Attitudes, Preconceptions and Practices in Conversational AI Design

Sviatlana Höhn[*1][0000−0003−0646−3738], Bettina Migge[2][0000−0002−3305−7113], Doris Dippold[3][0000−0001−6193−4710], and Britta Schneider[4][0000−0003−0377−5808]

[1] University of Luxembourg, Luxembourg `sviatlana.hoehn@uni.lu`
[2] University Colledge Dublin, Ireland `bettinamigge@ucd.ie`
[3] Universtity of Surrey, UK `d.dippold@surrey.ac.uk`
[4] European University Viadrina, Germany `bschneider@europa-uni.de`

Abstract. The language that we use in the process of technology design influences the products that result from it. The users of that technology, in turn, experience the technology through the lens of their expectations and preconceptions. In the case of chatbots, concepts like "human-like", "intelligent" and "understanding" are regularly used, creating specific expectations about the functioning and user experience with this technology which have been shown to not match their actual design. This group work proposes to explore these language attitudes and preconceptions and their role in the process of conversation technology design. We aim at discovering the connections between language concepts used in software design and development through collaborative work with workshop participants. To get insight into existing preconceptions and views, we ask participants to fill in a survey ahead of the workshop. In the workshop, we first give participants a brief overview of central concepts such as language ideologies and attitudes before presenting the results from the survey and relating them to our desk research of technical documentation from chatbot platforms. We discuss the outcomes aiming at collaborative development of a road map to raise awareness about language attitudes and preconceptions in the process of chatbot design.

Keywords: Chatbot design · Language ideology · Language attitude

1 Problem

Because of their conversation-like type of interface, chatbots are expected to exhibit "intelligent" behaviour and maintain relationships with the users [7]. However, chatbot users report that the social interaction patterns used by the bot don't meet their expectations. The issues generally raised relate to matters of (linguistic) politeness, chatbots' lack of understanding of users' intent, the limited nature of the interaction (e.g. intentional communication), and the chatbot's difficulties with dealing with variation [1]. These issues have been addressed from

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the perspective of social practices [8], social frames [5] and sequential organisation in interaction grounded in conversation analysis [6]. Research has also found that users' interaction with bots is strongly influenced by their prior expectations of the conversations based on human-human interactions, the effort required and the extent to which the bot appeared to be "human-like" and "intelligent, and that users had different expectations of language style, e.g. informal vs. informal [4]. Hence, sociolinguistic and pragmatic factors are key issues for chatbot design. Yet, chatbot interaction tends to be designed as technology-oriented rather than human-centered [3]. The aim of this group work is to explore the reasons for these mismatches by exploring designers' preconceptions about chatbots and interactions and to develop a roadmap for suggestions to start to address them.

2   Goal

The aim of this group work is to investigate notions of language and interaction of chatbot designers from a computational as well as socio-linguistic perspective. We argue that a reflection of underlying assumptions about the functions and forms of language is crucial to develop user-friendly chatbots. In particular, we want to understand and systematise the importance of views and concepts of language [2] in chatbot design. We also want to understand to what extent conversational AI designers draw on the evidence from socio-linguistics and the micro-analysis of language, and how they draw on this understanding given other possible constraints, e.g. commercial constraints.

3   Method

This workshop is built on three pillars:

1. We explore perspectives from sociolinguistics and linguistic anthropology on how humans typically understand human-to-human interaction and how this may interfere with the design of chatbots. We give a short input on linguistic anthropological research of user experiences and foundational insights from sociolinguistic and pragmatic research on the social and interactive functions of (human-to-human) conversation. (15 minutes).
2. We elicit information from participants of the workshop about their concepts of language, interaction, sociolinguistic hierarchy and their exposure to/ engagement with socially oriented approaches to language using a short questionnaire to be completed in advance of the event. We present the results of the questionnaire study during the workshop and focus on what they show with regard to common perspectives on language in the sociocultural context of the respondents (15 minutes). We take advantage of the presence of experienced researchers to discuss a) what they show with regards to conceptions of language in the community, b) to what extent the results of the questionnaire interact with the contingencies that determine design practices (e.g. technical, commercial) and c) how the approach could be methodologically enriched for the further development of the study (45 minutes).

3. The workshop concludes with a discussion of potential paths of implementation or critique, where we jointly develop a roadmap of possible solutions that consider user needs, unrealistic desires and programming needs (30 minutes).

4 Outcome and benefit for the CONVERSATIONS community

The workshop will help to understand and to describe the role of diverse concepts about language, interaction and communication. It will help to raise awareness and sensitise members of the chatbot designer community about these issues. A tangible outcome will be a set of recommendations for chatbot developers and designers on how to consider their preconceptions of language to be able to reflect on their tacit common-sense knowledge of language, which may contrast with user practices and needs. The workshop will also function as a basis for a wider investigation of understandings of language among language technology designers, which may spark further discussions on the future and purpose of language technology in society. The results will be presented in academic presentations and papers. The discussions may also give rise to collaborative work leading to the development of more socially-apt bots that react to the needs of diverse users. Overall, the workshop aims to help to overcome existing user issues, promote better interactivity between users and bots and to discuss the computational but also social and philosophical issues that arise.

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