

# RETRIEVING INFORMATION OF MYANMAR TRADITIONAL MEDICINAL PLANTS BY USING AUTOMATIC KEYWORD SEARCH

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## ABSTRACT

*In this system of plant metadata is used increasingly to improve both the availability and the quantity of the plant information delivered. Dublin Core has been used with other types of plant materials and in applications demanding some complexity. Information Retrieval (IR) is concerned with the process involved in the representation, storage, searching and finding of traditional medicinal plants information which is relevant to a requirement for information desire a human user. This system retrieves information about the Myanmar Traditional Medicinal Plants according to using keyword. This system is related information retrieving based on metadata in Myanmar Traditional Medicinal Plants system. These traditional plants may include leaves, fruit, stem and root.*

**Keywords:** Metadata, Resource Descriptive Framework

## 1. INTRODUCTION

Metadata is structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage an information resource. A webpage is created where researchers can access the finding aid, search the database, and listen to the audio files. Administrative, structural, and descriptive metadata is created for the webpage to hold all the pieces together, allow them to be managed, and allow them to be accessed [3, 4].

Also, storing metadata separately can simplify the management of the metadata itself

and facilitate search and retrieval. Therefore, metadata is commonly stored in a database system and linked to the objects described [2].

So, metadata is one of the most important aspects of data storage. This system is intended to develop Retrieving Information of Myanmar Traditional Medicinal Plants system using descriptive metadata.

## 2. THEORETICAL BACKGROUND

The metadata refers to information about information or, equivalently, data about data. [4]. While metadata in publishing can be classified according to a variety of specific functions, such as technical metadata for technical processes, rights metadata for rights resolution, and preservation metadata for digital archiving, this guide focuses on descriptive metadata, or metadata that characterizes the content itself [2].

An important reason for creating descriptive metadata is to facilitate discovery of relevant information. In addition to resource discovery, metadata can help organize electronic resources, facilitate interoperability and legacy resource integration, and provide digital identification, and support archiving and preservation [1].

### 2.1 Dublin Core

Dublin Core metadata schema is very easy to create due to its simplicity, usability, and flexibility. The elements of Dublin Core are easily identifiable and are clear enough to be understood by even non-catalogers. Implementations of Dublin Core typically make use of XML and are Resource Description Framework (RDF) based [3].

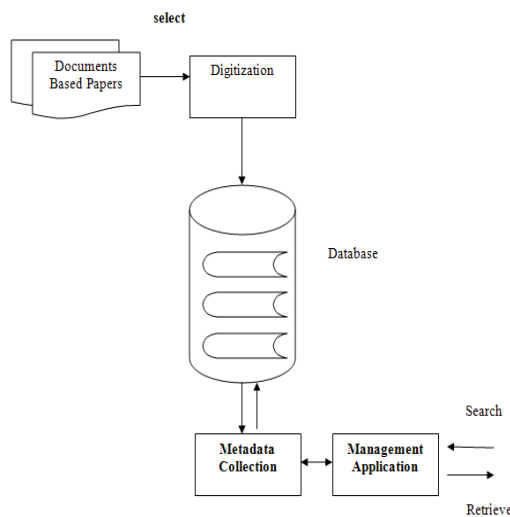
### 2.2 Resource Description Framework (RDF)

The Resource Description Framework (RDF) recently became a W3C recommendation, taking its place alongside other Web standards such as XML and SOAP [5].

In this system takes through some of the features of open source Jena Semantic Web Framework and learn how to create and populate RDF models, how to persist them to a database, and how to query them programmatically using the RDQL query language. Finally, the system demonstrates how Jena's reasoning capabilities can be used to infer knowledge about models from ontology [6, 7].

### 3. SYSTEM DESIGN

#### 3.1 Overview of Medicinal Plants Information System



**Figure 1.** Overview of the System

In this system design, enter the documents about medicinal plants and then store these documents as digitization to the database. In the next start, perform the process of metadata collection to collect the document about medicinal plants. Accept keywords for searching the necessary data as input from the users. Then, retrieve the data of plants necessary of the users.

Search engines and metadata repositories have so far investigated very different approaches to search, mainly due to their separate and different storage systems for information and data.

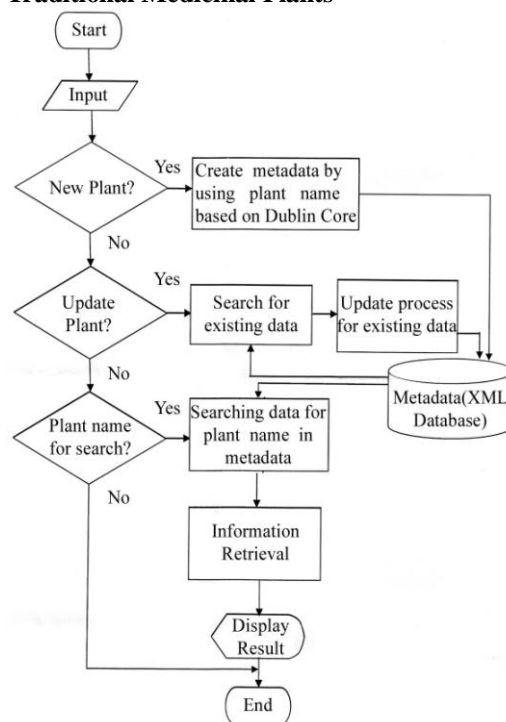
Metadata is a set of information that

describes the characteristics of a data set. Import function for modals (Train function) is the process by which properties of a data set are read from the data set and written into its metadata.

The purpose of Train function is twofold:

1. To complete as much of the metadata as possible automatically generate, thereby minimizing the amount of work that the user has to do to completely document a data set.
2. To make sure that metadata is kept up-to-date with changes to the data set [2].

#### 3.2 System Flow Diagram of Myanmar Traditional Medicinal Plants



**Figure 2.** System Flow Diagram of the System

When the system is start, the user enters input to the text box by using keywords. If the user can create new plant, the system will work Dublin Core for format new input plants to store metadata.

The user update plant, metadata can match input plant. After matching the plant, user can update plant. People, who can search data name for plant in metadata. By using keyword, we find many plant results. They are stored XML

database. Information Retrieval will retrieve information of plant list. Then, plants name result is display.

#### 4. PLANTS RETRIEVING

##### 4.1 Plants Query Browser

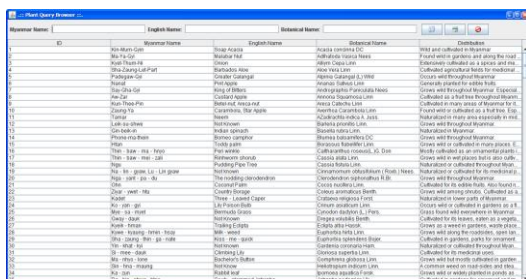


Figure 3. Plant Query Browser Form

User can see all of the plants data. This page shows all information stored in the database by choosing the keyword such as myanmar name, english name, botanical name for user. There are three main functions in plant query browser such as search button to show the result in table, select button to get the selected row in table and show the plant details information in plant editor and cancel button to close the process.

##### 4.2 Display Result of Plant

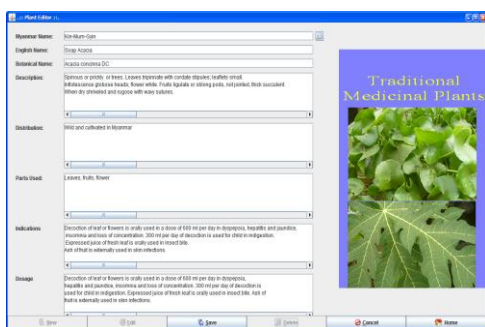


Figure 4. Plant Result

To display the result of plant name “Kim-Mum-kyi” is the following:

Myanmar name : Kin-Mum-Gyin  
 English Name : Soap Acacia  
 Botanical Name : Acacia concinna DC  
 Description :Spinous or prickly or trees.  
 Leaves tripinnate with cordate stipules; leaflets small. Inflouescence globose heads; flower white.

Fruits ligulate or oblong pods, not jointed, thick succulent. When dry shriveled and rugose with wavy sutures.

Distribution :Wild and cultivated in Myanmar.

Parts used : Leaves, fruits, flower

Indication : Decoction of leaf or flowers is orally used in a dose of 600 ml per day in dyspepsia, hepatitis and jaundice, insomnia and loss of concentration. 300 ml per day of decoction is used for child in indigestion.

Expressed juice of fresh leaf is orally used in insect bite. Ash of fruit is externally used in skin infections.

Dosage : Decoction of leaf or flowers is orally used in a dose of 600 ml per day in dyspepsia, hepatitis and jaundice, insomnia and loss of concentration. 300 ml per day of decoction is used for child in indigestion. Expressed juice of fresh leaf is orally used in insect bite. Ash of fruit is externally used in skin infections.

##### 4.3 Plant Meta Setting Process

Resource URI: <http://www.mmplants.com.mm/traditional-plants>  
 RDF (Metadata) URI: <http://www.mmplants.com.mm/plant-rdf/1.0#>  
 RDF (Metadata) Data Path: data/plants.rdf

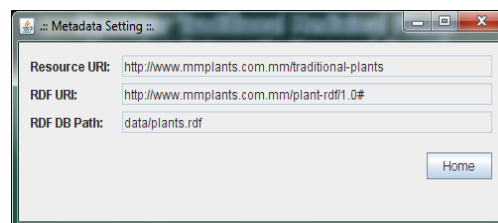


Figure 5. Metadata Setting

##### 4.4 Metadata Query Browser

RDF Data Query Language (RDQL) is a query language for RDF. RDQL allows complex queries to be expressed concisely, with a query engine performing the hard work of accessing the data model. RDQL's syntax superficially resembles that of SQL, and indeed, some of its concepts will be familiar to anyone who has worked with relational database queries.

Retrieve statement for all plants using (RDQL – Resource Description Query Language)

SELECT ?x, ?MyanmarName, ?EnglishName, ?BotanicalName, ?Distribution WHERE (?x

Plant:MyanmarName ?MyanmarName), (?x  
 Plant:EnglishName ?EnglishName), (?x  
 Plant:BotanicalName ?BotanicalName), (?x  
 Plant:Distribution ?Distribution) USING Plant  
 FOR <http://www.mmplants.com.mm/plant-rdf/1.0#>

#### 4.5 Plant Metadata Sample

A metadata record consists of a set of attributes, or elements, necessary to describe a resource. Jena has methods for reading and writing RDF as XML. These can be used to save an RDF model to a file and later read it back in again.

To retrieve plant name "Kyet-Thum-Ni" based on XML and RDF database, in this sample include metadata setting, Myanmar Name and English Name, Botanical Name, description detail, distribution, parts used, indication and dosage of plant.

For example:

```
<PlantList>
  <Plant:MyanmarName>Kyet-Thum-Ni
</Plant:MyanmarName>
  <Plant:EnglishName>Onion
</Plant:EnglishName>
  <Plant:BotanicalName>Alliym Cepa Linn
</Plant:BotanicalName>
  <Plant:Distribution>.....</Plant:Distribution>
</PlantList>
<PlantList>
  <Plant:MyanmarName>Lane-maw-thi
</Plant:MyanmarName>
  <Plant:EnglishName>Orange</Plant:EnglishName>
  <Plant:BotanicalName>.....</Plant:BotanicalName>
  <Plant:Distribution>..... </Plant:Distribution>
</PlantList>
```

#### 5. CONCLUSION

Today is the right time to share the knowledge of the medicinal plants among the countries. Metadata is one of the most important aspects of data storage. It is data about data stored in the database and its users [3].

In this system takes through some of the features of open source Jena Semantic Web Framework and learn how to create and populate RDF models, how to persist them to a database,

and how to query them programmatically using the RDQL query language [7]. This system will provide basic information relevant to the use of the medicinal plants in primary health care.

#### 6. FURTHER EXTENSION

The RDF framework is one of the key enabling standards. As metadata initiatives developed, administrative metadata, area that still does not get much attention in especially the rights and preservation areas was further emphasized.

Technical metadata is one metadata schemas. The effective exchange and use of the digital objects described by the metadata often requires knowledge of specific technical aspects of the objects beyond its filename and type.

This system will extend to facilitate interoperability between systems of digital image files. The metadata elements defined in the standard cover basic image parameters such as compression and color profile, information about the equipment and settings use to create the image, and performance assessment data such as sampling frequency and color maps.

#### REFERENCES

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