Advanced Software Engineering Lab-Autumn 2022-23

Bishwajit Prasad Gond
222CS3113

Master of Technology
222cs3113@nitrkl.ac.in

Department of Computer Science & Engineering
NIT, Rourkela

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Data Dictionary 2022

SOFTWARE COMPONENT CATALOGUING SOFTWARE

Prepared by
BISHWAJIT PRASAD GOND
222CS3113

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1 Introduction

1.1 Data Dictionary

A Data Dictionary is a collection of names, definitions, and attributes about data elements that are being used or captured in a database, information system, or part of a research project. It describes the meanings and purposes of data elements within the context of a project, and provides guidance on interpretation, accepted meanings and representation. A Data Dictionary also provides metadata about data elements. The metadata included in a Data Dictionary can assist in defining the scope and characteristics of data elements, as well the rules for their usage and application.

1.2 Data definition

Composite data items can be defined in terms of primitive data items using the following

data definition operators.

- + : denotes composition of two data items, e.g. a+b represents data a and b.
- [, ,] : represents selection, i.e. any one of the data items listed inside the square bracket can occur. For example, [a,b] represents either a occurs or b occurs.
- () : the contents inside the bracket represent optional data which may or may not appear.
- a+(b) represents either a or a+ b occurs.
- {} : represents iterative data definition, e.g. {name}5 represents five name data. {name}* represents zero or more instances of name data.
- = : represents equivalence, e.g. a=b+c means that a is a composite data item comprising of both b and c.
- /**/ : Anything appearing within /* and */ is considered as comment

1.3 Data dictionary for the DFD model of Software Catalogue Component Software

id# : int
phone : int
email : string
password : string
username : string
catalogue-name : string
description : string
add-keywords: description
search:[Component name, Rating, Categories]
use-component: [download]
update-component: [delete, upload, add-description]
query: delete /*delete component from database*/

query: upload /*upload component to database*/
component-name : String
rating : [1,2,3,4,5]
categories : [component-type]
download : [component-name]
delete : query
upload : query
add description : string
component-type : string
user-details : u-details + id + phone + email + password
fetch-catalogue : catalogue-name + description
u-detail : username + password
verify : u-details*
manage-catalogue: [fetch-catalouge, delete, upload, add-keywords]*