AGENT BASED METERING SYSTEM FOR ENERGY NETWORKS

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DECLARATION

"I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The above candidate has carried out research for the Masters Dissertation under my supervision.

……..... ……..

Signature of the supervisor Date

(Dr. K.T.M.U. Hemapala)

ABSTRACT

Centralized automated single server based energy meter reading systems required high-end resources, at the same time it has low efficiency benefits, low reliability and real time meter data monitoring get more complex when the connected meter base is large.

Therefore objective of the research is to provide a methodological approach for energy meter reading systems to apply for the Sri Lankan context using de-centralized technique. Agent based solution was implemented with Multi Agent System (MAS) to address above issues and the system is characterized de-centralized nature and self configurable nature.

Low cost, high reliable, high efficient meter reading system is provided by MAS based decentralized system

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LIST OF ABBREVIATIONS

Abbreviation	**Description**
AMS	Agent Monitoring System
API	Application Program Interface
ASM	Anchor Security Manager
AJNDI	Anchor Java Naming, Directory Interface
BSD	Berkeley Source Distribution
COSEM	Companion Specification For Energy Metering
CT	Current Transformer
DB	Database
DLMS	Device Language Message Specification
DF	Directory Facilitator
FIPA	Foundation For Intelligent Physical Agents
GUI	Graphical User Interface
IEC	International Electro-Technical Commission
IP	Internet Protocol
JADE	Java Agent Development Framework
KQM	Knowledge Query Manipulation Language
MAS	Multi Agent Systems
OBIS	Object Identification System
PC	Personal Commuter
PDA	Personal Digital Assistant
RMI	Remote Monitoring Interface
SATP	Secure Agent Transfer Protocol
TCP	Transmission Control Protocol
VCC	Virtual Code Compiler

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