

Mobile Application Software as Guidance and Counselling Tool for Students of Federal College of Education, Gidan Madi

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ABSTRACT

This project aims to develop a Mobile Application Software as a Guidance and Counselling Tool for Students of Federal College of Education Gidanmadi, Sokoto State, Nigeria. The goal is to provide students with a convenient, accessible, and effective way to access mental health services and support. The project involves a needs assessment, literature review, conceptual framework development, user interface design, mobile application development, usability testing, data analysis, design changes and evaluation. The methodology will be tailored to the specific needs and goals of the research, and may involve different stages and methods depending on the context and resources available. The expected results of developing a mobile application software as a guidance and counselling tool for students include increased accessibility, improved student well-being, enhanced counselor efficiency, greater student engagement, increased student retention, and improved student satisfaction. At the end of the research the students can be able to use the mobile application software for easy access to counselling and guidance services that can help them cope with various challenges they face in their academic and personal life.

1. Introduction

Information and Communication Technology has become a veritable tool in today's world and most aspects of human activity related to business, health, education and financial sectors are dependent on this technology. Guidance and counselling activities are becoming more popular in schools and a guidance and counselling application (G&C Mobile App) is necessary to bring disturbed students in an institution and the counsellors to a platform online where they can easily communicate on problems facing the students at any particular time even when they are far apart. The Federal College of Education Gidanmadi, Nigeria was used as a case study, the existing guidance and counselling system was studied and the challenges associated with it were highlighted. This guidance and counselling system utilized genetic algorithm techniques in its design and will improve the quality of counselling services rendered since the counsellor can be contacted anytime and the student's progress can be monitored. Counselling is a vital service that assist students in selecting the most appropriate options for them, discover and develop psychological and educational abilities needed for their wellbeing and to fulfil their ambitions; while guidance results in self-development for the purpose of helping a person plan wisely for the present and future. Nowadays, applications are developed to run on mobile devices as a current trend because as much as possible technology should bring solutions to the doorsteps of users. A user does not need to be in a particular location to perform routine operations with the power of computing devices. Improvements in internet technology has helped to boost mobile computing. Examples of mobile devices are smartphones and tablet computers.

They are designed for portability hence mobile devices are compact and lightweight. Mobile devices are handheld which makes it suitable for mobile applications and they are always available to users. It is worthy of note that till date, the integration of ICT in guidance and counselling has not been fully explored. Guidance and Counselling as a discipline is an integral part of every standard institution. Students need the services and supports of counsellors from time to time on issues related to their academic pursuits for good and consistent academic performance and how to handle any issue or that influences this quest adversely. Institutions set up student counselling environments to enable students balance their emotion, social life with academic performance.

A guidance and counselling activity no doubt is important for the institution and the student to achieve their purpose.

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A typical counselling session requires the counsellor and the student to meet physically at a particular location to discuss burning issues. This makes it mandatory that both persons involved must schedule a particular time to meet, which may take some time to work out. It is also required that, the meeting is at a set location. All these are hindrances of manual or routine counselling sessions in institutions. Also, a face-to-face interaction is involved in routine counselling which makes it difficult for introvert students to freely express themselves or divulge sensitive information that will help the counsellor give appropriate advice or therapy/solution to their problems. Institutions have professionals in that field as staff who are responsible for student counselling, this makes it hard for students who do not like the counsellor to keep their problems to themselves or tell it to the wrong party which can lead to more serious problems, considering the fact that students generally have different needs, interests, traits and behaviours. The counsellor as a human being can also be tired of some students when the case becomes prolonged and difficult to resolve. These highlighted weaknesses of routine guidance and counselling in institutions necessitates an intervention. Leveraging on the benefits of Information and Communication Technologies (ICTs), this study was conducted to improve guidance counselling process and its outcome. Implementation of (G&C Mobile Application) will enable students to communicate with counsellors using phone calls, video calls, e-mails, text-messages, face book, WhatsApp and other social media platforms.

Most students choose their careers based on various factors such as parental or peer influence, financial prestige associated with a career among many others while leaving out very important factors such as interest, intellectual ability, personality of the individual (Olufunmilayo and Salami, 2013). From the foregoing, it is clear that secondary school students need appropriate, usable and adequate information about their personality types and the world of work before they can choose their careers. Wampum and Fisher (2015) recommend the establishment of a well-developed guidance and counselling services to ensure that students choose degree programmes best fitted to their needs. Ultimately the benefits that can be reaped from this are: reduction in the increased number of students who end up studying degree programmes they neither like nor have passion, better decision-making skills, better awareness of learning opportunities, increased job exploration and information search activities and in the long run it is recognized that it can help improve labour market efficiency (OECD, 2007).

2. Literature Review

Research Conducted by Ukaoha *et al.* (2020) opined that Information and Communication Technology has become a veritable tool in today's world and most aspects of human activity related to business, health, education and financial sectors are dependent on this technology. Guidance and counselling activities are becoming more popular in schools and a guidance and counselling application (G&C Mobile App) is necessary to bring disturbed students in an institution and the counsellors to a platform online where they can easily communicate on problems facing the students at any particular time even when they are far apart. The Centre for Distance Learning of a Federal University in Nigeria was used as a case study. Face-to-Face interview was utilized to gather data, the existing guidance and counselling system was studied and the challenges associated with it were highlighted. This guidance and counselling system utilized genetic algorithm techniques in its design and will improve the quality of counselling services rendered since the counsellor can be contacted anytime and the student's progress can be monitored. Counselling is an important aspect of school administration in current technological generation. The Federal Ministry of Education, Nigeria in (1961) Introduced Guidance and Counselling in institutions to enable students develop adaptive skills necessary to cope with changing situations, diverse members of school communities and make right choices. It was also aimed to help management of institutions satisfy identified needs and be better equipped for proper administration and development of students with great academic achievements who will easily integrate into mainstream activities of society after graduation. "The Role of Mobile Technologies in Developing and Implementing Online Counselling and Therapy Services" by Konstantinos C. Fragkos *et al.* (2019). This study explores the role of mobile technologies in delivering counselling and therapy services, including the development and design of mobile apps. The authors discuss the benefits of mobile apps for counselling, such as increased accessibility and flexibility, and provide recommendations for designing effective and user-friendly applications. "Designing Mobile Apps for Mental Health:

A Review of Current Recommendations and Guidelines" by Torous *et al.* (2018) this reviewed article provides an overview of the current recommendations and guidelines for designing mobile apps for mental health. The authors discuss the importance of considering the needs and preferences of users, incorporating evidence-based practices, and addressing ethical and privacy concerns. A Review of the Literature" by Megan A. Moreno, *et al.* (2014) this review article examines the use of mobile applications in counselling, including the benefits and challenges of developing and designing such applications. The authors suggest that mobile application have the potential to enhance counselling services, particularly for young people, by providing convenient and accessible support. "Designing Mobile Applications for Mental Health Interventions" by Marsch *et al.* (2011). This article focuses on the design

considerations for mobile applications used in mental health interventions. The authors discuss various design features that can enhance user engagement, such as personalization, feedback, and social support. They also highlight the importance of incorporating evidence-based practices in the design of mental health apps. According to Denga (2001) Guidance and counselling in school and non- school settings guidance entailed a series of formalized services and Egbochukwu (2008) explained that counselling was a two-way process that required among other things collaboration, exchange of ideas and a supportive relationship. Studies investigating trends in counselling around CEDEFOP (2008) and CEDEFOP (2011), however attention of researchers have been on a meaningful integration of ICT in counselling activities, for the benefit of potential clients Watts, and Dent (2008) call for ICT techniques and tools to assist psychologists, teachers, amateur and professional in guidance and counselling. Conclusively, these studies highlight the potential benefits of developing and designing mobile application software as a guidance and counselling tool for students. They also provide insights into the design considerations and challenges involved in creating effective and user-friendly application.

3. Methodology

The research tool used was a face-face interview with the guidance counsellors of the Federal College of Education Gidanmadi in order to understand the existing system for guidance and counselling. This study adopted this tool because it has been shown to be an integral part of good quality career guidance and recommended to help institutions achieve quality in career standards.

The methodology followed in developing this guidance and counselling application to the students of FCE Gidan madi for smart phones, tablets and laptops/desktops has not been an easy one but, most commonly for the Android only. The software can be preinstalled on any device, downloaded from a mobile apps store or accessed through a mobile web browser. The programming and markup languages used for this kind of software development include Java, Swift, C# and HTML5.

Limited mobile platform resources mean we need to adjust our goals for this app design. As such, throughout this mobile application development process, developers worked to ensure that their mobile app is less resource intensive than a typical desktop application.

Delivering a great user experience is very vital which is why we starts with understanding that our user interface for a mobile app like this one should be simpler than a desktop application interface. By creating a straightforward UX design that is focused on critical functions, you can provide a better user experience while consuming fewer resources. We however adopted the following concise steps in carrying out this work;

Getting the necessary requirements from a trained Guidance Counsellor and we approached one of the Counsellors.

Interview of Counsellor, and several other re-interview session stopper factor requirements.

Getting the right procedures for handling students into an algorithm/flowchart form

System design of the different steps to follow and the individual design and overall architecture

Selecting a suitable programming language for coding the mobile app.

Coding and implementation of our codes

Testing and re-testing of the codes

Final deployment and use.

Data Collection and Data Analysis

Develop the mobile application using a suitable programming language and platform. This should be done in collaboration with developers who have experiences with mobile application development. Design the user interface for the mobile application, taking into account the needs and preferences of the users. This should be done in collaboration with designers and developers, who can create wireframes and prototypes of the application. Conduct a needs assessment to identify the specific needs and preferences of students, counsellors, and educators related to guidance and counselling services. This can involve surveys, interviews, or focus groups with key stakeholders.

System architecture

All the component of the system is described as follows:

Login: The login module allows registered users access to the system

Sign Up: The signup module allows first time and so unregistered users access to use the App. In this module users provide useful information as requested by the system for example Students Matriculation Number, Surname, First Name, Department and Faculty, Course of Study, Level of student and other personal information.

Talk to Counsellor: This module allows the student (user) chat with the chosen counsellor

Use Case Diagram

The use case diagram captures the system and sub system behavior. It shows the interaction of actors with the system to depict the functionality of the system. An actor is a user (external or internal) that interacts with the system. Actors participate with one or more use case by exchanging messages. The actors in the system are the users of the system which includes the guidance and counseling staff, system administrator and students among others

Database: The database will contain records of users.

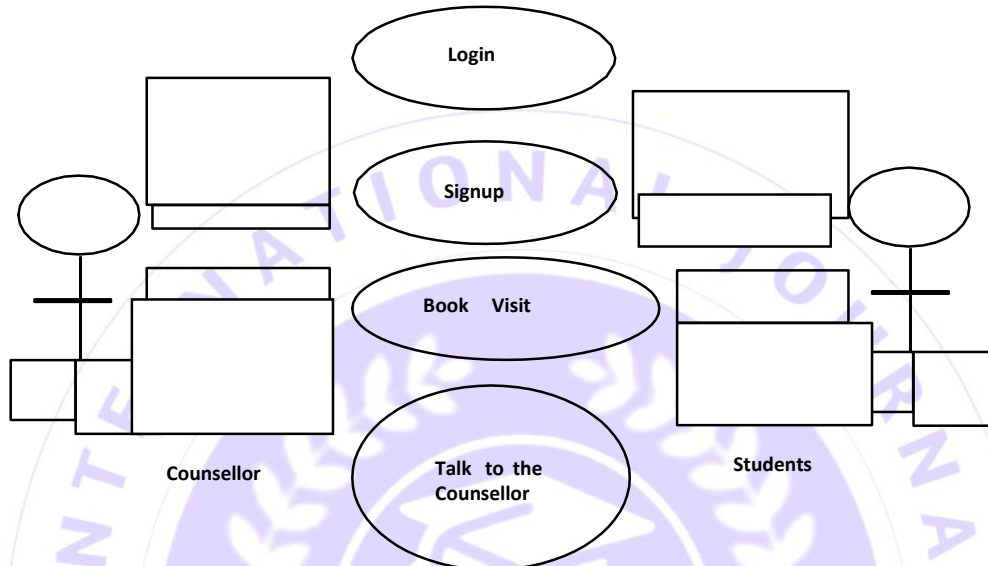


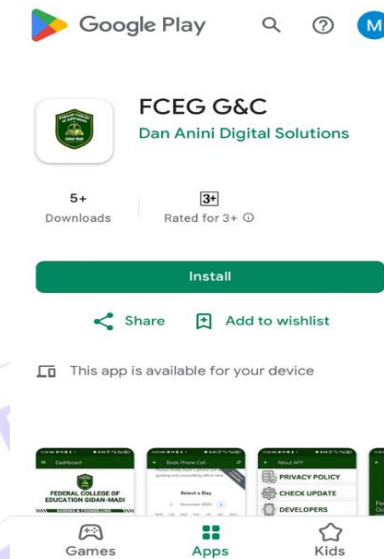
Figure 1. Use Case diagram for the proposed system

4. Result

Our mobile application interface has been designed for touch. Mobile users must be able to navigate the app easily and provide input without excessive typing. Fortunately, these requirements for efficient, simple touch-based applications map well to user expectations. Mobile users generally want to accomplish tasks simply, with just a few taps. They want applications that are above all fast, convenient and easy to use on their mobile devices.

Below are the graphical pictures of the simple steps on how to install and use the app without any hindrance;

Step 1: Go-to Google play store or any Application Store to download and install the application by typing “FCEG G&C” in the play store.



Step 2: To register by clicking on the “Sign up” button and requirement for registration is to use your email and create any suitable password of your choice.

Federal College of Education
Gidan-Madi
Learning for self reliance

Sign Up

EMAIL

PASSWORD

PASSWORD CONFIRMATION

REGISTRATION

Already registered? [Sign In](#)

Step 3: Once you registered, the application will prompt you to sign in.



Sign In

SIGN IN

Not registered yet? [Register](#)[Forgot Password?](#)

Step 4: Once you signed in, the application will take you to its main home page which contains; RESOURCE CENTER, BOOK PHONE CALL, LIVE CHAT, CONTACT US, and finally ABOUT THE APP. These contents are the user interface of the application where students can get all their guidance and counseling needs.



5. Discussion

- a) **RESOURCE CENTER:** This is the provided area in the mobile application to store the college files related to guidance and consoling using PDF format.
- b) **BOOK PHONE CALL:** This is the provided area where students can book appointment with counselor, below are the steps to follow for booking for call:-
 - i. Clicking on the Book Phone Call
 - ii. Click on Guidance and Counseling
 - iii. The calendar months will affair on the screen, the user is restricted to make appointment with counselor from Monday to Friday in 30:00 mins time depending on your conveniences.

- iv. Select a time: This consist about four (4) categorical time section with duration of 30 min. The time for booking is started from 12:00 – 12:30, from 1:00 – 1:30, from 2:00 – 2:30, and from 3:00 – 3:30 respectively.
- v. Enter Details: The user most provide the following detail for booking the phone call:-
 - 1. Name
 - 2. Email Address
 - 3. Phone Number
 - 4. Admission Number
 - 5. Brief what you want know or to talk about
- c) **LIFE CHAT:** This life chat will automatically link user to Guidance and Consoling WhatsApp group members, that consist about four (4) resource peoples in the college:-
 - 1. Guidance and Counselling Officer
 - 2. Dean Student Affair.
 - 3. Dean School of Education.
 - 4. Dean School of Science Education.
- d) **CONTACT US:** It consists of college information such as web side, college Email address and location of the college.
- e) **ABOUT APPLICATION:** This consist of Privacy Policy, Check Update and Software Developers.

Finally, the app will provide when used appropriately the following advantages to the user (students)
To tailors guidance and counselling resources to individual student requirements, enhancing the effectiveness of support provided.

To incorporate features within the application that promote mental health awareness, offer stress management tools, and provide resources for addressing mental health challenges.

To include tools and resources for career exploration, aptitude assessments, and information about various professions, empowering students to make informed career decisions.

To reduce stigma and mental illness among students.

6. Conclusion

Our proposed system makes it possible for students to see a counselor anytime and from any location without having to visit them in the office. The Mobile Application allows them select counselors of their choice for registered users if they prefer that option or randomly select from a pool of available counselors who are highly qualified and understand the importance of the confidentiality. The new system was implemented and series of tests were carried out to ensure its functionality. The application is still open to further research and modifications to increase its security and efficiency. The application is subject to periodic updates in order to improve the user experience.

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