Websites with history can be just as conversational as chatting with a person

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A website with search and interaction history can be just as engaging as chatting with an online human agent, or robot helper, according to Penn State researchers.

In a study, users of an online movie database site that offered a list of past interactions considered the site just as responsive as one that offered chatbot or human helpers, said S. Shyam Sundar, Distinguished Professor of Communications and co-director of the Media Effects Research Laboratory. He added that businesses that design their websites with this type of history could generate the same level of user absorption as sites with robot and human chat, but without the big budget.

"Highly interactive browsing history can give the user this back-and-forth sense of dialogue that is almost the same as talking with an attentive customer agent," said Sundar. "With clever design, you can give the sense of a conversation and the flow of information and that could translate to higher user engagement."

Browsing history can show users what pages they have recently visited. Search history—which automatically populates the search field with former web searchers and possible search terms—also can create a sense that a conversation is taking place—also called contingency, or the feeling that the action of a system is in response to the user's input.

"When you go to Google, for example, and just type in a few words, it automatically fills out a number of possible search options based on your past searching," said Sundar. "It's a way of communicating that it might know where you are going with your search. That's another way of conveying contingency by the system."

The researchers, who report their findings in the current issue of *Communication Research*, suggested that it was this feeling of contingency, not perception of interactivity on the website, that promoted more user engagement.

Participants rated the sites with a live chat system as more interactive, but this perception did not affect their attitudes toward the site,

according to Sundar.

"What mattered more is their perception of contingency," he said.

The findings indicate that interaction history could enhance intelligent assistants, such as Apple's Siri and Amazon's Echo, that are becoming more available on smart phones and in homes.

"If Siri, for example, could tell you a little bit about your interaction history with her, some of the clunkiness in the chat could be overcome because it makes for more of a conversation between the user and the device," said Sundar.

More than just looking and sounding like a human, devices should convey to users that they are listening, he added.

"The most human thing that a machine can do is show that it is listening to you," said Sundar.

The researchers recruited 110 participants whose ages ranged from 18 to 45 years old for the study. They were divided into one of five different conditions, including low interactivity, medium interactivity and high interactivity, as well as chatbot and human chat conditions that were added to the high interactivity condition. The low interactivity site had no interaction history. The medium interactivity condition featured two most recently browsed and searched movies, while the high interactivity site had a complete list of recently searched and browsed movies.

Researchers asked participants to recommend two movies to be screened at a university classics movie night. They were asked to use the movie website to browse and search for at least six movies to make their decision. In the chat conditions, subjects were asked to browse, search, and chat with the robot or human assistant.

Provided by Pennsylvania State University

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