

SUMMARY

Number of governments across the world have started using Information Communication Technology for facilitating their services to citizens. In Indian also governments at Central, State and local levels have started implementing electronic governance. However, these initiatives are undertaken considering the local requirements. This in turn has resulted in non interoperability. Such e-governance initiatives produce huge quantum of information which are useful for the government process in various ways. Unfortunately, due to non-interoperation these systems are isolated, and either the man or machine is not in a position to infer the information or to make use of it for various activities.

The present work tries to derive an interoperable metadata model, in the context of India, so that e-governance information can be described so that it can be useful for the machines/computers and intelligent agents to infer or interpret the data using semantic web concepts.

Though India has started implementing e-governance applications at various states standardisation efforts in India is in its initial state. The study reveals that India does not have comprehensive and standard metadata element set which can be used across e-governance domain though there have been some efforts.

In this work, a model metadata element set called Indian e-Governance Metadata Set (I-GMS) is derived based on the study of the globally accepted standards and also considering the needs in Indian context.

Attempts are made to represent I-GMS metadata contents in a semantic web based model for the purpose of achieving interoperability and suggests different ways of interoperation in various scenarios.



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1. Objectives of the Present Study

Main objectives of the present work are:

- To identify different sources of e-governance information, target and format of information, information need and information services in e-governance framework.
- To find out how metadata can be used to classify and categorise government information and services, thereby increase the visibility and accessibility of government services over the Internet.
- To study the possibility of interoperability of the e-governance applications using Semantic Web Technology

In short, this is an effort to develop a semantically interoperable e-governance metadata framework for easy retrieval of e-government information.

2. Scope of the Present Work

In any e-Governance initiative, the primary focus is on communication; communication between government departments, communication within a department and communication between the government and the citizens, businesses etc. The multitude of applications that exist in the e-Governance space, supporting this communication, need to exchange data necessary for delivering services to citizens, businesses and other government departments.

Communication calls for a commonly understood set of vocabularies having the same semantic content among all these users. Therefore, it is critical that data standardization and standardization of information elements and resources be performed in e-Governance programs. The standardization will also help in reducing redundancy, enhancing clarity and will facilitate reusing data elements across all departments.

In this study, different source of e-governance information, target and format of information, information service in e-governance framework is identified.

Metadata that best describes and enables to classify documents, relationship across documents and information for inferring is proposed. A model metadata framework is suggested for semantic interoperability among e-governance applications. The current study considered only English resources and local language resources are not considered in the scope of this study.

3. Hypotheses

This study is based on the following hypotheses:

- An unique set of metadata elements can be identified which will be useful for e-governance in India.
- Interoperability among e-governance applications can be achieved by Semantic Web Technology.

4. Methodology

Some major e-governance standards are studied and evaluated to present the idea about the basic elements, metadata descriptors, and vocabulary control and metadata management mechanism for development of metadata standard.

Basic metadata element set are identified which are in conformity with the world standard for e-governance metadata, as well as various application profiles suitable for the needs of domain under consideration.

Each government sector has its own vocabulary regarding its function and subject area. Therefore, controlled vocabulary lists are identified dealing with the services and also with the subject terminology.

To start web-based services, the domain specific service description is represented in the form of XML. Its presentation on the web browser is taken care by XSLT.

Standardisation of the data, which are to be input in the respective metadata fields are also studied and presented.

5. Organization of the Present Work

The present study is divided into the following chapters

Chapter 1. Introduction

This chapter gives an overall introduction about the work.

Chapter 2. e-Governance and e-Governance Standards

This chapter discusses about the concept of governance and its transformation to e-Governance with a special emphasis to e-Governance in India illustrating the developments and initiatives undertaken by different states governments along with supporting legal and policy frameworks. This also covers the concept of e-Governance standards and different dimensions in the standardization in e-Governance, efforts of Government of India in standardization and interoperability are also reviewed.

Chapter 3. Metadata and e-Governance Metadata

This chapter discusses about the Metadata, different types of metadata, metadata schemas in different areas, e-Governance metadata and its applications, and a comparative study of data encoding mechanisms in major e-Governance metadata standards etc. are discussed.

Chapter 4. Semantic Web Technology

Concept of semantic web is introduced in this chapter along with tools and examples of different e-governance projects. Semantic interoperability in governance and semantic interoperability frameworks developed by various countries are also discussed in this chapter.

Chapter 5. Comparison of e-Governance Metadata Standards

Comparative study of major e-governance metadata standards are undertaken in this chapter with special reference to those standards used in Australia, New Zealand, UK and Ireland. Based on the feature analysis of general and element specific characteristics, a comparison of these are undertaken in this chapter.

Chapter 6. Model for Indian E-Governance Metadata Set (I-GMS)

This chapter illustrates an interoperable model metadata element set called Indian e-Governance Metadata Set (I-GMS), which is proposed for application in Indian context. Appropriate authority lists are also identified for assigning values to I-GMS element set. This model metadata element set is proposed to be used for the interoperability of the e-governance metadata in Indian context.

Based on the study to identify the globally accepted mechanism for representing the e-governance data, attempt is made to represent the data standardized as per I-GMS in a suitable format, for the purpose of interoperability.

Chapter 7. Conclusion

This chapter summarizes the conclusions of the current work, its limitations, scope for further work etc.

Chapter 8. Bibliography