A LOGISTICS PLANNING SYSTEM BASED ON BELIEF-DESIRE-INTENTIONAGENT MODEL

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ABSTRACT

The aim of this research project was to research, design and develop a multi-agent logistics planning system prototype based on a BDI agent model. In most cases, logistics planning is done by repeated manual calculations that are error-prone, cumbersome and unnecessarily long. Theoretical literature describes the BDI multi agents and their suitability for the logistics planning problems. Empirical literature reviewed the contributions of other researchers to the research topic. BDI-Agent Software Development Process (BDI-ASDP) methodology was employed in the analysis and design of the logistics planning system prototype. The system design was implemented in Jason open source agent programming platform. The product was subjected to a thorough evaluation using System Usability Score (SUS) evaluation tool and registered an above average SUS score of 77.We expect that the BDI agent architecture can provide solutions to an otherwise long, tiresome and sophisticated manual logistics planning process.