ABSTRACT

Activities of prominent terrorist groups like Boko Haram, Al-Shabaab, Ansaru, and Ansar Dine have left thousands of people dead and properties destroyed for a number of decades in some developing nations. The high level of insecurity occasioned by operations of terror groups has impacted negatively on the socio-economic development of these nations. On the other hand, the use of mobile devices, such as cell phones, has gained prominence in developing nations over the past two decades. Putting side-by-side these two facts, namely, that the menace of terrorism among some developing nations is alarming and that the use of mobile devices is common among citizens of developing countries, this chapter develops a mobile application prototype called TerrorWatch. TerrorWatch is equipped with relevant menus, buttons, and interfaces that will guide a user on what to do when confronted with a terrorist attack or threat. The unified modeling language (UML) was deployed to design the architecture of the application, while the object-oriented paradigm served in the implementation.
INTRODUCTION

The level of insecurity bedeviling most developing nations is alarming (Kim and Phil, 2009). A major cause of this insecurity is terrorism. This has, no doubt, affected this category of nations socio-economically as investors tend to avoid doing business in violent-prone environments. One reassuring fact is that citizens of developing nations have embraced the use of mobile devices. Against this backdrop, the authors are poised to finding a solution to the prevailing problem of terrorism, cashing in on the impressive level of mobile device usage among citizens.

This chapter discusses the design and development of an Android mobile application prototype, called TerrorWatch, for developing countries. The application will help users recognize terrorist threats, organizational structures commonly used by terrorist organizations, as well as enable citizens to know when there is imminent danger of an impending terrorist attack. The application provides functionalities that serve as a reference guide to the appropriate line of action when confronted with any form of terrorist threats and/or attack. The application also allows users to warn of an escalating situation to security agents, caution other citizens to steer clear and so forth, using predefined interfaces provided by the application.

According to Whittaker (2004), the primary aim of terrorists is to intimidate the government and society through the use of violence in order to achieve some set goals. In most cases, these goals are political in nature. Terrorist organizations have been ravaging both developed and developing societies for decades. In developing countries, for instance, Boko Haram has been terrorizing Nigeria and Cameroun since 2009, while Al-Shabaab has been operating in Somalia and other East African countries for more than a decade (Wosu and Agwanwo, 2014). The activities of these and many other terrorist groups have posed serious national and regional security and economic challenges. These activities include suicide bombings, hostage-taking, sabotage, high-profile assassinations, indiscriminate and wanton destruction of public and private property, and many more. Huge budgetary allocations, that otherwise would have been channeled to economic development, are made yearly for purposes of war against insurgency. In Nigeria for instance, the year 2014 budget estimates indicated a total of N968.127 billion (nine hundred and sixty eight billion Naira, equivalent to USD 3.2 billion) was earmarked for security (Udo, 2014), and took up 20% of the entire budget for that year. By the year 2016, the budget for security purposes increased to N1.014 trillion (one trillion Naira, equivalent to USD 3.3 billion).

In another development, it is a fact that the use of mobile devices, such as cell phones, has gained prominence in developing nations over the past two decades. In Nigeria, for instance, it is almost impossible to find a household without at least one mobile phone (Oyelere, Suhonen, & Sutinen, 2016). With that in mind, this research develops an application that will incorporate security features into mobile devices to serve as a counter-measure to the menace of terrorism. Admittedly, there have been concerted efforts by various national and regional security formations to combat terrorism (Cooke, 2013). This, however, has not sufficiently quelled the menace of insurgency, and motivates the authors; to search wider for solutions through the use of mobile devices.

TerrorWatch is a tool to be used by those who require an instant and immediate guide on terrorism and terrorist threats. The application complements, but does not replace, security agents and intelligence gathering on terrorism. Rather, it is an instant solution in the absence of the Army, Police and other relevant agencies. A typical scenario of when the application could be of assistance includes sighting a bomb, firearms, or an improvised explosive device (IED) in an environment, being in a place where
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