

SOCIAL COMPUTING



Marijke Coetzee

**Building International Cooperation for Trustworthy ICT:
Security, Privacy and Trust in Global Networks & Services**



Overview

- **Definition**
- **Value of Social Computing**
- **Challenges for Social Computing in the developing world**
- **An African success story**
- **Mobile platforms for VSEs**
- **Trust and Reputation taking culture into consideration**
- **Conclusion**

Definition

- **Social computing** is a general term for an area of computer science that is concerned with the intersection of social behavior and computational systems. This is where digital systems support online social interaction.



Common Perception....

- Creating or recreating social conventions and social contexts through the use of software and technology using blogs, email, instant messaging, social network services, wikis, social bookmarking



Social Computing technologies

- Computations carried out by groups of people The Wisdom of Crowds
- Collaborative filtering, online auctions, prediction markets, **reputation systems**, social network analysis, computational social choice, tagging, and verification games.



Value of Social Computing



- Social Computing is mainstream today and can be overlooked
- Social Computing is empowering users
- Social Computing drives the creation of new digital divides
- Social Computing is a driver for growth and employment
- Social computing is disrupting other industries
- Social Computing has the potential to reshape work, health and learning

Challenges for social computing in the developing world

- Internet access in Africa is amongst the least affordable in the world
- Low availability of international bandwidth
- Poorly structured markets
- Lack existing infrastructure
- Low population density



Mobile-only users



- In many developing nations, the majority of mobile Web users are mobile-only, highest include Egypt at 70 percent, South Africa at 61 percent, and India at 59 percent - they tend to be under 25.
- In developed nations, in the US particularly, many mobile-only are older people and many come from lower income households
- In Africa the 85 percent of the mobile-only Web users access the Web with a feature phone.
- Many mobile-only Web users do not have a bank account, in India this is 57 percent of the mobile-only, in Africa 80 percent.
- In South Africa, which has a more extensive banking system, it is estimated that people keep about R12 bn (US\$1.8 bn) at home/communal systems



An African success story

- Mobile social network - **MXiT**
- In South Africa, **MXit** dwarfs Facebook and Twitter
- The key to **MXit's** success lies in its simplicity.
- The interface is not really pretty - no flashy graphics, games are text-based.
- **BUT** - works on virtually any handset, easy to access
- Perfect for emerging markets where smart phones are still out of reach for most people

Plug in to Africa's Biggest Social Network



In South Africa



10 000 000

Mxit

3 761 160

Facebook

800 000

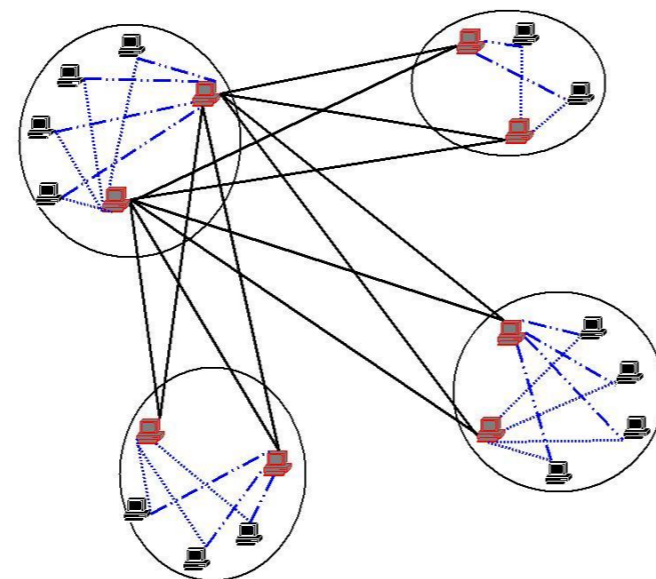
Twitter (approx.)

MXiT value

- **Bsmrt** -mobile education service that provides a free platform for young Africans to access educational content, news, and practical information.
- **RLabs** - enables the 50 million registered Mxit users to access professional counselling on various issues such as HIV, substance abuse and depression via mobile chat.
- **uusi** (mobile jobs network with already more than 6,000,000 job searches in under 3 months, just under 40,000 mobile CVs uploaded and more than 50,000 users),
- **MiGoX** (open governance social platform),
- **Urahisi** (a mobile ordering service via Mxit) etc..

Social Computing - Mobile platform for VSEs

- African entrepreneurs run profit ecosystems rather than business units.
- These ecosystems interact with other ecosystems in a **culturally elaborate manner** that can produce extreme robustness, resilience, and flexibility.
- **They need to be supported by social computing systems...**



--- Liens Client/Serveur Super-Peer
— Lien P2P Client



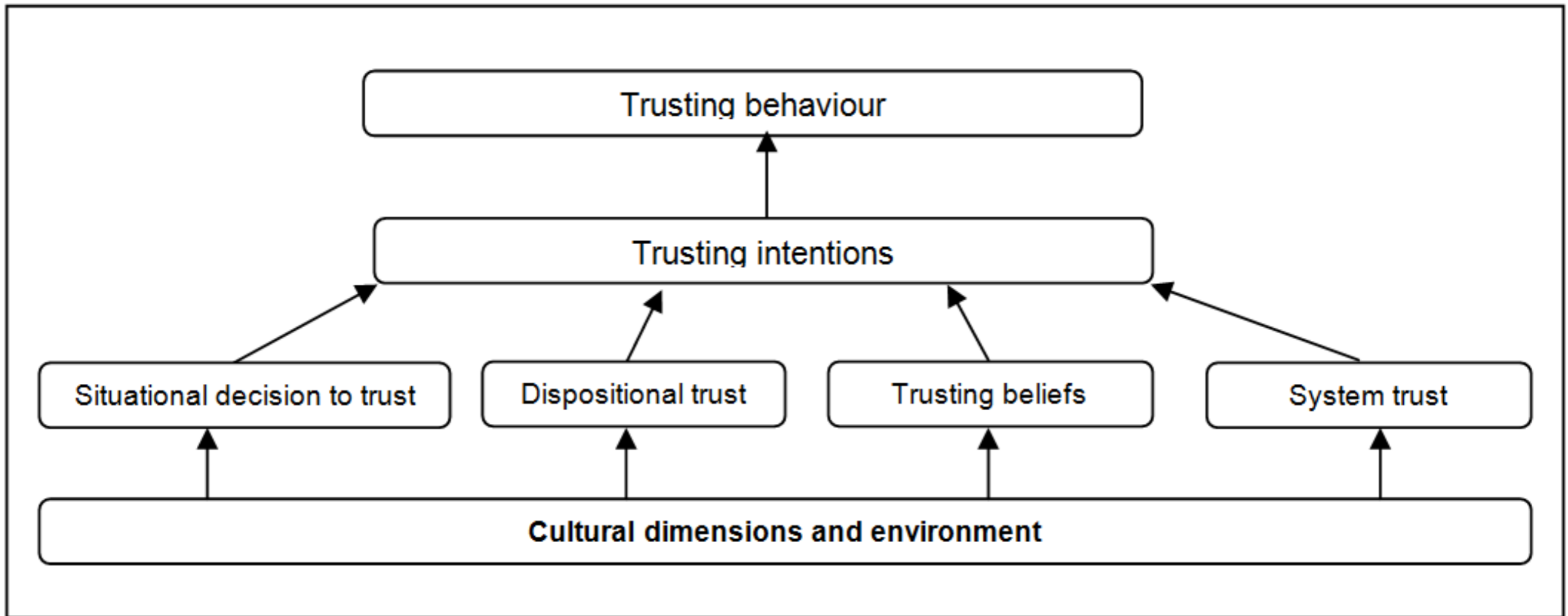
Social computing challenges

- **Security, privacy**
- Social Computing applications have weak user identification management systems.
- **Trust**
- Main driver for collaboration/innovation

Research topic for international cooperation - Trust

- How to ensure that trust management takes into account concepts relevant to the target context?
- **Individualistic cultures** - consumer trust is facilitated through trust mechanisms such as
 1. institutional guarantees,
 2. laws and policies,
 3. information security mechanisms,
 4. and social controls.

Trust formation



Trust and reputation taking culture into consideration

• Individualistic vs. collectivist cultures

- "I". "We"
- Critical Consensus
- Detailed Vague
- Rules- based. Authority-based

Social Computing - Trust for collectivist cultures

- New trust models and properties are required
- Mobile / hybrid Peer to peer with super-agent architecture
- **Towards:** generic and reconfigurable reputation systems for social computing