



KENYA METHODIST UNIVERSITY
SCHOOL OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF PURE AND APPLIED SCIENCES
COURSE CODE: COMP 401

Academic Year 2021-2022

**RESEARCH TOPIC: ULTIMATE EXCELLENCE LIMITED MOBILE
APPLICATION**

PRESENTED BY: WAMUYU MAINA DANIEL

REGISTRATION NUMBER: MAC-1-8556-2/2018

SUPERVISOR: MR. TIMOTHY ANONDO

Submitted by **Daniel Maina Wamuyu** to **Kenya Methodist University**, in partial fulfillment of the requirements for the **undergraduate degree in Mathematics and computer science major in software engineering**.

SUBMISSION DATE: 21ST NOVEMBER 2022

DECLARATIONS

Declaration by the Student:

I declare that this proposed project is original work of my hand, I have not copied or edited someone else's work and it has not been submitted to any other institution for assessment. Therefore, it should not be reproduced without my permission or/and Kenya Methodist University.

Student name: _____.

Date: _____

Signature: _____

Declaration by the Supervisor:

This proposal was submitted for assessment by the above-named student with my approval as His supervisor.

Name of the supervisor: _____

Date: _____

Signature: _____

ACKNOWLEDGEMENT

I would like to express my beautiful thanks and gratitude to the following Being who for better, helped me through this Research project work:

- ❖ **Almighty God** who has sustained us this far despite our flaws it is by Grace we are all alive today.
- ❖ **SAMUEL KANJA** *Founder and CEO of Ultimate Excellence Limited* allows me to undertake the research in his organization. He has been supportive in terms of information and without him for sure this work will not have commenced. Special thanks.
- ❖ **TIMOTHY ANONDO** my supervisor has been of great help in terms of consultations and working closely with me in the course of this research to make it a success.
- ❖ **ISAAC City cloud technology** has been working closely to provide missing content on mobile app development and framework tutorials it is through him that this Proposed Application will appear great.
- ❖ **VIVIAN MWANGI WANJIRU**, *an alumnae KEMU and former KEMU Christian Fellowship Secretary (2019/2020)* helped in idea processing and selection of the best.
- ❖ **Family** for financial support
- ❖ **Friends** for exchange of skills, knowledge, and words of encouragement when things go unexpected

TABLE OF CONTENTS

Contents

DECLARATIONS	2
ACKNOWLEDGEMENT	3
CHAPTER ONE	5
INTRODUCTION	5
BACKGROUND OF STUDY	5
PROBLEM STATEMENT	7
JUSTIFICATION	8
OBJECTIVES	9
SCOPE OF STUDY	9
CHAPTER TWO	12
LITERATURE REVIEW	12
CHAPTER THREE	15
METHODOLOGY	15
Problem identification	15
Feasibility Study	15
Project planning and management	16
System Analysis	16
System Design	16
System Development	16
Implementation and documentation	17
PROJECT RESOURCES	17
Hardware resources	17
Software resources	17
Users and user requirements	17
PROJECT BUDGET	18
PROJECT SCHEDULE	19
REFERENCES	20

CHAPTER ONE

INTRODUCTION

BACKGROUND OF STUDY

Ultimate Excellence limited is a registered training, mentorship, and capacity building firm that provides tailor-made solutions and services to corporate, NGOs, learning institutions, religious organizations, families, and others to add value and improve performance in-line with their slogan: Unleashing the best in your life. It was Established the year 2008 and approved the year 2010 the Chief executive officer being SAMUEL KANJA. It is located at Thika, Blessed house, suite 5 next to ASTROL petrol station.

UEL (ultimate excellence limited) offers a variety of services. These services include: School mentorship programs, Counselling, rehabilitation, monitoring and evaluation, Personal finance discipline, Career coaching and guidance, corporate training, Individual life coaching, Event management, Team, and capacity building, Strategic plans development, Life Skills, and entrepreneurship, Youth mentorship and empowerment, Personal development skills, Brand and image development

UEL also do sell mentorship novels, books, and booklets. To name but a few include; Fashioned for life, The ultimate recipe for wholesome student, The career decoder, My values; my identity.

UEL has core values that help the firm to achieve its competitive advantages. These values include Commitment, Integrity, Professionalism, Consistency, Discipline, Responsibility, Excellence.

UEL's vision is to be the leading provider of value-based training and consultancy services aimed at value-adding, personal growth, and innovation for societal development and responsibility.

UEL's mission is to offer personalized and dedicated services to the needs of clients through the provision of innovative and sustainable strategies aimed at making them realize their potential and have a competitive edge.

UEL is run by a management team that oversees the operations and executes the entities. The management team includes:

SENIOR TEAM MEMBERS	DESIGNATION	QUALIFICATION
Samuel KANJA	Founder/C. E. O Lead trainer	MSc. Entrepreneurship & innovation Management- U. o. N BSc. Statistics- U. o. N Certified Public Accountant (CPA) Certified pension trustee
George WANYIRI	Senior manager	Masters in counseling psychology B. A Theology B. A Philosophy
Victor OCHIENG	Facilitator	Bachelor of education

The key challenges to ultimate excellence limited are booking services by clients, tracking client progress, communicating contact to clients, handling clients' records managing finances, and reaching a wide range of people in need of guidance and counseling.

The proposed system shall be able to handle this because it shall allow users to first create an account that is sign-up for services then sign-in to the system for them to access various services that shall be available through the system. The system will be able to allow clients to book sessions with a psychologist, book for an event or program, request a chat session, video call, or phone call service. Also, the system will allow the counselor to schedule an appointment with the client. By developing a robust database client tracking, record management, and financial management will not be an issue anymore.

The system shall also allow the client to learn things to do with mental health and fitness, early signs of mental disorder treatment information, and messages posted by their psychologist.

Other services like Stress management, social wellness, financial discipline, life skill and coaching, medical check-ups, and nutrition shall be available through the system under the service module.

PROBLEM STATEMENT

Ideally, if UEL had a mobile application to handle their operations, Clients would be able to book guidance and counseling sessions, schedule chat, video, and phone call services. Also, for clients who could wish to get help from other users without disclosing their identities the application will have communities such posts where various users join to share their experience and how they found a way out of whatever could have been the issues, there could also be a module where clients are educated things to do with mental health and awareness. Tracking of client's progress and managing of finances could have been easily dealt with by the help of a database.

Currently, at UEL, clients' progress tracking, booking of schedules, advertisements, bookselling, and management of finances are handled manually, clients who want to get counseling services, life coaching, corporate training, school mentorship programs, motivational talks, team building, entrepreneurial and career training from UEL find it difficult since there is no platform for them to contact the firm unless they are forced to walk to their premises physically which at times may be inconvenient because of transport issues or find counselors on busy tight schedules. This also makes it impossible for the firm to service or reach a large number of people out there seeking counseling programs.

A huge gap exists where the counselor is inconvenienced to do follow-up activities with the client since there is no platform to allow these activities unless done on phone calls which is difficult to capture trends and changes of the client and this also might fail where the group of clients is large. There are no proper scheduling and session booking services, booking is done via phone call or client traveling long distances only to achieve a few minutes' tasks, which is very discouraging. Also, scheduling booked programs and appointments are done manually, which is inconvenient since the counselor has to continue referring to notes and calendars that might get spoiled in case of mishandling or misplacement. Since everything is done manually even information retrieval is not possible in the long run. Similarly, some clients want help without being disclosed, they don't want counselors to know them by the look. This is not possible in UEL because everything is done manually, the counselor cannot escape meeting with the client since there is no alternative platforms.

Having considered the above, the developer proposes ultimate excellence mobile application (UEMA), it will bridge the gap between the ideal and the current situation at UEL because the system shall contain modules for administrators, clients, Psychologists, and financial controllers. The administrator will give access to clients' accounts. Clients will register then log in to the system to access services. Counselors will be able to interact with their clients and the financial controller shall be able to record transactions and finally the communities will provide that anonymity where a user will be helped without disclosing his/her identity.

JUSTIFICATION

It is undebatable that in the world today 98% of people suffer stress and depression in one way or the other, be it mental stress, financial stress, Entrepreneurship assistance needs, identity crisis, family issues or such everyone is a victim and surely needs a counselor in one point of life or the other. This can be justified by the improved family chaos (killing, divorces, and separations) and suicidal cases that are on rampart as recently reported on news media.

Therefore, the development of ultimate excellence mobile application (UEMA) will be of great significance to UEL firms and individuals who will be facing these challenges and find the need to get assistance instead of making bad choices and decisions. Also, organizations and institutions can use the application to improve its performance, reaching out many suffering souls and improve on its decision-making.

The proposed mobile application shall be able to provide a platform for interaction between the client and the counselors, it shall allow clients to log in to book sessions, schedule, and book for services, psychologist responds to bookings and then schedule events, thus, the inconvenience of traveling, booking and poor scheduling is dealt with. Again, since most people are on the smartphone it will be easy to reach a wide range of people through this proposed mobile application. The system shall allow clients to request services like chat service, video call service, or phone call service.

Secondly, the proposed mobile application with the help of a database shall be able to keep client's data and records thus making tracking of changes and follow-up by the counselor easy

even if the group is large. Also, all data concerning UEL will be stored in the database making retrieval of information when needed possible.

Lastly to bring inclusiveness to consider clients who doesn't want to be noted the system shall provide a platform where users can post and see pieces of advice and real-life experience of other users who had the same issue in the past and how they dealt with it. The system will also assist in the management of funds since all monetary transactions will be recorded.

OBJECTIVES

General objective

- To develop ultimate excellence mobile application system.

Specific objectives

- Design a database to store UEL user data and records.
- Develop client and psychologist communication platform.
- Develop booking and scheduling platform
- Design and develop user registration and login interface
- Design different modules.

SCOPE OF STUDY

The main aim of coming up with this idea mobile application is to help society live right, make sound mind judgments, improve performance, eradicate poverty, and minimize personal and family chaos, damages, and suicidal cases. To achieve this, the Application will have the following modules.

1. Registration module

All users of UEMA will have to create an account, sign-up and sign-in, to access various services offered by UEL.

2. Scheduling module

This will be used to schedule booked sessions.

3. Administrator module

The admin will oversee everything happening in the system; Access all other modules, confirm account registrations, post and respond to F. A. Qs, and access to Database.

4. Client module

Clients are the main beneficiaries of the system; they will use the system to achieve the following; Create an account, Login to the mobile application, Book sessions and schedules with the trainer psychologist, Book for training programs, Request for services (chat, video, phone calls services), Learn, and Receive messages(notifications) from their life coach.

5. psychologist module

This module will be used by facilitators say counselors to achieve the following; See and confirm bookings alerts, Approve the bookings, Schedule sessions with the client, provide feedback and notifications to the client, and Update learn materials blogs for the clients.

6. Notification module

This module will be used to give self-assessment notifications by the clients to their psychologist and also clients will receive booking notifications from their psychologist.

7. Resource Module

This will contain links to contents like; Counseling blogs, Everyday mental health, Healthy living, financial wellness, and Stress management

8. Learning module

Here psychologists will post an article for their client and the client will be able to learn about mental health awareness. The system shall allow clients receive messages from clinicians about mental health self-care, early warning signs, and common disorders as well as possible treatments.

9. Booking module

This will allow the clients to be able to; request services (chat services, video sessions, Telephone call services), book schedules, and programs.

10.payment module

The module will allow clients to look at the books provided by UEL, make a purchase and pay for that book.

11.Services module

Clients shall be able to view and receive the following services; Medical check-ups and recommendations (BMI, blood sugar, cholesterol, and blood group), Fitness watch, Nutrition, Life skills and coaching, Social and personal wellness, financial wellness, Child wellness, and First aid.

12. Help module

This module will contain information about UEL their mission and vision objectives and their emergency contacts and links. It will also contain helpful information on how to effectively use this mobile application.

13.FAQs module

This module will contain frequently asked questions by various clients and their respective responses from psychologists.

14.Search module

This will help clients give their taste on the interaction with the system as well as search different fields and modules inside the application.

15.Finance module

This module will help control financial transactions like in the case of book purchases and face-to-face consultation and rehabilitations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

In the book “Black pain” (it just looks like we are not hurting) Author and mental health advocate Terri Williams knows that Black people are hurting. She knows because she is one of them. In Black Pain, Williams addresses the topic of depression, a topic that is still taboo, especially in the Black community.

With down-to-earth discussions, Williams tackles emotional pain and how it uniquely affects the Black experience, encouraging women and men to seek the help they need without feeling ashamed.

Having experienced depression first-hand after overworking herself as the head of a demanding public relations company, Williams knows what it takes to finally come to terms with your inner sorrow. She reminds us that we are brave, not cowardly, for facing our traumas head-on and finding solutions with the help of others. Having considered this our UEMA will help the community become a better version of themselves by teaching, counseling, training, and providing these solutions Williams is talking about.

Kenya Association of professional counselors (KAPC) is an institution that offers counseling services. Maria KAMAU a trauma victim provides her testimonial to quote “I felt that I had found the place to come to get the help I needed and that someone would be working with me and supporting me. I felt relieved that I wasn't doing it on my own.”, kapc.org.ke. client testimonial

Examples of similar systems as the proposed UEMA include:

1. BETTERHELP-THERAPY

It Was developed by betterhelth.com. Through this application, you get professional help from a licensed therapist for anxiety, depression, and family couple therapy. when you sign up you are matched with an available therapist who fits your objectives, preferences, and type of issue you are dealing with. How it works; After filling out our questionnaire, you will be matched with a licensed therapist based on your needs, you and your therapist will get your own secure and private “therapy room” where you can chat at any time from any internet-connected device wherever you are. You can also schedule a weekly session to speak live with your therapist over video or phone. You can write or talk about yourself, the things going on, ask questions, and discuss the challenges you’re facing, your therapist provides feedback, insights, and, guidance

It has features like the match with the available therapist who best fits your needs, unlimited private one-on-one communication with your therapist, scheduling live sessions with your therapist or using the secure messenger, gaining access to constructive, education group webinars

It has the following modules: session module, webinar module, billing & settings module, schedule module.

2. TOTAL WELLNESS

It was developed by Total wellness international. TWI partnering with ICAS Kenya is a Mental Health crisis center that was launched in February 2013 and has set goals to be the foremost specialist in the provision of behavioral risk management and employee wellbeing programs contributing to the health and performance of individuals’ employees and organizations in all aspect of the economy. Her aim is looking how well are you mentally, physically, emotionally, spiritually, and psychologically. It is a tool to help in education on employee wellness, mental health self-care, services offered by Total Wellness International, and, connects people with counseling services

Through their mobile application, users can book a session, chat with a counselor, access unlimited mental health resources, self-assess their mental health status, get nutrition tips and financial tips. It has the following modules: self-care module, notification module, services module, resources module, mental health module, F.A.Q module, feedback, and account module.

3. *iAmEars*

iAmEars was developed by iAmEars company, it connects users with psychologists for guidance as well as community members who will listen to you without any judgment. If you're struggling with depression, stress, anxiety, self-esteem, and sleep problem and need a helping hand, we are here to support you.

At iAmEars you can anonymously discuss your problem with peers who are also going through similar issues or have been there in past and you can learn from their experiences. This is a safe space where you can talk about anything anonymously related to mental health without the fear of being judged and under the guidance of experts.

It has the following features: safe space, no spamming and trolling, peer support, expert support, Anonymous, getting mental health problems solution without revealing your identity, Mental health assessment, Blogs from a psychologist, Chats and session bookings

It has the following modules: chat module, self-test module, blogs module, experts booking module, activities module, and anonymous post module.

In conclusion, Kenya's Ministry of Health stated that one of every four Kenyans will suffer from a mental disorder in their lifetime, but there is minimal funding to support diagnosis and treatment. Ultimate Excellence limited has noted this gap and coming up with UEMA offers an innovative solution to the problem.

CHAPTER THREE

METHODOLOGY

Ultimate Excellence mobile application development will follow a system development life cycle approach and use the waterfall model, whose phases are:

Problem identification

Ultimate excellence limited uses manual methods to store data of their clients, bookselling and advertisement are done manually Also, services like mentorship, training, counseling, and other services mentioned in chapter one of this document are all done manually. The clients also have been having the challenge of having to physically move to the business premises or get to communicate over the phone with the management to acquire the products and services they need. Booking of services and sessions also is a challenge.

Feasibility Study

Pumping resources and time into the system, the study was done to confirm if the project was worth undertaking

. The feasibility analyses that were done include:

- *Economic feasibility*- in economic feasibility, the financial benefits that the system will bring to the company were analyzed. Also, the study looked at whether the costs incurred during the development of the system can be later recovered.
- *Operational feasibility*- in this study, operational feasibility looked at whether the system would be easily acceptable by the users. This was done by consulting the business employees and some clients if according to the said objectives, the system would meet the customers' requirements.
- *Technical feasibility*- a study of the technical skills amongst the management and the clients was done. A comparison of the manual record-keeping, manual session booking, bookselling, counseling, and the proposed system was also done to determine which system would be more convenient.

- *Schedule feasibility*- this looks into the time needed to satisfy all the requirements for the functionality of the system. This being an undergraduate degree requirement the project must be done within the scheduled time.

Project planning and management

In this phase, people, resources, and time are managed to ensure that the system is ready as planned, with no extra costs, and meets the user requirements. To ensure that the project is done within the scheduled period, a Gantt chart is employed.

System Analysis

The analysis focuses on what should be done and how it would be accomplished. This will be after evaluating the user and system requirements. It involves the documentation of the user and a functional system requirement.

In gathering the information about the requirements, the developer follows these methods:

- *Questionnaires* – the open-ended questionnaires and surveys are designed and presented to the clients and the management of the business to get to know how its transactions are done.
- *Interviews* – the interviews are done physically to get to know where the current system works best or worst, and if the newly-proposed system can be made to help in making changes to the benefit of the business and its clients.

System Design

Here, the details on how the project will work are laid down. It will majorly address the inputs, outputs, user interface design, admin interface, and database.

System Development

Here, code writing, debugging, and testing are done to ensure that the system conforms to its specifications and meets the requirements of the customer. Turning the design into an executable code.

Implementation and documentation

Implementation is done after the system is developed and tested. Everything, as had been planned during the design phase, should be functional. Documentation and presentation are the major tasks in this stage.

PROJECT RESOURCES

Hardware resources

- Laptop with the following specifications:
 - Windows 10 operating system
 - At least 4 GB RAM
 - An Intel Processor
- An external storage disk for program back-up

Software resources

- MS word. For project documentation
- MS PowerPoint. This will be used for presentation.
- Programming language (java, dart + flutter)
- Firebase database to help in storing the information and data revolving around the transactions of the business.
- Android studio IDE, the software for writing the Android codes for mobile applications.

Users and user requirements

Users of UEMA will be:

- Chief executive officer who will be overseeing all other activities
- UEL Administrator whose work will be to approve sign ups
- Clients of the UEL who are the main beneficiaries of the system
- A financial controller who will be managing financial transactions
- A therapist who will be assisting clients with mental health issues.
- Records office who will be recording proceedings of counselors and the client's progress
- UEL books, journals, and novel coordinators

Clients are the main beneficiaries of the system. Psychologists will be interacting with the system to get to their patients, UEL CEO will be overseeing activities through the system and plan accordingly. Records office who will be recording new users for follow-up and coordinating bookings, finance office, responsible for financial management where applicable, and Administration who will be responsible for approval of new sig-ups, notifications, bookings, and real-time feedback to clients.

To use the Application, the user will need to have:

- Internet connectivity
- Smartphone
- Account with UEL

PROJECT BUDGET

ITEM	Cost (Kenya shillings)
1. Transport and consultations	2000
2. Internet	3000
3. Printing and binding	100
TOTAL	5,100

ULTIMATE EXCELLENCE MOBILE APPLICATION GANTT CHART

[illegible]

REFERENCES

1. All Answers Ltd. (November 2018). Analysis of mentoring, coaching, and counseling. Retrieved from <https://nursinganswers.net/essays/analysis-of-mentoring-coaching-and-counselling-nursing-essay.php?vref=1>
2. Better Health therapy. (2014). [Mobile app]. Google play store. <https://play.google.com/store/appss/details?id=com.betterhelp>
3. IAmEars. (2020). [Mobile app]. Google play store. <https://play.google.com/store/appss/details?id=com.iamears>
4. Total wellness International. (2019). [Mobile app]. Google play store. <https://play.google.com/store/appss/details?id=com.maga.totalwellness>
5. KANJA, S.K. Ultimate Excellence Limited. Nyeri. <https://ultimateexcellence.co.ke>
6. American Counseling Association. (2005). Code of ethics and standards of practice. Alexandria, VA: Author.
7. Berger, K. S. (2011). The developing person through the life span (8th ed.). New York: Worth Publishers.
8. Figley, C. R. (2002). Compassion fatigue: Psychotherapists' chronic lack of self-care. *Journal of Clinical Psychology*, 58(11), 1433-1441. DOI: 10.1002/jclp.10090
9. Anders, S. L., P. A. Frazier, and S. L. Shallcross. 2012. Prevalence and effects of life event exposure among undergraduate and community college students. *Journal of Counseling Psychology* 59(3):449-457.
10. National Academies of Sciences, Engineering, and Medicine. 2021. Mental Health, Substance Use, and Wellbeing in Higher Education: Supporting the Whole Student. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26015>.
11. Kessler. 2018. WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology* 127(7):623-638. DOI: 10.1037/abn0000362.
12. D. Harmening, and H. L. Scott. 2018. College students' experiences of childhood developmental traumatic stress: Resilience, first-year academic performance, and substance use. *Journal of College Counseling* 21(1):2-14.
13. Kenya Methodist University Library. Software engineering principles notes
14. Kenya Methodist University Library. System analysis and design notes
15. Sommerville, I. (1985). *Software engineering*. Wokingham, Eng.: Addison-Wesley.