Clarification KBS as Consultation-Justification Mash Ups *

Proposing A Novel Paradigm for All-in-One Knowledge-based Systems

Martina Freiberg, Felix Herrmann, and Frank Puppe

Department of Artificial Intelligence and Applied Informatics, Institute of Computer Science, University of Würzburg, Am Hubland, D-97074 Würzburg, Germany
martina.freiberg@uni-wuerzburg.de
felix.herrmann@uni-wuerzburg.de
frank.puppe@uni-wuerzburg.de

Abstract. Regarding knowledge-based systems (KBS), the seminal paradigm—perfectly mimicking human experts—is gradually replaced by an increasing demand for enabling users to influence the reasoning process according to their domain knowledge. Therefore, we propose a novel KBS paradigm: *Clarification KBS* as a mash up type of consultation and justification interaction—intended to foster active user participation according to users' competency, the KBS' explicability, and the support for learnability. We introduce the theoretical concept of clarification KBS, as well as appropriate UI-/interaction variants. Further, we discuss the results of iteratively evolving and evaluating *ITree*, a specific clarification KBS implementation for the legal domain.

Keywords: Knowledge-based System, Clarification, Justification, User Participation, Learnability, Explicability

Resubmission of Freiberg, M., Herrmann, F., Puppe, F.: Clarification KBS as Consultation-Justification Mash Ups—Proposing A Novel Paradigm for All-in-One Knowledge-based Systems. *Submitted to*: Proceedings of International Conference on Knowledge Engineering and Ontology Development (KEOD 2014)