

Group 04

Perceptions of Siri based on the voice characteristics



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Research overview

Research Goal: To find out how users reinforce certain biased perceptions on voice assistant 'Siri' based on the timbre of the voice.

We wanted to see how users perceive the traits of Siri depending on the characteristics of the voice: female-like or male-like (assigned as voice 1 and voice 2, respectively).

We also wanted to test if there is a difference in the user's trust and reliability on Siri based on the two different voices.



Methodology

The following empirical and between-group study design process was carried out with 30 participants:

- Participants were asked to fill in a questionnaire to collect their demographics.
- Then they spoke to a chosen voice (1 or 2) of Siri in American English using a predefined script, as follows:
 1. What can you do for me?
 2. What can we talk about?
 3. What is the weather tomorrow in Aachen?
 4. How to get to Rathaus?
 5. Ask it to put on some song.
 6. How are you?
 7. Where do you come from?
 8. Are you a robot?
 9. Tell a story.
 10. Siri, tell a joke.
 11. What do you dream about?
 12. What is your favourite animal?
 13. What is your favourite movie?
 14. Are you in love?
 15. I am in love with you.
 16. Okay, Google.
 17. Alexa



Methodology

- Respondents then rated a list of character traits associated with Siri, measured with a 5-point Likert scale
- The level of trust and reliability towards Siri was measured, also using a Likert scale
- At last, they described how Siri would look like in the physical world



Data Analysis

Rate the following traits on a scale from 1-5 (1 = no agreement, 5 = full agreement) about Siri based on the conversation you just had

	1	2	3	4	5
Knowledgeable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inconsistent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cute	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotionless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humorous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rude	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stupid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No significant difference in perceived character traits towards Siri based on the voice of the assistant, after running the Wilcoxon's Rank-Sum test.



Data Analysis

- For neither of the four other measurements (Satisfaction, Easiness, Trust, Reliability) a significance could be remarked
- Just regarding the mean and the average there were two stand out traits
 - 'Cute' is ranked 0.6 higher for the female-like voice
 - 'Emotionless' is ranked 0.5 higher for the male-like voice



Data Analysis: Envisioning Siri

Three main perceptions:

1. A person, usually smart (often mentioned long hair for the female-like voice)
2. Humanoid robot
3. Bodyless virtual program.

Voice 1

- “Like Sophia, the Humanoid robot”
- “Longer brown hair and cute”
- “Trying to connect on a human-level with respect to emotions, but has a hard time”
- “The image of a smart A-grader girl from a school”
- “Genderless”

Voice 2

- “Not like a real person, so no specific character traits”
- “Caucasian and stereotypical corporate worker”
- “Knowledgeable and smart, but proud”
- “Has no emotions, like a virtual program”



Conclusion

No significant difference in perceived character traits and trust towards Siri based on the voice of the assistant.

The ways of envisioning Siri: human-like, humanoid robot and virtual program.

In the future work the study could be replicated with participants with varying proficiencies in technology, also include other independent variables like gender and age, and be done with other conversational agents and/or languages of operation.