Social Computing in Emerging Countries

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Introduction

Social Computing enables user-centric, collaborative knowledge sharing to build communities of people using the Internet. When Social Computing emerged around 2003, it was not thought that a few years later millions of users across the world would be using Social Computing applications such as online social networks, blogs, collaborative filtering of content, and many more. Social computing supports social behaviour with computational systems by recreating social conventions and contexts using technology. At a more technical level, Social Computing is supported by technologies such as collaborative filtering, online auctions, and reputation systems and social network analysis. There is great value in Social Computing systems as they are empowering users and driving the creation of new digital divides. Social Computing is a driver for growth and employment, is disrupting many industries and has the potential to reshape work, health and learning.

Social Computing in emerging countries

In Africa, Internet access is not affordable. In addition, low availability of international bandwidth, poorly structured markets, lack of existing infrastructure and low population densities all ensure that mobile is a strong entry point for networks in Africa. In many developing nations, the majority of mobile web users are mobile-only. For example, Egypt has 70% percent, India has 59 % and South Africa has 57% mobile-only users who tend to be under 25.

Given the popularity of mobile-only Internet usage, it come as no surprise that the largest social network in Africa is Mxit (www.Mxit.com), a mobile social network. Mxit is a Java mobile application that connects users with a mobile phone to the Internet. It is estimated that Mxit has around 50-million users in 120 countries, supporting the sending of 23-billion very low-cost messages a month. The key to Mxit's success lies in its simplicity. As the interface is not graphical and games are text-based, it works on nearly any mobile phone. This makes it ideal for emerging markets where smart phones are still out of reach for most people. This African success story indicates that there is real potential in this market.

In developing countries such as those found in Africa, mobile phones can be used as a tool to intervene and act as a competitive force in the social, economical and political development. For example, Egyptians changed history when they used social networks to bring down their president. There is an opportunity to develop mobile social networking as a business in Africa, to growth the very small enterprises in these countries. This can ensure that communities can develop into positive, productive and outstanding environments by combining modern technology with the natural predisposition of people to culturally support each other. This is because African entrepreneurs run profit ecosystems rather than business units. These ecosystems interact with other ecosystems in a culturally involved manner to ensure that the ecosystem will survive in the face of adversity. Social capital and social ties support these ecosystems and communities in large parts of Africa where members of communities pool resources together in an attempt to meet economic and social needs for both individual members and the general community. An identified need is the development of social computing technologies to support the growth and development of these ecosystems and communities to allow them to flourish.

Social Computing challenges to address are Security and Privacy, as Social Computing applications have weak user identification management systems and Trust as it is a main driver for collaboration and innovation.

INCO Research

A research topic identified for international cooperation (INCO) is the development of trust models, mechanisms and architectures to support Social Computing systems to sustain business ecosystems in rural Africa. For these systems, it is important that trust management takes into account concepts relevant to the target context. An important identified focus of the research is the study of culture on trust. For *individualistic* cultures, for which most trust management systems have been developed, consumer trust is facilitated through trust mechanisms such as institutional guarantees, laws and policies, information security mechanisms, and social controls. In contrast, *collectivist* cultures, found in Africa, Asia, India and South America have different needs as they interact in different ways. For example, in collectivist cultures people emphasize interpersonal relationships where loyalty is obtained by protecting the group members for life. Individuals see themselves as subordinate to a social collective such as a state, a nation, a race, or a social class. They value group harmony and consensus more than individual achievement.

Conclusions

In conclusion, this research topic is thus of interest not only to the African context, but to any environment where different types of cultures exist, and where an understanding of the influence of culture on trust is as yet limited. It is therefore a topic that is ideal for collaboration between parties found in different countries in Europe, Africa, India and Brazil.

About the Author

Marijke Coetzee is a Professor in the Academy for Computer Science and Software Engineering at the University of Johannesburg, where she is also the sub-head of Computer Science. The main focus of her research focus is on Information Security, specifically security policy specification and evaluation, information security of service-oriented architectures and mobile and wireless environments, and trust for mobile social network applications. She is a rated NRF researcher and has co-authored 40 papers published in peer-reviewed local and international conference proceedings and journals. She acts as reviewer for various national and international conferences, is the external moderator of a number of post-graduate subjects at other tertiary institutions, and a co-chair of the ISSA (Information Security for South Africa) conference. She is a member of the ACM, IEEE and SAICSIT.