

Call for Papers for a Special Issue on

Guiding the Conversation: New Theory and Design Perspectives for Conversational User Interfaces

Special Issue Editors

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Conversational speech and text-based interfaces are growing in popularity, through the increased uptake of speech systems like Amazon Alexa, Siri, and Google Assistant. We have also seen the proliferation of chatbot interfaces in service contexts. However, much recent work into Conversational User Interfaces (CUIs) has addressed technical issues, such as improving natural language generation (e.g. Shalyminov et al., 2019), dialogue management (e.g. (Lygerakis et al., 2019), speech recognition (e.g. (Tahir et al., 2019), and speech synthesis (Chen et al., 2019)). Current HCI research on CUIs is fragmented with a need to build critical mass in research on theory, methods and design (Clark et al., 2019). This special issue aims to begin to build this critical mass, focusing on user centric issues in CUI interaction, specifically investigating how HCI theory, methods and empirical research can inform the development, understanding and design of CUIs. As CUIs conceptualize the interaction as a conversation with another agent(s) or device(s) these interfaces require very different methods, design and theory if we are to design technologies that can support a conversational interaction successfully. For these reasons, a broad interdisciplinary approach drawing on social science disciplines (e.g., psycholinguistics, pragmatics, linguistics, and sociology) may be needed to make significant progress on human-centered speech and text-based interfaces.

This special issue aims to serve as a catalyst for new data-driven insights, interaction paradigms, and theoretical viewpoints, for HCI researchers interested in this growing area of study. For this special issue, conversational interfaces are broadly defined, including task-based as well as social conversational and companion based interactions.

We encourage submissions that include, but are not limited to the following topics:

- **Design paradigms, metaphors & use cases:** How effective are existing UX design practices and methods? Do we need fundamentally different design paradigms for CUIs? What might these look like? Should CUIs be designed to emulate human interactions or should new conversational metaphors be sought? How effective is using human conversational data to design CUIs? How can CUIs be used to support or drive existing or novel interaction use cases (e.g., multimodal interaction), tasks (e.g., multitasking) or domains (automotive, healthcare, learning, behavior change)? How effective are CUIs in these new interaction paradigms?
- **Evaluation techniques and metrics:** What are the specific challenges in evaluating conversational interfaces and how might these be addressed? What tools and practices are needed to effectively evaluate CUIs both in the lab and the wild, for short- and long-term interactions? What concepts are critical to the evaluation of CUI user experience?
- **Theories of interaction:** Do we need new theories to model and understand CUI based interactions? To what extent can these be based on existing human interaction concepts and theories?
- **Encouraging prototyping & innovation:** What are the current challenges to building prototype systems to encourage HCI based CUI research? What functionality and tools are required to encourage large scale prototyping by HCI researchers? How could these be useful to increase innovation in CUI interactions?
- **Ethics, privacy & trust:** What are the privacy, consent, data storage and data use challenges for *always on* CUI systems and how does this interplay with user task (e.g. purchasing, information gathering, search) and context of use (e.g. home, public spaces, workplace)? What role and influence should CUIs play in safety-critical and ethical decision processes? What are the critical paradigms needing to be considered to ensure ethical and trustworthy CUIs? How should CUIs be designed to be sensitive to these issues?

We encourage papers that present original and rigorous research in these areas, especially cross disciplinary investigations that include speech and language-based disciplines.

Timeline

- Call for Proposals: 14th April 2021
- Proposals due: 2nd June 2021
- Response to authors: 1st July 2021
- Full papers due: 1st October 2021
- Reviews to authors: 1st December 2021
- Revised papers due: 1st February 2022
- Reviews to authors: 16th April 2022
- Final papers due: 16th May 2022

Submission of Proposals

To help authors find a good fit, we encourage proposals. Proposals should be about 1000 words and provide a clear indication of what the paper is about. Note that you must use the template provided (available [here](#) or [here](#)). Proposals will be evaluated for relevance to the special issue theme, and guidance will be given. Both proposal and full paper submissions should be submitted to the *HCI* Editorial site (mc.manuscriptcentral.com/hci). Follow the guidelines and instructions for submissions on the site. There is a place on the submission site to note that your submission is for the special issue. Special Issue submissions will be peer reviewed to the usual standards of the *HCI* journal.

For questions and queries about the special issue, please email si-hci-cui@googlegroups.com.

References

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