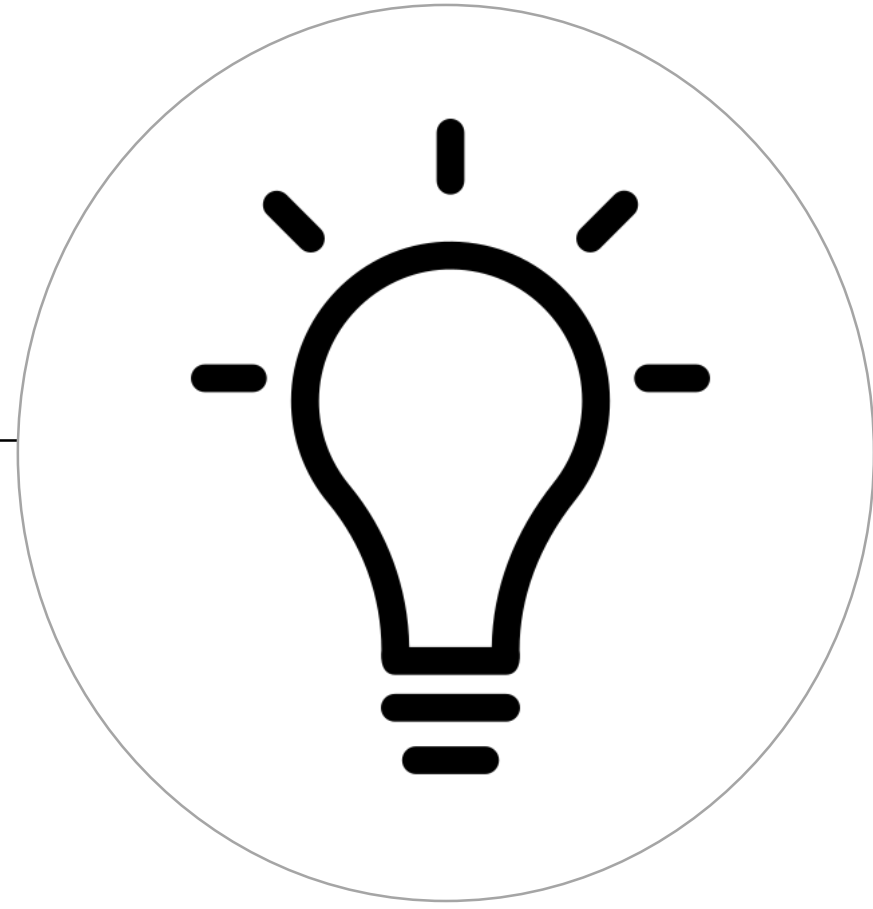


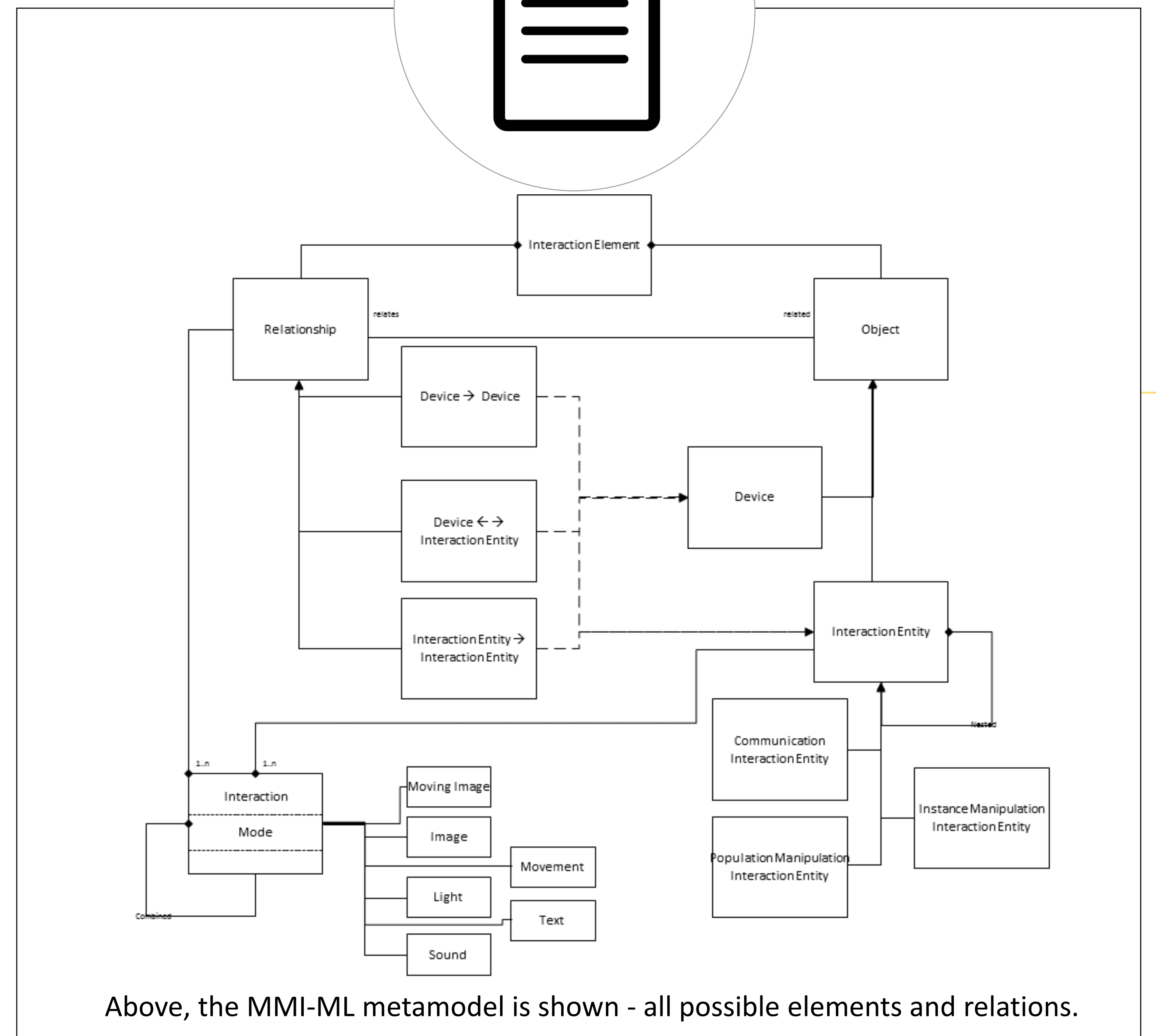
MMI-ML

Multimodal Interface Modeling Language – from a Metamodel to an assistive and flexible User-System Interface

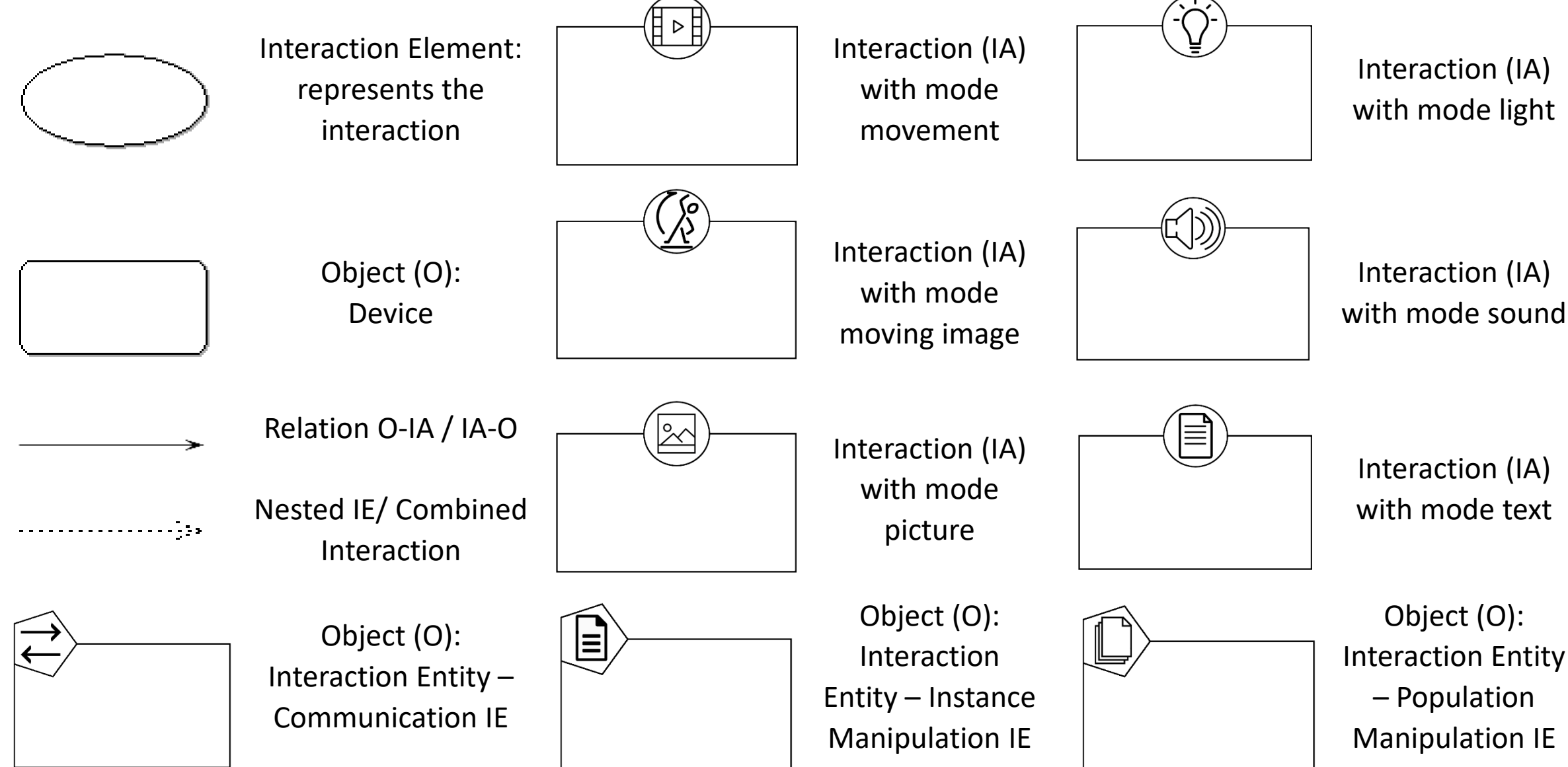
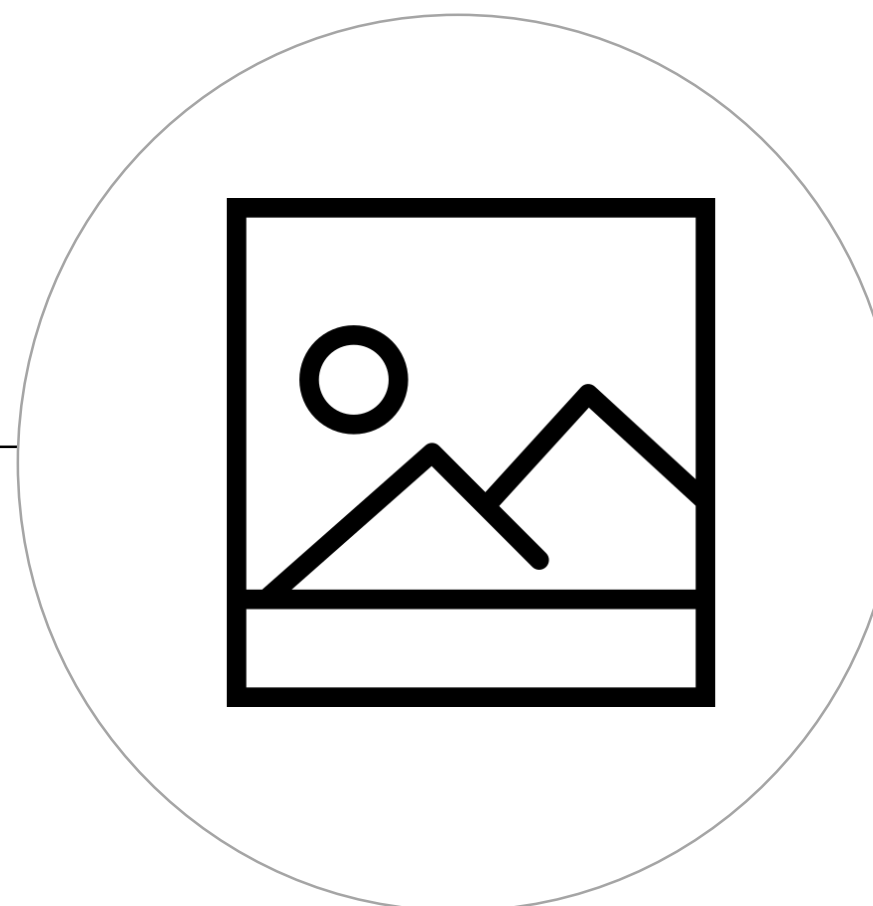


The Multimodal Interface Modeling Language, short MMI-ML represents a modeling language that helps to develop flexible and multimodal input and output human-system and system-system interfaces for assistive smart homes. Developed with the conceptual modeling approach a metamodel was built that covers all necessary components in interfaces. To create an interaction element (represents an instance of the metamodel) several devices (hardware) and interaction entities (software-components) interact with each other through different interaction modes. An interaction mode (text, sound, image, ...) is an indicator for the used interaction exchange format.

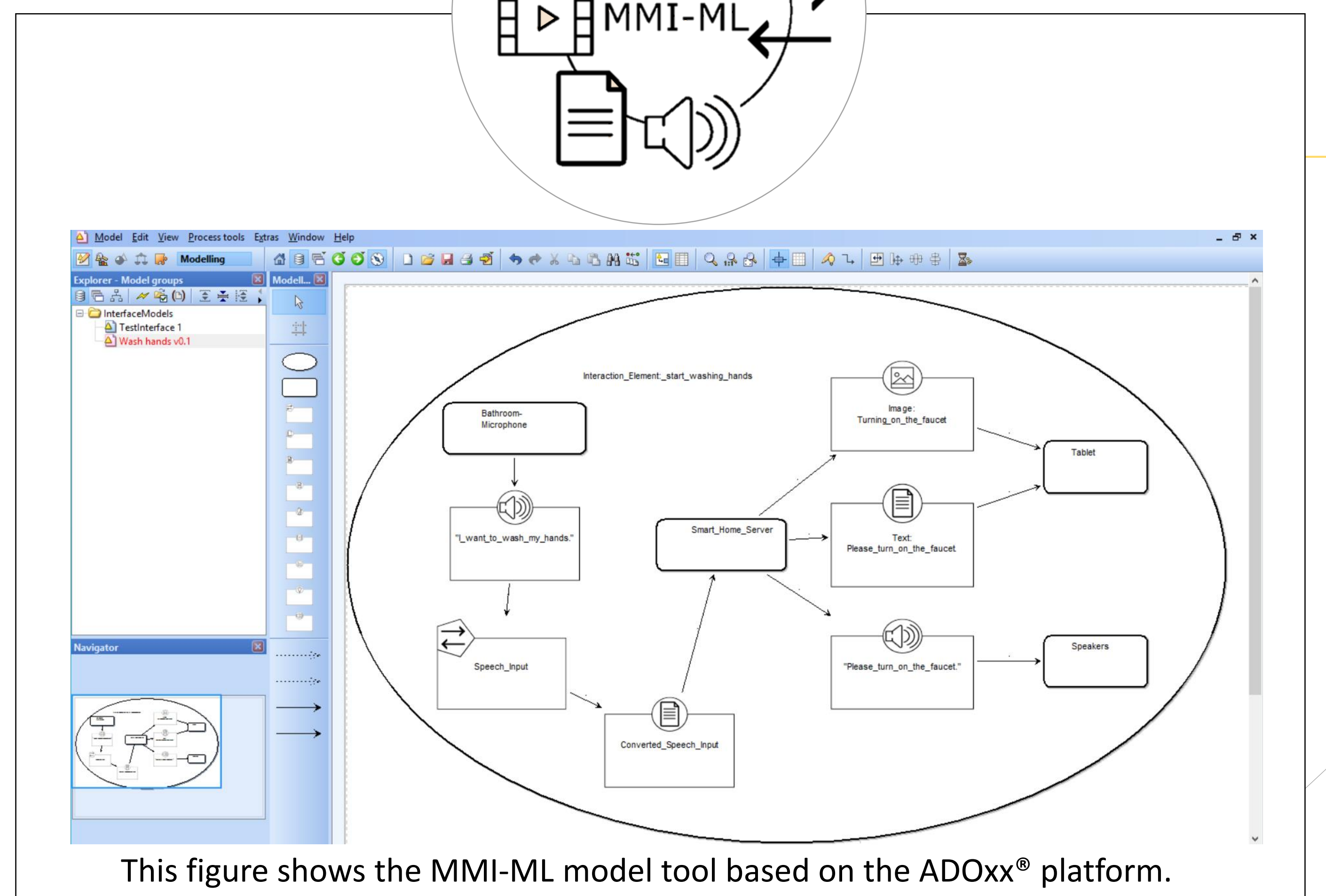
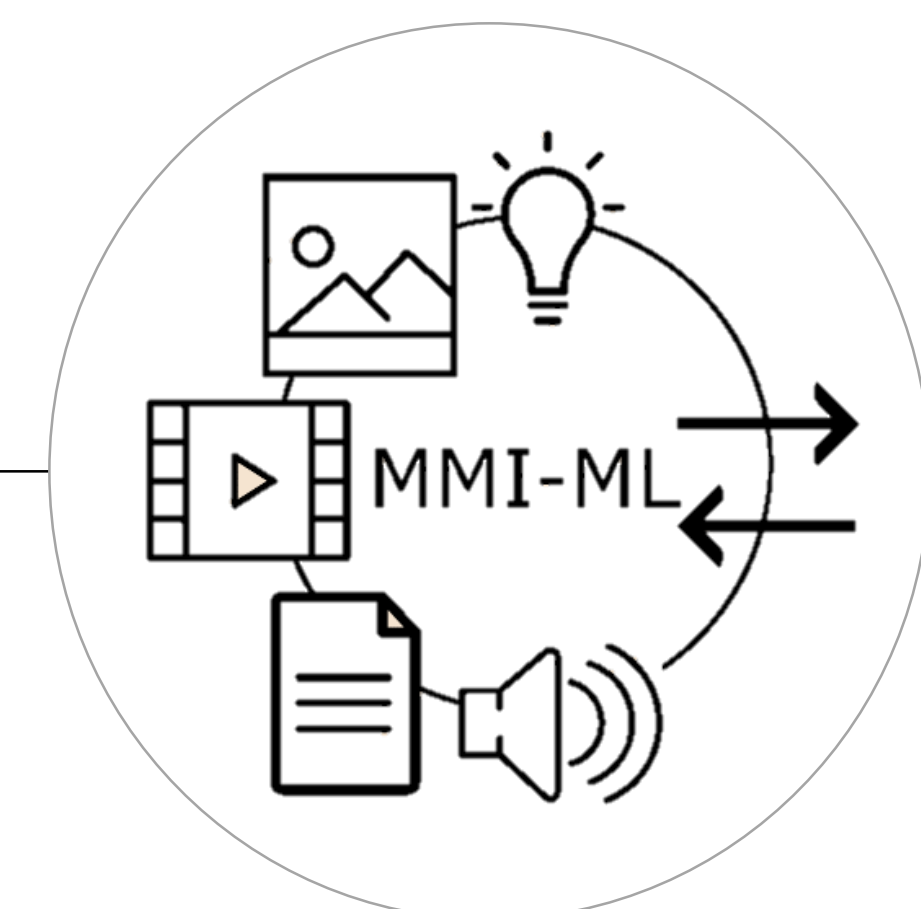
The MMI-ML modeling library, developed in ADOxx®, is available for free usage at the Omilab® Austria platform: <https://austria.omilab.org/psm/content/mmiml>



Above, the MMI-ML metamodel is shown - all possible elements and relations.



Sub-scenario: Maria wants to wash her hands after turning on the tap. Depending on her cognitive condition, she needs more or less help as she suffers from a mild form of dementia. Usually a reminder to turn on the tap at a reasonable temperature is enough, on other days she needs a more detailed guide. Afterwards, Maria also wants to dry her hands with a towel and to complete the process of washing her hands she always uses a lotion. Due to her physical and mental condition, she likes the tablet computer and the speakers with microphone as input / output devices the most.



This figure shows the MMI-ML model tool based on the ADOxx® platform.

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