
Talking Like Others: Identity and Language in Conversational User Interfaces

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Abstract

This position paper highlights the need to reconsider the role of identity in language for conversational user interfaces (CUIs). Just as natural language processing has been proposed as a tool for linguistic justice, CUIs may also be used, specifically in efforts to challenge notions on language that is universally accepted as “standard.” After demonstrating the ethical opportunity presented by identity in CUI language, I note two topics important areas of inquiry: inherent identities in CUIs and the process by which we create identity-representative dialogue for CUIs. While these questions are far from comprehensive, this paper aims to provide direction to future research.

Author Keywords

conversational user interfaces; socio-linguistics; conversational design

CCS Concepts

•**Human-centered computing** → **Natural language interfaces; Interaction design process and methods;**

Introduction

One HCI research challenge for conversational user interfaces (CUIs) is “designing and conveying personhood” [15]. Pinhanez mentions several personality traits, such as warmth and humor, as aspects of personhood but also mentions

briefly gender characteristics. Gender and other similar characteristics (such as race or age) that fall under Pinhanez's personhood relates to a CUI's identity. In their framework of chatbot social characteristics, Chaves and Gerosa define identity as "an individual's ability to demonstrate belonging to a particular group" [7]. Reframing Pinhanez's challenge then, some remaining questions for CUIs include how to design and convey effectively CUI identity.

Identity can be demonstrated by several behaviors, but language is an important one, described even as the "most flexible and pervasive" [3]. But this relationship between identity and language has been underexplored, given the intensity of Pinhanez's challenges. CUI developers have previously attempted to avoid identity design, and there is not yet enough work with identity-informed CUIs to create a framework to convey identity systematically.

Given these open questions on language and identity in CUIs, future development of CUIs should have an explicit focus on the identity of the CUI. As Nee et al. have proposed natural language processing as a tool for linguistic justice, CUIs may also contribute to linguistic justice by expressing a variety of identities via language. In this work, I will discuss the ethical opportunity presented to us as CUI developers. I will also highlight two research areas related to CUI identity: inherent identities in CUIs and the process of creating representative CUI dialogue. This work will not present a comprehensive discussion of CUI identity and language. For example, due to space, physically embodied CUIs, such as robots, will be relatively under-explored at the expense of non-embodied and virtually embodied agents. However, I hope this work will suffice to encourage readers to re-examine how language portrays identity for CUIs.

Challenging Standard Language Ideology with Conversational User Interfaces

Recent work by Koenecke et al. has demonstrated concerning disparities in virtual assistants: their automated speech recognition systems make more errors with Black speakers as compared to white speakers [10]. The authors suggest that these disparities are due to a lack African American Vernacular English (AAVE) audio during system training. While likely not intentional, this oversight implies a grave development assumption: that there is a "standard" English employed by a vast majority of users. Yet, by language's nature, the existence of a standardized language is mythical [13]. Despite standard's mythical existence, speakers of perceived "non-standard" varieties of a language face disparities [10] or even discrimination [9].

We as developers of CUIs can address some issues around standardized language by expanding understandable input. However, we also have an opportunity to support inclusion via system output; we can design CUIs to represent various identities via the language used. Bucholtz and Hall discuss several processes by which identity is exhibited in language, but of note is the distinction between language practice and performance [3]. In some cases, identity arises in language from practice – the things we say habitually and sometimes unintentionally. Other situations show identity via language that is "highly deliberate and self-aware" [3], or performative. Given that humans will author/review most CUI language, this language is by definition performative: there is deliberation and awareness of the system's perception inherent to the authoring process.

Of further importance is that we can use performative language to raise awareness on the identities represented, presenting an opportunity to bring "identities to the fore" [3]. We should leverage the performative nature of CUI lan-

guage by engaging with identity. In doing this, we can challenge standard language ideology and contribute to the wider narrative of linguistic justice [14].

Inherent Identities in Conversational User Interfaces

Ethical opportunities aside, this discussion of identity in CUIs appears oppositional to conversation design trends. Amazon, Apple, and Google all recommend against the use of gendered pronouns for their voice assistants [1]. However, Cassell notes that because we continually signal identity via behaviors, “the ways in which technologies look and talk also signal aspects of identity, whether their designers intend them or not” [5]. In other words, many systems present inherent identities, despite attempts to lessen or evade identity assignation.

A notable effort towards identity-minimization in CUI design is Q, a digital voice previously marketed as a “genderless” voice [16]. Despite efforts to develop Q as a gender-neutral voice, Sutton notes that people who interacted with Q still perceive a gender [18]. This perception just happen to be split. Sutton suggests persistence in gendering Q may be due to non-voice elements, such as the Q’s language.

In addition to gendering CUIs, users also racialize CUIs. Apple’s 2021 announcement of new voices for Siri prompted headlines reporting that users recognize these voices as Black, American voices [19]. Several interviewees in this coverage also discussed how hearing a Black voice as ‘an omnipotent voice that’s also a voice of authority’ was a positive outcome [19].

Open Questions

We see, then, a trend for users to assign identities to CUIs, often despite developers’ intentions. From this trend, con-

structing an identity-less CUI seems difficult or impossible, so rather than continuing to evade identity assignation, we should focus on selecting identities and displaying them via CUI language intentionally. On this point, there are, at minimum, the following open areas of inquiry:

- Researchers have proposed the use of a robot persona to avoid identity issues with CUIs. How should we craft language for an identity that is by nature artificial? What language can we use to demonstrate it? Can this robot persona be developed in such a way to avoid extant stereotypes, either due to portrayals of robots in media or false assumptions on the existence of standard/neutral language? Also related to this point is how CUIs handle questions on identity, particularly as a robot persona. Sutton provides initial discussion of this in [17]. Finally, previous exploration related to robot identities can be found in the Robo-identity workshops held at the ACM/IEEE Conference on Human-Robot Interaction [11], but differences between these embodied and the non-embodied identities discussed here will likely need a careful inspection.
- Should any system provide a “default” identity? Apple now requires users to choose a voice for Siri, rather than providing a default [19]. Just as Sutton writes against the commodification of non-binary identities when discussing CUI gender-ambiguous voices [18], we should be aware, too, of the potential negative effects of promoting a given identity as the “default.”
- To what degree must the language “match” with the CUI’s perceived identity? More specifically, is it representative for Siri to use the same language across perceived gender and racial differences? Do users

find Siri's language concordant with Siri's perceived Black identity? What user attitudes or perceptions arise from the presence or lack of language-identity concordance?

Creating Representative Dialogue for Conversational Agents

In addition to the previous instances where identity assignment was evaded, other CUIs require identity assignment. Examples are cultural competency training systems with embodied conversational agents (ECAs), where identities must be depicted visually. As with the inherent CUI identities, there are plenty of questions, but here, they center on fidelity: how do we write dialogue that is representative of an identity? Or, specifically for cultural competency, how do we write dialogue that is representative of an identity so as to provide authentic training?

Involving individuals with target identities in the CUI dialogue authoring is one solution. My previous work investigated using these identity-congruent individuals as authors for ECA dialogue [4]. While this work was exploratory, initial qualitative results indicated the identity-congruent authors contributed relevant cultural details to the ECA dialogue that authors who were subject-matter experts did not provide.

In contrast to the direct authoring approach, Cassell et al. employed corpus-based development of dialogue for the virtual peer described in [6]. While this approach likely produces representative dialogue, it is more resource-intensive in terms of time and expertise than the direct authoring approach discussed before.

And still other approaches to producing representative dialogue exist. While developing a female agent to promote inclusion in job advertisements, Bickmore et al. women in

technology to check the agent's response to a biased advertisement [2]. Their results show that women in information technology felt the agent's response to the job advertisement was reflective of their views. While language was not addressed explicitly in the survey, one could see how this approach is adaptable for language as well.

Open Questions

Thus, while many approaches to produce identity-accurate language for CUIs exist, guidance on which approach is most effective – either in general or for specific types of CUIs – is missing. Further, how we measure this effectiveness is ill-defined. Specific questions related to these points are as follows:

- How can identity-congruent individuals be best integrated into the authoring process? At which stage (writing, editing, evaluating, etc.) are these perspectives most efficient?
- To what degree can CUI authors write for identities that are not their own? Can we develop frameworks to produce identity-concordant language that does not reinforce stereotypes? Related to this point is the concept of *essentialism*, in which one relies on "...overgeneralized notions of similarity and difference" [3]. How do we craft language that is representative of an identity while still promoting language heterogeneity within that identity?
- How do we balance multiple identities (race, age, etc.) and goals in language? Are certain identities more critical to "get right" when authoring dialogue? How should scenario-specific goals for CUIs, such as educational goals, be prioritized if these goals entail changes to the CUI language at the cost of identity concordance? And, can we develop frameworks to

manage identity while also maintaining other important linguistic concepts, such as the register [8]?

Conclusion

In conclusion, I aim to reframe current perspectives on identity and language for CUIs. Though non-comprehensive, this work hopefully serves as a starting point for future researchers, but other questions can certainly be identified. For example, what are users' perceptions of CUIs with identity-informed language? In light of previous work investigating the effects of varying agent identities visually [12], similar investigations will also be needed for language-based identity presentation.

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