

**DEVELOPMENT OF CRIMINAL CASE FILING SYSTEM  
USING FINGER PRINT  
(A CASE STUDY OF NIGERIA SECURITY & CIVIL  
DEFENSE CORPS, KWARA STATE COMMAND)**

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National Diploma (HND) in Computer Science**

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**CERTIFICATION**

This is to certify that this project was carried out by **AJILEYE AMINAT OPEYEMI** with matriculation number **HND/23/COM/FT/0092** as part of requirement for the award of Higher National Diploma (HND) in the department of Computer Science.

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**DEDICATION**

I dedicate this project to Almighty God who's protect me, guide me through this work a big thanks to Almighty God.

□

## ACKNOWLEDGMENT

All praise is due to Almighty God for His grace, guidance, and strength throughout the course of this project. I am profoundly grateful to numerous individuals and institutions whose support and contributions were vital to the successful completion of this work.

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## ABSTRACTS

*Criminal Case Filing System is a major obligation of the Nigeria Security & Civil Defense Corps. There is the need to keep a proper record of crimes committed in the past so as to prevent further crimes in the future. However, the record keeping of the Nigeria Civil Defense Commission is done manually which makes it difficult to merge or trace cases from one station to the other. This research is about Biometric Verification System for Crime Control with a case study of the Nigeria Security & Civil Defense Corps looks into these challenges by capturing any suspect and cases using the fingerprint capture. This would ensure uniformity of records across each station and help to prevent the occurrence of future crimes. The system is designed using the Object Oriented Methodology and programmed using Visual Basic and Microsoft Access as the database.*

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## CHAPTER ONE GENERAL INTRODUCTION

### 1.1 BACKGROUND OF THE STUDY

Crime is any act committed in order to violate the law. There is no part of the world that crime does not exist be it serious or a minor case. Peer pressure, illicit drug usage, corrupt political background, religious sentiments, bigotry, society, unemployment, deprivation, unfair judicial system are the common factors that brings about crime. The types of crimes in most society are; fraud, hate crime, arson, burglary, rape/sexual assault, robbery, murder, modern slavery, manslaughter, stalking and many more. However, what is disturbing is that security agencies who are supposed to be a cure to crime are overpowered by it. In order to reduce the rate of crimes, crime investigation should be done and culprits should be made to face suffer the consequent of their act. Criminal investigation can be done by conducting search, interrogate witnesses, collection of forensic evidences, interview victims, and other various methods of investigation. (Okeke & Forster, 2021)

The traditional and age-old system of intelligence and crime record maintenance has failed to live up to the requirements of the existing crime scenario. Manual processes neither provide accurate, reliable and comprehensive data round the clock nor does it help in trend prediction and decision support. It also results in lower productivity and ineffective utilization of manpower. The solution to this ever-increasing problem lies in the effective use of Information Technology. Crime Tracking Information System uses computer-generated records as an interface for integrating and accessing massive amounts of location-based information (Akabeli, 2017).

In this technology age, investigation of crimes is done using technologies commonly known as forensic science. Applying biometric in crime detection and investigation in various security agencies in Nigeria will help tame the rate of crime, capture criminal using their biometric data and also put an end to the innocent individual who are punished for the crime they did not commit in the country. (Okeke & Forster, 2021).

The automated fingerprint is used to identify someone who is suspected of committing a crime. The technology behind Automated Fingerprint Identification Systems is revolutionizing law enforcement's capacity to catch criminals and investigate crimes. The use of manual mechanisms in law enforcement presents a variety of difficulties. Low case tracking capability and a lack of searchable criminal databases are among the issues. Managing papers and paper filing can sometimes be difficult, resulting in data loss, unwanted access, and destruction. Hence, a considerably number of works have been done in this field to automate the process of crime record management system in order to eliminate the problems of the existing manual system (Afah, et al., 2021). However, the system is still not able to identify the main culprit as there is no technology put in place to uniquely identify offenders. This can result in punishing an innocent person. This study therefore proposes a fingerprint biometric system to record and manage crimes in order to uniquely identify individuals and be able to track criminals using their unique identifiers.

### 1.2 STATEMENT OF THE PROBLEM

Crime has become part of human activities and needs to be managed. No human society has ever been totally free of deviants, and it is unlikely that society will ever be (Oludele, 2019). The more populated and complex a society becomes the wider the range of anti-social conducts that must be controlled by the government through the armed forces and other agencies, especially the Police Force (James, 2018; Kawai and Samson, 2019). The incident-based system reports on a much broader range of crimes and includes data on the circumstances of the crime, the victim, and the defendant (Mustapha et al., 2023). Reliable criminal suspects' recognition is an important problem in crime investigation process. Biometrics recognition is becoming an irreplaceable part of many identification systems. While successful in some niche markets, the biometrics technology has not yet delivered its promise of full proof automatic crime suspects' recognition, especially in a

developing country like Nigeria. The study proposes and implements a biometrics-based crime filling system using a fingerprint verification process to validate suspects for the security agencies.

□

### **1.3 AIM AND**

#### **OBJECTIVES**

The aim of the study is to develop a Criminal Case Filing System Using Finger Print.

The objectives of the study include:

- i. To design a database to store and retrieve data and this will manage criminal records.
- ii. To develop the system for managing crime record with fingerprint biometric system.
- iii. To test system developed in (i and ii).

### **1.4 SIGNIFICANT OF THE STUDY**

The study will be of great help to the security system in tracing and stopping crimes. This study is also an eye-opener for future researcher to make reference for further studies on the subject

### **1.5 SCOPE OF THE STUDY**

This study covers the criminal case filling and review of several literatures related to the study on biometric crime detection. It also covers a detailed design of a workable system using C# Programming Language.

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### **1.6 ORGANIZATION OF THE STUDY**

Chapter one contains the background to the project, statement of the problem, the aim and objectives, significance of the study, scope of the study, and organization of the report. Chapter two entails the review of related past work, overview of biometric used in security systems, biometrics in identity management, types of biometric, fingerprint biometric, face biometric, iris biometric, and palm geometry biometric.

More so, chapter three examines the method of the proposed system, the, the description and advantages of proposed system. Chapter Four, explains the implementation and documentation of the system which contains design, implementation techniques, documentation, hardware and software requirements.

Lastly, chapter five includes the summary, conclusions and recommendations.

□

## **CHAPTER TWO LITERATURE REVIEW**

### **2.1 REVIEW OF RELATED PAST WORKS**

Abdalrahman, et al., (2018) presented a voice biometric system which uses both text dependent and independent speaker and speech recognition methods. Mel Frequency Cepstral Coefficients (MFCC) and pitch period are used as features and the decision is made by using Euclidian distance metric. This cascaded procedure reduces the False Positive Rate and increases the security of biometric recognition system. It is shown that cascaded system defines voice recognition better in terms of accuracy, safety and difficulty of penetration. The efficiency of the identification system is high up to approximately 91.2% .

According to Krishna, et al., (2018) Study on Biometric Authentication Systems, Challenges and Future Trends: A Review. The authors wrote that when authenticating users into a computer system, different forms of security such as pin, password, access cards, barcode etc. are used. The increase in technology has led to the misuse, fraud and theft of the above mentioned security measures. This led to invention of biometric security systems by which authentications can be done using and individual biometric data or template. They also discussed on the future of biometrics.

Sharma, (2018). Discussed about biometrics becoming the most popular technology and

due to its liability. It is very easy to use and handle. Biometric System review is provided in this paper is provided. The main steps involve in biometrics is: Image Formation, Image Processing and Image Matching.

Khan, et al., (2019) presented an online criminal management system. The study is a web-based system for online reporting and automated crime record administration. A person who desires to file a complaint or report an incident on this website must first register before logging in, and once the administrator has authenticated the user, he or she can log in and file a complaint. This protest will be gotten by police and police can communicate something specific with respect to the situation with the grumblings to the client who documented the grievance. The framework was created utilizing PHP and MYSQL. Nonetheless, a unique mark biometric framework was not utilized in overseeing criminal records.

Turner (2021) proposed a Real-Time Crime Records Management System for National Police Force (NPF). The exploration was meant to plan and execute an automated ongoing record the executives' framework for the NPF. The framework was carried out utilizing Hypertext Mark-up Language (HTML) for a profoundly intelligent graphical UI, PHP, and MySQL for a strong data set. However, there is no method put in place to identify individual uniquely for appropriate tracking and managing of criminals.

Adesola et al., (2019) proposed an Integrating Biometrics into Police Information Management system which uses Zambia police as case study. A baseline research was conducted to determine the levels of formal education, information and communication technology (ICT) abilities, and ICT tool usage within the Zambia Police Service. Results showed that 47% have moved on from school, 32% finished secondary school and 21% had accomplished an alumni or postgraduate certification. Moreover, 24% had gotten fundamental PC preparing. The overview likewise uncovered that 39% of the respondents utilize their own email for business related interchanges. The concentrate additionally pointed toward building up the significant business processes. Utilizing the business interaction results from the pattern study, a model was created. The model was utilized to foster an electronic model by coordinating unique mark biometrics. The system was developed using Java Server Page (JSP) and MySQL as the database. The development procedure was carried out using the NetBeans Integrated Development Environment. The system is a three-tier application with a client-side user interface, business logic, and a server-side database. The technology, however, was solely used to manage information within the Zambian police force. There is no mechanism for handling criminal records in place.

Afah et al., (2021) The system was aimed to design secured crime record management system, which would have efficient storage, quick retrieval, and exchange of information. The system was implemented using PHP and MYSQL while Visual basic was also used for the IOT. Still, the fingerprint approach was not tackled well to uniquely identify a criminal in order to help police manage criminal records and punish offenders.

## **2.2 OVERVIEW OF BIOMETRIC USED IN SECURITY SYSTEMS**

The ability to measure and analyze the behavioral features (signature, voice, gait) and biological (physiological and anatomical) characteristics (fingerprint, palm geometry, pattern of iris, retina) constitutes biometrics. Biometric technologies use these features as medium of identifying individuals, thus biometrics is not what we have but who we are (Arshad, et al., 2018). Identity recognition and verification credentials such as passwords and tokens are usually forgotten and stolen, however biometrics identification is the individual and cannot be lost or forgotten (Gupta, 2018). This work seeks to investigate future trends of biometric applications in border management under four categories; biometrics in mobile devices that authenticate and verify individuals, secondly identity management and biometrics in the cloud, thirdly recent biometric technologies that is meant to collect individual data clandestinely for the purposes of security among others and fourthly big data analytics stratagems that can predict high risk/low risk travelers. Consequently, the challenges and security lapses that confront current and future of biometric technologies are explored. The future prospects of biometric devices and its related technology as well as strategies that can be enhanced to control the risk and security threat today, is a critical terrorism combat tool to be appreciated (Adey, 2017; Arshad et al., 2018).

Biometric technology and predictive big data analytics used in thwarting security threat are individually expected to benefit individuals, the society and the general public as well as any nation. Nevertheless, the future risk and benefits associated with biometric and big data technologies to relevant stakeholders raises concerns and anxiety. In this era of heightened security threats and increasingly growing terrorist attacks, identity dominance is imperative to deter perpetrators as well as harnessing security awareness (Alamurugan, 2018). Biometric simulated technologies and predictive data analytics seems to be one of the appropriate solutions to terrorism and its related crimes in the world today.

There is no doubt biometrics will continue to advance with various attributes to curb terrorism and have dominance in identification of criminals. It is expected that biometrics used in border management and in various industries will increase exponentially as the cost associated with its implementation drops (Salawadgi, 2019). It has become the main identification tool used by law enforcement agencies and criminal justice setup to establish the match for unknown assailant of crimes and accordingly protecting society. The adoption of biometric passports has become common phenomenon in this era. The recent terrorist attack in France and Brussel airport which caused the death of many and left many also injured was a challenge to these countries involved. However, the apprehension of perpetrators was possible due to their biometric data that was available to authorities at the time (Friedland, 2016; Quadri & Quadri, 2016).

### **2.3 BIOMETRICS IN IDENTITY MANAGEMENT**

Identity management and control happens to be one of vital components in tackling information security issues. It is encompassed by previously known access control concept, nevertheless things seem to be changing. Audit trail which use to be a core function of identity management and was used to investigate unlawful access and various breeches in respective organizations have taken another trend which is more of a mechanism for gathering intelligence (Adey, 2017).

In this age of information explosion any information is critical and vital, It is for this reason that the kind of information gathered for identity management purposes are done circumspectly so that it can be used for various intendment as and when needed (Adey, 2017; Jain et al., 2018). Which is why the use of biometrics in recent times is not only to verify and authenticate individuals but also serves as a system that accumulate data for intelligence purposes among others with current emergence of data analytic technologies. Most cyber criminals and terrorists are successfully apprehended by security agencies as a result of availability of data on them. However, the exponential growth in data and storage devices with its corresponding usage in large scale systems, currently at most secured places, is a challenge to these available identity management systems.

Consequently, the competence of identity management devices in the near future is a question that is being a concern to many researchers, with the rate at which data is growing relatively. The emergence of cloud computing and big data analytics in that respect, to handle large volumes of data seems to be a consolation to these fears. Current research envisaged that advanced algorithms for analytics purposes would be available to process large volumes of data in real-time. Could this really help boost security in any given country or society against terrorism or would it also be challenged by hackers, which is why information security research would have to be an ongoing phenomenon (Alamurugan, et al., 2018).

□

### **2.4 TYPES OF BIOMETRIC**

#### **2.4.1 FINGERPRINT BIOMETRIC**

Biometric fingerprint identification is most popular method for person identification. Fingerprint has been widely used in business transaction. Fingerprints consist of a regular texture pattern composed of ridges and valleys. These ridges are characterized by several landmarks points, recognized as minutiae, which are typically in the form of ridge endings and ridge bifurcations. The spatial distribution of these details points is maintain to be unique to each finer, it is the collection of minutia points in a fingerprint that is primarily employed for matching two fingerprints. Since all government agencies and institution used automatic fingerprint identification system. Materialization of low cost and compact fingerprint readers has made fingerprint modality a preferred choice in many civil and commercial applications (Jain et al., 2018).

□

#### **2.4.2 FACE BIOMETRIC**

Face acknowledgment may be a nonintrusive procedure, and facial pictures range unit without a doubt the principal basic biometric trademark utilized by people to shape a private acknowledgment. The uses of personality check shift from a static, controlled "mug-shot" confirmation to a dynamic, uncontrolled face recognizable proof amid an untidy foundation (e.g., air terminal). 1) the situation and form of facial attributes like the eyes, eyebrows, nose, lips and chin, and their abstraction relationships, 2) the (global) analysis of the face image that represents a face as a weighted combination of variety of canonical faces. While the verification performance of the face recognition systems that are commercially on the market is affordable, they impose variety of restrictions on



however the facial images are obtained, generally requiring a set and simple background or special enlightenment (Anil, 2018).

#### **2.4.3 IRIS BIOMETRIC**

The iris pattern is taken by a special grey scale camera in the distance of 10-40 cm of camera. One time the grey scale picture of the eye is obtained then the program tries to locate the iris within the picture. Iris recognition is a computerized system of biometric identification that makes use of mathematical path recognition method. Iris images get under infrared illumination consist of complex texture pattern with numerous individual attributes, e.g. stripes, pits, & furrows, which permit for highly reliable personal identification. The visual texture of iris is formed in the work of fetal development & becomes stable in first years itself. Iris recognition is also widely used; it is feasible in huge scale. Each iris is different for twins like finger print. It is difficult to alter iris pattern & it is simple to detect the artificial iris. The main advantages of iris recognition are high accuracy & verification time"s takes less than seconds. The disadvantage of this recognition are cost is high, much movement of head & use of color contact lens. Conversely, high sensor cost, along with comparatively huge failure to enroll (FTE) rate reported in some studies, & lack of legacy iris databases may limit its usage in some large-scale government applications (Alamurugan, 2018).

#### **2.4.4 PALM GEOMETRY BIOMETRIC**

The palmprint and hand geometry unadulterated arithmetic pictures may be separated from a hand picture in an exceptionally single shot at indistinguishable time. Distinctive multi-biometrics frameworks (e.g., face and unique mark, voice and face and so forth.), a client doesn't have to hold up under the impairment of going through numerous sensors. Moreover, the extortion identified with imagine hand, close by geometry based for the most part check framework, may be satisfied with the mix of palmprint components. Each obtained pictures should be adjusted in a favored course in order to catch the same components for coordinating. The picture thresholding operation is utilized to acquire a twofold hand-shape picture. The edge quality is more than once figured utilizing Otsu's strategy. The hand geometry frameworks have huge physical size and can't be effortlessly installed in existing security frameworks (Kumar et al., 2018).

□

### **CHAPTER THREE RESEARCH METHODOLOGY AND ANALYSIS OF THE EXISTING SYSTEM**

#### **3.1 RESEARCH METHODOLOGY**

The proposed system accepts raw data as input, processes these data and produces the outputted information as results. The output normally depends on the input of the data as the cases may be. It improvises a means of acquiring data of a particular neighborhood in order to achieve these study.

**The input processes of the system:**

1. Citizens or individual's registration: This shows a blank computerized form where every individual will register his or her details using National Identity Number

(NIN) as a most filled.

- ii. Biometric data: This will be prompted out after the registration form is completely filled. Here, the individual fingerprint and facial data are captured and saved to the database alongside their details from the registration form.

#### **The output processing of the system;**

- i. Basic criminal details: This shows information about a particular criminal details in regards to the case file number of the convict, offence committed, date amongst other personal information based on the fingerprints gotten in the forensic evidence from crime scene.
- iii. Database for fingerprints and local check voice or facial match: This shows if there is or not a fingerprint and facial data match in the local database.
- iv. Full criminal record: This is a list of all criminal records (accomplices, penalty for existing crimes, forensic evidences, name of detective that handled the case and witnesses) in the local database.
- v. Search: Here, retrieval of any kind or type of criminal records based designations are specified. The implementation of the automated system will ensure that crimes are well investigated and criminal records are well managed.

### **3.2 ANALYSIS OF THE EXISTING SYSTEM**

Nigeria security and civil defense corps (NSCDC) Kwara State Command (NSCDC) intelligence and investigation department treated case of criminal in nature in which the adoption of signature and finger print is well documented for the sake of identification in the case.

#### **Advantages of fingerprint**

- i. Signature can be denied but individual fingerprints cannot never be denied
- ii. Individual fingerprints cannot be the same with others
- iii. It ease identification for the use in court of law
- iv. It is easy means of establishment of fact and easily recognized

#### **Criminal in nature**

- a. Theft
- b. Breaches of trust
- c. Breach of contract
- d. Fraudulent act

### **3.3 PROBLEM OF THE EXISTING SYSTEM**

Due to the manual means being used by the Nigeria Civil Defense Commission, in keeping information about crime and entering records of it into record books instead of it being in form of data input into computer storage system, problems arise and there problems have plagued the Nigerian police force and affected the policing system in the country. Some of these problems are enumerated below.

- (a) **Insufficient Equipment:** Almost all police units in the country lack equipment such as computer system. If these systems are provided, there will be good report generated, communication links among different police units (when networked) and this in-turn will enhance decision Making and ultimately facilitate the fighting of crime because good and valuable information yield's good results.
- (b) **Keeping of Record Books for Different Cases That Come in Daily:** This presents a lot of problems to the policing system because the record books are always voluminous and in trying to keep all these, some vital information might be lost. This also makes the office look very clumsy and untidy since most files are covered with dust.
- (c) **Loss of Important Information:** Due to damages that occur on record books and files, when pages are lost, some vital information is also lost
- (d) **Inaccuracy:** Due to the manual method of handling information a lot of human error are noticed in processed information.
- (e) **Time Lapses:** Due to the manual method, there is always a slow response- time when the law court requires information about particular cases.
- (f) **Insecurity:** There can be no proper security of information.

### 3.4 DESCRIPTION OF THE PROPOSED SYSTEM

Criminal Case Filling System Using Finger Print System should be able to basically register individuals using their fingerprints data as input and then enter criminal details into the database tied to their corresponding fingerprints suspects', accomplices, information based on the specified criterion as output. To enter a criminals' detail into the database, the user has to input information about the criminal, upload mugshot, capture and load fingerprints then submit to the database by clicking save. To retrieve a criminals' detail, the user will have to enter either the name or the case file number of the criminal and click on search, the system then searches through the database for a matching record. If a match is found, the record is then displayed. Otherwise, the system will display a message showing data not found. To retrieve every existing criminal details from the database, the user should click on the "Load Records" button, the system retrieves the records of all existing criminal. To investigate a crime, the user has to use either fingerprint, or National Identity Number by clicking on the investigate crime module and choose the desired method. For optimum results, the user must use at least two modules during investigation.

□

### 3.5 ADVANTAGES OF THE PROPOSED SYSTEM

The advantages of the system are as follows;

- i. Biometric system reduces the uncertainty of an identification
- ii. This technology gives investigators another option to consider for evidence
- iii. Biometric has an indefinite storage period
- iv. Time Saving
- v. Data Accuracy

□

## CHAPTER FOUR DESIGN, IMPLEMENTATION AND DOCUMENTATION OF THE SYSTEM

### 4.1 DESIGN OF THE SYSTEM

The proposed system is designed in modules with each module working together to perform the electronic allocation system in order to enhance the performance of the existing system as earlier discussed in chapter three.

The ability to analyze and give focus to the system is explained in the following formats which are output design, input design, database design and procedure design.

#### 4.1.1 OUTPUT DESIGN

Output design for the computerized system to go to the screen and the outputs are designed to present report in a meaningful way. The outputs of the system include import report and lying report.

**FINGERPRINT ENROLLMENT**

**Criminal Information**

Criminal ID: CIS4637  
Fullname: Cletus Igbe  
Gender: Male  
State of Origin: Cross River State  
Height: 1.72  
Aliases: Testing my App.  
Last Known Address: Calabar  
Jail Terms: No Jail Terms  
Mode of Operation: None  
Mental Status: Normal  
Tribal Marks: No  
Date: 11/11/2018

**Upload Passport**

Browse

**Scan your finger**

Scan your finger

Fingerprint samples needed: 0

**Prompt:**  
Click Close, and then click Fingerprint Verification.

**Status:**  
The fingerprint feature set was created.  
The finger was removed from the fingerprint reader.  
The fingerprint reader was touched.  
The fingerprint sample was captured.  
The fingerprint feature set was created.

Criminal_Id	Name	Gender	State	Height	Aliases	Address	Ja
CIS3328	Peter Bassey...	Male	Cross River S...	1.72	The Man, Da...	56 Old Marian...	Tw
CIS2422	Oscar Timoth...	Male	Ebonyi State	1.45	The Man, Da...	Afikpo, Ebon...	3 Y

Save Cancel

**Figure 4.1: Enrollment System**

This page display the list of all the registered business operator

#### 4.1.2 INPUT DESIGN

This aspect entails the description of the expected data input that will provide our output as described above. This section list out all the input required for the implementation of Career Guidance System. Data entry is done through the keyboard and mouse selection where required. The sample input interfaces are as shown below:

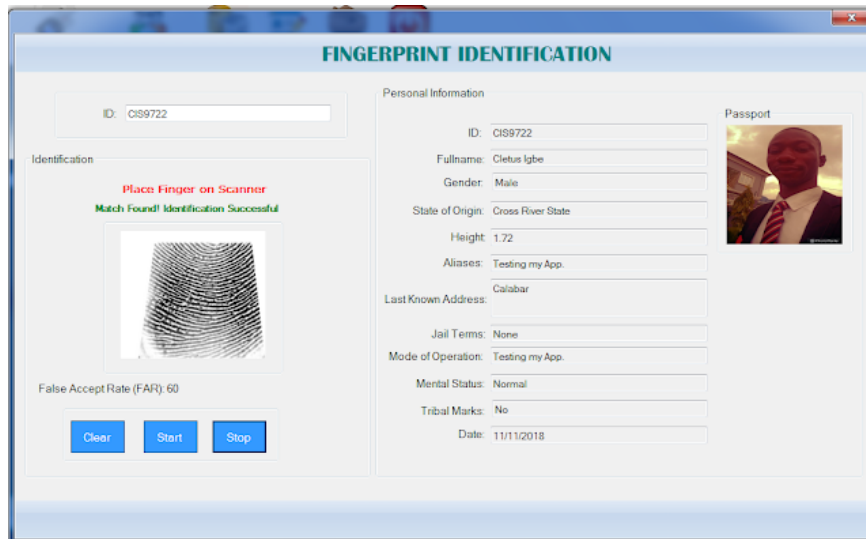
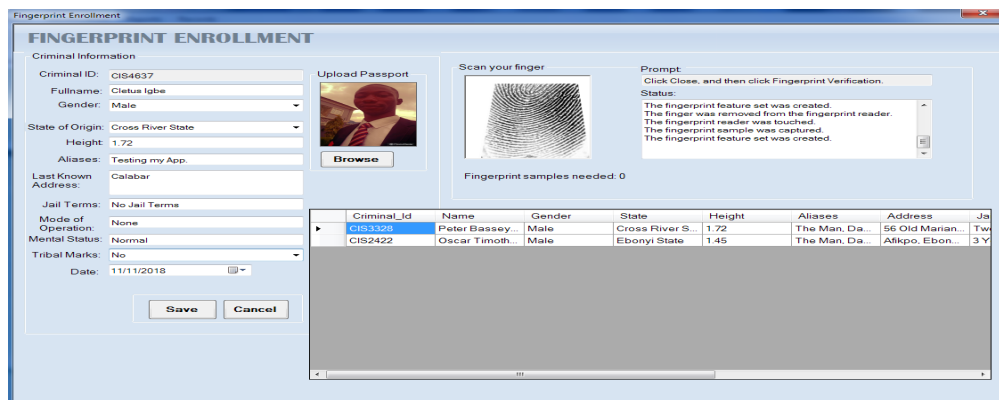


Figure 4.2: Enrollment Information System

#### 4.1.3. DATABASE DESIGN

Table 4.1: Database Information System



Criminal_Id	Name	Gender	State	Height	Aliases	Address	Ja
CIS4637	Peter Blassey...	Male	Cross River S...	1.72	The Man, Da...	56 Old Marian...	Tw
CIS2422	Oscar Timoth...	Male	Ebonyi State	1.45	The Man, Da...	Atkpo, Ebon...	3 Y

#### 4.1.4 PROCEDURE DESIGN

The administrator can perform the following

1. Add new business operator
2. Generate shop for the market
3. Allocate shop for each operator

#### 4.2 IMPLEMENTATION OF THE SYSTEM

##### 4.2.1 CHOICE OF PROGRAMMING LANGUAGE

In determining a suitable programming language for the design of the online patient management system, the factors to be considered are:-

- a. The difficulty of the problem
- b. The technical skills required of the computer program
- c. The type of processing required
- d. The availability of sub-programming facilities
- e. The efficiency of the language translator
- f. Ease of maintaining and updating the program

#### **g. Hardware and software requirement**

For the project work, the programming language to be used for the design of the system is PHP and MYSQL for database management system with embedded Structured Query Language (SQL) for database manipulation

#### **4.2.2 HARDWARE SUPPORT**

The hardware requirements for this program are:

- i. **PC:** The computer should be minimum of Pentium IV with 1000GHs processor speed but preferably Dua Core Processor for greater efficiency
- ii. **Memory:** This system requires a Higher RAM not less than 512MG, 1GB RAM is recommended.
- iii. **Storage:** the storage capacity must be 80GB and above.
- iv. **VDU:** Visual Display Unit required should be a very high resolution not less than 1024 x 768 with 256 colour capability.
- v. **Printer:** This system also requires a printer
- vi. **Input:** The input device required is a mouse, Optical Mouse should be provides for easy use.

#### **4.2.3 SOFTWARE REQUIREMENTS**

The software requirements for the operation of this program are as follows:

- i. Window Operating System
- ii. XAMPP or WampServer (for Apache server on localhost)
- iii. Web Browser e.g Mozilla Firefox
- iv. Macromedia dreamweaver

#### **4.2.4 CHANGE OVER TECHNIQUE**

The method used in the implementation of the proposed system is parallel, simply because parallel system supports the use of the existing system together with the proposed system and when there system failure information will not be totally lost and will not be back to square one for the users.

### **4.3 DOCUMENTATION OF THE SYSTEM**

#### **4.3.1 PROGRAM DOCUMENTATION**

In order for the proposed system to be used on any computer system it takes the following ways

- I. Boot the system
- II. Copy the folder to www inside wamp folder of the drive C: after WAMP server is installed onto the system.
- III. Open any browser on the system (Microsoft internet Explorer, Mozilla Firefox, Netscape Navigator, Opera, Flock, Safari e.t.c)
- IV. Type **http://localhost/ criminalcasefilingsystem /index.php** on the address bar and press the return key or enter key.

#### **4.3.2 OPERATING THE SYSTEM**

This refers to the step by step method of using the proposed system. The proposed system comprises of. The steps to use the proposed system are as follows

- a) On the address bar of any browser type **http://localhost/www.criminalcasefilingsystem /index.php**
- b) You are prompted to supply the username and password this verifies that you are a registered voter and has the privileged to vote.

#### **4.3.3 MAINTAINING THE SYSTEM**

- i. Data cable should be plugged properly

- ii. Repair or replacement of all damaged accessories, system cards, peripheral e.t.c.
- iii. prevention from dust
- iv. Prevention of system from heat and moisture
- v. Prevention from static charges
- vi. Examination of the new system from time to time to ensure it is performing as specified.
- vii. Operators and users to the system must constantly check the output of the system to make sure that it is working accordingly.

□

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

#### **5.1 SUMMARY**

During the course of this research it was observed that technology has and can play a big role in tracking crime in the society as being done in some advance countries. However, the use of information technology in fighting crime in the Nigeria Security & Civil Defense Corps. is quite underutilized. Hence, a software design was made which would be accessible online by both the public and the police officers in order to properly manage crime in the society.

#### **5.2 CONCLUSION**

The benefits of information technology in combating crimes are very numerous as we live in an IT era. The software developed can go a long way in helping the the Nigeria Security & Civil Defense Corps get instant information of crimes happening in their neighborhood. This will also provide relief to the public who can lodge complaints at the comfort of their homes even using their mobile devices.

#### **5.3 RECOMMENDATION**

The following are my recommendations for the research:

- i. It is recommended that the Nigeria Security & Civil Defense Corps be adequately trained on the use of Information Technology in crime tracking. Computer literacy program should be organized for the Nigeria Security & Civil Defense Corps. This can be carried out set by set.
- ii. At the end of the training, it is recommended that the crime tracking system be deployed to every the Nigeria Security & Civil Defense Corps station for recording crime information.
- iii. Government should invest into buying of computer equipment for the security force for a better service delivery

□

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