Intelligent Collaboration of Humans and Language-Based Assistants (INSTANT)

TREO Talk Paper

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Abstract

Technological progress, the exponential growth of information available and increasing digital interconnectedness are reshaping the nature of work for knowledge and interaction workers. Thus, these novel dynamics bear the risk to negatively impact employees' workload and occupational stress. Advances in computational linguistics and machine learning offer new possibilities for designing human-machine interfaces, enhance collaboration and enable organizations to alleviate these challenges by supporting their employees and customers with language-based assistants. These assistants facilitate the performance of certain tasks and provide decision-making support by retrieving, refining, structuring and analyzing work-relevant information. Particularly in the case of human-centered services, complete automation with acceptable service quality in the foreseeable future is unlikely due to technical limitations and may also be undesirable for social, societal and political reasons. Therefore, a first goal of the proposed research program is to meaningfully integrate human actors and intelligent assistants.

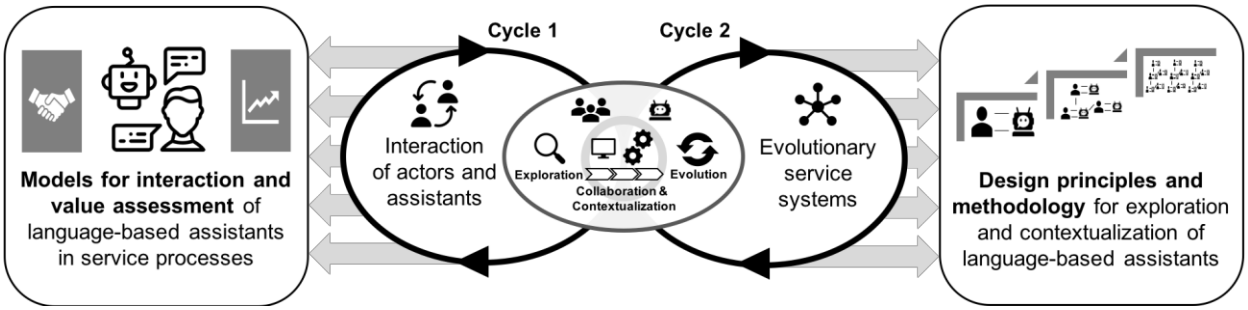

Figure 1: Research context and outcomes

Our research project brings together an interdisciplinary team of collaboration, language technology, and service researchers as well as industry partners that serve as a proving ground. The research project is structured into two parallel cycles (see Figure 1). In the first cycle, we define interaction processes between customers, employees, and language-based assistants. In the second research cycle, we focus on developing and piloting new approaches for the systematic design of evolutionary service systems.