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# Ushahidi: Empowering Citizens through Crowdsourcing and Digital Data Collection

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# USHAHIDI:

## Empowering Citizens through Crowdsourcing and Digital Data Collection

**Interview of Juliana Rotich**  
Co-founder of Ushahidi, Board member



Ushahidi is a technology leader in Africa, headquartered in Nairobi. It was developed to map reports of violence in Kenya after the post-election violence in 2008. Since then, thousands have used its crowdsourcing tools to raise their voice. Co-founder of Ushahidi, Juliana Rotich has been its Executive Director for over 4 years. She has recently transitioned to a board member role.

### KEYWORDS

- CROWDSOURCING
- CIVIC TECHNOLOGY
- AFRICAN SMART CITIES

Created in 2007, Ushahidi which means “testimony” in Swahili, is both the name of a Kenyan not-for-profit civic tech company and of a crowdsourcing platform allowing to submit violence reports and map the events. In this interview, Juliana Rotich, co-founder and former Executive Director of Ushahidi, introduces the Ushahidi technology and the next challenges to face, notably in the context of African smart cities.

**Question:** Ushahidi is one of the pioneer organizations specialized in crowdsourcing in the world. What is the story behind your structure?

**Juliana Rotich:** Ushahidi, which means “testimony” in Swahili, was created in 2007 in the context of violence incidents in the aftermath of the Kenyan presidential elections. Back then, the idea was to create a crowdsourcing platform allowing to submit violence reports and map the events through mobile phone or the Internet. Between 2007 and 2008, 450 000 users used this technology. After its launch in Kenya, Ushahidi has been replicated in many different contexts, from geolocation of victims after the Haitian earthquakes to coordination of demonstrations during the Arab Spring and reporting of violence committed in Syria. Though fields of deployments are very diverse, most of them are dealing with election monitoring, crisis and emergency response, activism as well as civic engagement and community building.

But today, Ushahidi, which is both the name of our organization and of our crowdsourcing platform, has expanded and developed activities beyond this first objective of crowdsourcing and data collection. It stands for a not-for-profit civic tech company developing a wide range of software designed to manage and analyze data collected by SMS, email, web and even Twitter. For instance, we have developed Roll Call, a team check-in app to reach each other and confirm everyone is okay, notably during a crisis. Whatever the software, the ultimate objective is to change the ways information flows, empowers people and helps them raise their voice.

**Question:** If we focus on your Ushahidi crowdsourcing platform, who are the people using this technology?

**J.R.:** Our community of users is very diverse. The main groups actually using Ushahidi are civil society organizations and community-based organizations, media, activists and citizens, researchers and academics and even governmental organizations. For instance, Conservation International and IFES use our platform. IFES uses the platform for election-related activities around the world. We are not able to measure today the exact number of people using our platform since we do not have any “log in” system. However, we have recorded 90 000 deployments worldwide since 2007 with a total of 6.5 million posts or “testimonies” in 160 different countries.

**Question:** These figures are great indicators to demonstrate the success of Ushahidi. According to you, what are the key factors of success of your crowdsourcing platform?

**J.R.:** I think that there are five main factors explaining the success of Ushahidi and the fact that many people embrace the technology.

First of all, the technology is very simple to use and do not require specific competences. When designing any software, the Ushahidi team always makes sure that it can be used by a large audience. It is surely one of the most important factors of success but it was also a great challenge. Indeed, when Ushahidi was first made

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available, it did require some IT competences to use the system... It took a while before civil society organizations and various users of Ushahidi got to know and adopt the technology for their uses. To overcome the server issue which was difficult and costly to manage, we decided to set up a cloud system which is much easier to use and reduces time for new deployment from 30 to 3 minutes.

Secondly, Ushahidi has been developed to be accessible even in remote areas or contexts where connectivity is low. This was a mandatory step to develop a crowdsourcing platform which is mainly designed for emerging countries.

Thirdly, Ushahidi is available on different devices from the Internet to a simple mobile phone, making it available to almost everyone.

Fourthly, the verification process of information is key. Testimonies must be verified. It depends on the organization deploying and what their strategy is for doing so. But Ushahidi provides guidance in the form of toolkits that help with charting effective strategies for crowdsourcing.

Finally, I cannot talk about key factors of success without mentioning our economic model which is a mix between funding, mainly from international foundations and digital companies, and a business and development scheme. In other words, we are a public interest organization designing open source software, combined with a business entity proposing custom solutions to clients (mapping tools, interactive data visualization, on-site training and support, etc.).

**Question:** Today, smart technologies are developed at the city level. Is Ushahidi an “urban model” that requires specific criteria that can only be found in cities or could it be expanded to rural areas?

**J.R.:** Using Ushahidi in places where connectivity and wireless service coverage are high will always be easier. However, Ushahidi has been designed

to be used both in urban and rural areas. During its launch in Kenya in 2007/2008, the technology enabled to report violence in cities as well as to gather information in rural areas.

The underlying idea of our model is to take into account the specificities of local contexts, such as the density of population or low bandwidth regions, and design appropriate solutions. Our team has always been working to develop technologies that can be operational even when connectivity is very low. For instance, we have recently launched a new technology called BRCK which is a connectivity device that aims to fit the needs of people living in areas, rural or even urban, where both electricity and Internet connections are problematic.

### Question: What is the next challenges Ushahidi seeks to address?

**J.R.:** The next challenge that we are currently addressing is the conceptualization of what we call the “Ushahidi Tracker”. It is an interactive dashboard that gathers and analyzes active Ushahidi deployments throughout the world. It will enable anyone to explore reports from various regions, inspect top deployments and top active regions, select a particular time period and so on. It could be a powerful tool to monitor and analyze data in times of crisis. While developing Ushahidi Tracker (a first version of the software has been made public in October 2015), the Ushahidi team is also working on a new initiative called CrisisNET that aims to become the first platform dedicated to the world’s crisis data by aggregating deployments made through Ushahidi as well as thousands of other structured and unstructured data.

### Question: The story of Ushahidi bears in witness the rapid rise in the use of new technologies in Africa and the opportunities these technologies offer to solve specific issues, notably in urban areas. According to you, what is the next issue that African smart cities should address?

**J.R.:** I think that there is an immense potential to use new technologies in order to reconnect governments and citizens in Africa. Indeed, new technologies could be considered as a bilateral way for local governments to engage with citizens, especially at the locality level. A grassroots approach could indeed enable authorities to come

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up with policies responding to people’s specific needs. Concerning crowdsourcing, the key opportunity for governments and organizations interfacing with the public is to see crowdsourcing as a way to connect with constituents in a way that establishes bottom up flow of information. There is an immense opportunity to optimize resources allocation and to implement a mechanism enabling effective response to citizens’ concerns and feedbacks.

Many interesting programs dedicated to foster the representation of communities, including marginalized ones, in local decisions have been developed recently. “*Map Kibera*”<sup>1</sup> is certainly one of the most inspiring. Started in 2009, the project aims at empowering residents of Kibera, one of the most marginalized informal settlements of Nairobi, through the use of digital tools. After releasing the first digital map of Kibera, Map Kibera has launched the initiative “*Voice of Kibera*”<sup>2</sup>, which relies on the Ushahidi technology and aims at giving residents a chance to report any information relevant to them and their communities - thus making their voice heard by local authorities.

At the international level, there are interesting initiatives too. Through the project “*Making All Voices Count*”<sup>3</sup>, led by Hivos, the Institute of Development Studies and Ushahidi, grants are for instance given to programs promoting good governance and transparency in 12 countries across Asia and Africa. In the same perspective, a project entitled “*Municipal Barometer*” has been set up in the Netherlands, and is now duplicated in South Africa<sup>4</sup>. Led by the Centre for Municipal Research and Advice, it is a web-based tool that tackles the limited availability of local level government data in South Africa. It provides citizens with easily accessible data on various topics: use of public money, access to public services, governance and accountability, etc.

These few examples definitely demonstrate the capacity of new technologies to help citizens regain their decision-making power and voice their concerns at the city level and it definitely stands for one of the main challenges of smart cities in Africa.

1 <http://mapkibera.org/>

2 <http://www.voiceofkibera.org/>

3 <http://www.makingallvoicescount.org/>

4 <http://www.municipalbarometer.co.za/>