
AN INTELLIGENT TERRORIST TRACKING AND REPORTING SYSTEM

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Abstract

The act of terrorism are activities that are illegal and use of force to intimidate or coerce individuals or government to achieve an end; are committed in support of political or social objectives. The greatest contemporary challenge to national security is the insurgency orchestrated by the Islamic sect called Boko Haram. However, technological advancement has helped most law enforcement agencies in tackling the menace of insurgency. In this paper, we implemented an intelligent terrorist tracking and reporting system. The research method implored was sourcing for related data from relevant authorities through the use of interview, observation and internet. The existing system was analysed and found to be prone to many problems. This led to the proposal of an intelligent crime tracking system. The system was developed with Dreamweaver, CS3, ASP and VBScript. The use of Adobe Dreamweaver and CS3 was inspired because of its flexibility. The crime tracking information management system is a complete software solution for efficiently managing large data generated. It will help fighting crime and criminals in a more responsive, quick and proactive way.

Keywords: Crime, Information, Intelligence, Solution, Terrorist.

1.0 Introduction

Literally, terrorism is defined as ‘the systematic use of violence, terror and intimidation to achieve an end’ (Oche, 2007). Their targets are usually government, the public or individual and the objective is political. Imobighe and Eguavoen (2006) contends that terrorism and counter-terrorism are mutually linked in a confrontational, action-reaction relationship and ‘have been with the human race since the dawn of recorded history’. The US government defines terrorism as “premeditated, politically motivated violence perpetrated against non-combatant targets by subnational groups or clandestine agents, usually intended to influence an audience” (US Department of State, 2001). The Federal Bureau of Investigation (FBI) defines terrorism as "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in the furtherance of political or social objectives." This definition includes three elements: terrorist activities are illegal and involve the use of force, the actions intend to intimidate or coerce, and the actions are committed in support of political or social objectives.

Terrorist attacks are designed to achieve three goals: to create a sense of insecurity among the public, to show the inability to contain terrorism, and to promote the ideology of the terrorists (Hazard Mitigation Plan, 2011). The fact that there is no universally accepted definition of the concept has made it difficult for intelligence to be carried out on terrorist activities. Gustavo (2005) observed that there is no universally acceptable definition of the concept of intelligence as most scholars look at the definition from different scope and perception. Randol (2009) observed that one of the most meaningful purposes of intelligence is to predict where future security challenges may arise. Security intelligence may be defined as, “...the threat of major, politically motivated violence, or equal grievous harm to national security or the economy, inflicted within the nation’s territorial limits by international terrorists, homegrown terrorists, or spies of saboteurs employed or financed by foreign nations”

It is worth noting that information is not intelligence, and gathering information is not carrying out competitive intelligence (Rudolph et.al, 1991). According to Lowenthal (2002) notes that, “Intelligence is the process by which specific types of information important to national security are requested, collected, analyzed, and provided to policymakers; the products of that process; the safeguarding of these processes and this information by counterintelligence activities; and the carrying out of operations as requested by lawful authorities.”

The country faces an increasingly complex, and evolving, threat of terrorism and targeted violence. Reports over the years show alarming increase in levels of crime and Boko Haram terrorist attack especially in the North Eastern Nigeria (Guardian, 2014). An intelligent terrorist tracking system is a solution for efficiently managing the huge data generated in police department and act on the same. It helps in fighting terrorism and criminal activities in a more responsive, quick and proactive way, by engaging public, Non-Governmental Organizations, police and government agencies. Crime reporting system is to reduce security treat in our society. This system will deal with all the aspects of managing a crime report against any lodged by citizen starting from citizen’s entry, processing, case resolution, tracking of cases as well as report generation.

Law enforcement agencies have for years explored new ideas to provide more effective policing services. Ways in which the police could serve more areas of the community with the same number of officers.

1.1.1 The Statement of Problem: Law enforcement agencies have encountered much challenges in dealing with terrorist information most especially in the area of using a unify crime database for all criminals in the country. Other problems face by the law enforcement agencies include lack of data security, it requires more man power, and the process consume a lot of time as require more paper work because information have to be recorded manually. To overcome the above stated problems, this work is therefore based on the proposal of an intelligent solution.

1.1.2 The aim and objectives:The aim of this paper is to implement an intelligent terrorist tracking and reporting system and the objectives are as follows: to study the existing system for tracking and reporting terrorist in Nigeria; to review related literature on terrorist tracking and reporting and to design and implement a software solution for tracking and reporting terrorist activities.

Of course, the significance of the study is that terrorist tracking and reporting system provides statistical data about violent and victim crimes.

1.2 Background

The greatest contemporary challenge to national security is the insurgency orchestrated by the Islamic sect called Boko Haram. Not until 2009, insurgency and its concomitant effects (both emotional and physical) were alien to Nigeria. Nigeria, most especially, the North Eastern region of the country; and of recent in Kano, Kaduna in the North Western States, Plateau State and Abuja in the North Central were there has been ceaseless terrorist attacks. The problem led to the Federal Government declaration of state of emergency in the three affected states in the North Eastern Nigeria in 2012. The Government has recently further sought the assistance of foreign nations that are technologically developed such as USA, France, Britain, Israel and others to tackle the menace of Boko Haram insurgency.

The persistence of insecurity has been claiming precious lives of citizenry and government efforts to tackle the problem through various menial methods and approaches such as the use of police, military, vigilante and local hunters seem not to be yielding success.

However, technological advancements have also helped most law enforcement agencies improve their internal communication abilities. Initially, radios were used to dispatch officers to the scene of a crime, but in our modern-day society, computers are used to complete records checks of both people and their property. Law enforcement has done well with communication advancements amongst themselves but their communication with the public has made little progress in the collection of information from the citizens. Cell phones have made this technology more mobile but until recently law enforcement had yet to tap into modern day communications; specifically, the internet. Many departments have implemented the latest advancement, the Internet, to better serve their citizens while also saving labour and avoiding administrative red tape (Gitmed, 2007). According to the World Bank, Information Communication Technology ICT consists of the hardware, software, networks, and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services (Premium Times 2015). The World Bank further states that ICT can be split into ICI and IT. Information and Communication Infrastructure (ICI), refers to physical telecommunications systems and networks (cellar, broadcast, cable, satellite, postal) and the services that utilize them Internet, voice, mail, radio, and television).

2.0 Related Literature

The use of Information and Communication Technology (ICT) in the provision of solution to human, social and industrial challenges has proven success in many nations and Nigeria should not be an exception. Deploying technology, through the use of ICT devices such as computer, internet, mobile phone, close circuit television (CCTV), surveillance cameras, social network analysis, biometry surveillance, data mining, satellite imagery, and IP devices, the satellite would definitely produce the desired results.” Another strong argument is that besides its speed, technology-driven surveillance and intelligence gathering cost less in terms of men and logistics (Okauru, 2013). Reports shows that the United States and some countries in Europe, Asia, Middle East and even in Africa are taking proactive steps at checkmating threats to their national security by latching onto revolutions in ICT (Thisday, 2013). Nigerians watched in amazement how America deployed its security system to track down the April 13, 2013 Boston Marathon bombers. There were no guess works in that scenario, which make many Nigerians get disturbed by the many cases of unresolved high-profile crimes in the country. The role of ICT in tackling crime in modern times cannot be overemphasised, going by the modern tactics deployed by the western world in tackling crimes. The solution to the nation’s insecurity challenges lies in science and technology such as the use satellite technology to monitor the activities of the insurgents (The Sun News, 2015).

Therefore, law enforcement agencies have for years explored new ideas to provide more effective policing services. Ways in which the police could serve more areas of the community with the same number of officers. Ideas that would encourage community involvement were introduced in the form of neighborhood watch programs and auxiliary police units. Using cameras to monitor traffic intersections or listening devices to detect the sound of gunfire in neighborhoods are new technologies law enforcement has deployed to collect information on criminal activity. All these initiatives have the same goal; to make our communities safer by reporting criminal violations to the police. The police would then use the information reported, as limited as it may be, to focus their resources in the areas of increased criminal activity (Gitmed, 2007). While the internet has been used by government agencies, including police departments, to post information about themselves and the communities they serve, the communication was one sided. Until recently, information posted on a government website was usually followed by a telephone number to call if you had questions or needed to report a crime. There were attempts to facilitate better communication through the internet in the form of printing out police forms to be filled out and mailed in or dropped off at the local police station. While this was a step in the right direction it did little in the way of speeding up the reporting process. The success of the crime reporting program may be measured by the hundreds of law enforcement agencies now offering this reporting option nationwide and the number of law enforcement agencies launching their own programmes each month (Coplogic, 2009).

Terrorism can be most effectively combatted by using the same internet that terrorists rely on for their activities, but in the case of counter-terrorism though, the power and versatility of the internet is best harnessed by Geographic Information Systems (GIS), a tool for information analysis. GIS comprises hardware, software and procedural systems, designed to support the capture, administration, manipulation, analysis, modelling and graphing of referenced geographic data and objects, especially to solve questions involving complex planning and management – such as security issues. GIS allows comprehensive analysis of the territory including the most diverse areas. It is an extremely versatile tool, with a wide field of application to any activity involving a spatial component. Consequently, in the recent

years GIS technology has been used in the military field, in scientific research, for resource and asset management, as well as in countless other fields such as archaeology, environmental impact assessment, urban planning, cartography, sociology, historical geography, marketing and logistics, to name just a few (Satyanarayana & Yogendran, 2002).

GIS is now indispensable for any decision-making by government, in which spatial information has a special relevance and for which simple maps are insufficient. The success or failure of the planning of preventive measures against terrorism and the consolidation of security in conflict zones also depend in many cases on such spatially related decision-making by government. To do this requires planning, the first stage, monitoring, involves data gathering; the second stage, preparedness, concerns risk assessment which involves target identification and location analysis. The third stage, response, is about data sharing in GIS which involves Big Data technology implementation. The fourth stage, mitigation, includes prediction of the location, frequency and severity of terrorist attacks, and also activities designed to counter terrorist activities by planning and execution (Chandrakar and Thomas, 2010).

3.0 Methodology

The research method was carried out sourcing related articles on the internet and library to understand how the system works and to get proper understanding of its short comings. The examination of records was carried out on the researched data. During the course of this research, data was collected from relevant authorities through the following:

Interview: This is a face-to-face discussion between the researcher and the respondent. It is indeed a direct communication involving the relation of facts and figures.

Observation: This is the use of visual and visual aids like the eyes to study, compare, and analyze situations.

Internet: In this era, internet is a very useful resources in research work and it was utilized for this research work.

3.1 Analysis of the Existing System:

System analysis is a process of gathering and interpreting facts, diagnosing problems and information to recommend improvements on the system. Under the system studied it was observed that the method of tracking terrorist activities and reporting system is manual processes, its not intelligent effort. It is prone to many problems such as:Lack of security of data, non-utilization of manpower, time consuming, consumes large volume of paper work, no direct role for the higher officials.

3.2 The Proposed Crime Tracking System: The proposed system is an intelligent terrorist tracking and reporting system that enables citizens to report terrorist activities easy from any point.The benefits are enormous: Security of data, ensure data accuracy's, proper control of the higher officials, minimize manual data entry, minimum time needed for the various processing, greater efficiency, better service, user friendliness interactive and minimum time required.

3.3 Justification of the New System: The new system will facilitate the process of tracking terrorist activities, it is very easy, it provides information security and reduces manual work. The new system will overcome all the limitations of the existing system.

4.0 System Design

System design is the construction of a technical, computer-based solution for crime reporting requirements identified in a system analysis. System design builds on the knowledge derived from system analysis. System design is concerned mainly with the co-ordination of activities, job procedure and equipment utilization in order to achieve organizational objectives.

4.1 Control Centre: The following are the control center for the system: Splash Screen, Login, Add New User, Admin Complaint Status, Criminal Report Crime, Delete User and Post mortem report.

4.2 Admin Login

This table holds administrator's information such that any query made to this table list out all the administrators that have rights to the system.

Field	Type	Size	Null	Default	Extra
<u>ID</u>	Bigint	20	No		auto_increment
Username	Varchar	20	Yes	Null	
Password	varchar	20	Yes	Null	

4.3 Crime Report Table

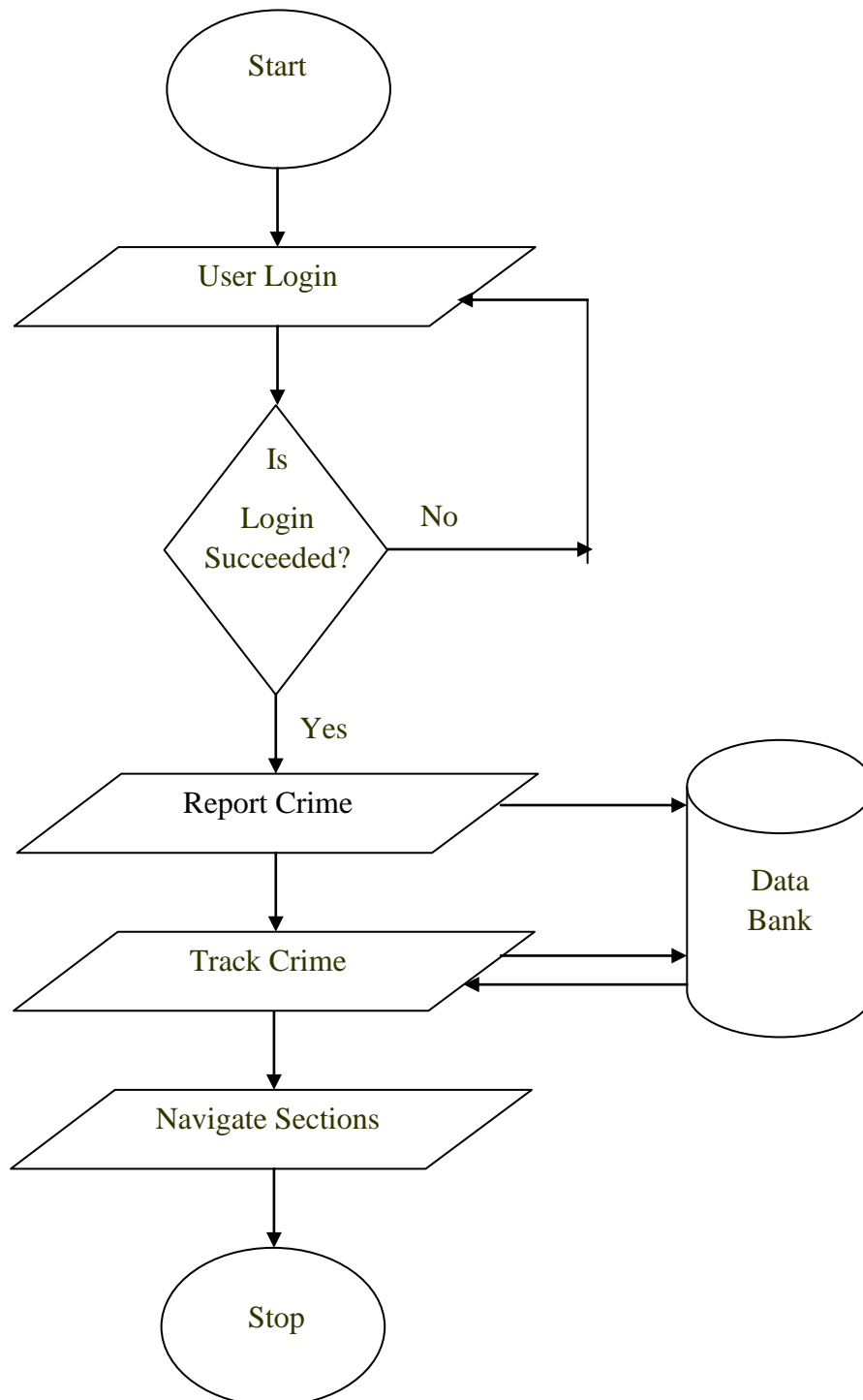
<i>Field</i>	<i>Type</i>	<i>Size</i>	<i>Null</i>	<i>Default</i>
<u>ID</u>	bigint	20	No	
CrimeID	varchar	80	Yes	Null
Name of Criminal	varchar	80	Yes	Null
Crime id:	bigint	80	No	
Nature of crime:	varchar	80	Yes	Null
Criminal details	varchar	80	Yes	Null
Name of criminal:	bigint	80	No	
Crime location:	varchar	80	Yes	Null
Crime description:	varchar	80	Yes	Null
Description of criminal:	bigint	80	No	
Criminal L.G.A:	varchar	80	Yes	Null
Criminal state:	varchar	80	Yes	Null
Country:	bigint	80	No	
Reporter's name:	varchar	80	Yes	Null
Reporter's lga:	varchar	80	Yes	Null
Reporter's state:	bigint	80	No	
Reporter's country	varchar	80	Yes	Null
Reporter's contact detail:	varchar	80	Yes	Null
Occupation of reporter:	bigint	80	No	
Date of report:	varchar	80	Yes	Null

4.3.1 Data Capture Input and Output Design

The input design focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy.

A quality output is one which meets the requirements of the end user and presents the information clearly. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source of information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

System Flowchart



4.4 Choice of Programming Language.

In order to design this system, the following programming languages were used such as Adobe Dreamweaver, CS3, ASP, VBScript. The use of Adobe Dreamweaver, CS3 was inspired because of its flexibility, reliability, efficiency and simplicity. For web animations and webgraphics respectively, Swish Max and Macromedia fireworks application were impleord.

4.5 Program Output

Log-in



The log-in page is the required access to the solution, it requires the user name and the password.

Home



The home page of the crime tracking information management system is a complete solution for efficiently managing the huge data generated. You can navigate to other pages.

Contact



The contact page is for online crime inquiries and reporting module, where you are expected to fill your name, location, email address and place a comment.

Report Crime



The Report crime is form layout that is populated to capture the details of the fill in field to report a crime.

Crime Data Bank



The crime data bank is crime information, in which when you click on a crime identity you can view full details of that crime.

Crime Detail Page



The crime tracking information system where you view the crime details.

5.0 System Documentation and Implementation

The hardware and software requirement for the implementation of this solution is minimum of Intel of 1.2ghz of processor, 512mb of random-access memory and 500 gigabyte of hard disk drive. The software required is an operating system and also inclusive are ASP, Microsoft SQL, Internet Information Services (IIS) and Macromedia Dreamweaver. The web application cannot be used on a stand-alone computer system. In order for this application to have any use, the stand-alone computer has to be connected to the internet because only through the internet can the application truly work.

As earlier emphasized, in order for the web application to truly work in networked environment, it must be on the internet. So, in order to test the web application, a local web server is used, IIS (Internet Information Service) for windows operating system, specifically windows XP and Macromedia Dreamweaver 8.

6.0 Conclusion

The premediated motivated violence that is perpetrated against targets by agents usually intended to influence audience defines what terrorism is all about. The threat of terrorism and targeted violence over the years show alarming increase in crime for instance the Boko Haram terrorist who attacked the people of North Eastern Nigeria. This contemporary challenge to national security is this insurgency of Boko Haram. However, technological advancement has helped law enforcement agencies to improve their communication abilities. In sourcing for materials for related data, it was collected from relevant authorities through the use of interview, observation and the internet. In analyzing the existing system, it was observed that the method of tracking terrorist activities and reporting system was manual processes, and was prone to many problems; hence the proposed system of intelligent solution. The design of a computer-based software was implored for crime reporting. The solution is to reduce security threat in our society, it will deal with managing crime report, case resolution, tracking of cases as well as generation of report.

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