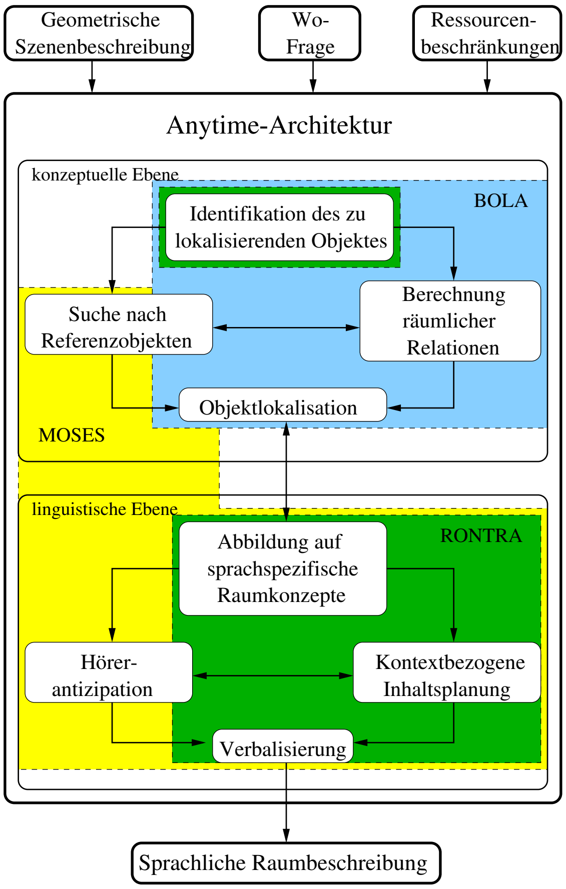
REAL: Resource adaptive navigation aids

Although computers are an essential part of today's society, communication between humans and computers is by far not as effective as it could be. Particular problems are arising if this communication has to take place under aggravated conditions, e.g., in a busy airport environment. Today's information systems can give information about the location of check-in terminals, restaurants or shops, but they can't adapt at all to cognitive limitations of the passenger. This can, for example, lead to situations where a delayed passenger under time pressure is given very long and detailed directions which are impossible to remember and follow correctly in the remaining time.



The REAL project is investigating some of the problems that can be observed in these situations. In an airport scenario we try to find out, how information systems can deal adequately with a passenger's limited resources. Examples are the generation of directions or way descriptions under time pressure, not only in verbal, but also in graphical form. Graphical abstraction techniques are used to generate visually clearer and simpler route sketches.

In addition to stationary information booths we are also considering information presentation for mobile systems, such as PDAs or wearable computers connected to head-worn displays. By focusing on these device categories we are trying to develop techniques and solutions for a technology that we believe will be almost ubiquitous in the near future.

The design of our techniques is based on psychological experiments about the limitation of human cognitive resources and our results are verified by the implementation and field test of prototype systems.

Prof. Dr. Werner H. Tack
SFB 378 – der Sprecher
Universität des Saarlandes
Postfach 151150
D-66041 Saarbrücken

URL: http://w5.cs.uni-sb.de/real.html
Contact: Prof. Dr. Dr. h.c. Wolfgang Wahlster
Telephone: +49-681-302-2363/4162
Telefax: +49-681-302-4136
email: wahlster@cs.uni-sb.de