Chatbot for Mental Health Treatment using Face Detection

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Abstract: *The advent of chatbots may influence many treatment procedures in the medical and psychological fields. In particular, chatbots may be useful in many situations before and after medical procedures when patients are back at home. For example, while being in the preparation phase of a colonoscopy, a chatbot might answer patient questions more quickly than a doctor. Moreover, it is more and more discussed whether chatbots may be the first entry point for (urgent) medical questions instead of the consultation of a medical expert, as there exist already well-established algorithms for some of these situations. For example, if a new medical symptom occurs, a chatbot might serve as the first "expert" to relieve a patient's condition. Note that the latter situation to use chatbots is mainly driven by the trend that patients often have to wait too long for appointments with a proper medical expert due to capacity problems of many healthcare systems. While the usage of supporting "at home actions" of patients with chatbot technologies is typically welcomed by medical experts, the use of this technology to "replace" them in their core competence, namely diagnosis and therapy, is generally seen highly critical. Apart from the domain side, it must be carefully considered what currently available chatbot technologies can do or cannot do. Moreover, it has also to be considered, how existing technologies can be established in highly critical medical and interdisciplinary fields with possible emergency situations (e.g., if a chatbot gets the message of a patient that indicates to commit suicide), involving ethical questions as well as questions of responsibility and accountability. Therefore, this work raises aspects that might be the basis for medical as well as technical experts to better work together for proper chatbot solutions. Thereby, the work at hand proposes an architecture that should serve as a reference for various medical and psychological scenarios. When using suitable technical solutions, we argue that chances emerge, which mitigate upcoming challenges significantly.*

Keywords: Chatbot

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