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Kriton Speech

Knowledge acquisition for knowledge-based systems

Kriton Speech integrates artificial intelligence and cognitive science methods to build knowledge-based systems. Kriton Speech exclusively utilises a voice user interface (VUI). This allows an expert to perform other tasks while s/he is interviewed by the knowledge acquisition system. It is possible to drive a car while talking to Kriton Speech; to go for a walk or to perform other activities. Kriton Speech takes the VUI concept to the extreme: there are start and stop buttons, everything else is done by speech.

Kriton Speech is using upper-level ontologies as well as existing domain-specific knowledge to interview the user. The employment and use of already acquired knowledge has major advantages: The interview aims at completing and refining existing knowledge in addition to the acquisition of new concepts and rules. Due to the utilisation of background knowledge, the interview is interesting and even entertaining. The objective is to keep the user motivated and engaged in order to develop as much as possible of the knowledge-based systems by use of speech and language only.

Kriton Speech is also able to detect mood changes in the human voice, like boredom and tiredness, and can modify the interaction accordingly by changing the current topic or suggesting a break.

As a result of the interview, Kriton Speech builds and verifies ontologies and rule based systems. The output is a Web Ontology Language (OWL) file that can be edited by the use of standard ontology editors.

Background. Attention economy is a concept in information management that treats human attention as a limited commodity. Herbert A. Simon (1971) is considered to be the first person having introduced the concept of attention in economics. Simon (1971) outlined that in an information rich world there is a limitation of the resource that consumes information: human attention. Almost half a century later, we are now at the point where there are so many information sources, so many devices and so many distractions *that human attention is not only limited, it is frequently impaired.*

Solution. Kriton Speech addresses both problems: the limitation of human attention and the challenge of growing knowledge. Firstly, Kriton Speech uses speech only to interact with the user and therefore does not require any visual attention. This enables the user to direct attention to other information sources and to perform physical actions while using the program.

Conclusion. Kriton Speech uses a variety of knowledge sources and automatic interview techniques in order to build and complete ontologies and knowledge-based systems. Due to the expert interacting with the system by speech only, it allows the user to perform other tasks while building a knowledge system. Furthermore, mood detection is used to keep the interview interesting and engaging.

For expression of interest and questions please contact us by phone or email:
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