Final Project Proposal — Music Festival

1. Members :

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2.Introduction:

(1) Our Topic : Domestic Music Festivals

(2) Our User :

For people who love rock bands, metal bands or indie bands and so on, the Google Search Engine may not meet their needs, since it may give results of the music concerts held by Taichung City Mayor Lu Xiu-Yan or other useless information display.

Obviously, it did not meet expectations, so we want to re-weight and do sorting to provide this group of people a better and more realistic result.

(3) Our Keywords & Weight :

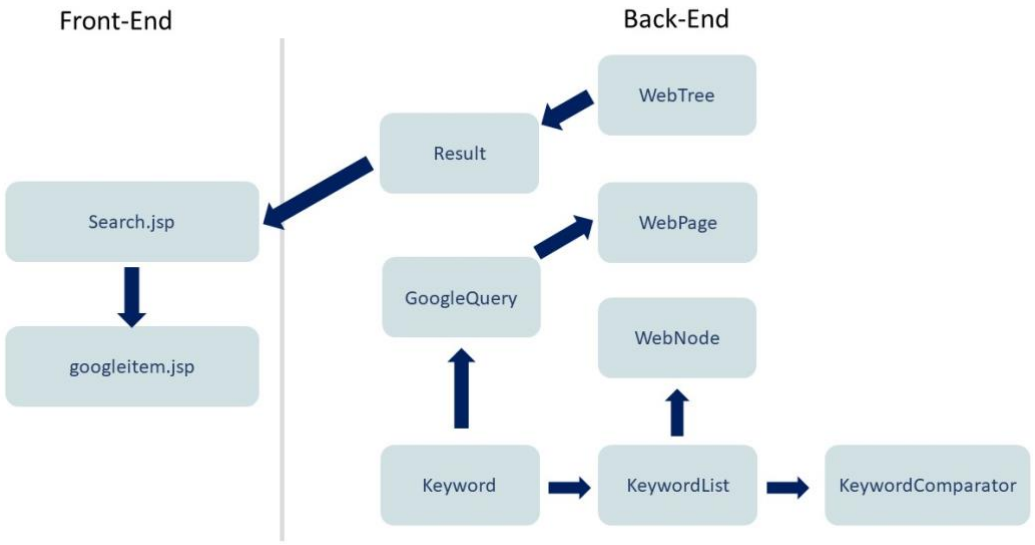
Keywords	Weight
音樂祭	20.0
獨立音樂	10.0
獨立樂團	10.0
樂團	10.0
台灣	4.5
臺灣	4.5
陣容	3.0
票價	3.0
搖滾	3.0
龐克	3.0
金屬	3.0

另類	3.0
滅火器	2.0
怕胖團	2.0
血肉	2.0
閃靈	2.0
美秀	2.0
拍謝少年	2.0
老破麻	2.0
荷爾蒙少年	2.0
海豚刑警	2.0
無妄	2.0
大港	1.5
浪人	1.5

漂遊	1.5
火球	1.5
赤聲	1.5
爛泥	1.5
山海屯	1.5
五月天	-10.0
周興哲	-10.0
盧秀燕	-10.0
流行音樂	-20.0

(4) The Score Counting Formula : Keyword.this.name * Keyword.this.weight

3. Class Diagram :



4. Development Schedule :

Date	Schedule
11/1-11/7	Proposal
11/8-11/15	Midterm Exam Week
11/16-11/23	Decide Keywords, Formula and Weight
11/24-12/1	Back End Development : HTML Matcher & Handler

12/2-12/8	Back End Development : Keyword Class & Counter
12/9-12/15	Back End Development Front End Development
12/16-12/22	Front End Development
12/23-12/30	Debug &Testing
12/31-1/6	PPT Design and Demo
1/7-1/14	Upload Project and Codes

5. UML Diagram :

Figure 1. The graphical user interface
(Search.jsp)

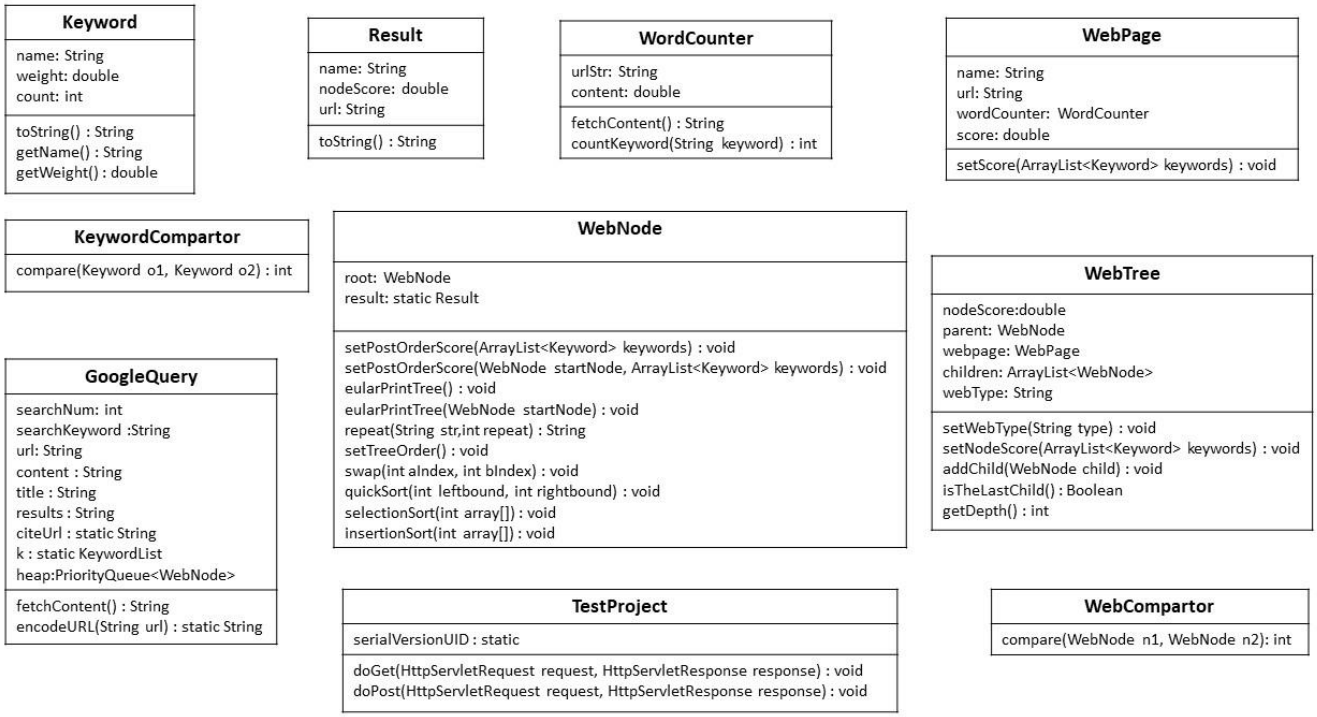


Figure 2. The UML Diagram

1. ***Keyword*** class

Keyword	
Modifier and type	**Method (or Variable) and description**
Instance variable	
String	name
double	weight
int	count
Constructor	
Keyword(String name, double weight) Enable to construct a *Student* object with given *name*, *weight*.	
Instance methods	
getters	getName(), getWeight()
String	toString() Return a String description of the keyword. **Sample output:** [海豚刑警 , 2]

2. ***KeywordComparator*** class

KeywordComparator implements Comparator<Keyword>	
Modifier and type	**Method (or Variable) and description**
Instance methods	
int	compare (Keyword o1, Keyword o2) Compare the count of the keywords and return (1, 0, -1) based on the result.

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5. ***KeywordList*** class

KeywordList	
Modifier and type	**Method (or Variable) and description**
Instance variable	
ArrayList<Result>	lst The execution for user to connect the input with the database.
Constructor	
KeywordList () Construct a KeywordList object and instantiate **ArrayList<Result>** lst.	
Instance methods	
ArrayList<Result>	getList () Return lst.
void	add(Result result) Add the result to lst.
void	sort() Use quickSort, bubbleSort, selectionSort, or insertionSort to sort items.
private void	quickSort(int leftbound, int rightbound) Implement quickSort.
private void	bubbleSort(int array[]) Implement bubbleSort.
private void	selectionSort(int array[]) Implement selectionSort.
private void	insertionSort(int array[]) Implement selectionSort.
void	swap(int a, int b) Swap the position of lst.
void	show() Show the result of sorting.

6. ***WebComparator*** class

WebComparator implements from Comparator<WebNode>	
Modifier and type	**Method (or Variable) and description**
Instance methods	
int	compare (WebNode n1, WebNode n2) Compare the nodeScore of the Webs and return a number based on the result.

7. ***WebNode*** class

WebNode	
Modifier and type	**Method (or Variable) and description**
Instance variable	
double	nodeScore
WebNode	parent
WebPage	webPage
ArrayList<WebNode>	children
String	webType
Constructor	
WebNode(WebPage webPage) Enable to construct a WebNode object and instantiate the webPage and children.	
void	setWebType (String type) Instantiate webType with given type.
void	setNodeScore (ArrayList<Keyword> keywords) Set the node score of keywords to arraylist.
void	addChild(WebNode child) Add the given child to children arraylist. Besides, set the child's parent is this.
boolean	isTheLastChild() Check whether it is the last child or not.
int	getDepth() Compute the depth of the node tree.

8. ***WebPage*** class

WebPage	
Modifier and type	**Method (or Variable) and description**
Instance variable	
String	url

String	name
WordCounter	wordCounter
double	score
Constructor	
WebPage(String url,String name) Enable to construct a WebNode object and instantiate the name, url and wordCounter. Besides, you also need to consider the UnsupportedEncodingException.	
void	setScore (ArrayList<Keyword> keywords) Set the score of keywords to arraylist.

9. ***WebTree*** class

WebTree	
Modifier and type	**Method (or Variable) and description**
Instance variable	
WebNode	root
static Result	result
Constructor	
WebTree(WebPage rootPage) Enable to construct a WebTree object and instantiate the root with given WebPage.	
void	setPostOrderScore(ArrayList<Keyword> keywords) Call the private void setPostOrderScore method.
private void	setPostOrderScore(WebNode startNode, ArrayList<Keyword> keywords) Implement setPostOrderScore.
void	eularPrintTree() Call the private void eularPrintTree method.
private void	eularPrintTree(WebNode startNode) Print the tree result include web pages and url.
private String	repeat(String str,int repeat) Return a string object.
void	setTreeOrder() Implement quickSort method.
private void	swap(int aIndex, int bIndex) Swap the position of root.children.
private void	quickSort(int leftbound, int rightbound) Implement quickSort.

private void	bubbleSort(int array[]) Implement bubbleSort.
private void	selectionSort(int array[]) Implement selectionSort.
private void	insertionSort(int array[]) Implement insertionSort.

10. ***WordCounter*** class

WordCounter	
Modifier and type	**Method (or Variable) and description**
Instance variable	
String	urlStr The website's nodeScore.
String	content The parent website.
Constructor	
WordCounter (String urlStr) Enable to construct a WordCounter object and instantiate the urlStr.	
String	fetchContent () Fetch the content of url
int	countKeyword(String keyword) Compute how many times does the keyword appear.

11. *TestProject*

TestProject
extends
HttpServlet

```
import java.io.File;
import java.io.IOException;
import java.io.InputStream;
import java.io.PrintWriter;
import java.util.HashMap;
import java.util.Map.Entry;
import java.util.Properties;

import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import java.util.*;

import javax.servlet.ServletContext;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/**
 * Servlet implementation class TestProject
 */
```

```
/**
         * @see HttpServlet#HttpServlet()
         */
        public TestProject() {
         // Used as Main.java
             super();
        }

  /**
    * @see HttpServlet#doGet(HttpServletRequest request,
HttpServletResponse response)
    */

  protected void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {

         // TODO Auto-generated method stub
         response.setCharacterEncoding("UTF-8");
         request.setCharacterEncoding("UTF-8");
         response.setContentType("text/html");

         int search = 20;
         if(request.getParameter("searchNum") != null) {
               search = Integer.parseInt(request.getParameter("searchNum"));
         }

         // search.jsp
         if(request.getParameter("keyword")== null) {
               String requestUri = request.getRequestURI();
               request.setAttribute("requestUri", requestUri);
               request.getRequestDispatcher("Search.jsp").forward(request,
response);
               return;
         }
```

```
            KeywordList kLst = google.kLst;
            for(int i = 0 ; i < kLst.lst.size() ; i++) {
                    s[i][0] = kLst.lst.get(i).name;
                    s[i][1] = kLst.lst.get(i).url;
            }
            request.getRequestDispatcher("googleitem.jsp").forward(request,
        response);

         }

         /**
```

6.Challenges :

(1) There are too many search targets, how to capture the required information to filter, as well as making the results more accurate and efficient is a hard task.

(2) Front-End and Back-End connection issues and final conversion to a webpage or an app.

(3) The searching time is too long.

7. Work Division & Contributions:

Name	Contributions
呂學柏	Back-End & Front-End Coding, BE/FE Connection, Debugging, Slides
黃尹彤	UML Diagram, Proposals
劉家妤	UML Diagram, Proposals, Slides, JSP Background Picture