Reframing Human-Centered Design -Keeping Individuals and Societies at Large in the Loop

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Human-centered design principles, e.g. incorporating user-derived feedback or usability as major criteria, have been developed to ensure that computer-based solutions conform to peoples' abilities and needs as effectively as possible. However, in times of ubiquitous computing, single applications used by or affecting several million people (e.g. social networks, eGovernment) and increasing demands for inclusive design, human-centered design approaches need to be reframed in order to keep individuals, diverse groups and societies at large in the loop. While computer scientists and psychologists have developed a common language and set of methods regarding human-computer interaction in the last 30 years, computer scientists and social scientists are in the initial stages of such an approach. It is a crucial one because an analogy can be drawn: Established cooperation between computer scientists and psychologists reflects the era of personal computer (briefly: "one knows computers, one knows humans"). Closer cooperation between computer scientists and social scientists will reflect the upcoming era of ubiquitous computing (briefly: "one knows computers, one knows societies). In this regard, it is important to emphasize that reframing human-centered design must be understood as extension and not replacement of certain perspectives and skills. Common topics in computer science and social sciences (e.g. technology assessment, conceptual proximity between the concepts of social roles and user modelling) could serve as a starting point for society-aware design approaches incorporating methods that are applicable for developers and engineers.