Introduction

Across three weeks of April 2011 Nigeria held of series of elections: for the National Assembly on April 9; President on April 16; and, in most parts of the country, Governor on April 26. These elections were greeted with considerable attention and anticipation spurred by the combination of a series of progressively discredited elections from 1999 to 2003 and 2007, a recent presidential crisis, and other current and historical events. Many citizens across Nigeria took interest in the electoral process for the first time.

The Independent National Electoral Commission (INEC) under its respected Chair, Attahiru Jega, performed generally well putting in place needed electoral reforms. Despite pre-existing challenges and a short timeline the election was, broadly, the most credible to date (Project 2011 Swift Count, 2011). While the presidential incumbent, Goodluck Jonathan, won decisively (after first assuming leadership when his predecessor died in office), it was an election that saw the unseating of many other incumbents in congress and governorships and the strengthening of opposition parties across the country.

Even in the presence of generally well-regarded elections the Presidential election in particular was marred by violence (NDI, 2011). Following the announcement of preliminary results indicating Jonathan’s re-election, supporters of his main rival Muhammadu Buhari, took to the streets of Northern cities in violent protest. According to Human Rights Watch, at least 800 civilians were killed, though other reports put the number above 1,000 (Human Rights Watch, 2011; International Crisis Group, 2011).

Thus, while the elections received generally high marks, as the International Crisis Group wrote in its election report “There were also grounds for pessimism: the upsurge of violence in several states, encouraged by politicians and their supporters who feared defeat; an ambiguous and confusing legal framework for the elections; and a flawed voter registration exercise,” (International Crisis Group, 2011). In the words of the US Institute for Peace, the election was the “best run, but most violent” (Bekoe, 2011).

Throughout, information and communication technologies figured importantly in the election, and especially among the self-described “Facebook generation” of youth voters. “It is impossible to imagine elections in Nigeria without tools such as Facebook, Twitter, SMS, mobile phones, mobile apps or cameras. These have fast become the weapons of choice for the Nigerian revolution,” blogged Sokari at blacklooks.org. Social media (Twitter, in particular) was also a key resource for INEC, who used it extensively as a direct, unfiltered and very effective path to reach
the electorate. While internet penetration rates in Nigeria are still low by some measures (28% of the population according to 2010 ITU figures) the impact of the net, especially among youth, far exceeds these figures. Summarized simply:

- One-third of Nigeria is young (www.prb.org);
- More than half of Nigeria has access to mobile phones (ITU, 2010);
- And the young mobile phone users increasingly connect to social media platforms such as Facebook from their handsets. Facebook is reportedly the nation’s most visited website (http://www.alexa.com/topsites/countries/NG) and according to Socialbakers a million new Nigerian Facebook users were added just in the last six months (http://www.socialbakers.com/facebook-statistics/).

What happens when this “Facebook generation” of Nigerians actively engages a critical and contested national election? In collaboration with Nigerian colleagues, we monitored and responded to social media traffic related to the election in order to find out.

The Social Media Tracking Centre

Enough is Enough Nigeria (http://eienigeria.org) is a coalition of Nigerian youth activists formed to advocate for good governance and ensure fair elections with robust participation. They are frustrated, ready for change, and empowered by communication technologies. Following on a one-day roundtable held in March 2011, Enough is Enough joined a set of other collaborators including the Shehu Musa Yar’Adua Foundation to staff an election “Social Media Tracking Centre” (Asuni & Farris, 2011). The goal of the Centre was to follow the use of social media during the elections and, as necessary, respond in real-time to reports of election irregularities or other issues demanding action. While the Social Media Tracking Centre, located in Abuja, handled the hand tracking and real-time response to social media reports a team from Georgia Tech, Harvard and MIT developed the automated software system that underpinned their work. The MacArthur Foundation and Omidyar Network provided financial support for the software and were truly instrumental in creating and guiding the broader collaboration, which also included the wonderful participation of Kudirat Institute for Democracy (KIND).

The resultant software tool supports social media aggregation and basic text analysis. It can collect reports from myriad sources—Twitter, Facebook, Youtube, Ushahidi, and SMS—for reviewing and processing of reports both automatically using text filters, and manually using a task distribution interface. Reports can also be grouped into incidents, mapped, and monitored over time. This system enables

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1 The software is to be released as open source. Please contact Michael Best mikeb@cc.gatech.edu for further information. The lead engineer of the software was Thomas Smyth (smyth@cc.gatech.edu).
observers to maintain a comprehensive picture of the data produced by informal monitoring efforts crowdsourced over social media and can handle, in real-time, very high volumes of user-generated reports. Based on this real-time analysis, appropriate actions, such as notifying the press or authorities, can be taken. This data collected during an election can also be processed and stored for retrospective study.

During the Nigerian election the software monitored multiple social media streams from servers in Atlanta, Georgia, flagging reports of election problems, violence, etc. These reports were then sent to the Tracking Centre in Abuja, staffed mostly by volunteers. They were then able to respond in real-time to issues flagged by the software. Importantly, when violence erupted in Northern Nigeria after the Presidential election, the situation room, responding to reports flagged by the software and by hand, was able to directly contact personnel from public safety agencies who then coordinated responses. This social media informed response was one reason, we believe, that the violence was relatively limited in scale.

Over the course of the entire Nigerian election, the software collected nearly a million reports, at peak times receiving nearly 50 reports a second. The integrated system – where the software provided initial automated analysis and the Tracking Centre volunteers performed subsequent classification and response – repeatedly proved effective in identifying and responding to flashpoints. Indeed the social media universes were shown to regularly be out front of the election officials, the security officers, and the traditional media. While it is surely premature to claim this method an unqualified success, or a replacement for other approaches, initial indications are promising.

Three Transitions: The Difference 50 Tweets a Second Can Make

While Nigeria’s technology environment is lacking in some respects, confronting challenges of penetration, electricity, bandwidth and more, enthusiasm over social media (perhaps further advanced by the Arab Spring) and interest in the elections grew into a tremendous flurry of activity that created three transition points for the Tracking Centre. First, the flow of information was so voluminous that it required different tools to conduct meaningful real-time monitoring. Second, the scope of the collective interest, initially focused on the elections themselves, shifted from the voting process and results to monitoring and mitigating the associated violence and unrest. Finally, the volunteers found themselves drawn deeper into the effort, moving from curious to committed, with unanticipated interest extending beyond the elections.

One indicator of the interest in leveraging digital technologies to track the elections
was the sheer number of Ushahidi\textsuperscript{2} instances deployed, albeit with different aims, communities, and coding schemes. The USA-based technical team initially created a meta-instance of Ushahidi aggregating across these multiple instances. A software system called Sweeper, developed by the Ushahidi offshoot Swift River\textsuperscript{3}, was deployed to capture, manually categorize and verify social media reports as they arrived in real-time.

However, as input volumes increased (peaking at about 50 reports per second), the technical team quickly switched to a purpose-built platform designed and coded (during the elections) explicitly to handle a very high volume of data and to provide simple real-time auto and manual tagging facilities, as well as a data storage facility to support retrospective report analysis. Ultimately, this technology was better suited to the task than Sweeper, though given its rapid development and deployment it suffered from a less elegant user-interface. In addition, Media Cloud\textsuperscript{4}, a tool that crawls and analyzes news feeds, slowly built-up a searchable full-text aggregation of relevant media sources, blogs and websites allowing for subsequent analysis. Thus, in a few short weeks, the team transitioned its technologies, first deploying the Sweeper system, then quickly developed and deployed a novel social media aggregation and analysis system for real-time response, meanwhile building-up a rich collection for retrospective study using Media Cloud.

Given the great concern about this election, emanating from historical trends as well as facts and barriers particular to 2011, it is no surprise that many stakeholders sought citizen support for the monitoring of the election itself. And indeed the Tracking Centre was initially configured to track and respond to election irregularities, for instance a polling place that had run out of ballot papers. In these cases the software might automatically flag a social media report as identifying a potential election problem, humans would further curate the report gauging its veracity, and finally based upon that process might reach out to election officials requesting some sort of intervention.

However, a second transition for the project team was a change in focus, when participants moved from monitoring of election irregularities to instead focusing on incidents of violence. The violence associated with the preliminary presidential results quickly shifted everyone’s focus from the integrity of the vote to protecting public safety and human lives. The same infrastructure, in terms of online community (providing data), technology platform (processing that data) and monitoring and response process (curating that data), was repurposed and proved itself effective at not just identifying these risks, but actually conveying them to public safety officials for prompt action. In some cases, this combination resulted in

\textsuperscript{2} Ushahidi is a social-media mapping technology, the initial version of which was developed rapidly and internationally during the violent aftermath of the 2007 Kenyan elections. See http://ushahidi.com/.
\textsuperscript{3} See http://ushahidi.com/products/swiftriver-platform.
\textsuperscript{4} http://www.mediacloud.org.
the saving of lives, illustrating both the power and the malleability of this type of approach.

Even as the technology and focus of the project evolved according to the landscape it was situated in, perhaps the most surprising transition was in the attitude and demeanor of the volunteers who staffed the Centre. They had come for diverse reasons but all sharing at least a sense of curiosity in the elections. While they may have begun with modest expectations, we witnessed a transition of attitude as many developed a deep personal investment in the process, eager to play some role in facilitating good elections. As the concern shifted to violence their connection grew, perhaps tied to other well-publicized and painful outbreaks. In the end, many reported feeling a closer tie to new and social media and a new perspective on the power of information and communications technologies. They reported themselves as more likely to be involved in civic activities and to use new technologies for them.

During the 2011 election in Nigeria, and working with collaborators manning a Social Media Tracking Centre, we witnessed three transitions as: (1) we moved to different technical platforms as we responded to an increased volume of incoming reports, (2) we transitioned from a focus on monitoring for election irregularities to crises response in the face of violence, and (3) we witnessed a change in attitude among our colleagues in the tracking centre from curiosity to deep commitment in the project’s goals and processes.

**Implications and Thoughts Moving Forward**

While we have only just begun to reflect on this process, it offered insight and support for our supported broadly held suspicions regarding the potential of human capacity and youth, in particular, the unpredictable nature of technologically-empowered interventions, and the power of diverse collaborations that seek to combine them.

Foremost among these preliminary insights is that the convergence of initially or ultimately impassioned youth, enabled with talent, curiosity, education and ICT, collaboratively engaging civic issues, holds genuine promise. This experience is far from a replicable recipe, and requires a more thoughtful and nuanced treatment of the particular elements – and interactions – associated with positive outcomes. It also raises exciting questions, including whether the likely impact is limited to more specific goals (eg, around the elections), or can extend to fostering broader and more enduring attitudinal changes (eg, continued civic engagement).

The experience shared by innumerable tool-designers and builders around the world, was again repeated, as Aggie and the Social Media Tracking Centre were rapidly repurposed for violence identification and response, rather than the more typical electoral activities anticipated in their design. Despite a thoughtful, but brief, planning process involving diverse participants, creators of platforms (in this case, both human and technical), are well-served to remember that it is hard to know
how they will actually be used, but that once they are built, there can be many
different productive uses, depending on user needs and contexts. This suggests the
value of being open, flexible, and adapt to need/opportunity, as we design, build,
refine and engage in this way...and the value of making those adjustments rapidly to
suit emerging needs.

Finally, we would be remiss if we did not highlight the value of the innovative
international and multi-sectoral collaboration that was fundamental to any success
we enjoyed. The extended team that drove and backed the intervention did not
agree to a formal partnership, but based on a combination of previous
collaborations, and shared interests and commitments, came together in a novel and
organic fashion. Donors financially, intellectually and strategically supported an
initial collaboration between youth activists and university, which grew to include
another US-based university and a Nigerian operating foundation, also eager to
support the electoral process and engagement in it. In terms of implementation, the
operational team consisted of US-based academics experienced in social media,
technology development, media, elections, etc. with development capacity, Internet
bandwidth and other resources; informed and connected Nigerians who understood
the language, social context, and social media sphere, and had trust relationships
with key organizations (including INEC and public safety); and experienced social
investors, who were strong on both the substance and process of the collaboration.
Notable shared elements among all parties included the commitment to making at
least some small difference in the elections on behalf of Nigeria rather than any self-
interest, and recognition that this was an important learning opportunity, one best
advanced by experimentation.
References


