**CMPUT 391 PROJECT REPORT**

**Group 6**

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**Project Report**

**Introduction:**

In this project, we will introduce a web-based database management system, called LBJ Viewers. It is a three tiers system: the three parts are the database server, the web server and the client. They are running on different machines that are connected via internet. JSP file is used to build up the interface between the website and the database server. As for database server and web server, we use Oracle SQL and Tomcat respectively. Our clients have the authority to access the system through firefox on linux or mac systems.

**Modules:**

**Login Module:**

**Description:**

welcome.html & login.jsp:

This page displays a username/password field for the user to enter. When users hit the login button, it will be directed to the login.jsp which will store the username and password as a session. It will connects to the database and executes the SQL statement:

“SELECT password FROM users WHERE user\_name = ‘”+userName + “’”;

And then we will use “while (rset != null && rset.next())” and “if(passwd.equals(truepwd)):” to check if clients input the username and password correctly. If the pair is correct, login.jsp will store a session for the (username,password) pair. The session we created will be used to check all the security conditions such as image permission, log out, image counter and online data analysis. Administrator will be stored as the default user when setting up. Once the login is done, it will be directed to the profile.jsp. If not it will redirect to welcome.html to reinput the user name and password. If clients forget their password, or they are new to the system, they should choose the “sign up” option and it will direct to the signup.jsp.

signup.jsp:

This page displays all the

Data Analysis Module:

The data analysis module is used by a system administrator to analyze our data and generate an

OLAP report according to the specifications given by the user. The user of this module may

choose to display the number of images for each user, subject, and/or period of time.

**olap.jsp**

This page is essentially the interface that the admin uses to generate an OLAP report. This page

gives the admin options to specify a user, a subject, a time period, as well as an option to specify

a drill down on three levels of time hierarchies (week, month and year). The user can run an

analysis as specific or as general as they wish as most, if not all, conditions are covered. If an

admin wishes to specify a user or subject they must also check the checkbox specifying that

option or else their input is not counted. If a user wishes to return to the profile page a return

button is there as well as a logout button if the admin wishes to exit.

**analysis.jsp**

This is the brain of the data analysis module where the admin specified query is sorted through a

series of if statements. After this query is sorted through if a match for that specification is found

then the query will be sent to our database. Data is then retrieved as a count and the count is

displayed to our user via a report on the analysis page.

The findAppend method is called shortly after the parameters from olap.jsp are retrieved and this

method essentially uses the parameters owner, subject, from date (fDate), and to date (tDate) to

generate a string to append to our queries later on in our analysis.

The setDateFormat method:

String sql="alter SESSION set NLS\_DATE\_FORMAT = 'MM/DD/YYYY'";

Statement s=con.createStatement();

s.executeQuery(sql);

This method alters our default date format to ‘MM/DD/YYYY’ format before retrieving from our database.

The other conditions required for some of the queries are specified via the check boxes, and the drop down three level time hierarchy is then accounted for further down in the code where the query is built and essentially put together when the output is generated.

The most general query, SELECT count(\*) AS CNT FROM images i, is when the user does not

input anything whatsoever and chooses to run the analysis. This retrieves the count of all images

in the database.

Next we get a bit more specific with the single option queries. These queries retrieve data from the database for only a single parameter match.

An example of this is when owner is specified and the sort by user checkbox is checked:

SELECT count(i.photo\_id) AS CNT, i.photo\_id, i.owner\_name FROM images i WHERE

i.owner\_name='owner’ GROUP BY i.owner\_name,i.photo\_id.

Subject only:

SELECT count(i.photo\_id) AS CNT, i.photo\_id, i.subject FROM images i WHERE

i.subject=’subject’ GROUP BY i.subject,i.photo\_id;

When only fDate is specified then all images from that date until present are queried for:

SELECT count(\*) AS CNT FROM images i WHERE i.timing >='fDate';

When only tDate is specified then all images before that date are queried for:

SELECT count(\*) AS CNT FROM images i WHERE i.timing <='tDate';

When only a time hierarchy (week, month, or year) is selected we always break the query down

into 3 separate queries: year, month or week.

When sorting for year only:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y

FROM images i, persons p WHERE i.owner\_name=p.user\_name

GROUP BY EXTRACT(YEAR FROM i.timing);

For month:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

FROM i.timing) AS M FROM images i, persons p WHERE i.owner\_name=p.user\_name GROUP BY

EXTRACT(YEAR FROM i.timing), EXTRACT(MONTH FROM i.timing);

For week:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

FROM i.timing) AS M,to\_char(i.timing,'w') AS W FROM images i, persons p WHERE i.owner\_name=p.user\_name   
 GROUP BY EXTRACT(YEAR FROM i.timing), EXTRACT(MONTH FROM i.timing),to\_char(i.timing,'w');

Next we talk about the combinations when two or more of these are selected together.

For year and time period:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y FROM images i, persons

p WHERE i.owner\_name=p.user\_name AND i.timing between ‘fDate’ and ‘tDate’ GROUP BY

EXTRACT(YEAR FROM i.timing);

For month and time period:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

FROM i.timing) AS M FROM images i, persons p WHERE i.owner\_name=p.user\_name AND

i.timing between ‘fDate’ and ‘tDate’ GROUP BY EXTRACT(YEAR FROM i.timing),

EXTRACT(MONTH FROM i.timing);

Week and time period:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH FROM i.timing) AS M,to\_char(i.timing,'w') AS W FROM images i, persons p WHERE

i.owner\_name=p.user\_name AND i.timing between ‘fDate’ and ‘tDate’ GROUP BY

EXTRACT(YEAR FROM i.timing), EXTRACT(MONTH FROM i.timing),to\_char(i.timing,'w');

Subject and owner:

SELECT count(i.photo\_id) AS CNT,i.owner\_name, i.photo\_id, i.subject FROM images I

WHERE i.owner\_name='owner' AND i.subject='subject' GROUP BY i.owner\_name,

i.subject,i.photo\_id;

Year and owner:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, i.owner\_name FROM

images i WHERE i.owner\_name='owner’ GROUP BY EXTRACT(YEAR FROM i.timing),

i.owner\_name;

Month and owner:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,i.owner\_name FROM images i WHERE i.owner\_name=’owner’ GROUP

BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing), i.owner\_name;

Week and owner:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,to\_char(i.timing,'w') AS W,i.owner\_name

FROM images i WHERE i.owner\_name=’owner’ GROUP BY EXTRACT(YEAR FROM

i.timing),EXTRACT(MONTH from i.timing),to\_char(i.timing,'w'), i.owner\_name;

For our subject and time period queries we simply substitute our subject for owner and the query is identical.

Subject and owner:

SELECT count(i.photo\_id) AS CNT,i.owner\_name, i.photo\_id, i.subject FROM images I

WHERE i.owner\_name='owner' AND i.subject='subject' GROUP BY i.owner\_name, i.subject,i.photo\_id;

Owner, year and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, i.subject, i.owner\_name

FROM images i WHERE i.owner\_name='owner' AND i.subject='subject' GROUP BY

EXTRACT(YEAR FROM i.timing), i.subject, i.owner\_name;

Owner, month and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,i.subject, i.owner\_name FROM images i

WHERE i.owner\_name='owner' AND i.subject='subject'

GROUP BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing), i.subject,

i.owner\_name;

Owner, week and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,to\_char(i.timing,'w') AS W,i.subject, i.owner\_name

FROM images i WHERE i.owner\_name='owner' AND i.subject='subject'

GROUP BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing),to\_char(i.timing,'w'), i.subject, i.owner\_name;

Subject, time period and owner:

SELECT count(i.photo\_id) AS CNT,i.owner\_name, i.photo\_id, i.subject FROM images I

WHERE i.owner\_name='owner' AND i.subject='subject' AND i.timing between ‘fDate’ and

‘tDate’ GROUP BY i.owner\_name, i.subject,i.photo\_id;

Year, time period and owner:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, i.owner\_name FROM

images i WHERE i.owner\_name='owner’ AND i.timing between ‘fDate’ and ‘tDate’ GROUP

BY EXTRACT(YEAR FROM i.timing), i.owner\_name;

Month, time period and owner:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,i.owner\_name FROM images i WHERE i.owner\_name=’owner’ AND

i.timing between ‘fDate’ and ‘tDate’ GROUP BY EXTRACT(YEAR FROM

i.timing),EXTRACT(MONTH from i.timing), i.owner\_name;

Week, time period and owner:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,to\_char(i.timing,'w') AS W,i.owner\_name

FROM images i WHERE i.owner\_name=’owner’ AND i.timing between ‘fDate’ and ‘tDate’

GROUP BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from

i.timing),to\_char(i.timing,'w'), i.owner\_name;

Year, time period and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, i.subject FROM images i

WHERE i.subject=’subject’ AND i.timing between ‘fDate’ and ‘tDate’ GROUP BY

EXTRACT(YEAR FROM i.timing), i.subject;

Month. time period and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,i.subject FROM images i WHERE i.subject=’subject’ AND i.timing between ‘fDate’ and ‘tDate’

GROUP BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing), i.subject;

Week, time period and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,to\_char(i.timing,'w') AS W,i.subject

FROM images i

WHERE i.subject=’subject’ AND i.timing between ‘fDate’ and ‘tDate’ GROUP BY

EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing),to\_char(i.timing,'w'),

i.subject;

Time period, owner, year and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, i.subject, i.owner\_name

FROM images i WHERE i.owner\_name='owner' AND i.subject='subject' AND i.timing between

‘fDate’ and ‘tDate’ GROUP BY EXTRACT(YEAR FROM i.timing), i.subject, i.owner\_name;

Time period, owner, month and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,i.subject, i.owner\_name FROM images i

WHERE i.owner\_name='owner' AND i.subject='subject' AND i.timing between ‘fDate’ and ‘tDate’

GROUP BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing), i.subject,

i.owner\_name;

Time period, owner, week and subject:

SELECT count(\*) AS CNT,EXTRACT(YEAR FROM i.timing) AS Y, EXTRACT(MONTH

from i.timing) AS M,to\_char(i.timing,'w') AS W,i.subject, i.owner\_name

FROM images i WHERE i.owner\_name='owner' AND i.subject='subject' AND i.timing between ‘fDate’ and ‘tDate’

GROUP BY EXTRACT(YEAR FROM i.timing),EXTRACT(MONTH from i.timing),to\_char(i.timing,'w'), i.subject, i.owner\_name;

Finally, when one of these queries is executed a count is returned from the database and this is

display onto our screen.