Title: Assignment #2

Spotify data management system

Course:

CST2355

Section #: 302

Group #: 2

Group Members:

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# Database ERD Model

A diagram of a data flow

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# Installation and Backup Instructions

## Create login information:

To restore the database, we need to write a SQL script for the creation of table space, role and user. Then, we need to grant all the required privilege to the role and user. In our case, we need to create a table space named group2assignment2, then create a user group2User with the password group2Password. Next, we need to create a role named applicationAdmin and grant privileges to user group2User. The testUser and applicationUser role are for outside user test.

A screenshot of a computer screen

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When the SQL script file is ready, we need to run the windows command as administrator and go to the directory where we saved the file. Then, we need to type “sqlplus / as sysdba” in the command line to connect with the database as a system database administrator and run the script file. In this way, we can create table space, roles and users for our database.

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The next step is open Oracle SQL Developer to create a user with username group2User and password group2Password.

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Click on the group Add sign on left top of the connection view, then a interactive window will pop out. Give it a connection name, enter the username and password, then change the SID into orcl. Click on Test button and there will be a successful message if the connection is well created. Now, we are ready to browse our database.

## Export database sql file

* Open Oracle SQL Developer, connect with group2Userconnection.
* Go to Tools on top of the page and click on Database Export…
* Choose the path to save the file and give the file a name.
* Follow the default settings and finish the process to export the file.

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## Database restore instructions

* After creating the table space, roles and users, open Oracle SQL Developer.
* Connect with the group2UserConnection.
* Run the exported SQL file, the database will be restored.

## Create ODBC connection

* Open windows ODBC Data Source (64bit).
* Click on System DSN then click on Add.
* Choose Oracle in instantclient\_21\_10.
* Give it a data source name and the group2User/group2Password.

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## Access application restore:

Open our old Access application from assignment 1, we need to import all table from the new Oracle database. Just follow the instructions for last assignment, we will get all new tables in the linked table list. Because we create the tables and views in Oracle exactly the same way as we did for assignment 1, so we can easily relink all the old “dbo” tables to the newly imported ones. We can keep the application still functional without any update or modification on the application.

To redirect the dbo tables to Oracle database, go to External Data tag then linked table manager, we will see to ODBC data source. Check the new data source and click edit, then copy Connecting string. Next, check the old data source and click edit, then paste the Connecting string to replace the old string. By doing this, we can see all old tables go to the new ODBC data source. Next, copy the relink information of every single new table to the corresponding old table. Here, we need to pay attention to those tables which we moved a field out. Do not relink the dbo tables to the new modified tables directly, but to the corresponding views instead. Then, we can have our old application perfectly working with the new database.

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# Application Description

This application has been updated to track the historical value of some fields. For the username, playlist name and song popularity, we updated the database to store these attributes separately with start time and end time. In this way, the record history tracking has been realized. Users can update the data and browse the previous records.

# User Instructions

## Front-end Users

### Playlist Page

On the playlist page, a History Names button has been added to the navigation area. With the selected record of playlists, we can go to a new form to browse the history names of this record.

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This is the page for the historical records of playlists. In this page, all the names used for the playlist chosen from the previous page are listed in a split form. On top, it is the whole list of the names, and the details of a particular record are shown on the bottom. We can go through the records with the navigation buttons and go back to the previous page.

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### Song Page

On the song page, a History button has been added next to Popularity. With the selected record of songs, we can go to a new form to browse the history popularity of this record.

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This is the page for the historical records of songs. In this page, all past and current popularities of the selected song from the previous page are listed in a split form.

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### User Page

On the users page, a History button has been added next to username. With the selected record of users, we can go to a new form to browse the history names of this record.

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This is the page for the historical records of users. In this page, all used username of the user chosen from the previous page are listed in a split form.

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## Back-end Users

### Making a sub form for the historical data

* Go to Create then Query Design, then go to add table and choose the tables from which the data should be shown. For example, if we want to show the history data for playlist names, we need the tables playlists, playlistname and playlistname\_playlist. Then select the fields to show in the form, and save the query.

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* Go Queries list and select the query we just created, then go to the create section on top of the page and click on Form to make a new sub form.

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* Go to the old form where we want to add a button to active the newly created sub form. In this example, we go to the form dbo\_Playlists form and get into the design view.
* Go to Form Design, add a new button on the form, select Form Operation in action categories and Open Form in Actions area.

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* Select the wanted sub form and keep following the instruction in the button wizard to complete the settings.

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* Don’t forget to set the sub form on split form format to show both the specific record details and a list of all history records.

Now, we got the old form updated to track the previous record information. With the same way, we can add a button to all three forms for the old record data.