



KnowWE Knowledge Formalization in the Age of Wikis

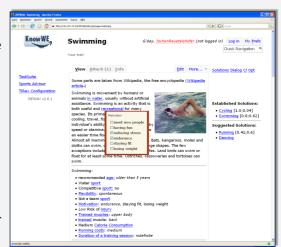
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Overview

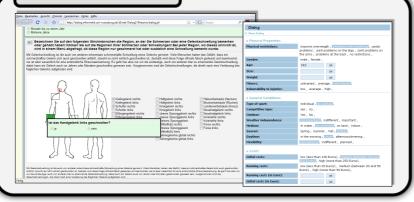
KnowWE is a semantic wiki designed for the integration of components for diagnostic problem-solving. To support the development of (diagnostic) knowledge systems, components for formalization (markup, editors), for reasoning (rules, decision-trees, fault models) and for executing/ testing have been implemented. The goal is to combine the strength of knowledge-based systems with the ease of Wikis to support collaborative knowledge engineering.

KnowWE

- Wiki-based workflow: collaborative fast and simple editing with immediate feedback.
- Combination of unformalized (startup documents) and (semi-) formalized knowledge.
- Problem-solving knowledge is instantly compiled into a knowledge base after saving a wiki page. It can be tested via starting test cases in user interviews.



User Interviews



Refactoring



Markups and Editors

- Wiki editing (proprietary markup)
- · Additional editors
 - Table/Inline-editing
- · Visual editors
- · Syntax highlighting
- Verbose syntax-check
- · Integrated refactoring tools
- Unit-test-cases

Extensibility					
Table Editing					
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Exhaust fumes = black		٧		~	
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Repair Instructions#			0		
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	Exhaust pipe color = brown OR Exhaust pipe color = grey OR Exhaust pipe color = light grey Exhaust pipe color evaluation += mormal
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2.1	- Exhaust pipe color (cc) brown

d3web Engine

- Open-source reasoning for diagnostic problem-solving, e.g. heuristic scoring rules, heuristic decision trees, set-covering fault
- Implemented as KnowWE extension
- Compatible knowledge interchange with d3web.KnowME

Architecture

