prediction and recommendation.

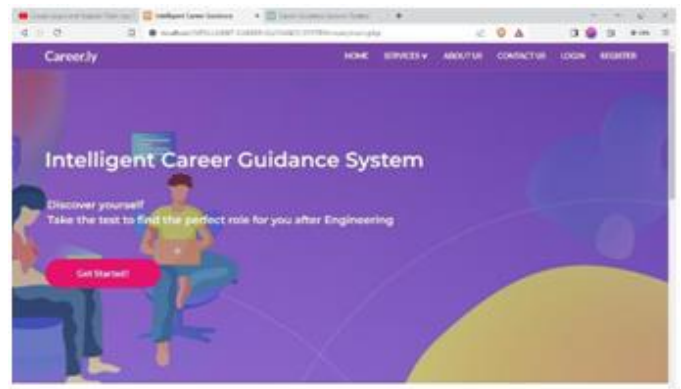
Testing for Prototype:

Validate the GUI for Prototype Usability and intuitiveness. Evaluate the basic algorithm prototype for functionality and initial accuracy.

Prototype Show case:

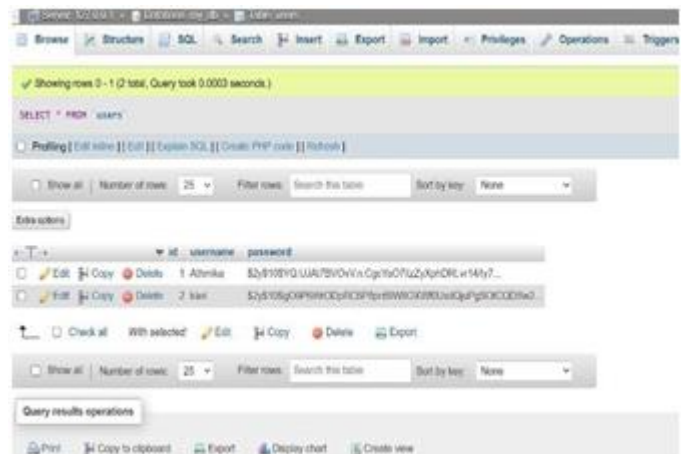
The Prototype Showcase is a pivotal phase in the development of our Career Guidance website journal. During this stage, we present a tangible preview of the interactive models and design concepts that will shape the user experience. Users get an exclusive opportunity to explore the blueprint of the website, providing a firsthand look at its functionality, navigation, and key features.

This showcase serves as a crucial checkpoint, allowing ustogather valuablefeedbackfrompotentialusers. It's a dynamic display where users can interact with different elements, providing insights that aid in refining and enhancing the user interface. The Prototype Showcase acts as a bridge between conceptualization and actualization, offering a glimpse into the exciting and user-centric journey that "Career Compass" is poised to provide.



At the course of testing this system 20 students actually registered on the web site, providing the following information: First Name, Last Name, Email address, Phone number, State of origin, Date of Birth and Educational status. Below is a table that captures where the information is stored in the databas

The above table shows the phpadmin database capture of the data collected and managed by the system. This data are stored and will be made available at the profile of the student, this will be shown later on in this report



The Proposed Designed System

The development of career guidance and counseling system lies on one of the roots of expertsystem whichis also one of the major roots in expert systems called „cognitive science“ i.e. the area of human information processing.

The study of cognition is very important due to the fact that the human expert has to be available for the knowledge engineer to encode his knowledge intothe programs so as to make the computer emulate the human. In the case of this particular research the knowledge was

acquired from the human experts (career counselors) by the means of interview with them.

Input Design

The input of this system from the userpoint of view is basically his actions on the pages of the site which make up the system, these pages will be implemented by encoding them with HTML (Hyper Text Markup Language) and the page layout and design done with CSS (cascade style sheet). The user will interact with the system by clicking on menus and hyperlinks as well as selecting the answers on the quiz page, the quiz answers will be implemented using radio buttons whereby only one option out of the four (4) can be picked.

Storage Design

The proposed system will have a fully dynamic and functional database. The database will be created using WAMP and queried using SQL. The following data about the student will be collected and stored in the database:

1. FirstName(Input type= Text)
2. Password(Input type= Password)

The quiz questions also will be stored in the database and subsequently retrieved using PHP and SQL commands, the result of the quiz will also be stored in the database and can be retrieved any time the student revisits the site. A student can take the quiz several times and the result of each quiz will be stored for future use or reference.

IV. RESULTS AND DISCUSSION

The output of the system is typically the result of the quiz and the accompanying guidance tips that comes with the quiz result.

System Testing and Integration

The method of implementation for this research is Parallel implementation. This means the system is to be used in conjunction with the already existing manual counseling program. The application seeks to complement the existing manual system and can even be used as a tool for counselors. It is intended to be used as a standalone system for students and schools who don't have access to a human career guide or counselor.

Since the system is a web based system it can be accessed by the means of any device that has a valid web

browser and a functional internet connection from anywhere in the globe.

The system was tested by 20 pre tertiary institution students, they registered, took the career quiz and they did agree with the result of the system.

The system can be integrated into secondary school website or students are encouraged to visit the web page by their teachers, parents or career counselor in school.

The system does not intend to replace totally the existing manual system, but serve those who do not have access to the manual system and to serve as a complementary tool for the manual system.

Summary

This research work „design and implementation of a web based career guidance information system“ used study career guidance as a tool to helping students choose a proper career path, design a way in which the manual system of guidance can be computerized and to deploy a website that will serve as a virtual career guide and an advisor to students on what career path to take and the relevant courses to offer in order to succeed in the career path.

Findings and Discussion

During the course of the research, the manual career guidance system was critically studied and some shortcomings were seen, places of improvement were discovered and a space that an online system can fit into was exposed. We saw that an online career guidance system will prove really helpful in our present day, nearly everything is done online these days, and the age group of those that this research scope covers spends a good number of their time on the web doing less productive things, it is imperative and necessary that they be encouraged to engage in productive activities such as determining the best career possible for them.

Suggestions for Further Work

It is suggested that the scope of this research be widened if the time and resources permit.

Career guidance is an continuous and never ending exercise. It can prove very useful not only for pre university students but also for first degree graduates, masters' students and even prospective doctorate students as well.

Recommendation

It is highly recommended that this research be improved upon and implemented as this will be very useful to the society at large. A society filled with citizens who are fulfilled with what they do for a living can go a long way in improving general health and reduce violence rate.

A live and functional chat system can also be included to help students who are not clear with the recommendation given by the system.

V. CONCLUSION

In this research work we have been able to explore the problems encountered by the existing manual system, to design a web-based career guidance system that will improve upon the existing manual/ human career guide and to implement a web-based application that will help young ones get a good understanding of themselves and advise them on the career path that best suits them. And also serve as a complementary tool for career guide and counselors. In this research we have studied career guidance, designed a functional web application and implemented it with some successful test results.

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