



Web Programming Project

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Introduction

The SMT Movie Rental needs a system for its clients to search movies online. The project task to develop an online movie search application for customers to search movie availability, cost, find popular movies. There are around 2300 movies available at SMT Movie Rental and currently all those movie details are stored in a MS-Excel file which needs to be used in the application.

Proposed solution

Develop a web site which customers can access movie information anytime of the day. The website has client-side webpage to display relevant details and a server-side webpage to process online request from the client. The website will develop using php and html. All the data will be stored in a MySQL database. According to the client search criteria server-side program will process the request according to the predefined queries and display all the details in the page as a table format.

Movies can be searched using Movie title, rating of the movie, year released or Genre. Client can mix and match those criteria's to find the movie or movies of their choice. Client need not to enter the whole name of the movie only a part of it would be enough, and application will display all the possible movies with matching name. So, it is user-friendly for clients to search their favourite movies. Furthermore, application will have a drop-down menu to select options as they needed to make the search much easier for customers.

There is a page to display 10 most popular movies, this information gathers from the search records. There is a separate table to store tile and the count of times a movie search. Page will display only 10 most searched movies.

Design of the application

Draft design of the web pages



Move search page:

WELCOME TO SMT MOVIE RENTAL

Search Movies

Movie Title:
 Rating:
 Year Released:
 Genre:

Search by :
 - Title
 - Title, Genre
 - Genre, Rating, Year
 - Title, Genre, Rating, Year

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Page to Display search movie information:

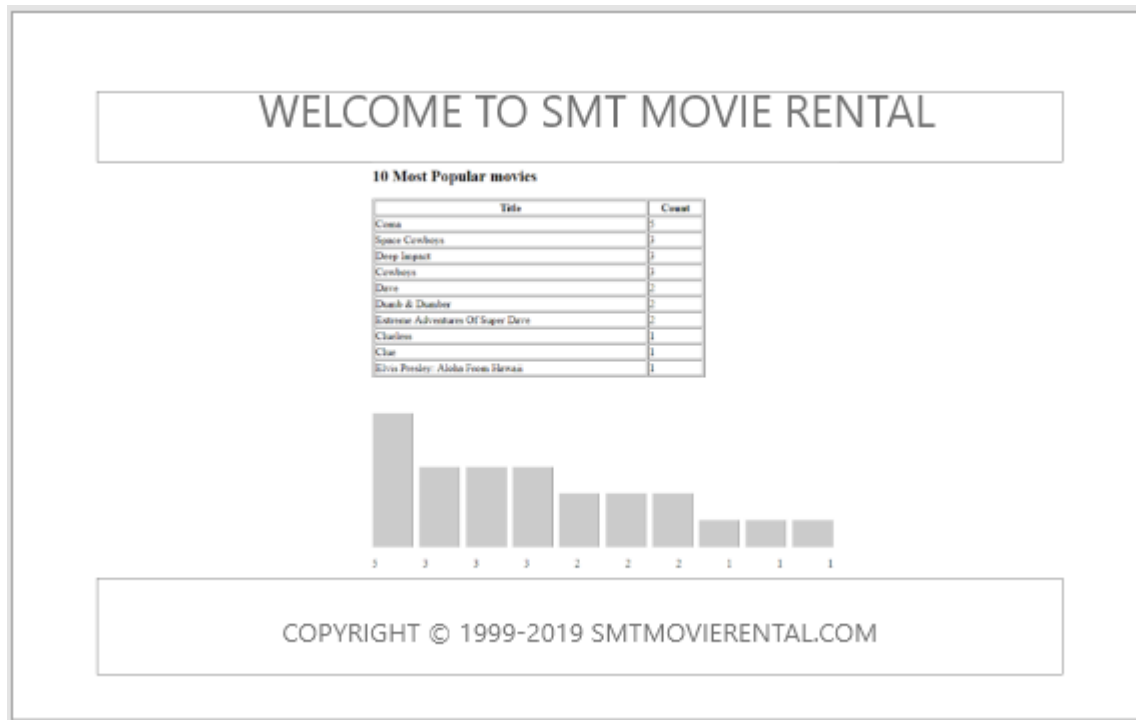
WELCOME TO SMT MOVIE RENTAL

Found 3 Movies.

| Title | Studio | Status | Sound | Version | RatPrice | Rating | Year | Genre | Aspect |
|----------------------------------|-----------|-----------|-------|-----------|----------|--------|------|------------------|--------|
| 12 Monkeys (DTS) | Universal | In stock | DTS | L/RX 16:9 | \$4.95 | R | 1995 | Sci-Fi | 1.85:1 |
| 12 Monkeys: Collector's Edition | Universal | Cancelled | 5.1 | L/RX 16:9 | \$9.95 | R | 1995 | Drama | 1.85:1 |
| 12 Monkeys (Special Edition) Dol | Universal | In stock | 5.1 | L/RX 16:9 | \$4.95 | R | 1995 | Action/Adventure | NAR |

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Page to display 10 most popular movies:



Database Design

Data stored in an Excel file, to get the data to the sql database first it need to be converted to a comma delimited csv file. Then Create a database called "MovieRentals", and a table to store movies.

```
DROP DATABASE IF EXISTS MovieRentals;
```

```
CREATE DATABASE MovieRentals;
```

```
USE MovieRentals;
```

```
CREATE TABLE Movies (
    MID INTEGER NOT NULL AUTO_INCREMENT,
    Title VARCHAR(32) NOT NULL,
    Studio VARCHAR(32) NOT NULL,
    Status VARCHAR(32) NOT NULL,
    Sound VARCHAR(32),
    Version VARCHAR(32),
    RetPrice DECIMAL(6,2) NOT NULL,
    Rating VARCHAR(32),
    Year INTEGER,
    Genre VARCHAR(32),
    Aspect VARCHAR(32),
    PRIMARY KEY (MID)
);
```

```

C:\Users\P249400\Documents\xampp\mysql\bin>mysql -uroot -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 5
Server version: 10.1.37-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> DROP DATABASE IF EXISTS MovieRentals;
Query OK, 1 row affected (0.64 sec)

MariaDB [(none)]> CREATE DATABASE MovieRentals;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> USE MovieRentals;
Database changed
MariaDB [MovieRentals]> CREATE TABLE Movies (
-> MID INTEGER NOT NULL AUTO_INCREMENT,
-> Title VARCHAR(32) NOT NULL,
-> Studio VARCHAR(32) NOT NULL,
-> Status VARCHAR(32) NOT NULL,
-> Sound VARCHAR(32),
-> Version VARCHAR(32),
-> RetPrice DECIMAL(6,2) NOT NULL,
-> Rating VARCHAR(32),
-> Year INTEGER,
-> Genre VARCHAR(32),
-> Aspect VARCHAR(32),
-> PRIMARY KEY(MID)
-> );
Query OK, 0 rows affected (0.02 sec)

```

As the next step transfer data stored in csv file to the sql table called “Movies”. Following sql syntax is used to achieve that task.

```

LOAD DATA INFILE 'C:/Users/P249400/Documents/WebPro/Movies.csv'
INTO TABLE Movies
FIELDS TERMINATED BY ','
LINES TERMINATED BY '\n'
IGNORE 1 ROWS;

```

```

MariaDB [MovieRentals]> LOAD DATA INFILE 'C:/Users/P249400/Documents/xampp/htdocs/Movies.csv'
-> INTO TABLE Movies
-> FIELDS TERMINATED BY ','
-> LINES TERMINATED BY '\n'
-> IGNORE 1 ROWS;
Query OK, 2298 rows affected, 523 warnings (0.03 sec)
Records: 2298 Deleted: 0 Skipped: 0 Warnings: 523

```

Developed Application

First page of the SMT Movie Rental web application.

Search Movies

Movie Title:

Rating:

Year Released:

Genre:

Search by :

- ☐ Title
- ☐ Title, Genre
- ☐ Genre, Rating, Year
- ☐ Title, Genre, Rating, Year

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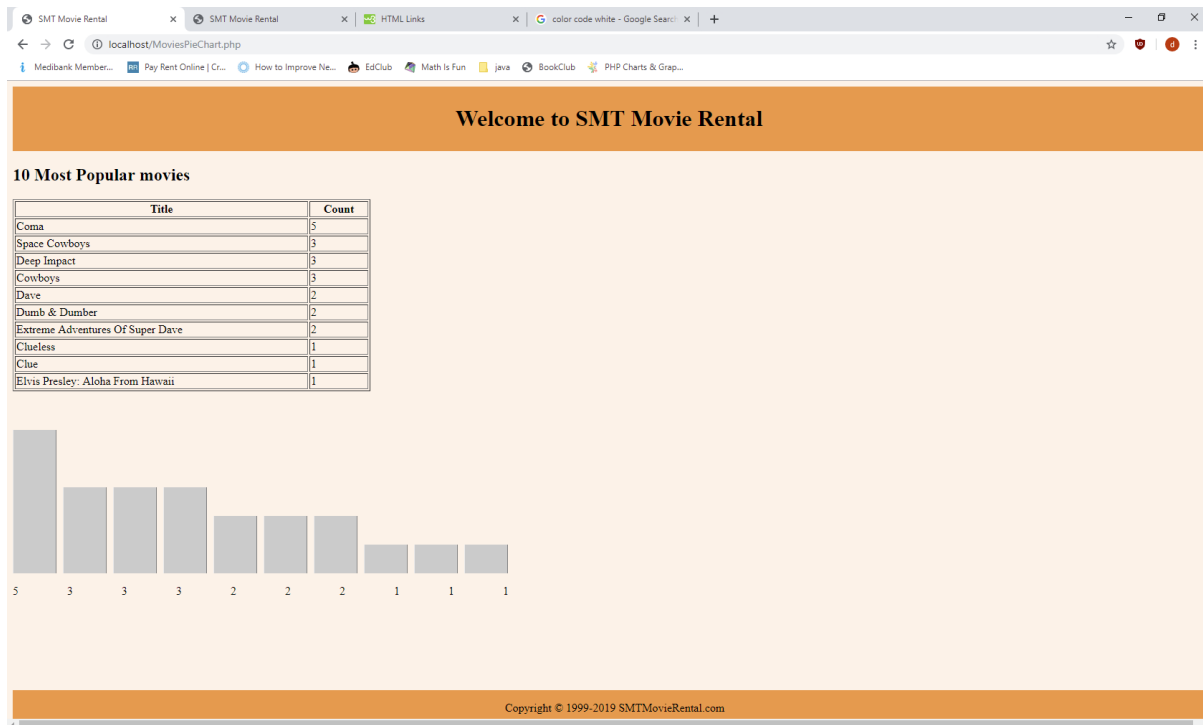
Search movies using the title “12 Monkeys” and this will bring 3 movies on the next page for the customer to find the one he/she desired.

Found 3 Movies.

| Title | Studio | Status | Sound | Version | RetPrice | Rating | Year | Genre | Aspect |
|----------------------------------|-----------|-----------|-------|----------|----------|--------|------|------------------|--------|
| 12 Monkeys (DTS) | Universal | Out | DTS | LBX 16-9 | 34.98 | R | 1995 | SciFi | 1.85:1 |
| 12 Monkeys: Collector's Edition | Universal | Cancelled | 5.1 | LBX 16-9 | 29.98 | R | 1995 | Drama | 1.85:1 |
| 12 Monkeys (Special Edition) Dol | Universal | Out | 5.1 | LBX 16-9 | 34.98 | R | 1978 | Action/Adventure | VAR |

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This page shows top 10 popular movies according to customers number of searches.



Test code against the PEAR code standard using PHP CodeSniffer

CodeSniffer is used to check for the violation of coding conventions which are guidelines for software structural quality. Software programmers are highly recommended to follow these guidelines to help improve the readability of their source code and make software maintenance easier.

The SMT Movie Rental website index page is also checked for the coding standards violations using the codeSniffer pre-installed version and found 137 errors and 1 warning.

```

C:\Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\xampp\php>phpcs ../htdocs/index.php

FILE: ...ampp with PHP Code Sniffer pre-installed\xampp\htdocs\index.php
FOUND 137 ERRORS AND 1 WARNING AFFECTING 71 LINES
-----
  1  : ERROR  : [x] End of line character is invalid; expected "\n"
    :       :      but found "\r\n"
 25  : ERROR  : [ ] Missing file doc comment
 25  : ERROR  : [x] File is being unconditionally included; use
    :       :      "require" instead
 29  : ERROR  : [x] Line indented incorrectly; expected 0 spaces,
    :       :      found 4
 29  : ERROR  : [x] Spaces must be used for alignment; tabs are not
    :       :      allowed
 30  : ERROR  : [x] Spaces must be used to indent lines; tabs are
    :       :      not allowed
 30  : ERROR  : [x] Line indented incorrectly; expected at least 4
    :       :      spaces, found 2
 31  : ERROR  : [x] Spaces must be used to indent lines; tabs are
    :       :      not allowed
  
```

Secondly checked the page MovieSearch.php where all the searched data will display. This contains 154 errors and can be fixed using PHP Code Beautifier (PHPCBF).

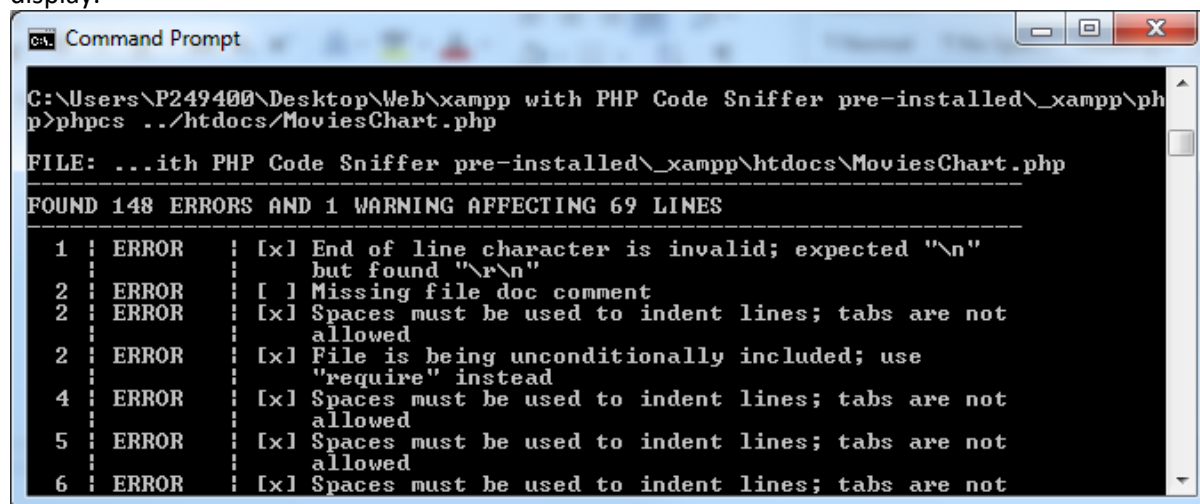

```

76 | ERROR | [x] Closing brace indented incorrectly; expected 4
    |       |     spaces, found 1
77 | ERROR | [x] Spaces must be used to indent lines; tabs are not
    |       |     allowed
77 | ERROR | [x] File is being unconditionally included; use
    |       |     "require" instead
-----
PHPCBF CAN FIX THE 154 MARKED SNIFF VIOLATIONS AUTOMATICALLY
-----

Time: 140ms; Memory: 4.75Mb

```

Thirdly checked for code violations in MoviesChart.php, where the most popular 10 movies would display.

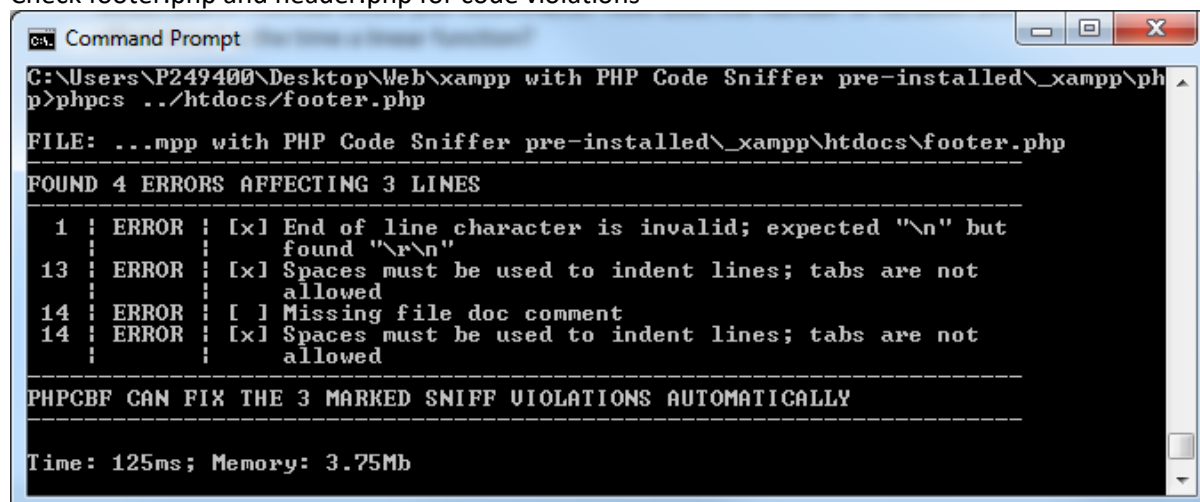


```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>phpcs ../htdocs/MoviesChart.php
FILE: ...ith PHP Code Sniffer pre-installed\_xampp\htdocs\MoviesChart.php
-----
FOUND 148 ERRORS AND 1 WARNING AFFECTING 69 LINES
-----
 1 | ERROR | [x] End of line character is invalid; expected "\n"
    |       |     but found "\r\n"
 2 | ERROR | [ ] Missing file doc comment
 2 | ERROR | [x] Spaces must be used to indent lines; tabs are not
    |       |     allowed
 2 | ERROR | [x] File is being unconditionally included; use
    |       |     "require" instead
 4 | ERROR | [x] Spaces must be used to indent lines; tabs are not
    |       |     allowed
 5 | ERROR | [x] Spaces must be used to indent lines; tabs are not
    |       |     allowed
 6 | ERROR | [x] Spaces must be used to indent lines; tabs are not

```

Check footer.php and header.php for code violations



```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>phpcs ../htdocs/footer.php
FILE: ...mmp with PHP Code Sniffer pre-installed\_xampp\htdocs\footer.php
-----
FOUND 4 ERRORS AFFECTING 3 LINES
-----
 1 | ERROR | [x] End of line character is invalid; expected "\n" but
    |       |     found "\r\n"
13 | ERROR | [x] Spaces must be used to indent lines; tabs are not
    |       |     allowed
14 | ERROR | [ ] Missing file doc comment
14 | ERROR | [x] Spaces must be used to indent lines; tabs are not
    |       |     allowed
-----
PHPCBF CAN FIX THE 3 MARKED SNIFF VIOLATIONS AUTOMATICALLY
-----

Time: 125ms; Memory: 3.75Mb

```

```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>phpcs ../htdocs/header.php
FILE: ...mpps with PHP Code Sniffer pre-installed\_xampp\htdocs\header.php
FOUND 4 ERRORS AFFECTING 3 LINES
-----
 1 | ERROR | [x] End of line character is invalid; expected "\n" but
   |       | found "\r\n"
10 | ERROR | [x] Spaces must be used to indent lines; tabs are not
   |       | allowed
11 | ERROR | [ ] Missing file doc comment
11 | ERROR | [x] Spaces must be used to indent lines; tabs are not
   |       | allowed
-----
PHPCBF CAN FIX THE 3 MARKED SNIFF VIOLATIONS AUTOMATICALLY
-----
Time: 125ms; Memory: 3.75Mb

```

Fix Code violations using PHP Code Beautifier

Above violations of coding standards can be fixed easily using PHP Code Beautifier utility. Fixing these issues is highly recommended as its increase the readability and easy to maintain coding in future.

Index.php page:

```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>phpcbf --standard=PEAR ../htdocs/index.php
PHPCBF RESULT SUMMARY
-----
FILE                                     FIXED  REMAINING
-----
...ode Sniffer pre-installed\_xampp\htdocs\index.php 128    14
-----
A TOTAL OF 128 ERRORS WERE FIXED IN 1 FILE
-----
Time: 203ms; Memory: 5Mb
C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>

```

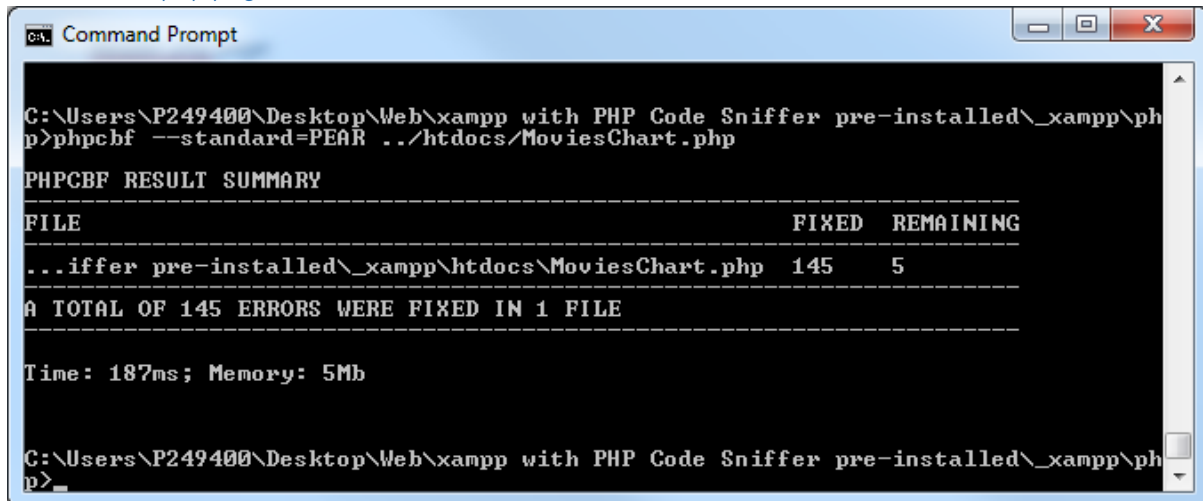
MovieSearch.php page:

```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>phpcbf --standard=PEAR ../htdocs/MovieSearch.php
PHPCBF RESULT SUMMARY
-----
FILE                                     FIXED  REMAINING
-----
...iffer pre-installed\_xampp\htdocs\MovieSearch.php 154    21
-----
A TOTAL OF 154 ERRORS WERE FIXED IN 1 FILE
-----
Time: 218ms; Memory: 5.25Mb
C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\ph
p>

```

MoviesChart.php page:



```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\php>phpcbf --standard=PEAR ../htdocs/MoviesChart.php

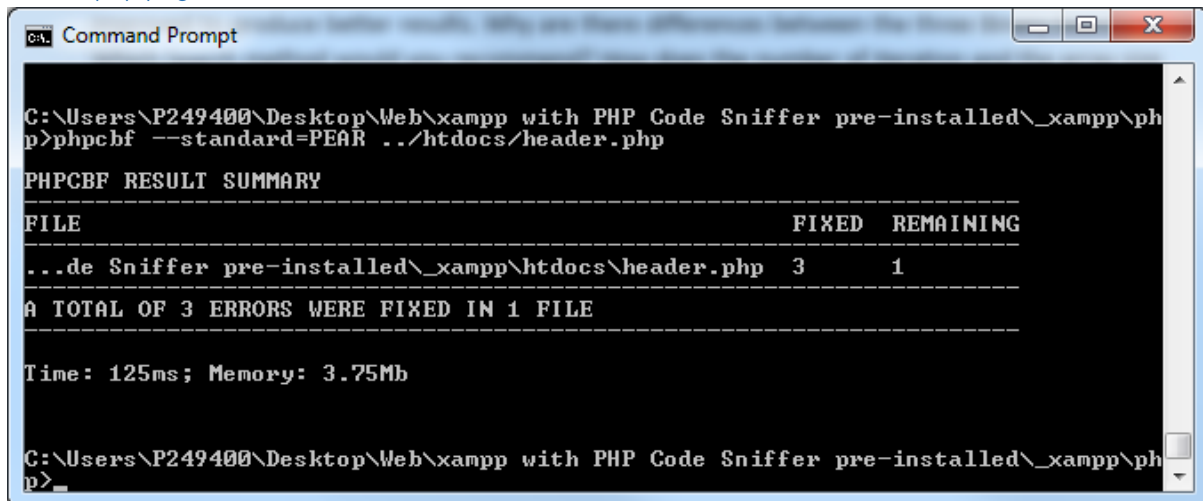
PHPCBF RESULT SUMMARY
-----
FILE                                     FIXED  REMAINING
-----
...iffer pre-installed\_xampp\htdocs\MoviesChart.php  145     5
-----
A TOTAL OF 145 ERRORS WERE FIXED IN 1 FILE
-----

Time: 187ms; Memory: 5Mb

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\php>

```

header.php page:



```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\php>phpcbf --standard=PEAR ../htdocs/header.php

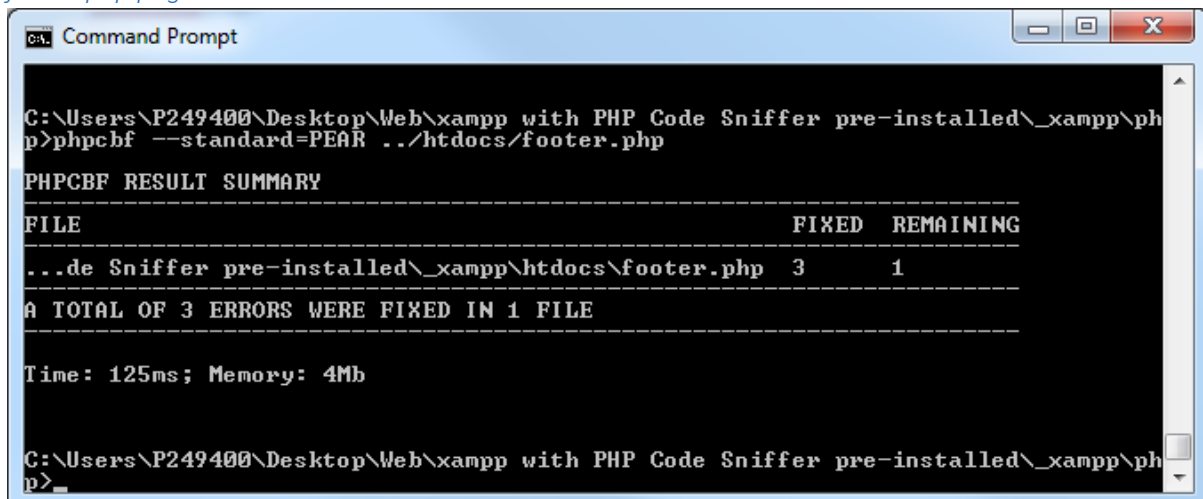
PHPCBF RESULT SUMMARY
-----
FILE                                     FIXED  REMAINING
-----
...de Sniffer pre-installed\_xampp\htdocs\header.php    3     1
-----
A TOTAL OF 3 ERRORS WERE FIXED IN 1 FILE
-----

Time: 125ms; Memory: 3.75Mb

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\php>

```

footer.php page:



```

C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\php>phpcbf --standard=PEAR ../htdocs/footer.php

PHPCBF RESULT SUMMARY
-----
FILE                                     FIXED  REMAINING
-----
...de Sniffer pre-installed\_xampp\htdocs\footer.php    3     1
-----
A TOTAL OF 3 ERRORS WERE FIXED IN 1 FILE
-----

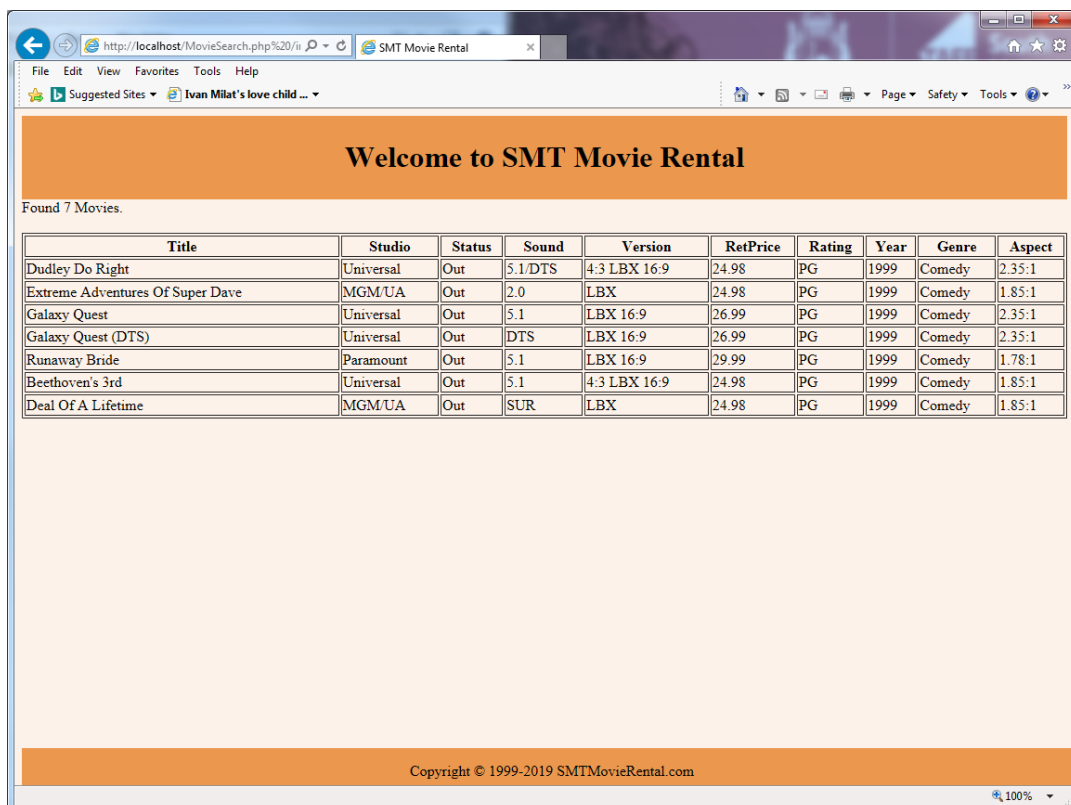
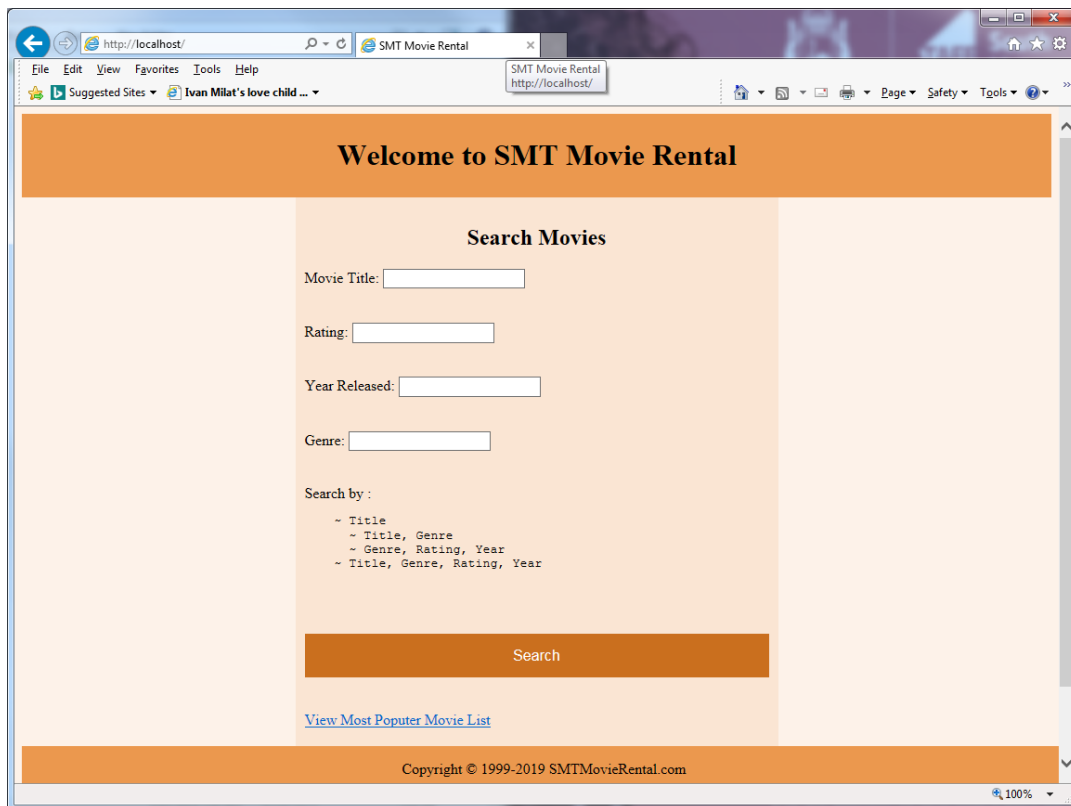
Time: 125ms; Memory: 4Mb

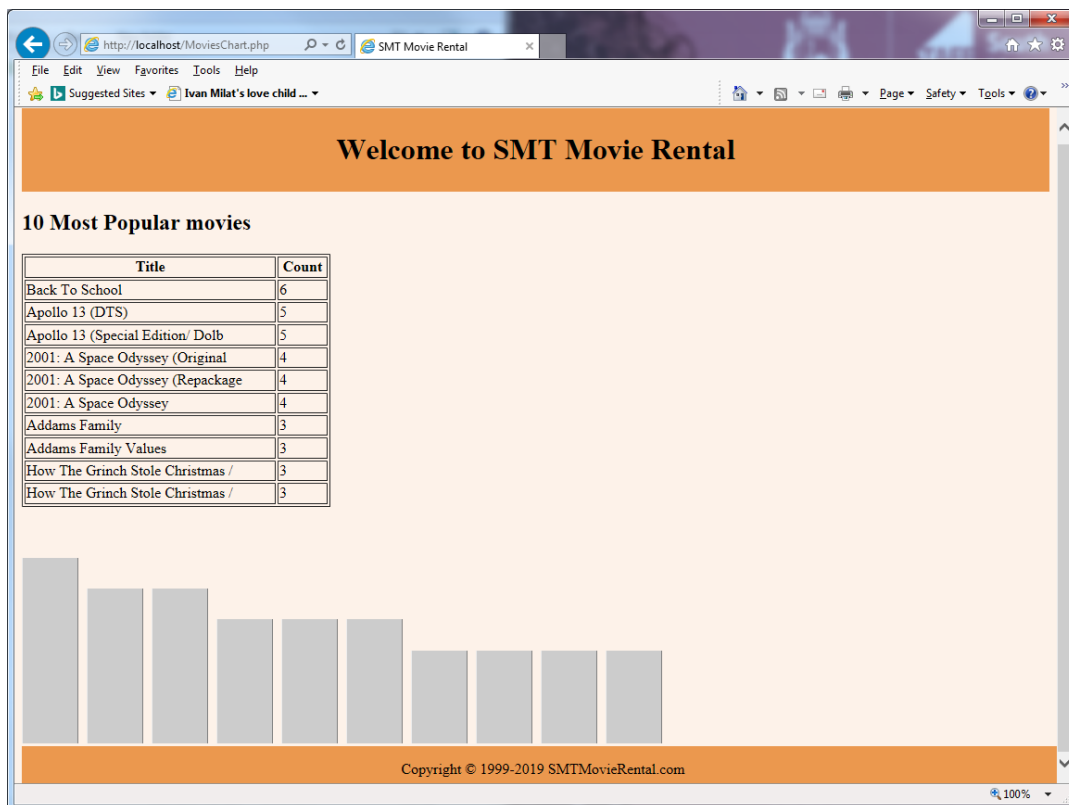
C:\Users\P249400\Desktop\Web\xampp with PHP Code Sniffer pre-installed\_xampp\php>

```

Testing in various browsers, e.g. Internet Explorer, Chrome and Firefox

Test the website using Internet Explorer:





Test Using Chrome:

Welcome to SMT Movie Rental

Search Movies

Movie Title:

Rating:

Year Released:

Genre:

Search by :

- ~ Title
- ~ Title, Genre
- ~ Genre, Rating, Year
- ~ Title, Genre, Rating, Year

[View Most Poputer Movie List](#)

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SMT Movie Rental

localhost/MovieSearch.php%20/index.php

Welcome to SMT Movie Rental

Found 6 Movies.

| Title | Studio | Status | Sound | Version | RetPrice | Rating | Year | Genre | Aspect |
|----------------------------------|-----------------|---------|-------|----------|----------|--------|------|-----------|--------|
| Casper's Haunted Christmas | Universal | Out | 2.0 | LBX 16:9 | 26.99 | G | 2000 | Animation | 1.85:1 |
| Land Before Time 7: The Stone Of | Universal | Out | 5.1 | 4:3 | 24.98 | G | 2000 | Family | 1.33:1 |
| Pokemon: The Movie 2000 | Warner Brothers | Out | 5.1 | 4:3 | 24.98 | G | 2000 | Animation | 1.33:1 |
| Jesus Christ Superstar (2000) | Universal | Out | SUR | 4:3 | 29.98 | G | 2000 | Musical | 1.33:1 |
| Rugrats In Paris: The Movie | Paramount | Out | 5.1 | LBX 16:9 | 29.99 | G | 2000 | Animation | 1.78:1 |
| Beethoven's 4th | Universal | Pending | 5.1 | 4:3 | 24.98 | G | 2000 | Family | 1.33:1 |

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SMT Movie Rental

localhost/MoviesChart.php

Welcome to SMT Movie Rental

10 Most Popular movies

| Title | Count |
|----------------------------------|-------|
| Back To School | 6 |
| Apollo 13 (DTS) | 5 |
| Apollo 13 (Special Edition/ Dolb | 5 |
| 2001: A Space Odyssey (Original | 4 |
| 2001: A Space Odyssey (Repackage | 4 |
| 2001: A Space Odyssey | 4 |
| Addams Family | 3 |
| Addams Family Values | 3 |
| How The Grinch Stole Christmas / | 3 |
| How The Grinch Stole Christmas / | 3 |

6 5 5 4 4 4 3 3 3 3

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Summary

The project task was to develop an online movie search application for customers to search movie availability, cost, and find popular movies. The SMT Movie Rental web site project is a success. It is fully functioning web site which lets for its clients to search movies online.

References

<https://stackoverflow.com/questions/18268068/php-code-to-get-selected-text-of-a-combo-box>

https://www.w3schools.com/html/html_form_elements.asp

https://www.w3schools.com/sql/sql_distinct.asp

<https://htmlcolorcodes.com/color-chart/flat-design-color-chart/>

<https://stackoverflow.com/questions/17930312/filling-combobox-with-data-from-php-database/17930407>