# Developments in Participatory Methods for Software Design and Development

by
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***Abstract***

*This paper briefly discusses the concept of Participatory design. Whereas the embodying research is in software engineering and development of large enterprise information systems, this paper discusses the general concepts of participation from a perspective of a developing country's possible gains from embracing this methodological approach. In line with the theme of the conference "Emerging technologies and trends and the future of ICT Sector in Kenya" the content is abridged to reflect the wide spectrum of the audience in the conference.*

## 1. Introduction

When one thinks of ICT technologies and possible future scenarios for the ICT sector in Kenya, one actualizes the building of the sector in terms of applications in diverse areas, proliferation, implementations and use of information and communication technologies; tapping to reap all possible benefits and results from a plethora of ICT activities. Any researcher would take the main challenge in this understanding to be that of building use capacity in the country and summarize this as integration of technologies to the society, to all day-to-day chores as a way of life. For this to be realized, the view to be adopted is that of technology as an enabler and a great support for our human satisfaction. Whereas technology spread is unstoppable, when we get to personal human aspects of benefiting and feeling the benefits of technology, among other aspects, the issue of ownership comes out very strongly. A fulfilling and satisfying ICT sector is therefore one that has the aspect of ownership of solutions as part and parcel of the society.

The consequence of the above-described phenomenon is a call to embrace change. This is a change that is both technical as would be visualized by embrace of technologies but also in the socio-human dimensions of our society. This frames my presentation to the special domain of socio-technical understanding of technology's role in society. The drive for this view can be summarized in three statements:

1) ICT anchors in a society of human beings. The very existence of communication technologies derives its definition from a society of human beings;

2) ICT's consequences eventually become a phenomenon of the society. ICTs applications and embrace in society are in the observable facts of the society. The incidences of ICT application provide a frame for defining existence of ICT in a society;

3) ICT design and development in a society needs to be viewed as interventions in reality of the society's life.

As a consequence of this view all aspects of technological embrace and use in a society needs to be inclusive and responsive to the status quo of the society. The way to a technological embrace that takes the society as the point of departure has been fronted as through a participative process. It is from this view that the study described takes the title of participatory design.

**2. Participatory Design**

Participatory design is used here to mean approaches and methodologies whose point of departure is the current or future user of the artefact under development. The artefact in this case could be IT or development. The users are central actors in the design and development processes playing the roles of informing, consulting and collaborating with the technology experts as they (users) play the role of domain experts. They co-determine artefact and workplace development in a process that places a lot of emphasis on mutual learning.

The components of a participative and collaborative setting can be summarized in terms of the goal, the orientation and the nature of the process adopted. The goal is improving quality of life with a focus on servicing the intervention and not on technology. The orientation is collaborative though negotiating specific focus and goals with a call to familiarize oneself with another domain of expertise. This calls for understanding and respecting the technology domain by the users and the designers seeking to understand and respect the user domain. The process is iterative where ideas are generated from real work situations and these ideas are evaluated and discarded or explored further. This enriches the process with mock-ups, prototypes and design scenarios of real use. When conceptualised in terms of a project setting, the setting can be summarized as building relationships and appending the project (plus its results) to a context. This involves building the right team, building familiarity across another domain

of expertise and carrying out a contextual enquiry that is represented by design at work.

Participatory design has its origins from projects that were carried out in Scandinavia in the late 60s and 70s. Trade unions were interested in how technology would affect their working conditions and interests. There were projects involving industrial workers whose expertise in the jobs was a great input to the success of the technology projects. Later similar projects were carried out in office work settings, notably in government institutions, health and general administration, as the projects spread to other regions, the participation approach was used in diverse settings and industries. The consequence of the participation setting from these projects was the development of policies, control structures and infrastructures that support social inclusion of all actors that get influenced by new technologies in one way or another. Democratisation and spirit of inclusion in work places and work settings got established. It is worth noting that as the basic principles of participation were applied in different regions context specific approaches were developed. The two major developments so far are the socio-technical approaches in Europe that emphasizes collective resource allocation and the North American joint approach that emphasizes technical and efficiency specifications of the projects.

**3. Conclusion**

For us as we take sometime to discuss the future of the ICT sector in Kenya, we need to reflect on our practice with the objective of coining a methodological framework for practicing PD in our settings. This needs to be informed by understanding and respecting our social dimensions, striving for spaces of expression in work settings in a manner that supports articulation of 'our' solution. We need to address the issues of attitudes to other domains of knowledge with the intentions of harmonizing exchanges as supported by our social structures in place. We have a challenge to not only embrace technology and build infrastructures but also to build our socio-technological identity based on our context.

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**Cite this article as:**
Kiura, S. (2007). *Developments in participatory methods for software design and development.* **In** M. Kashorda, F. Acosta and C. Nyandiere (*eds*). ICT Infrastructure, Applications, Society and Education: Proceedings of the Seventh Annual Strathmore University ICT Conference. Strathmore University Press: Nairobi