The Influence of User Openness on Acceptance and UX of Smart Speakers

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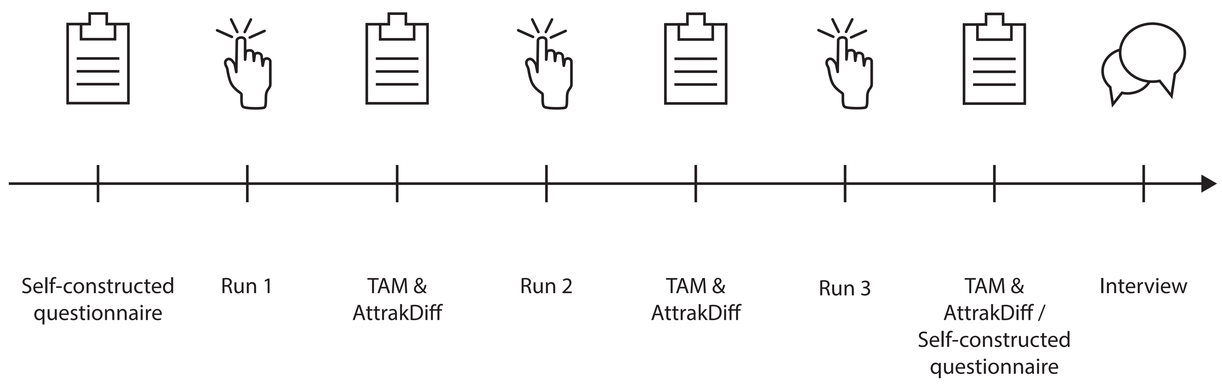
We compared “open” with “non-open“ persons (based on the Big Five (OCEAN) model) in a Wizard-of-Oz study setting. Subjects had to complete everyday tasks in cooperation with a smart speaker-replica (with both natural and text-to-speech voice feedback) as compared to the baseline of traditional/manual way of interaction.

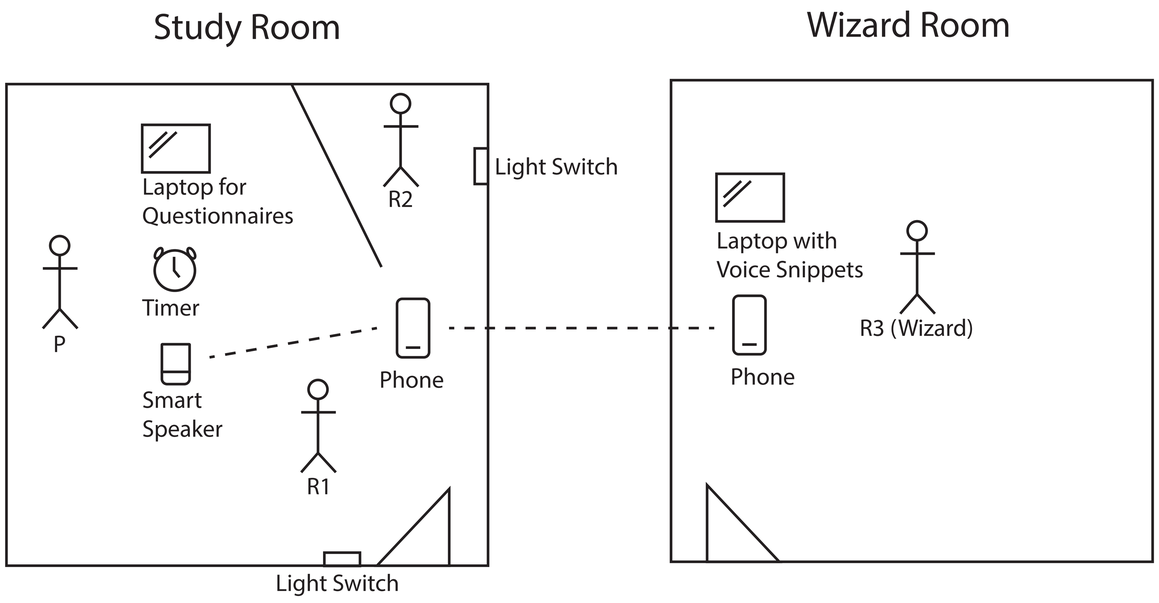
Study Process

- The main study consisted of three runs: smart speaker with a text-to-speech engine, smart speaker with a natural human voice, or traditional way of interaction without utilizing the smart speaker.
- The order of interaction was counterbalanced per participant and personality type group to ensure that no learning effect occurred.
- Each participant had to complete 4 tasks: Switching the light on, finding out the capital of a given country, adding a “black iPhone 7” to the shopping cart, and setting a timer to 10 minutes.

RQ: To what extent does the personality dimension “openness” influence users’ acceptance and UX of different smart speaker designs in contrast to natural ways of interaction?



Study Setup



18 people agreed to participate in our user study (7f, 11m; 72% aged 18-25, 22% aged 25-32 and 6% aged 33-40) and could be assigned into the personality groups “open” and “non-open”.

Results

- We could not reveal a clear statement about the impact of “openness” on the acceptance of smart speakers. In addition, we have also no clear answer whether or not users prefer a natural over a computer-generated voice (text-to-spech, TTS) or vice versa.
- However, smart speakers are still not fully accepted, regardless users’ “openess”. For everyday tasks like switching the light on, the traditional way of interaction is still preferred.
- Future research and design has to focus aspects like design (pragmatic and hedonic qualities), and especially privacy issues.

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