**CHAPTER ONE**

**Introduction**

This chapter describes the project and provides some background information. Furthermore, this chapter follows the project's problem description to provide a clear understanding of the project's scope and objectives. This chapter will serve as a blueprint for all subsequent phases of development.

**1.1 Background of The Study**

Messenger is one of the most useful functions of mobile smartphones. It becomes the primary means of communication, information sharing, and interaction. People generally utilize messenger applications such as WhatsApp, Blackberry Messenger (BBM), and Telegram to do direct communication as Short Message Service (SMS) becomes obsolete. (Setiaji, & Paputungan, 2018)

BBM was popular in the late 2000s, but after a decade, it began to lose momentum to WhatsApp. WhatsApp, which was created in 2009, has evolved to become the most popular messaging program in 109 countries. Facebook bought WhatsApp in 2014 in order to increase its footprint in the rapidly booming messaging market, in addition to its own messenger platform. Telegram, a recent software that behaves similarly to WhatsApp employs end-to-end encryption to safeguard shared information in. Setiaji, & Paputungan (2018), as referenced in Pinto 2014,

The computer science department at Kaduna polytechnic grants admission to a large number of students at the start of every new session, as a new student there are a lot of questions to be asked, due to the number of continuous registrations the department may find almost impossible to respond to the question of the student even after orientation. Students may want to make inquiries ahead of time about the courses that are to offer that very semester and semesters to come, the course credit loads are also important to make inquiries about, the lecturers, and what courses or courses they take. Furthermore, a prospective student would want information about the current development in the department. The need for a department inquiry system arises due to the in-existence nature of the departmental website, an outsider would not know where to search for a particular piece of information or to have knowledge of the kind of information that is available, so, therefore, it is difficult for the person outside school domain to extract information.

A telegram bot is a software program that uses artificial intelligence to conduct an automated online chat discussion with a user in a natural language (human language such as English) through text. Telegram bots provide a solution to this problem by providing all the important information that students need to get comfortable in school. It also helps students navigate through the usual interface used by people every day on their smartphones. (Rinke, 2022)

Telegram bots recognize user input through the use of special commands and patterns called "triggers." When a user types a message that matches one of the triggers that have been programmed into the bot, the bot recognizes the input and responds in a predetermined way. In addition to recognizing specific triggers, bots can also use machine learning algorithms to understand the meaning of more complex user inputs and respond appropriately. (Rinke, 2022)

**1.2 Statement of the Problem**

Applicants are buzzing with inquiries as the new academic year approaches, and it's surely a busy time for the department to be responding to an overflow of inquiries demanding quick responses by the student such as the courses that they are to offer each semester and semesters to come, the course credit loads are also important to make inquiries about, the lecturers, and what courses or courses they take. In previous years, students and parents had to visit the institution to inquire about specifics and other departmental information, which was a tedious and time-consuming procedure. This is also a time-consuming and resource-intensive procedure for the departmental offices. This may now be done via the internet with telegram bots to save time, energy, and resources.

**1.3 Aim and Objectives of the Study**

To develop an application based on a telegram bot, that aids students with academic-related information and requests regarding the department.

**Objectives**

The objectives of this research work are as follows:

1. User data set will be generated from their registered telegram accounts.
2. A responsive GUI that replies to users will be implemented to stimulate a real person conversing.
3. In storing and retrieval of the collected dataset; Sqlite3 which is an open-source relational database technology will be employed. In providing answers to user queries BotFatherAPI, python request library and Django will be employed.
4. Vital testing will be carried out in ensuring the efficacy of the research work

**1.4 Scope of the Study**

This research work is centered on the development of a telegram-based application that aids students with academic-related information and requests regarding the department through the use of a telegram bot. The telegram bot will only provide information regarding the courses offered by the department, a list of all the lecturers and their courses, courses credit load, links to lecture materials for download, and the location of all computer lecture halls as the classes are not in one location.

**1.5 Limitations of the Study**

This study's scope has been constrained by several core issues, including:

**Time** - The researcher's everyday busy academic pursuits limited the time allotted for research for this study.

**Access to literature** – Access to some material was restricted, although the available material was optimized.

**1.6 Significance of Study**

This study will have a potential impact on the students who will be using the application, as well as on the department. By providing students with easy access to academic-related information and resources, the application could potentially improve their engagement with course content and their overall academic performance. Additionally, the telegram bot can manage several queries at once without compromising interaction quality which could help to streamline processes within the department and make it easier for students to get the help they need. By demonstrating the effectiveness of the application, the researchers could potentially inspire other educators to adopt similar approaches and improve the quality of education for students around the world.

**1.7 Project Organization**

The project is divided into five chapters. The outlines are presented below:

**Chapter One: Introduction**

Chapter one introduces this project work, the study's background, the problem statement, the purpose and objectives, the scope of the study, the constraints of the study, the relevance of the study, the project organization, and the definition of terms.

**Chapter Two: Literature review**

This chapter focuses on the literature review, and the contributions of other scholars on the subject matter being discussed.

**Chapter Three: Methodology and Design**

This chapter is concerned with the presentation of the results of system analysis and design. It presents the research methodology used in the development of the system to facilitate an understanding and effective future implementation of the system.

**Chapter Four: System Implementation Evaluation**

This chapter describes the system implementation and documentation, analysis of modules, and system requirements for implementation.

**Chapter Five: Summary, Conclusion, and** **Recommendation**

The chapter provides a summary of major findings, conclusions, and recommendations based on the study conducted.

**1.8 Definition of Terms**

1. **Telegram**: A messaging app that allows users to send messages, photos, and other media to each other and to groups of people.
2. **API** (Application Programming Interface): A set of rules and protocols that allow different software systems to communicate with each other.
3. **Bot**: A piece of software that performs automated tasks, such as responding to user input or collecting data.
4. **User interface** **(UI)**: The part of a software application that the user interacts with, including the layout, buttons, and other elements.
5. **User experience** **(UX)**: The overall experience of a user interacting with a product or service, including their emotions, perceptions, and behaviours.
6. **Academic-related information**: Information that is relevant to a student's academic pursuits, such as course materials, homework assignments, and departmental policies.
7. **Information and communication technology** **(ICT)**: The use of technology to transmit, process, and store information, including the use of computers, the internet, and other digital devices.