DBLP – Query Engine Report

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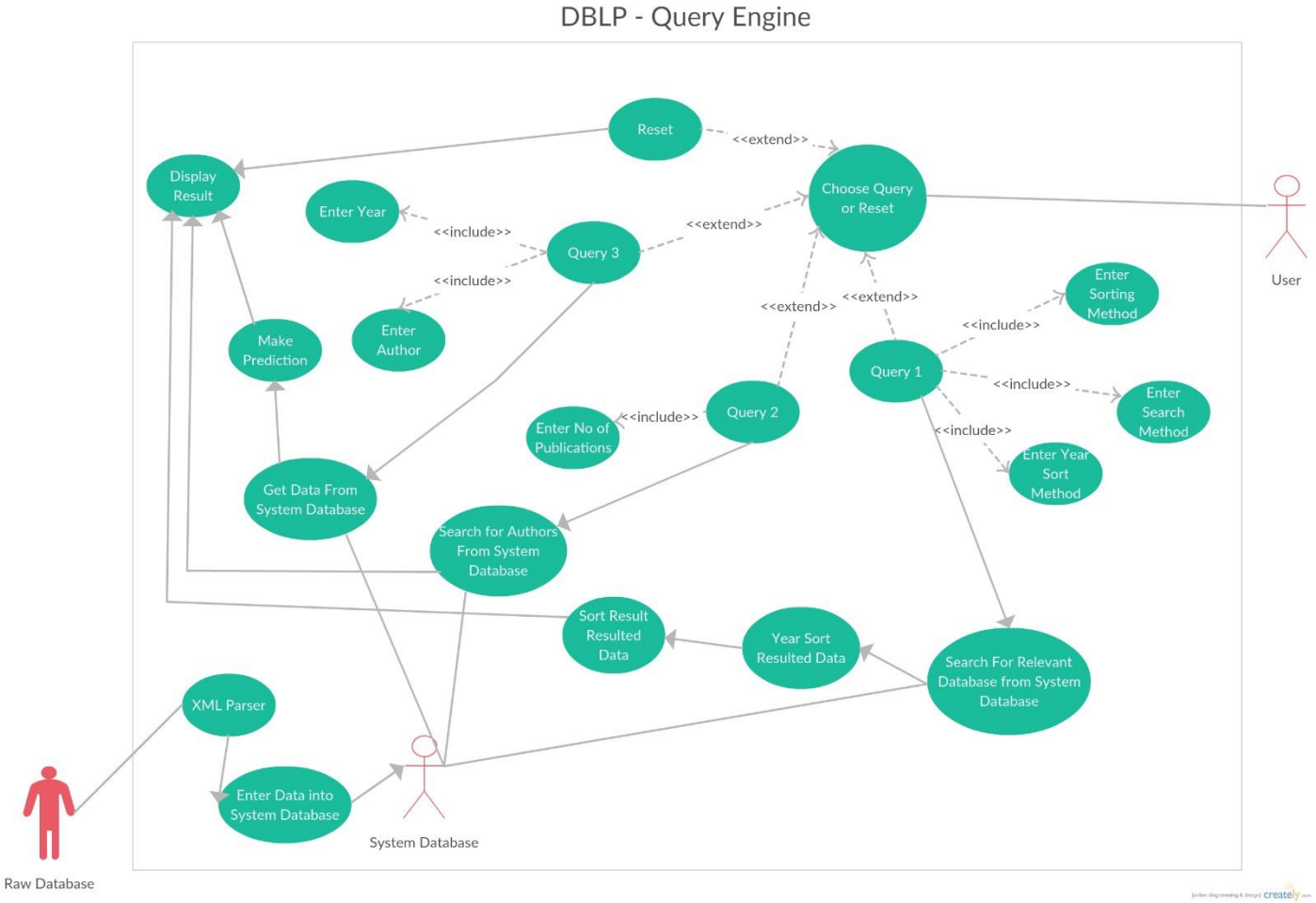


Explanation of Important Use-Case Diagram:

Actors in Use-Case Model:

1)Raw Database
2)User
3)System Database

Use-Cases:

1)Name:Display Result:
Participating Actor:User

Entry Condition:
1.User has entered the query and entered relevant data he/she wants to search

Exit Condition:
1.User wants to get the view of the output on the Result panel

Event Flow:

1.User enters set of values of author/title he/she wants to search.
2.Display Result gets the set of values from “Search “ use case.
3.Display Result displays result on Result Panel.

2)Name:Choose Query or Reset
Participating Actor:User

Entry Condition:
1.User wishes to search based on the options of query

Exit Condition:
Choosing a query mode leads to search based on different options

Event Flow:
1.When the user chooses query mode it leads to different options query 1, query2 ,query3
Query1 leads to choosing menu:
a.Find publications by a given author name.

b.Find publications by title tags.

Both the above queries have multiple options:

a.Sorting by date (reverse)

b.Sorting by relevance (matched words)

c.Since some given year

d.In between two years

Query2 leads to choosing menu:

a.Find names of author with more than<k>publications

Query3 leads to choosing menu:

a.Predict the no. of publications of a given author in the next year

3)Name:Search for author based from system database

Participating Actor: system database

Entry Condition:User has chosen query2

Exit Condition:Give search based on author name or title tag

Event Flow:When the user chooses query 2 to make a search based on

k publications ,then it extracts data from system database, then displays the

names of authors with corresponding required k publications.

4)Name:Query3

Participating Actor:System Database

Entry Condition:User chooses query3

Exit Condition: Make prediction of publications of different authors and then

display in the result panel

Event Flow:User selects query3 ,which leads to entering different authors and

predicting the no. of respective publications in the next year.

5)Name:XML Parser

Participating Actor:Raw Database

Entry Condition:When Raw Database(.xml file) interacts this use case

Exit Condition:Gives combined parsed data

Event Flow:This use case gives combined parsed data by using SAX parsing

technique for parsing the raw .xml file

6) Name:Query2

Participating Actor:User

Entry Condition:User chooses query2

Exit Condition:Give names of author with more than k publications.

Event Flow:Database is searched for valid data which gives list of authors

7)Name:Query1

Participating Actor:User

Entry Condition:User chooses query1

Event Flow:

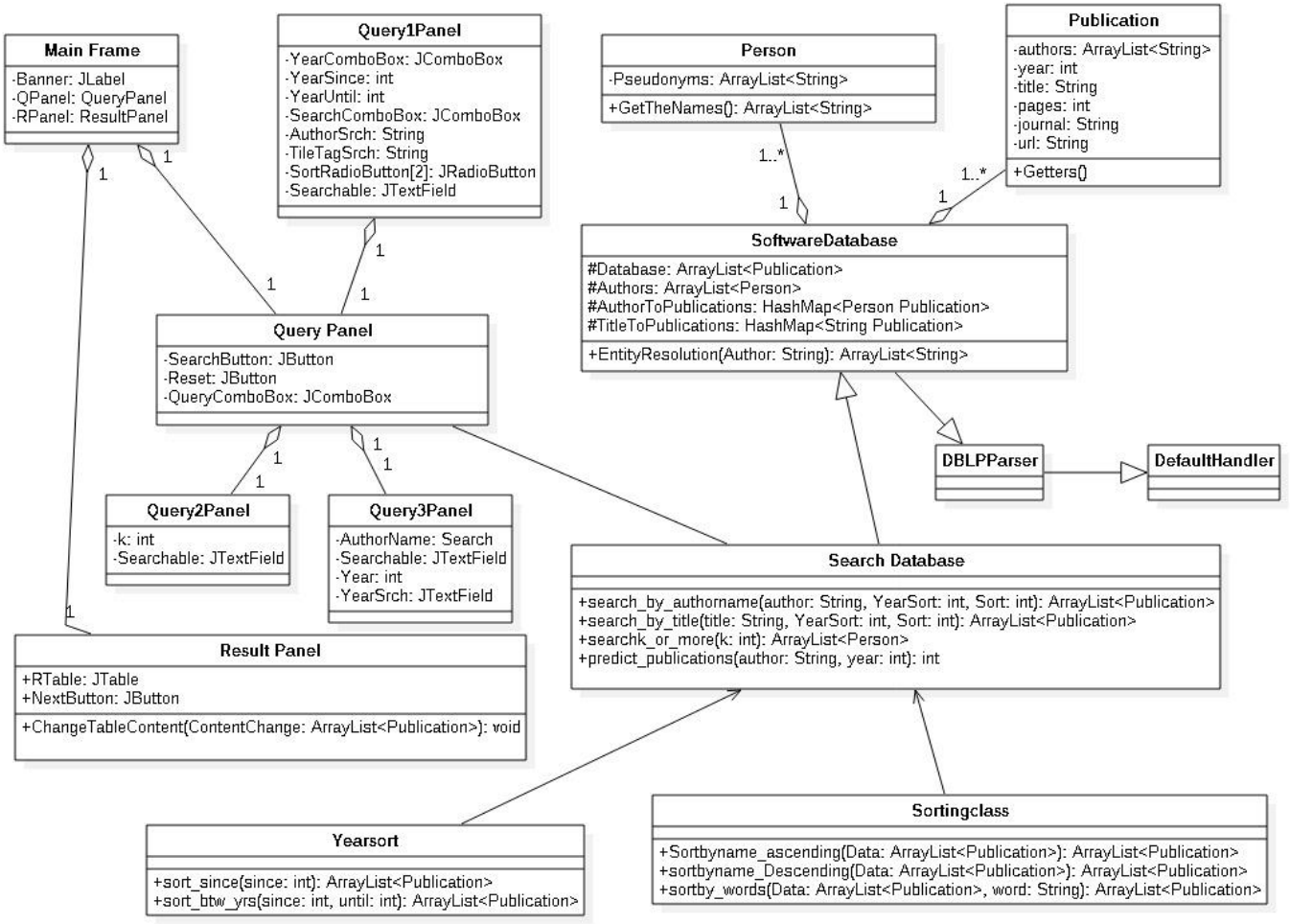
When the user chooses query1 ,then it also gets data if query search is

based on author name to title tag and thus choosing different sorting modes

like sort by date, reverse order, since some yearn between two years.

Then it searches for system database for information ,sorts the resulted data

and the displays the result in the result panel.



Class: MainFrame

Extends JFrame

The Main Screen of The GUI

Variables:

Banner: The Title of the program

QPanel: The Query Panel for choices for the query

RPanel: The ResultPanel which has the results from the search

Class: QueryPanel

Extends JPanel

The Panel includes the choices for the searc

Variables:

Search: Button to initiate the search

Reset: Button to Reset the ResultPanel Table Screen

QueryComboBox: Choice for Query1/2/3

Class: Query1Panel

Extends JPanel

Panel for Query1

Variables:

YearComboBox: Between 2 years or since 1

YearSince: since which year

YearUntil: until which year

SearchComboBox: Search by author or tile

AuthorSrch,TitleTagSrch: The searchable term

SortRadioButton: sort by year or relevence

Searchable: Text Field to get searchable term

Class: Query2Panel

Extends JPanel

Panel for Query2

Variables:

k: no of publications

Searchable: Text Field to get th eno of publications

Class: Query3Panel

Extends JPanel

Panel for Query3

Variables:

AuthorName: Which author to predict for

Searchable: TextField for AuthorName

Year: from which year to predict

YearSrch: TextField for year

Class: ResultPanel

Extends JPanel

Panel to display result

Variables:

RTable: Table to display data in

NextButton: Next 20 Results

Functions:

ChangeTableContent: Change the results that is shown on the screen

Class: Person

Class to store all the pseudonyms of a particular author

Variables:

Pseudonyms: List of all names used by the author

Functions:

GetTheNames: Get all the names used by the author

Class: Publication

The publication published

Variables:

All the variables that displayed on the result panel

Functions:

Getter Fuctions to get what to display

Class:SoftwareDatabase

Database of all the publications and persons involved

Variables:

Database:all the publications

Authors:all the authors

AuthorToPublications: To search the publications of an author (Speed over size)

TitleToPublications: Same ass above but for titles

Functions:

EntityResolutions: Searches for author from Authors and returns all the pseudonyms

Class:DBLPParser

Parser Class extending DefaultHandler to Parse the DBLP database

Class:SearchDatabase

The Class that gives the result to ResultPanel

Functions:

search_by_author: Variables tell which yearsorting to use and which sorting to use, returns the result as an ArrayList, after sending it through the required YearSort and SortingClass

search_by_title: Same as above but with titles

searchk_ot_more: Searches for wuthors with k or more publications

predict_publications: returns the probable no of publications by the author in year+1