Lehrstuhl für Ergonomie
TUM School of Engineering and Design
Technische Universität München

Master Thesis/ Semester Thesis

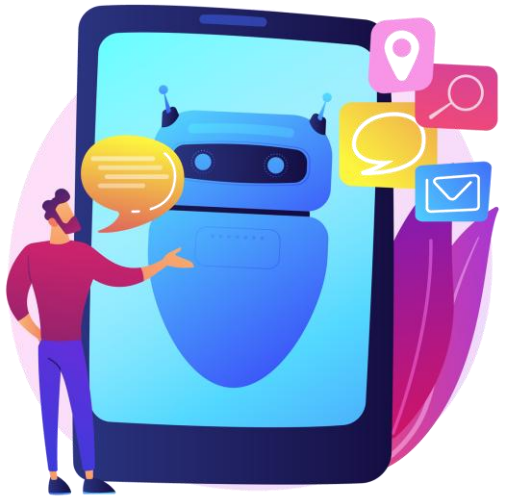
Adaptive Interaction Strategies in Healthcare Chatbots

Background:
Conversational agents are increasingly used for health-related information and as symptom checkers. In these high-stakes contexts, *how* a chatbot communicates (e.g., clarity, transparency, credibility, emotional support) strongly shapes user trust, acceptance, and safe use. A key open question is **when** a chatbot should adapt its communication: different user states (e.g., anxiety, confusion, skepticism) may require different response characteristics. Evidence on which user signals should trigger adaptation is still limited, especially at the level of concrete, implementable chatbot characteristics.

Objective:
This thesis aims to **identify and validate user-state signals that should trigger adaptive chatbot responses** in healthcare. Through an online user study, different user states and preferences for chatbot response characteristics (e.g., explainability/clarity, transparency/credibility, empathy/support). The outcome will be a trigger-to-response guideline that can inform the design of adaptive medical diagnosis chatbots.

Tasks:
- Literature Review (Chatbot design, dialog management, human-AI communication)
- Study design and execution
- Derivation of a "signal → preferred characteristics" mapping and design recommendations for adaptive chatbots

Requirements:
- Interest in Human-AI Interaction, chatbots
- Experience with user study methods, survey tools
- Familiarity with chatbot interfaces or AI tools



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