#### Copyright © 2016-2018, ROJTEC, Olof Johansson

#### All rights reserved.

You may download and use a personal copy of this document. You may not distribute copies of this document to 3<sup>rd</sup> parties without a written permission.

# **Document Dictionary Tutorial**

#### **Abstract**

This tutorial focuses on the needs of students of any age who want to plan their studies and develop experience on how much time to allocate for planned studies by measurements on actual studying time.

#### **Table of Contents**

Preface			
Chapte	er 1 The Purpose of DocumentDictionary	3	
Chapte	er 2 A Quick Tour through DocumentDictionary	4	
2.1	Opening an Existing DocumentDictionary and Create a new Reading Schedule	4	
2.2	Planning the Study of a Document	5	
2.2			
2.2			
2.2			
2.2	2.4 Pasting a Reference on a DocumentRecord	11	
2.2			
2.2	2.6 Updating the PageCount information in a "TableOfContents"	15	
2.2	2.7 Creating a Reading Agenda Report	16	
2.3	Calibrating Your Reading Speed	19	
2.4	Recording ReadTime for a Document or ContentContainer	20	
2.5	Update or Create AuthorRecords and AuthorDocuments	22	
2.6	Find a string in a DocumentDictionary	22	
Refere		25	

# **Preface**

To Students who want tools for improving their studying capacity

DocumentDictionary is founded on more than 35 years of practical rational student experience in using tools for the planning of studies and research, and for organized quick access and recall of once studied course mateiral and research articles.

# **Chapter 1 The Purpose of DocumentDictionary**

The purpose of DocumentDictionary is to provide a practically useful tool for study planning, research and recall of previously studied courses, manuals and research articles.

DocumentDictionary builds on knowledge already present in the Public Domain more than 20 years ago.

By using DocumentDictionary, you will learn more about your own studying capacity and performance, while having a tool to plan and track your studying progress.

You get an archive to store and organize your references to teaching material and research articles on you personal workstation or laptop. In addition the tables of contents in the teaching material can easily be imported and used to plan studying time, track studying progress and store own comments and summaries for recollection of the studies later

It is fun to study when you can see your own progress, and at the same time get an organized index to the teaching material and research articles you already have worked your way through.

You will be surprised how useful it is when you need to quickly rehearse a previously studied course when you start a new course that builds on that theory. This may occur in the curriculum, or in a work assignment half a year later, or sometimes years after you studied a course or other documents.

For teachers in academy and industry DocumentDictionary can serve as a tool for planning of interactive and self studying courses. The teaching material references with their table-of-contents for the course material can be distributed in an easy to use binary format to students, that can also be exported and imported as standard comma separated text files in other software tools.

Collaborative team based course development can be done using a shared relational database, where the whole curriculum of courses given by a company or teaching facility can be archived, reused, and serve as repository and trace of version and release managed course development over long periods of time.

# **Chapter 2 A Quick Tour through DocumentDictionary**

This is a walk through of the most valuable student functionality in DocumentDictionary.

2.1	Opening an Existing DocumentDictionary and Create a new Reading Schedule	4
2.2	Planning the Study of a Document	5
2.2.	F	
2.2.2	2 Creating a Category	6
2.2.3		9
2.2.4	4 Pasting a Reference on a DocumentRecord	11
2.2.		
2.2.0	6 Updating the PageCount information in a "TableOfContents"	15
2.2.	7 Creating a Reading Agenda Report	16
2.3	Calibrating Your Reading Speed	19
2.4	Recording ReadTime for a Document or ContentContainer	20
2.5	Update or Create AuthorRecords and AuthorDocuments	22
2.6	Find a string in a DocumentDictionary	22

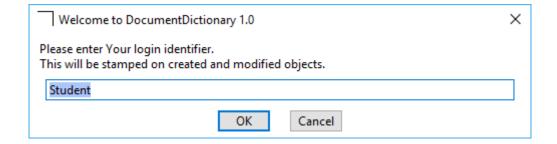
Some text is written in grey. You can skip those if you just want to acquire the knowledge needed to use this tool as a productivity enhancing aid which is all right. The purpose of the grey text is "just in time" knowledge asset building for getting the most out of computers which are much faster servants than humans if computers are told what to do in a language they understand.

# 2.1 Opening an Existing DocumentDictionary and Create a new Reading Schedule

Start DocumentDictionary by double-clicking DocumentDictionary.bat typically installed in C:\Programs\DocumentDictionarMNP, where M is a number representing the major version of the program, N represents a minor verson number and P represents a patch number.

A Welcome dialog box appears where you can enter your login name that must be 8 characters or less. Since you may create a huge number of objects who all will be stamped with your login name, it saves computer storage space in simple but fully functional open source database implementations to have a short name. A common convention for selecting a login name is using the first 3 letters in your first name, and the first 2 letters in your last name, and adding the last two digits of the year of your birth.

Use the login identifier Student when going through this tutorial the first time, to make the demo examples work...



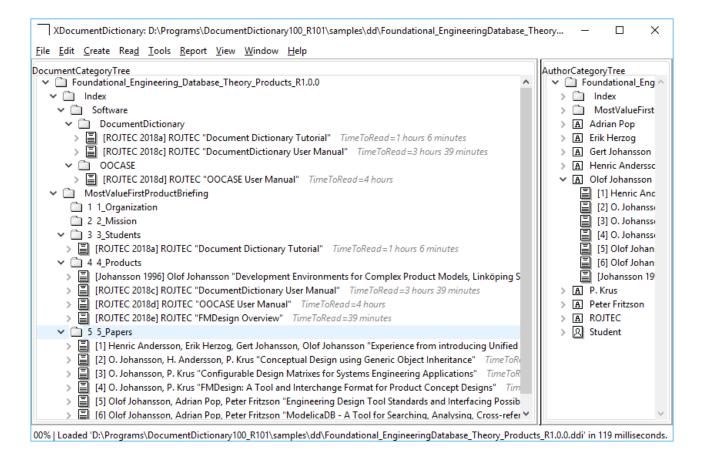
The main window consists of a File Edit menu, and two adjacent panes. One that organizes DocumentRecords into Categories, and one that organizes AuthorRecords into the same Categories.

You can open a file with <u>File->Open</u>, and then navigate the Category structure down to DocumentRecords. These in turn contain a TableOfContents structure with ContentRecords.

Open a File, for example:

<installation directory>\samples\dd\Foundational\_EngineeringDatabase\_Theory\_Products\_R1.0.0.ddi.

You can navigate in the DocumentCategoryTree the same way as in windows explorer. Have a look at the example. Spend at most 5 minutes in this. You can return later when you have completed this manual.



## 2.2 Planning the Study of a Document

This example requires you having access to a Document that contains a TableOfContents. In the installation directory of DocumentDictionary, you find one example under:

DATA\Foundational\_Engineering\_Database\_Theory\_Products\4\_Products\[ROJTEC 2018d].txt.

The Sample document is named OOCASE\_User\_Manual\_181211.pdf and stored in the directory [ROJTEC 2018d]. You can use a reference directory like this to store other study material that might be useful with regards to a particular document.

#### 2.2.1 Open an existing DocumentDictionary File

In this tutorial case we use the file:

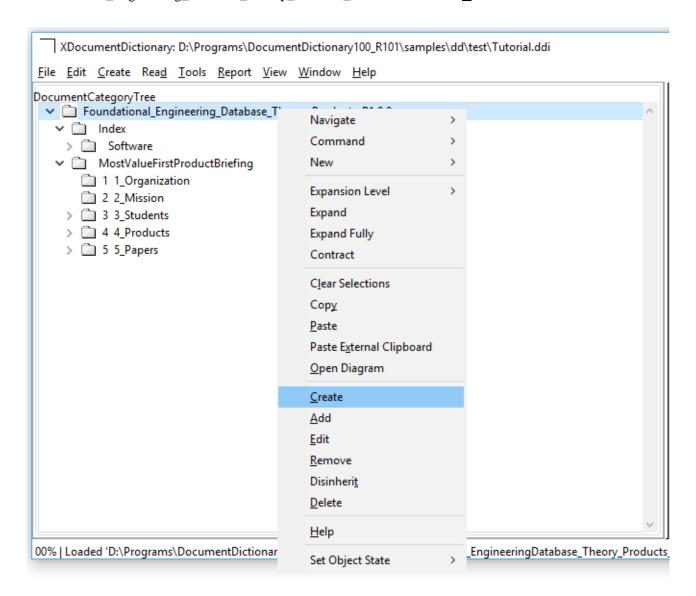
<installdir>/samples/dd/Foundational\_EngineeringDatabase\_Theory\_Products\_R1.0.0.ddi.

After you have opened this file, use  $\underline{F}$ ile->Save  $\underline{A}$ s, and give it a new file name, for example: <installdir>/samples/dd/test/Tutorial1.ddi.

#### 2.2.2 Creating a Category

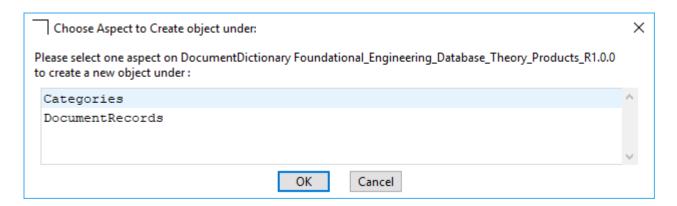
When planning a study of documents, you create a Category for that study. Right-click on the DocumentDictionary root object in the tree named

"Foundational\_Engineering\_Database\_Theory\_Products\_R1.0.0" and select "Create" from the menu.

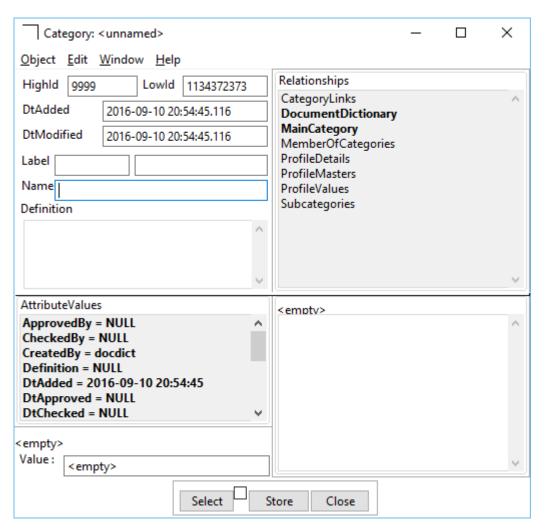


#### A DialogBox appears. You select "Categories" and press OK.

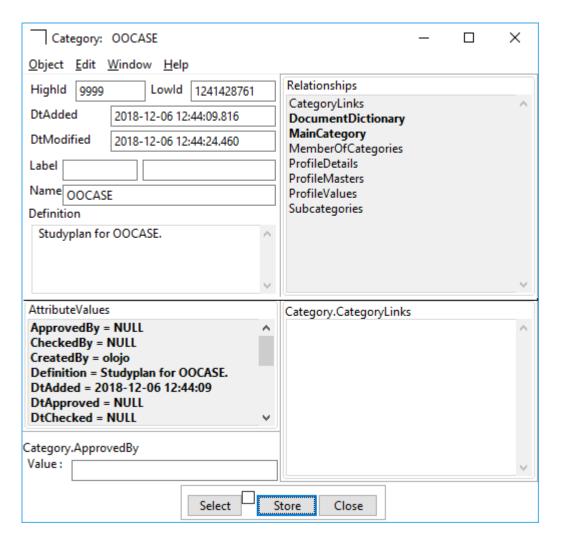
When you select Create on an object the pop-up Dialog box allows you to select what kind of subordinate relationship (Aspect) with respect to the object you right-clicked on, that you want to Create a new object in. In this case, Categories that holds Category objects or DocumentRecords that hold DocumentRecord objects.



A new Category object is created and Form (Object Editor) will appear that allows you to enter a name for the Category of your studies, and perhaps a description, if you need to share this with colleagues who may need some more details to understand what the Category means.

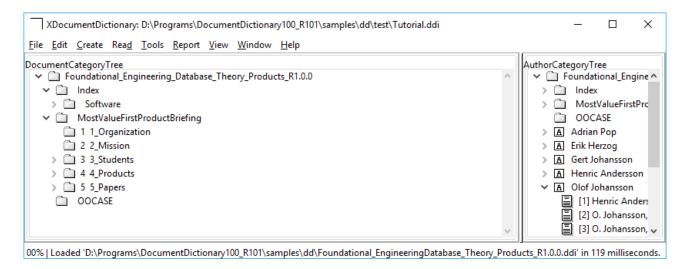


Enter "OOCASE" in the Name field, and perhaps enter "Studyplan for OOCASE" in the Definition textbox.



Then press the button "Store" at the bottom of the form, (and your data will be recorded in the primary memory of the computer that runs your DocumentDictionary program, but it is still not stored on permanently on the file on the hard disk which is called secondary storage. The difference between primary memory and secondary storage is that automated processing in the primary memory work on a small fraction of microsecond basis whereas reading and writing to secondary storage may take millisecons or even seconds if large data volumes need to be processed.)

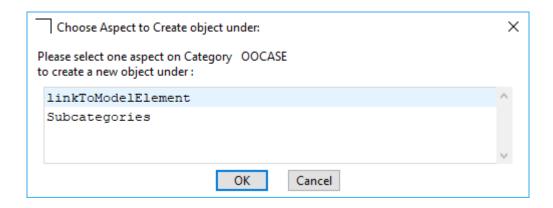
Now you click on the newly appeared "OOCASE" Category Object folder Icon in the DocumentCategoryTree in the main window. You may have to click on Window->Refresh Window to make the renamed category folder icon update the newly renamed Category and sort itself alphabetically into the tree on its current level.



The display will be updated. (The DocumentDictionary program will scan the latest data stored in the primary memory that stores the data for the Category, and refresh the display in the window of your computer where it will render a readable representation of the latest data you entered on the screen.)

#### 2.2.3 Creating a DocumentRecord within a Category

Now you right-click on the "OOCASE" Category folder and select "Create".

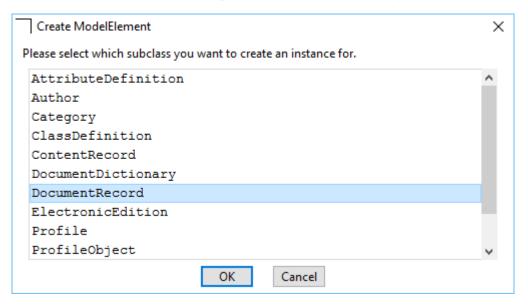


A DialogBox appears that asks you to select one of two relationships that will tie the "OOCASE" category to the new object you are about to create.

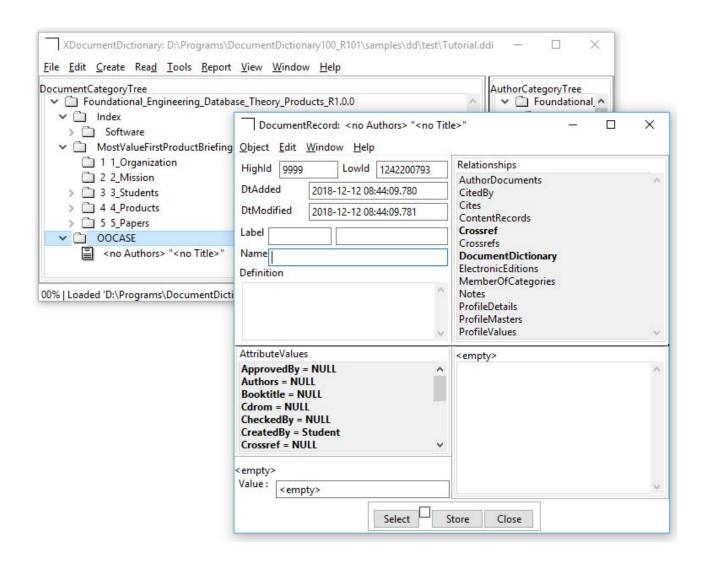
#### Select "linkToModelElement" and press OK.

A ModelElement is the name for an object that describes a software representation in the computer of an object that carries information about something real or physical in the world or some immaterial object in the computer that we need to store information about to track or model what is going on in the real world, so we can provide decision support for what to do next. Perhaps after a analysing the computer stored information from all possible angles and views. The term ModelElement was standardized by the Object Management Group, an industrial democratic membership organization that united the emerging needs of standardizing computer communication protocols and terminology for object-oriented electronic network communication between computers in software industry in the late 1980's [OMG]. This organization has plenty of knowledgeable members who create standards that are a backbone of mainstream software industry today with a legacy and development requirements and needs that goes faar beyond anything that is addressed here.

Now a new DialogBox appears where you can select the Class of ModelElement you want to link to the "OOCASE" category, so that the software will display this object below this Category folder.



Select "DocumentRecord" and press OK.



Now you have created a DocumentRecord on which you according to 2.2.4 below can "copy-paste" a reference to this DocumentRecord for example:

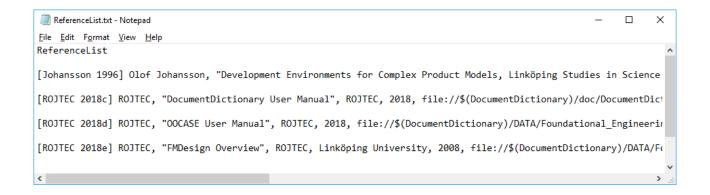
[ROJTEC 2018d] ROJTEC, "OOCASE User Manual", ROJTEC, 2018,

 $file: //\$ (Document Dictionary)/DATA/Foundational\_Engineering\_Database\_Theory\_Products/4\_Products/[ROJTEC2018d]/OOCASE\_User\_Manual\_181211.pdf$ 

The DocumentRecord will absorb the information in the reference and allow you to keep track of it and perhaps extend it further with a TableOfContents if the reference contains more pages than you can read at one uninterrupted slice of time. A scheduling that will give you a time-estimate for reading to enable your calendar-time scheduling. Something that may speed up your recall of what you have read before, after a delay of days or more on more urgent events that had to be handled.

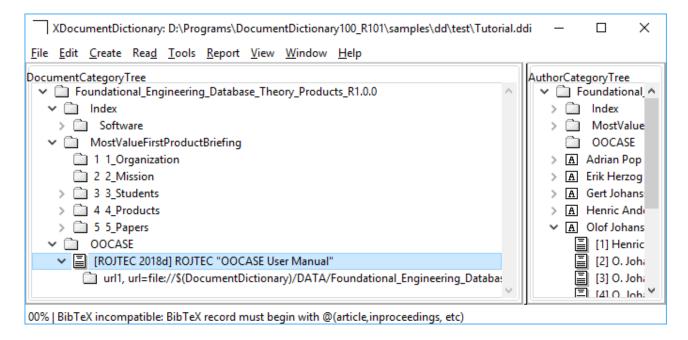
#### 2.2.4 Pasting a Reference on a DocumentRecord

In this tutorial you double-click on the file you find in the installation directory of DocumentDictionary, named DATA\Foundational\_Engineering\_Database\_Theory\_Products\4\_Products\ReferenceList.txt. In Notepad it looks like this:



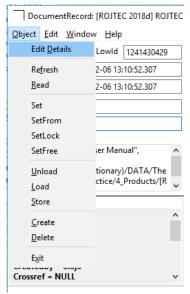
Copy the text of the reference you want to store in the DocumentRecord.

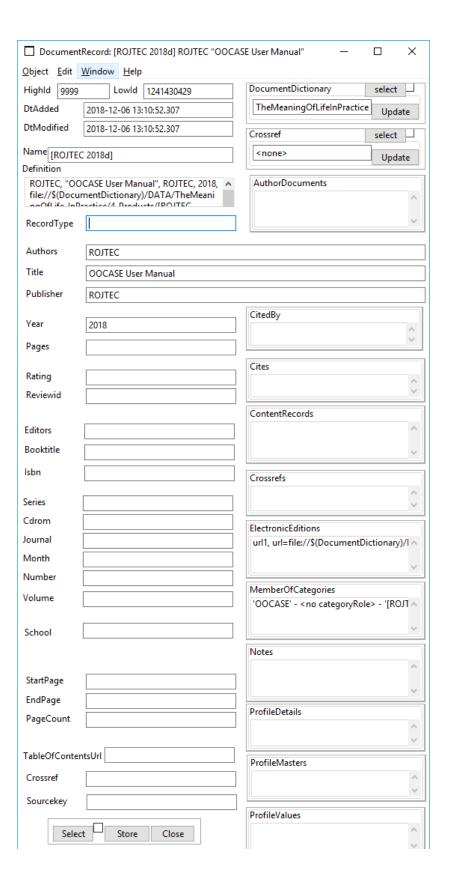
Then you select the DocumentRecord named '<no Authors> "<no Title>" in the DocumentDictionary window, right-click and select "Paste External Clipboard".



Double-click the DocumentRecord and inspect it's contents in a Form.

In the form select Object->Edit Details, and a full form will appear that displays what the Clipboard text interpretation process has extracted.

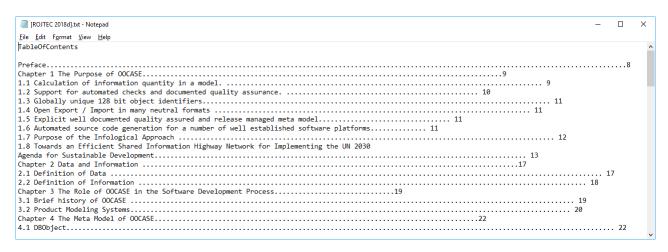




#### 2.2.5 Pasting a TableOfContents on a DocumentRecord

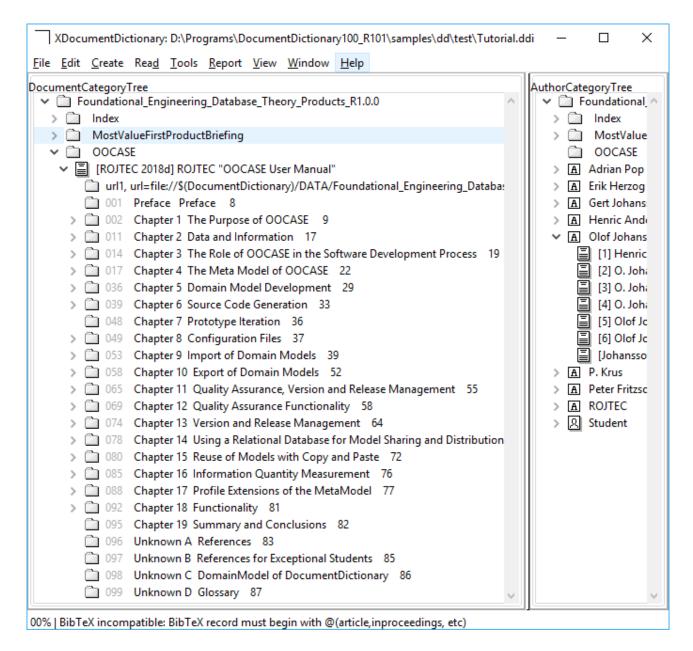
Now we need to copy-paste the "TableOfContents" of the [ROJTEC 2018d] document.

In the DocumentDictionary installation directory below DATA\Foundational\_Engineering\_Database\_Theory\_Products\4\_Products\ you find the file [ROJTEC 2018d].txt that contains a table of contents. This is a simple copy/paste from the PDF in the subdirectory [ROJTEC 2018d]\ OOCASE\_User\_Manual\_181211.pdf. When you open this file in Notepad it looks like this:



Most table of contents files like the one above can be created with a plain copy/paste of the TableOfContents from the PDF file, with some minor editing with the Edit -> Replace command in Notepad, and adding of a hierarchical numbering infront of the chapter and sections to make the hierarchical structuring understandable for a computer program.

Select all the text with Ctrl+a, then press Ctrl+c to copy it into the clipboard. Then select the "[ROJTEC 2018d]" DocumentRecord in the DocumentDictionary window, right-click and select "Paste External Clipboard".

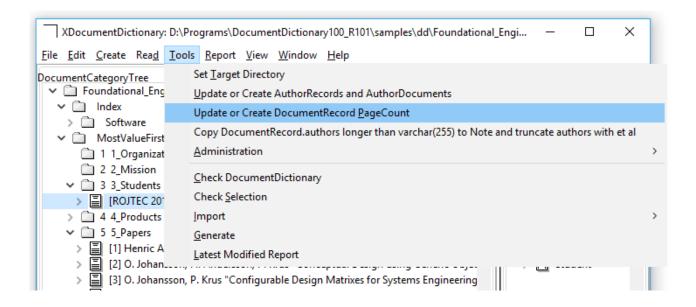


When the Paste External Clipboard command is executed on a DocumentRecord, the text in the clipboard is checked if it begins with the word "TableOfContents" on a single line. If so, the rest of the text in the external clipboard is extracted by the DocumentDictionary program. ContentRecords are created below the DocumentRecord and organized in a hierarchical structure that reflects the table of contents.

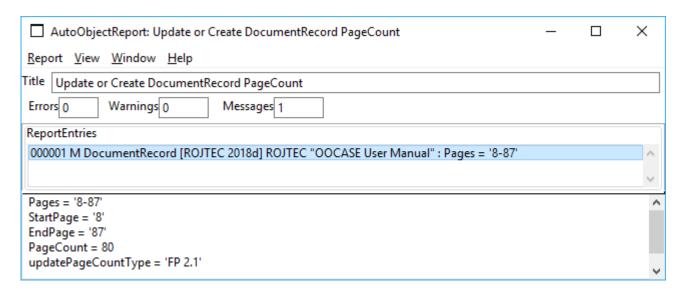
#### 2.2.6 Updating the PageCount information in a "TableOfContents"

Before we can calculate an estimate of the time it will take to read the document, the page information in the ContentRecords needs to be processed.

Issue the command "Tools -> Update or Create DocumentRecord PageCount".



The command will process the ContentRecords, derive an EndPage for each ContentRecord, and with the StartPage which came from the original TableOfContents, calculate the PageCount. Once finished the command will open a Report with messages about the calculated page information for each DocumentRecord.



Note: If you have NOT selected any DocumentRecord when issuing the "Tools -> Update or Create DocumentRecord &PageCount", all DocumentRecords in the DocumentDictionary model will be processed.

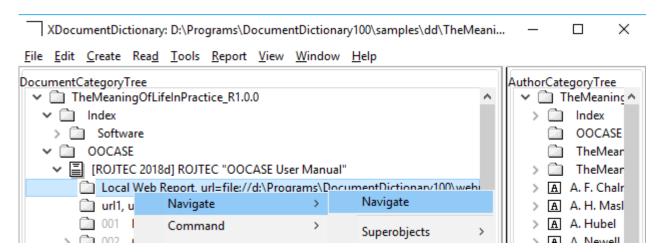
#### 2.2.7 Creating a Reading Agenda Report

With the PageCount information processed, it is now possible to calculate the time it will take to read a document. The time it takes a user to read a page can be configured for different login identifiers. If you login as Student, the reading speed is already configured to 3 minutes per page in the example DocumentDictionary profile instance tree.

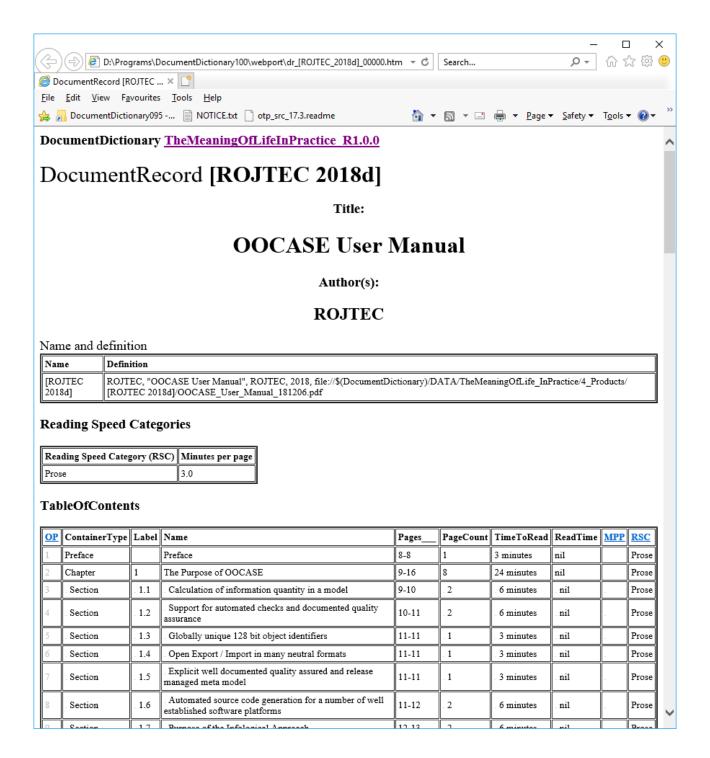
Select the "[ROJTEC 2018d]" DocumentRecord in the Issue the command "Report->Web Report Selection".

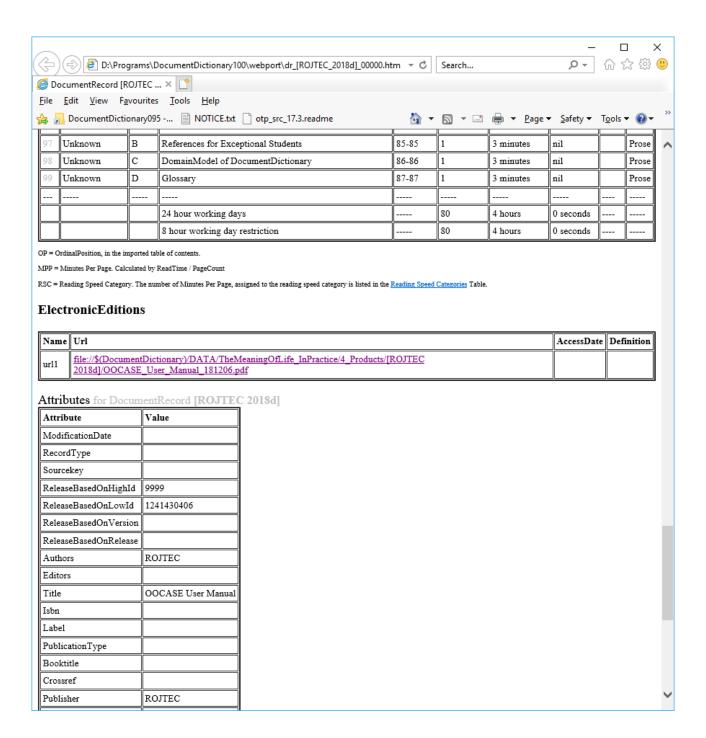
The selected object will then generate a web-page that can be found in the <DocumentDictionary install directory>\webport, by sorting this directory according to time, so the latest generated page appears first in the explorer window.

A web report for a DocumentRecord can also be opened directly in a web browser by selecting the ElectronicEdition object that stores a particular Universal Resource Locator (url) to a web page, or to the particular web report generated in the webport directory. Open the report with:



The generated DocumentRecord web report when viewed in internet explorer can be seen on the following pages. If you scroll down towards the end of the TableOfContents, you find an estimate of the total time it will take to read the document.

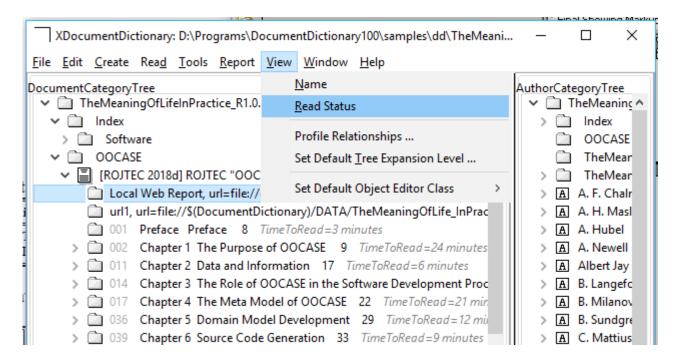




# 2.3 Calibrating Your Reading Speed

Reading Speed is measured in minutes per page in DocumentDictionary. Most undergraduate students can perform at 3 minutes a page on ordinary Prose on pages with 40-50 lines of text. Reading Speed depends very much on the experience of the person reading, and the quality and information density within the text. Pages packed with tables and numbers may require more time to read, if the reader evaluates each number into information that is useful for the readers understanding of a subject.

Estimated TimeToRead and the actual time spent on reading a document, chapter or section can be displayed directly in the DocumentCategoryTree in DocumentDictionary. To turn the information on, issue the command View->Read Status.

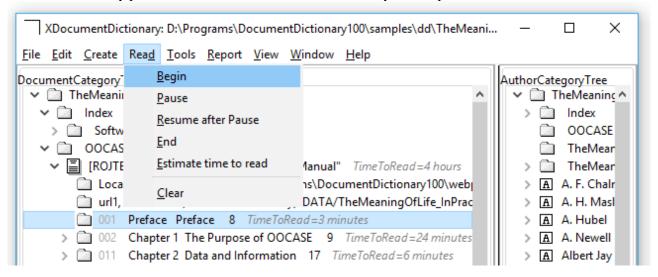


Now DocumentRecords and ContentRecords are suffixed with an estimated TimeToRead. Note: You can turn of the display of TimeToRead with View->Name.

# 2.4 Recording ReadTime for a Document or ContentContainer

ReadTime is the actual measured time to read a Document or ContentContainer within a Document. A ContentContainer is the object that stores information about a Chapter or section in the TableOfContents of a DocumentRecord.

To get an fact-based estimate of how much time it actually takes to read a document, for the purpose of being able to schedule enough time to read other documents of a similar "ReadingSpeedCategory" in the future, DocumentDictionary provides a "Read" menu with the functionality of a StopWatch.



All personal "Read" information is stored in a separate "ReadLog" Profile within the model and saved in the .ddi file. If a personal DocumentDictionary after personal use is needed for sharing, all personal information in the "ReadLog" profile can be deleted. The file is saved under another name and the accumulated DocumentRecords and ContentRecords with the study plan remain..

A Teacher may for example establish a fact-based baseline for a new course book, by reading the book her/him self and thus get an estimate of how much time the students will at minimum have to spend to read the book. After some fact-based personal experiences of this kind, realistic "rules-of-thumb" can be established.

A Student may develop several ReadingSpeedCategories for various types of books, documents and teaching material to be able to schedule enough time for plain reading before the exam.

A day of leisure is recommended after a multiday batch of bulk-reading and personal organization of the material has been done. That will provide subconscious processes access to past experiences that may contain valuable additions that may improve the higher understanding of the course content. Sometimes personal insights appear at this stage that can serve as "remembering keys" some years later when the course content is needed for practical work.. It is valueable to create some ContentRecords for your personal appendix of a course book or lecture material. There you can record your own personal insights, for example how you recall and understand machinery or processes you have been working with in the past, in the light of newly studied theory, and thus combine your personal knowledge into a coherent whole that is available to you "quick as a thought".

The Read functionality is strait forward. When starting to read a document or content container, select the object that represents the material to read, and issue  $\underline{Read}$ -> $\underline{Begin}$ .

If you get a "phone call" issue Read->Pause.

When the call is complete and you are ready to resume, issue Read->Resume after Pause.

When the ContentRecord to read is finished, issue  $\underline{R}$ ead-> $\underline{E}$ nd.

The recorded ReadTime will be displayed in green after the ContentRecord or DocumentRecord that represents the read material.

▼ [ROJTEC 2018d] ROJTEC "OOCASE User Manual" dtReadBegin=2018-12-06 15:08:49.187
Local Web Report, url=file://d:\Programs\DocumentDictionary100\webport\dr_[ROJTEC_2018d]_0
url1, url=file://\$(DocumentDictionary)/DATA/TheMeaningOfLife_InPractice/4_Products/[ROJTEC
001 Preface Preface 8 1 minutes 29 seconds
> 002 Chapter 1 The Purpose of OOCASE 9 TimeToRead = 24 minutes
url1, url=file://\$(DocumentDictionary)/DATA/TheMeaningOfLife_InPractice/4_Products/[ROJTEC]  001 Preface Preface 8 1 minutes 29 seconds

There is functionality for adding personal comments to ContentRecords, such as questions and keywords for discussion of the contents of the text for recall at a later time.

Try it now in practice by reading some chapters while you still have this turorial fresh in mind. The OOCASE User Manual is a perfect choise.

Save your DocumentDictionary model with File->Save after you have made changes.

#### 2.5 Update or Create AuthorRecords and AuthorDocuments

When planning studies or doing research it is frequently helpful to have an index over publications by a particular author who writes about topics you are interested in.

Issue the command "Tools -> Update or Create AuthorRecords and AuthorDocuments". This will update or create a derived index of AuthorRecords from the data in the DocumentRecord attribute authors. This index is visible in the AuthorCategoryTree in the DocumentDictionary Window. You can there select and expand an AuthorRecord folder and see all DocumentRecords in the DocumentDictionary that has this author's name in its autors attribute.

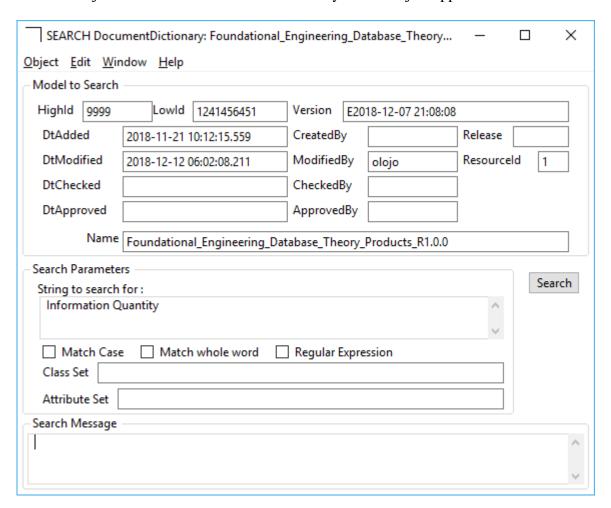
An AuthorDocument object is a Link-object that relates a DocumentRecord with an AuthorRecord. It has the same function as the CategoryLink, that links a Category to another ModelElement.

#### 2.6 Find a string in a DocumentDictionary

When a DocumentDictionary gets large, or has not been used for some time, the search functionality in DocumentDictionary is helpful.

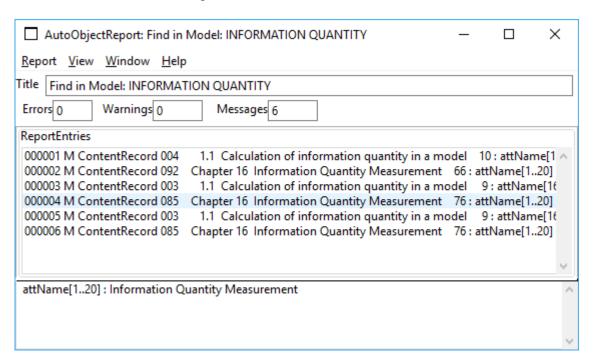
Issue "Edit->Find in Model".

A search object editor on the DocumentDictionary Model object appears:



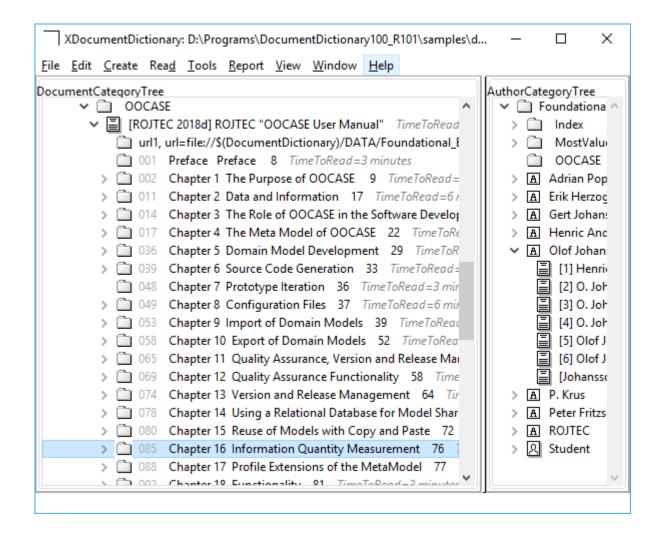
Enter the string you want to search for in the field labeled "String to search for:", for example "Information Quantity" and press the Search button.

An AutoObjectReport appears with a ReportEntry for each found object in the DocumentDictionary model that contains this string.



You can double-click on any of the ReportEntries to open an object editor on the reported object and inspect it.

You can also right-click on any ReportEntry and select "Navigate" in the background menu. This will locate and select the reported object in the DocumentCategoryTree in the DocumentDictionary Window.



# References

<ToDo:A list of GREAT books on studying techniques that I read in the 1980:es.

I don't think there has been any development at all in the field of studying techniques for undergraduate students or professional life-time students, for basic foundational bulk theory.

However the interactive course material made available i software tools has improved a lot. Real-time interaction with simulation models and fast iteration loops where you change your equations or parts in your algorithmic program and get a visualization back immediately, speeds up the learning process.

However without having understood the foundational underlying theory for such elegant applications, they may become a distraction from the tougher intellectual effort to really grasp the underlying theory.

The basic biological functionality of human beings has not changed at all in 40 years. People in the 1970-1980'es did not have that rich access to multi window software tool, and where thus forced to do a higher amount of intellectual processing with the biological equipment they had in their own brains. Leading to developments and capabilities that do not evolve without training and practice.

It is never to late to start to take up an advanced subject again. Gathered life experience from decades in other knowledge domains may actually make re-entry into advanced theory a wonderful experience full of awe.

That is what being a Student is about!

>