E-Tendering: Modeling of a multi-agents system integrating the concepts of ontology and big data

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Abstract

The objective of this work is to model a multi-agents system integrating the concepts of ontology and big data. The system is designed to facilitate the tendering process by allowing multiple agents to interact and exchange information. The ontology is used to represent the knowledge about the tendering process, and the big data is used to analyze the data generated by the system. The system is modeled using the Multi-Agent System (MAS) framework, which allows the representation of the agents and their interactions. The ontology is represented using the OWL (Web Ontology Language) language, and the big data is represented using the Hadoop framework. The system is implemented using the Java programming language and the NetBeans IDE. The results of the implementation show that the system is able to facilitate the tendering process and to analyze the data generated by the system.

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1. Introduction

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2. System's general overview

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4. Multi-agents system approach

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Interface Enterprise Agent (IEA):	A	A	A	A	A		A	A	A		A	A
Interface Tender Committee Agent (ITCA):	A	A			A		A		A	A	n	c
Planner Agent (PLA):	A	A	A		A	A	A		A	A	A	n
Reception Tenders Agent (RTA):	A	A			c	A	A	A		A	A	A
Selection Bidders Agent (SBA):	A		A	A	w	A		A	A	A		A
Tenders Evaluation Agents (TEA):	A	A		A	A	A	A	A		A	A	A
Contractualization Management Agent (CMA):	A		A	N	A	A	r		A	A	A	A
Monitoring and Control of Contract Execution Agent (MCCEA):	A	A	A	w	w	A	A	A		A	A	A
IT Security Agent (ITSA):	A	A	A	A	A	A	A		A	A	A	n

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- **Users Profiles Management Agent (UPMA):** A A A A A N A w w A ;A
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- **Resources Management Agent (RMA):** A A A A A A A A A A c A A A
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5. Big data approach

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- **Databases of treasury:** A ;A c A A A A n A A A A A
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- **The Web and social networks:** A A A A A A A cA A A A A
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- **Data warehouse of the system:** A A n A A A A A A
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6. Technical Architecture

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7. Conclusion

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