RJ Duran
MAT259 Winter 2012
Data Visualization
Project 1

Introduction
The goal of this project was to become familiar with writing an interesting query to determine the top 10 checked out DVD's of 2011. My idea as you can see from the sketches started out as an interactive timeline that allows the user to explore the top items of a specific itemtype over a time period. I ultimately simplified the project to show 10 items for 2011 to practice combining aesthetic elements with the data set.

Technically the project is pretty straight forward in its design. I am not implementing the mysql query inside the primary application. Instead I ran the query using a separate program(saveQueryAsText.zip) to save the data to a text file for loading into the main program (top10dvds.zip). This speeds up the process and allows for greater experimentation with the data set.

The basic functionality of the application can be seen quickly after launching it. As the user moves the mouse from left to right they are able to rotate the spiral of items to reveal which items are more popular. The black circles represent the volume of checkouts or total checkouts throughout the year.

Initial sketches can be seen in project1_sketches.jpg and a screenshot of the resulting application is shown in top10dvds.png.

Question
What are the top 10 checked out DVD's of 2011?

Query
SELECT title, itemtype, count(*) **FROM** transactions2011 **WHERE** year(ckoutDateTime) = '2011' and itemtype like '%dvd%' **GROUP BY** title **ORDER BY**count(*) DESC **LIMIT** 10;

Explanation:
SELECT
title	- the item title
itemtype	- the item type
count(*)	- total number of items that meet search criteria

FROM
transactions2011	- the table of library data

WHERE
year(ckoutDateTime) = '2011' and	- make sure the check out year is 2011
itemtype like "%dvd%"	- make sure the itemtype contains dvd in it

GROUP BY
title	- group the results returned by the item titles

ORDER BY

count(*) DESC   - order the results by number of items in each group

LIMIT
10;   - limit the output results to only show the top 10

Query Request Time
It takes about 71.6 ms to run the query and display the results. If you are to display all the items instead of limiting it to 10 it takes 13.9 seconds.

Comment & Analysis
The query should return the following results:

Salt	acdvd	3283
kids are all right	acdvd	3120
Inception	acdvd	3112
social network	acdvd	3080
Despicable me	jcdvd	3038
American	acdvd	2980
Red	acdvd	2963
Winters bone	acdvd	2916
town	acdvd	2891
Alice in Wonderland	jcdvd	2885

What this can tell us is that people really liked the movie Salt in 2011. It also shows us that the majority of DVDs checked out and watched are by adults most likely. There are only two juvenile circulating DVDs in the list, Despicable me and Alice in Wonderland. I suppose Alice in Wonderland is also the latest release by Tim Burton and not the old animated version.