EKO ZULKARYANTO. Exam Scheduling System Using Answer Set Programming. Supervised by MUSHTHOFA.

Scheduling tasks have been known to be computationally expensive. Several scheduling problems have been shown to be NP-complete. This research deals with the problem of scheduling exams for the undergraduate Major-Minor System in Bogor Agricultural University. We employ Answer Set Programming (ASP) to tackle this problem. ASP has been, in the last decade, the subject of active research in the field of logic programming, knowledge representation, and reasoning. ASP allows for an intuitive representation of computationally hard problems as well as efficient solving using state-of-the-art solvers, such as DLV. In this research, a representation of scheduling problem in the context of undergraduate Major-Minor System in Bogor Agricultural University has been formulated and a prototype application system written using C# .Net and DLV has also been implemented. Experimental results show that the system is capable of generating feasible exam scheduling in acceptable time for smaller-sized datasets, but still needs performance improvement for bigger-sized datasets.

Keywords: stable model, answer set programming, DLV, scheduling