How does the mood of a user affect the interaction with an AI system?

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Abstract

Chatbots have been more advanced over the years. Studies showed that chatbots could influence a person's mood and mental state in a positive way. With chatbots becoming accustomed to people's daily lives, the possibility of how well they could influence a person's mood needed to be studied. In this project, we developed a system that could evaluate the user's current mood from their input. Then, the chatbots used that evaluation to determine the tone of interaction with the user. After that, the user answered a questionnaire to evaluate the mood. We conducted the test with 15 participants. The results from the study show that while communicating with an AI system the role of emotions is not as significant as expected.

Study Design

Phase 1: Mood calibration

- a participant was asked a series of 6 quantitatively scored questions.
- The system calculates the sum of all answers. The cumulative score from these answers determines the user’s mood.

Phase 2: Chatting

- In this phase, a participant had a conversation with the chatbot that responds in 3 random possible tones, including positive, neutral and negative.
- From these tones, a participant can be divided into 2 groups, which are matched and unmatched.

Phase 3: Mood evaluation

- a participant was directed to a survey page with six questions.
- This survey aims to gather their experience using our system.
- The results are used to evaluate the impact of the user's mood.

Result

From manual observation, the result showed that participants are slightly happier if the system has the same mood as them. However, a conducted t-test doesn't support that. The analysis of both groups led to a p-value of 0.4522 which indicates that the findings are not statistically significant. The missing significance might be explained by two factors. First, the number of asked questions during the study could be too small. Asking more questions that go more into detail would possibly lead to a higher agreement among participants when it comes to the experience with the system. Second, a larger sample could lead to more precise and more significant results.

Motivations

- Chatbots have become more popular over the years.
- Chatbots could positively influence a person's mood.

Objetives

- study how well chatbots influence a person's mood.
- developed the chatbot-mood-evaluation system

Expected Benefits

- evaluation of the chatbots’ influence on a person’s mood
- understand more about the relationship that could happen between a person and a chatbot

Technology Used

icon	icon	icon	icon	icon
ChatGPT	HTML	CSS	JavaScript	Bootstrap

Shortened Chat of a participant. Participant chose the topic technology

That's a great choice! Technology is a fascinating and constantly evolving field. What specific aspect of technology are you most interested in discussing?

Code formatting tools

Great choice! Code formatting tools are a fantastic way to ensure consistency and readability in your code. Keep up the good work! What code formatting tool do you find most useful for your projects?

The kind that can make my code more readable

That's great! Making your code more readable is always a good goal. Have a great day and thanks for your time!

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phase 1 interface picture

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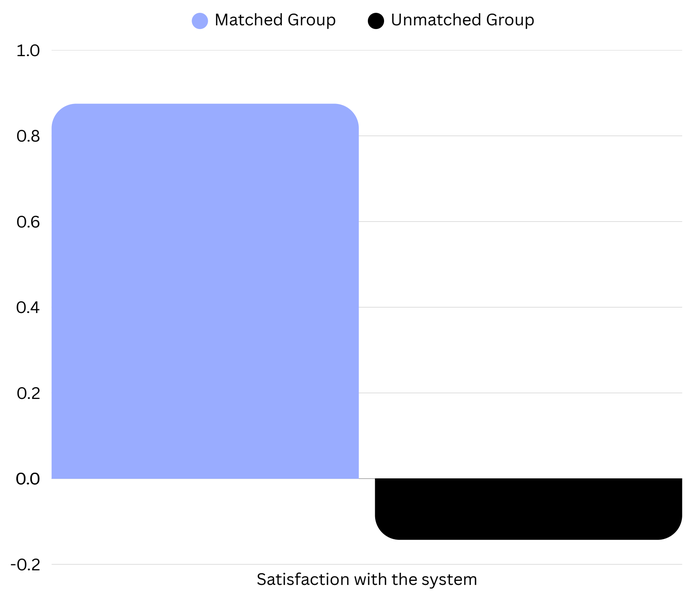
Satisfaction with the system. Phase 3. Matched group and unmatched group



Our participants

Number of participants	**15**
Gender	**5 female, 9 male, 1 other**
Mean age	**25.7**