FIT5192 Internet Application and Web Service-2B

Assignment 1: A Personalized Movie Search Engine Application

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Part 1: Target Accomplished Overview

Task 1:

I have implemented a web service that accepts requests for a certain movie and retrieves relevant information based on my database. In this task, the technology which I used is **Jersey** that is available in the NetBeans.

Task 2:

I have implemented a web-based client search application that can access the web service from the third party APIs that are **Google**, **Flickr**,**Youtube**,and **Tudou**(if the cannot access the Youtube website we have Tudou for alternative) for the requested DVD/image movie item.

In some way, a well-organised layout and the user friendly GUI are accomplished because I use the font-end technology of **bootstrap** a well-known **CSS** framework maintained by Twitter. The **video** retrieve from the Youtube and Tudou can play in the web-based client application.

Task 3

I accomplished a task that allows the user to add new movies to my local database. The technology of the task I have accomplished is also **Jersey**.

Task 4

Sentiment Analysis I have accomplished in this task. To accomplish this task the tool of sentiment analysis I use is “**Twitter sentiment**”.

Part 2: System Architecture

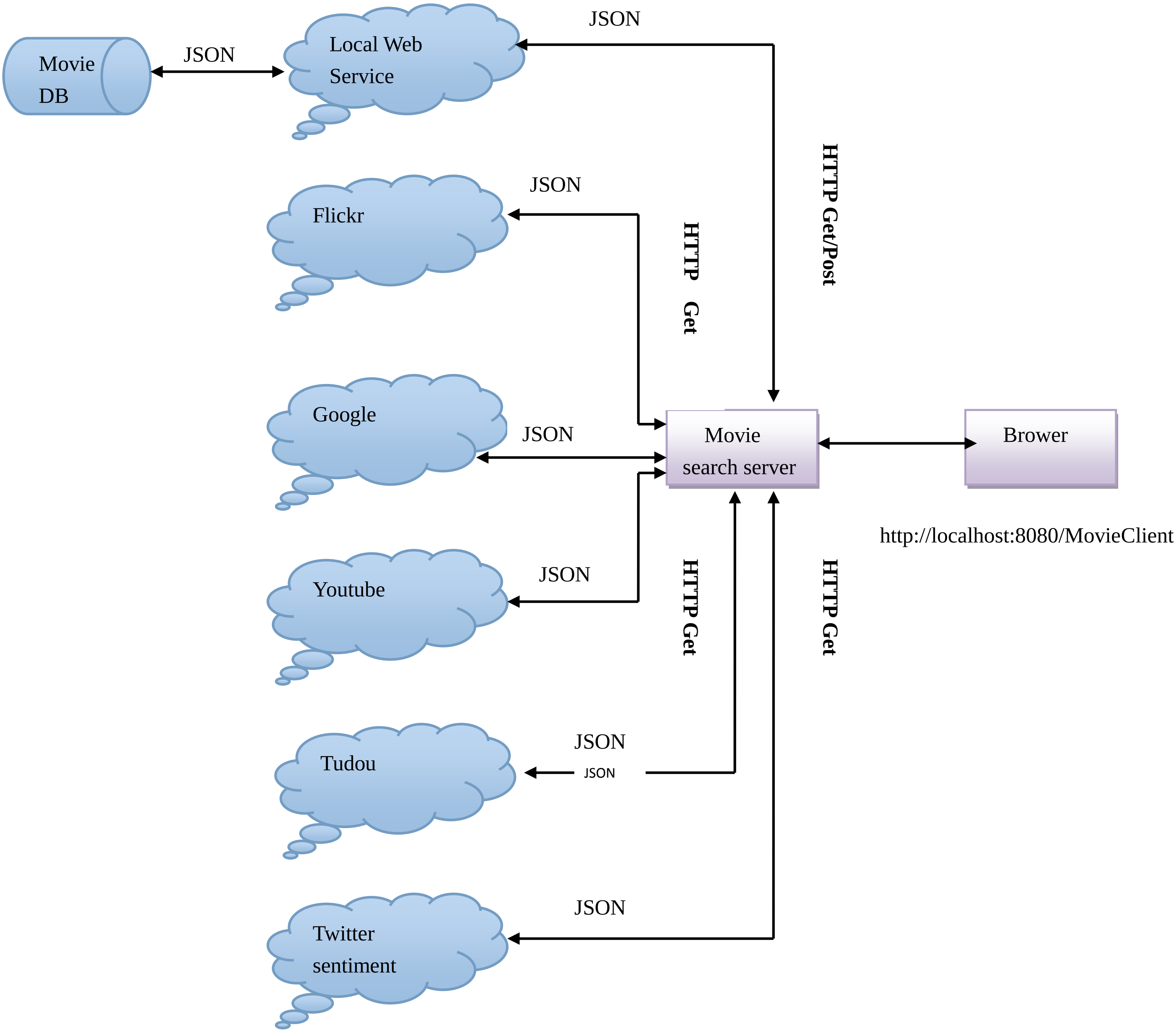
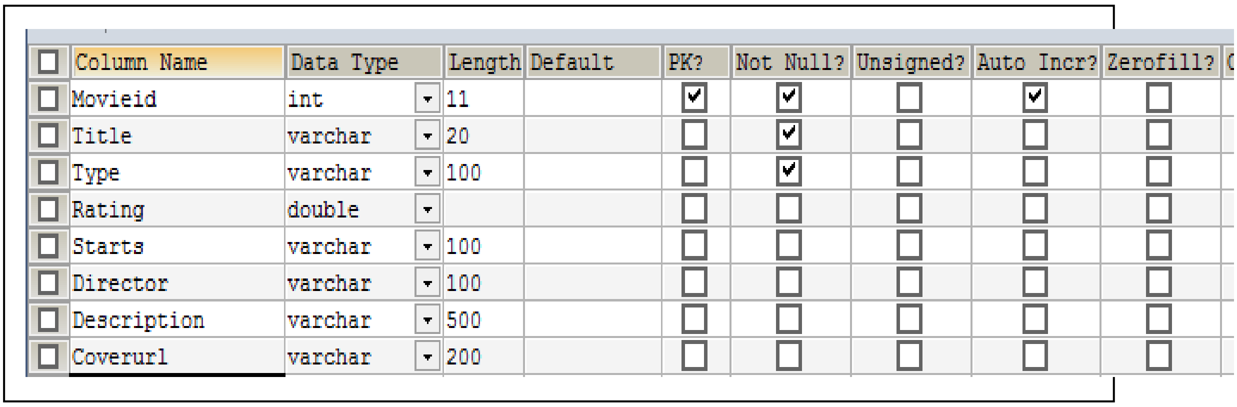


Figure 1: System Architecture

Figure 1 shows the architecture of a personalized search application for Movie which will invoke and interact with several real-world web service and search engines. This movie search engine totally complies with the typically **MVC** framework. Browser as the **View** which implemented by **JSP** sends request to the Movie Search Server. The Movie Search Server as the **Controller** implemented by **Servlet** can handle the request from the Brower and response to the client. The Movie server receive the request from the client and invoke the web service through **Restful** API like Google, Flickr, twitter, and etc..

Five child modules are comprised of the movie search engine, including Local movie search, Video search, Sentiment analysis, Image search, and General search. In the Local movie search the web service can accept the request and retrieves the movie details which store in my own database, including movie title, director, rating and so on. In the Video search integrated with the **Tudou** API and **Youtube** API. In the Image search and General search they are integrated with the **Flickr** API and **Google** API. And also Sentiment analysis integrated with the **Twitter Sentiment**.

Part 3: Database Structure



□	Column Name	Data Type	Length	Default	PK?	Not Null?	Unsigned?	Auto Incr?	Zerofill?
□	Movieid	int	11		☑	☑	□	☑	□
□	Title	varchar	20		□	☑	□	□	□
□	Type	varchar	100		□	☑	□	□	□
□	Rating	double			□	□	□	□	□
□	Starts	varchar	100		□	□	□	□	□
□	Director	varchar	100		□	□	□	□	□
□	Description	varchar	500		□	□	□	□	□
□	Coverurl	varchar	200		□	□	□	□	□

Table 1 Database Structure

Part 4:Configuration Parameters

4.1 Database import

Since we have to retrieve the movie information from the local database, it is necessary to import the database following the below command:

mysql -u fit5192a1 -p < id26346915.sql

4.2 Setup the Glassfish connection pool

In order to run the web service, you must configure the connection pool. You can find a file named **config.xml** which located at the **dist** file just copy the content and then add the content into the file named **domain.xml** which is located at your Glassifh installment path.

4.3 Address of web service and access point of web client

Web Service: http://localhost:8080/MovieSearch/webresources/application.wadl

Web Client: http://localhost:8080/MovieClient

Part 5: User guide

5.1 Homepage

When you run the application, the default web page will show on your browser. This is the Homepage of the application, as can we see from the Figure 2, on the top of the browser there is a navigation bar, which means you can select any of them to search what kinds of movie information you want.

In the UI I implement the function of Responsive layout using the **Bootstrap** CSS framework [1], when you switch the Pixel of the browser, the page will adapter automatically the layout (Figure 3).

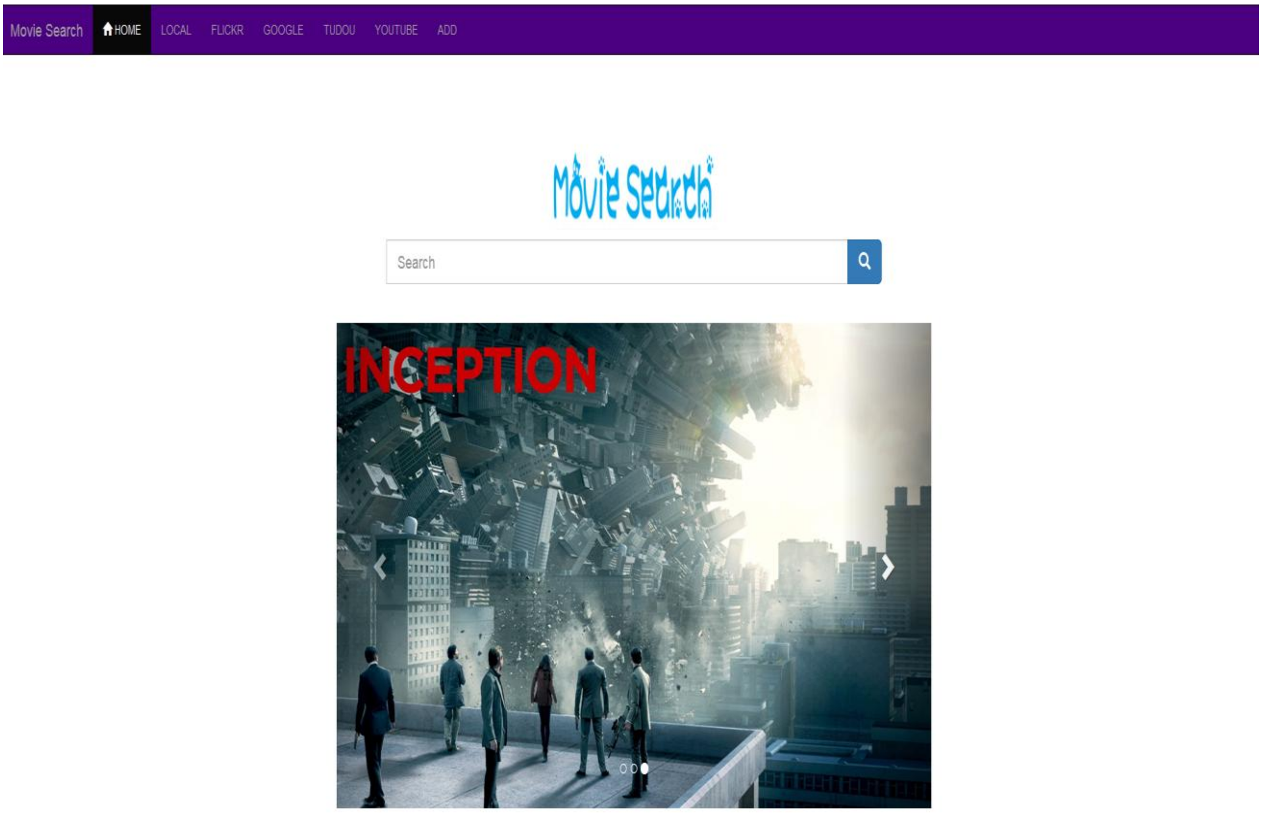


Figure 2 Homepage

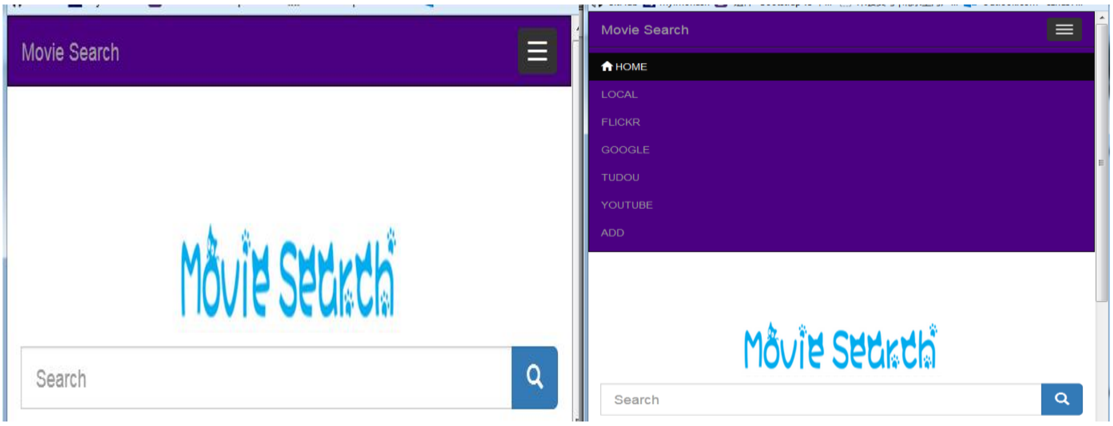


Figure 3 Responsive layout

5.2 Local Movie Search

If you want search movie from Local database, you can select the Local on the navigation bar, then browser will jump into the local movie search page (Figure). Input what movie you want search. For example if I want to search the famous movie **Leon** just input the movie title and click button, the result show on Figure 5.

(**Note: please be patient to wait for a little time to see the result, because the sentiment analysis implemented by twitter has to find valid certification path to request)**

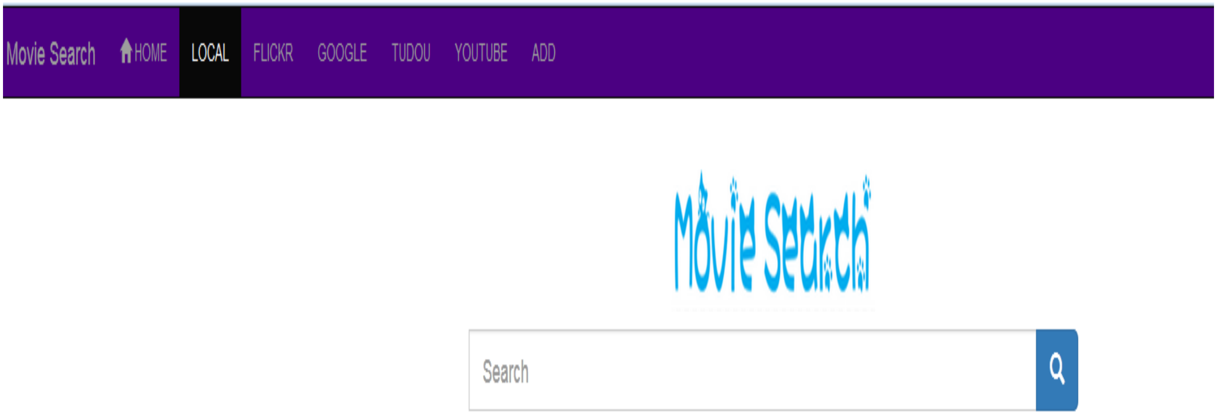
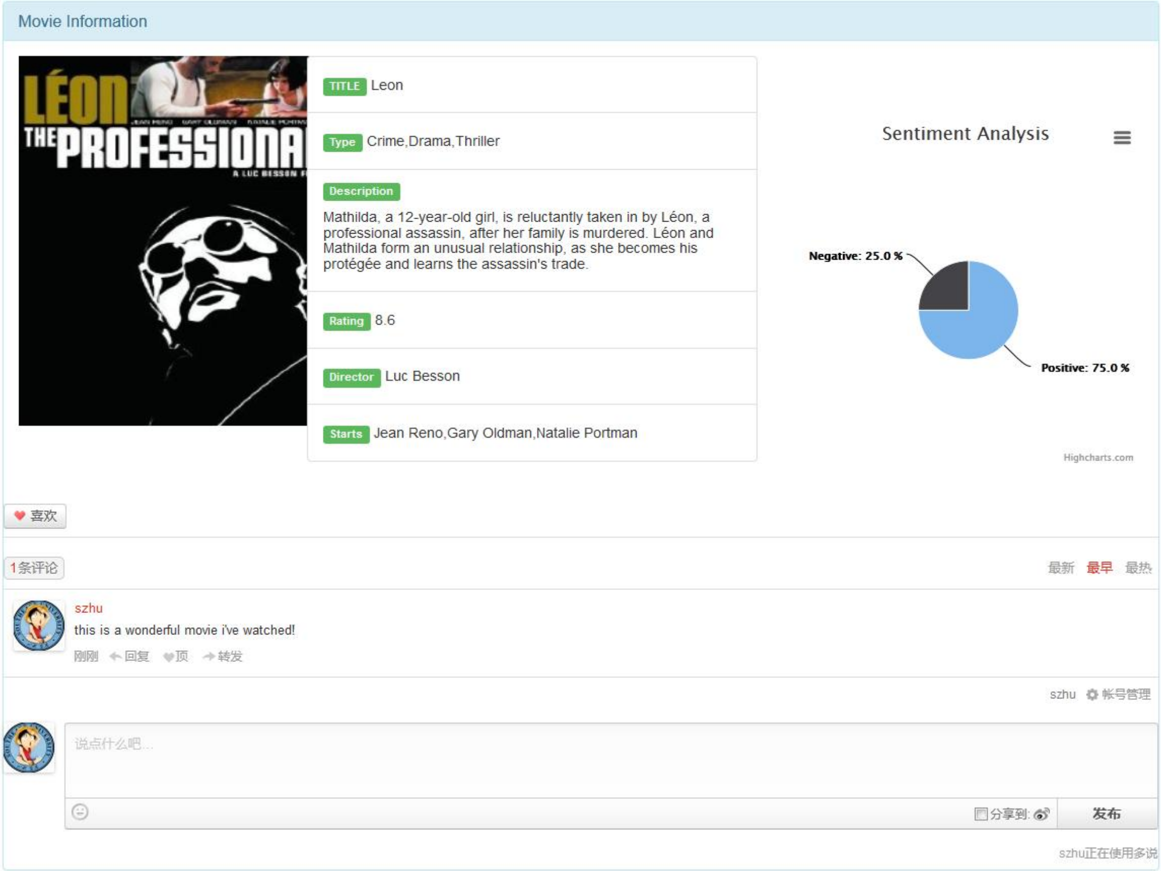


Figure 4 Local search page



Movie Information

TITLE Leon

Type Crime,Drama,Thriller

Description
Mathilda, a 12-year-old girl, is reluctantly taken in by Léon, a professional assassin, after her family is murdered. Léon and Mathilda form an unusual relationship, as she becomes his protégée and learns the assassin's trade.

Rating 8.6

Director Luc Besson

Starts Jean Reno,Gary Oldman,Natalie Portman

Sentiment Analysis

szhu
this is a wonderful movie i've watched!

Figure 5 Movie Search result of Leon

As can we see from Figure 4 , apart from the information of the movie, the **sentiment analysis** have been implemented by the third party twitter [2]. According to the result of Twitter sentiment analysis API, it is easy to retrieve the score of the analysis and use the Javascript library **HighChart** to show on the right of movie information [3].

One more thing is that we also have the function of comment, if you have some views about the movie ,you can writer on the comment box. The comment function is implemented by third party **Duoshuo**, which is a very famous comment plugin in China [4].

5.3 Image Search

Image search is supported by Flickr API [5], you can retrieve some relative movie poster figures. For instance, if you want to search the Inception, the result shows on figure 6. (**Note**: because of the policy of China, you can not visit the Flickr website unless connecting via VPN)

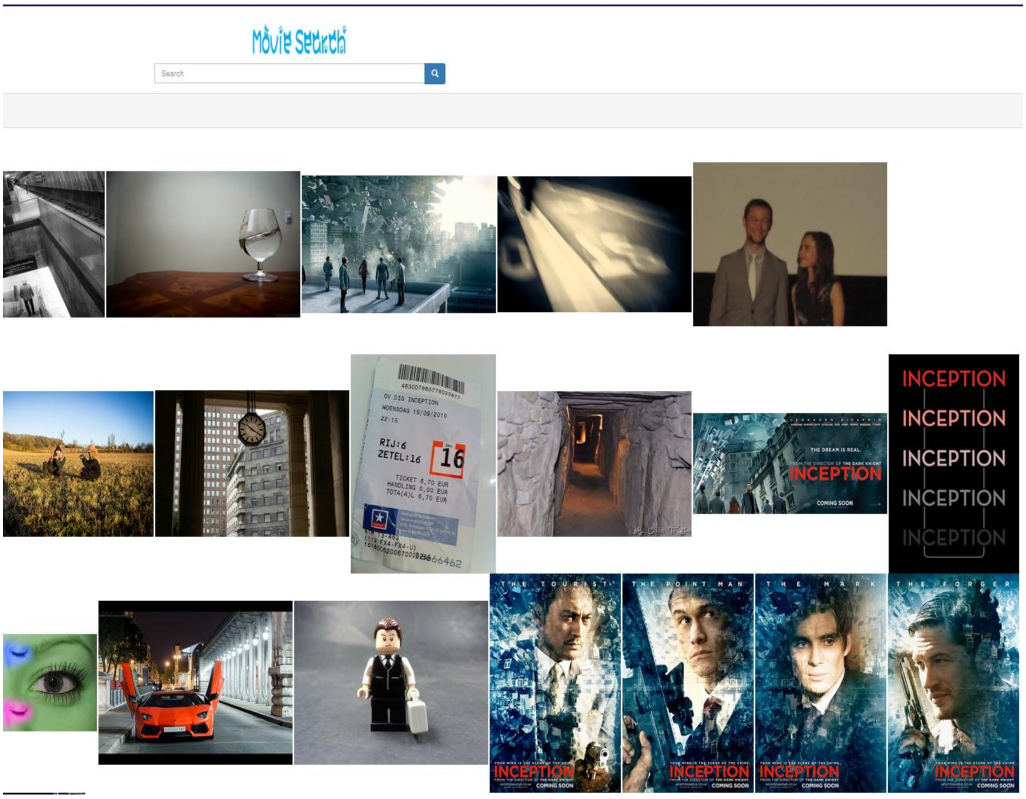


Figure 6 Image Search result of Inception

5.4 Video Search

Video Search is a web service implemented by **Youtube** API [6] and **Tudou** API [7] for alternative if you cannot access Youtube website. An example show on the figure 7 and figure 8 when search 2012 movie video using Youtube and Tudou.

Compared with the Tudou, the relativity of the Youtube search result is much better than Tudou.

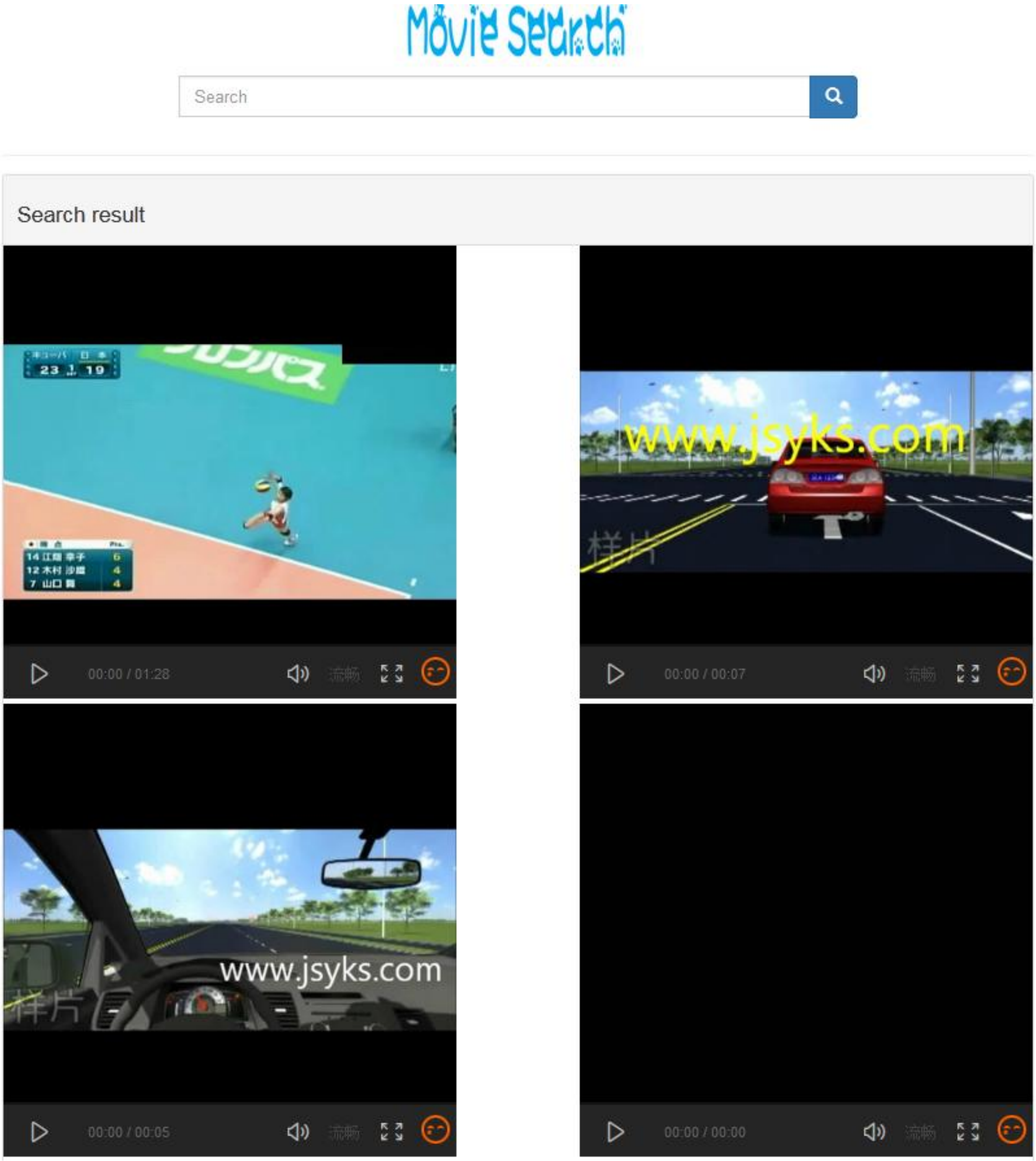
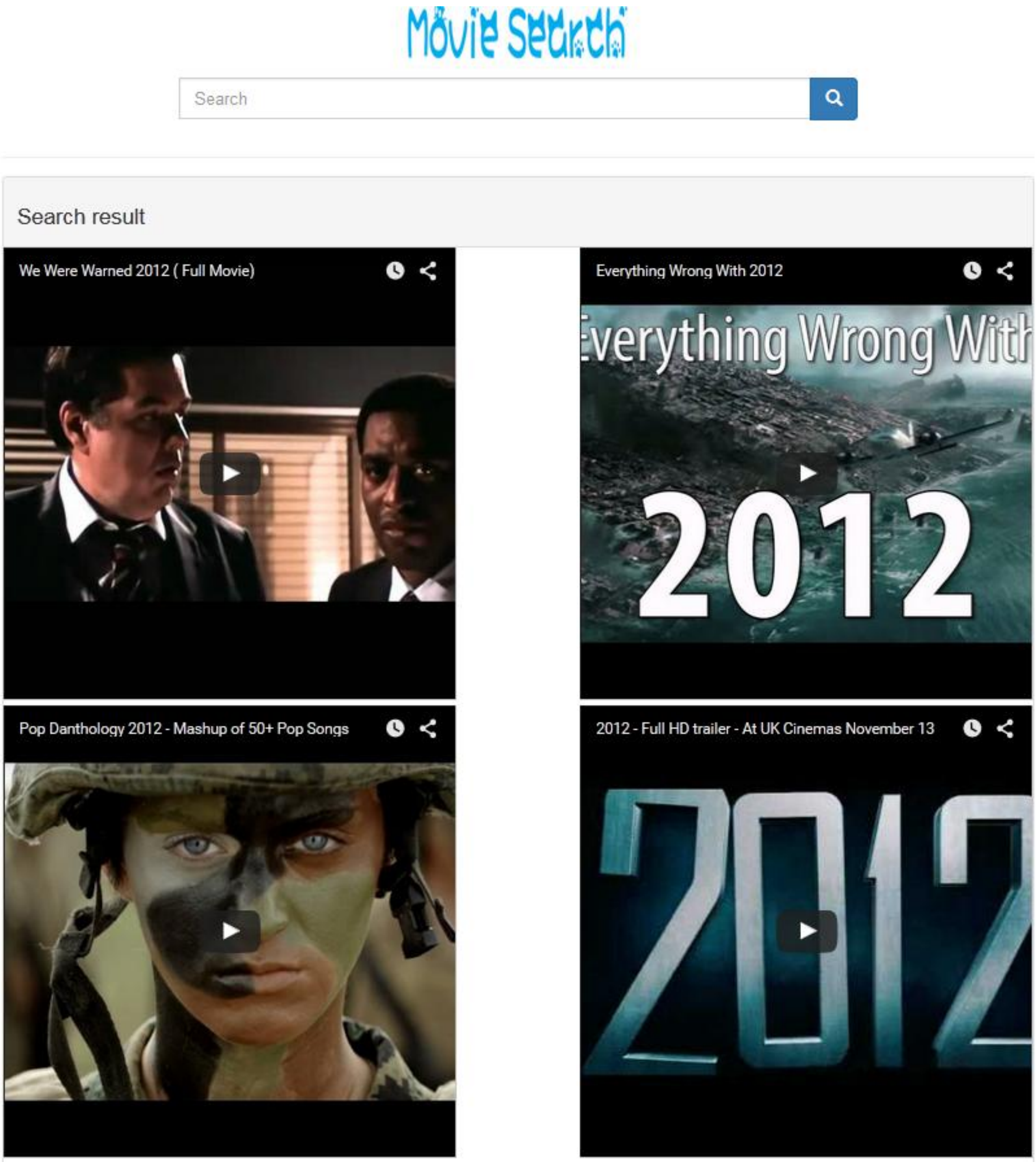


Figure 7 Tudou Video Search Result of 2012

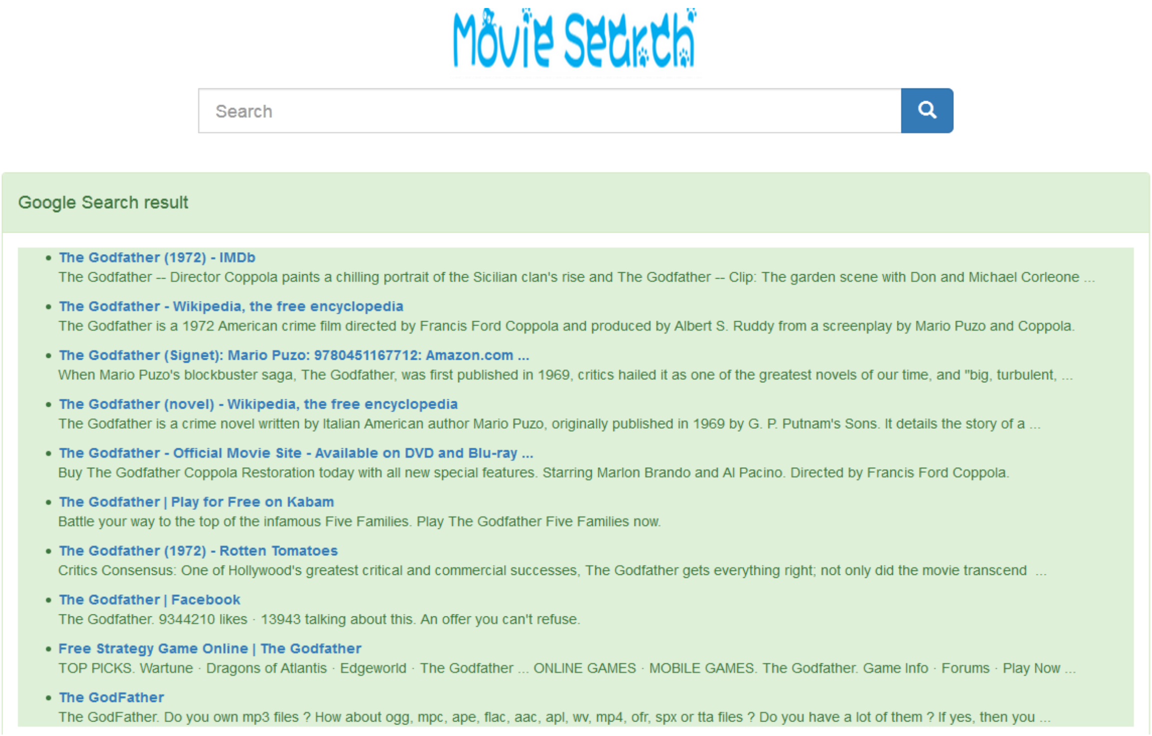


Movie Search
Search
Search result
We Were Warned 2012 (Full Movie)
Everything Wrong With 2012
Everything Wrong With 2012
Pop Danthology 2012 - Mashup of 50+ Pop Songs
2012 - Full HD trailer - At UK Cinemas November 13
2012

Figure 8 Youtube Search Result of 2012

5.5 General Search

General Search is based on the Customer Google Search REST API [8], the search result is badly based on the **CX** number, so you should indicate some website relative to the movie. (e.g. www.imdb.com, www.wiki.org) and get the CX number. Figure 9 show the search result of godfather.



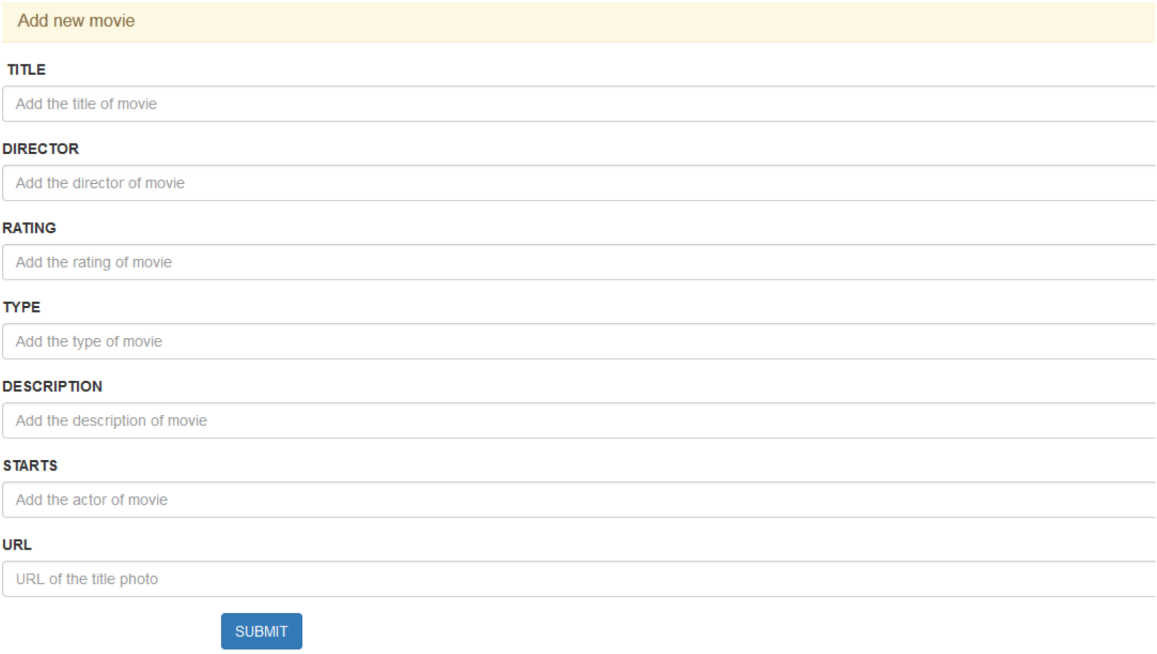
Google Search result

- **The Godfather (1972) - IMDb**
  The Godfather -- Director Coppola paints a chilling portrait of the Sicilian clan's rise and The Godfather -- Clip: The garden scene with Don and Michael Corleone ...
- **The Godfather - Wikipedia, the free encyclopedia**
  The Godfather is a 1972 American crime film directed by Francis Ford Coppola and produced by Albert S. Ruddy from a screenplay by Mario Puzo and Coppola.
- **The Godfather (Signet): Mario Puzo: 9780451167712: Amazon.com ...**
  When Mario Puzo's blockbuster saga, The Godfather, was first published in 1969, critics hailed it as one of the greatest novels of our time, and "big, turbulent, ...
- **The Godfather (novel) - Wikipedia, the free encyclopedia**
  The Godfather is a crime novel written by Italian American author Mario Puzo, originally published in 1969 by G. P. Putnam's Sons. It details the story of a ...
- **The Godfather - Official Movie Site - Available on DVD and Blu-ray ...**
  Buy The Godfather Coppola Restoration today with all new special features. Starring Marlon Brando and Al Pacino. Directed by Francis Ford Coppola.
- **The Godfather | Play for Free on Kabam**
  Battle your way to the top of the infamous Five Families. Play The Godfather Five Families now.
- **The Godfather (1972) - Rotten Tomatoes**
  Critics Consensus: One of Hollywood's greatest critical and commercial successes, The Godfather gets everything right; not only did the movie transcend ...
- **The Godfather | Facebook**
  The Godfather. 9344210 likes · 13943 talking about this. An offer you can't refuse.
- **Free Strategy Game Online | The Godfather**
  TOP PICKS. Wartune · Dragons of Atlantis · Edgeworld · The Godfather ... ONLINE GAMES · MOBILE GAMES. The Godfather. Game Info · Forums · Play Now ...
- **The GodFather**
  The GodFather. Do you own mp3 files ? How about ogg, mpc, ape, flac, aac, apl, wv, mp4, ofr, spx or tta files ? Do you have a lot of them ? If yes, then you ...

Figure 9 Google Search Result of Godfather

5.6 Movie Add

The function of movie add is based on the local web service through the **Jersey**[9] to add the new movie to local database.



References:

[1] https://github.com/twbs/bootstrap

[2] https://www.tweetsentimentapi.com

[3] http://www.hcharts.cn/test/index.php?from=demo&p=39

[4] http://duoshuo.com/

[5] http://moodle.vle.monash.edu/course/view.php?id=24683

[6] https://github.com/szhu57/api-samples/tree/master/java

[7] http://open.tudou.com/wiki

[8] https://developers.google.com/custom-search/json-api/v1/using_rest

[9] https://jersey.java.net/documentation/latest/index.html