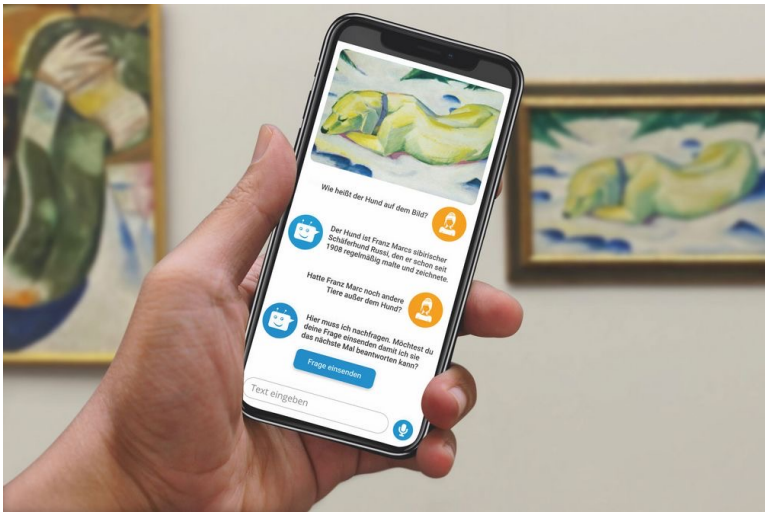
Deutsches Forschungszentrum für Künstliche Intelligenz GmbH

# ChiM: Chatbot for Museums

Supported by artificial intelligence, the speech-based Chatbot will guide visitors around exhibitions.

**ChiM is a multimodal dialogue-system developed for knowledge transfer at museums**

To date audio- and mediaguides have accompanied visitors at exhibitions and provided explanations for museum objects. The project ChiM aims to develop a learning and conversational museum guide which enables knowledge transfer. The “Museum Chatbot” is a learning, multimodal dialogue system and a potential game changer in the growing market of knowledge transfer at museums.




With the help of artificial intelligence, the speech-based dialogue system will guide visitors through the exhibitions. The aim is for the chatbot to be able to answer questions about objects as correctly as possible. ChiM uses automatic speech recognition and a hybrid system for speech understanding, in which the intention of a user's statement must be determined and a meaning is assigned to the text.

Machine-learning methods are applied for this technology. ChiM has used structured knowledge from museum databases as well as language models trained on large amounts of data. Many factual questions can be answered directly using data from the museum database. One central research questions is to determine how well ChiM can answer open questions using large language models when a specific object and associated text are available as context. In order to obtain training material, a question setting campaign was first conducted successfully.

As a next step, questions will be allocated to existing content. The data will be used to create AI models that can generate relevant answers. Computer scientists, multimedia guide specialists and museum experts will collaborate to realise the project. The project aims to develop an economically viable solution.

CHIM
CHATBOT IM MUSEUM

The aim is to ensure that CHIM is connected to various knowledge transfer systems and simultaneously provides users with comprehensible information. The structuring of the data by means of semantic annotation, adequate dialogue strategies and the possibility of multimodal intention recognition are technical pillars of the project.

Sandro Botticelli, Webiliches Idealbildnis Simonetta Vespucci als Nymphe, ca. 1480, CC BY-SA 4.0 Städel Museum, Frankfurt am Main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