Designing Cloud Communities Through Artificial Personalities: A Facilitation System Toward Well-being

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Abstract:

In contemporary society, the pursuit of well-being—a state of mental, physical, and social wellness—has become an urgent challenge for both individuals and societies. With the advancement of digital technologies, diverse online communities that transcend physical and temporal boundaries have proliferated. The impact of these virtual spaces on human well-being is increasingly significant. Prior studies have suggested that communities organized around shared purposes and values can enhance individuals' sense of belonging, social support, and self-efficacy—factors that are essential for promoting overall well-being. However, the creation and sustainable management of such communities remain difficult. Among the many factors influencing community development, the role of the facilitator—who encourages active participation, integrates diverse perspectives, and guides members toward common goals—is particularly crucial.

Traditionally, skilled human facilitators have fulfilled this role. Yet, in cloud-based communities, characteristics such as large scale, geographic and temporal dispersion, and high levels of anonymity make the application of conventional facilitation methods increasingly difficult. The training of human facilitators requires substantial time and financial resources, and their competencies and dispositions vary considerably. Moreover, facilitators' subjectivity and biases can sometimes hinder healthy community growth. These challenges necessitate the exploration of new facilitation methodologies.

This study addresses these issues by applying state-of-the-art generative AI technologies to design and implement an AI Well-being Facilitator that aims to maximize well-being within cloud-based communities. The analytical capabilities, continuous operation, and capacity for maintaining objectivity inherent in AI systems have the potential to overcome the limitations of human facilitation, enabling more efficient and effective community management.

This paper first examines the relationship between well-being and community formation, as well as the challenges of facilitation in cloud communities, through a review of existing research. It then explores the potential of AI-based facilitation from multiple perspectives and elaborates on the conceptual framework, internal mechanisms, and evaluation methods of the proposed AI Well-being Facilitator. Ultimately, the study presents a new framework through which AI technologies can contribute to human well-being and proposes a pathway toward the sustainable evolution of online communities.