

**DEVELOPMENT OF AN ORGANIZATION PROCESS BASED ON  
OASIS ACCESS CONTROL STANDARD  
FOR DECENTRALIZED SMART GRID SYSTEMS**

By

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### STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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## ABSTRACT

### DEVELOPMENT OF AN ORGANIZATION PROCESS BASED ON OASIS ACCESS CONTROL STANDARD FOR DECENTRALIZED SMART GRID SYSTEMS

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Presently, smart grid concept has been promoted worldwide. The main targets of the concept are to increase the efficiency of power system operation and facilitate the grid integration of renewable energy. It can be achieved by using Information Technology system that enables the elements of the grid to communicate to each other. In this thesis, software functions are expected to facilitate smart grid to initiate the network, especially communication network and smart power system operation on distribution management system (DMS). Rapid prototyping methodology is used and to develop software functions. In combination with technologies, the functions can interact with distributed intelligent power components. More specifically, it includes initiation process of smart grid network, authorization process and establishment of a network of DMSs.

*Keywords: Smart Grid, SOAP, Web Services, WSDL, MySQL, Database, Authentication, Authorization, Certificate.*



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## **DEDICATION**

I dedicate this work for my whole family, my advisor and co-advisor, all of my lecturers, my supervisor and all of my friends.



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