



Database Management 2

Netflix Show Search Service

Team1

2017 SeoChung Ha

2018 Daln Son

2019 Jaehyun Song

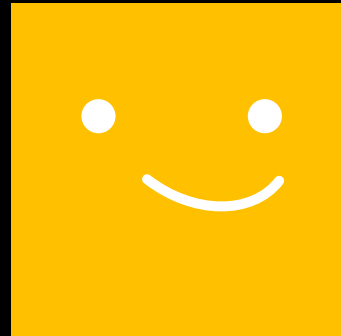
Outline



About Service



DB structure



Main points



Lesson Learned

START

About service

: Netflix Show Search Service

Python pandas for preprocess
MySQL for DB
Tkinter for GUI



Users

Who we designed it for

- 1 If you often use Netflix to watch movies
- 2 If you often do not know what would be interesting to watching
- 3 If you are looking for a movie but you remember its director / genre / part of the name

Original CSV

Size of 12 x 8979

Show_id is StringType, changed to IntegerType

```
df['show_id'] = df['show_id'].apply(lambda x: int(x[1:]))
df
```

show_id	type	title	show_id	type	title	director	cast	country	date_added	re	duration	listed_in	description
s1	Movie	Dick Joh	0	1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	90 min	Documentaries	As her father nears the e
s2	TV Show	Blood &	1	2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalan...	South Africa	September 24, 2021	2 Seasons	International TV Shows, T	After crossing paths at a
s3	TV Show	Gangland	2	3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	1 Season	Crime TV Shows, Internati	To protect his family fro
s4	TV Show	Jailbirds	3	4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	1 Season	Docuseries, Reality TV	Feuds, flirtations and toi
s5	TV Show	Kota Fac	4	5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2 Seasons	International TV Shows, R	In a city of coaching cen
s6	TV Show	Midnight	...	...	...	...	...	...	...	...	1 Season	TV Dramas, TV Horror, TV	The arrival of a charisma
s7	Movie	My Little	...	...	...	...	...	...	...	...	91 min	Children & Family Movies	Equestria's divided. But a
s8	Movie	Sankofa	...	...	...	...	...	...	...	...	125 min	Dramas, Independent Mo	On a photo shoot in Gha
s9	TV Show	The Grea	...	...	...	...	...	...	...	...	9 Seasons	British TV Shows, Reality	A talented batch of ama
s10	TV Show	Vendetta	...	...	...	...	...	...	...	...	104 min	Comedies, Dramas	A woman adjusting to li
s11	TV Show	Bangkok	...	...	...	...	...	...	...	...	1 Season	Crime TV Shows, Docuser	Sicily boasts a bold "Ant
s12	TV Show	Je Suis K	...	...	...	...	...	...	...	...	1 Season	Crime TV Shows, Internati	Struggling to earn a livin
s13	TV Show	Je Suis K	...	...	...	...	...	...	...	...	127 min	Dramas, International Mo	After most of her family

Original CSV

Many values in director, cast, country, listed_in

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States	25-Sep-21	2020	PG-13	90 min	Documentaries	As her father nears the e
s2	TV Show	Blood & Water		Ama Qamata, Khos	South Africa	24-Sep-21	2021	TV-MA	2 Seasons	International TV Shows, TV	After crossing paths at a
s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Trac	Gotoas, Samuel Jouy,	24-Sep-21	2021	TV-MA	1 Season	Crime TV Shows, Internati	To protect his family fro
s4	TV Show	Jailbirds New Orleans				24-Sep-21	2021	TV-MA	1 Season	Docuseries, Reality TV	Feuds, flirtations and toi
s5	TV Show	Kota Factory		Mayur More, Jitend	India	24-Sep-21	2021	TV-MA	2 Seasons	International TV Shows, R	In a city of coaching cen
s6	TV Show	Midnight Mass	Mike Flanagan	Kate Siegel, Zach G	lford, Hamish Linklate	24-Sep-21	2021	TV-MA	1 Season	TV Dramas, TV Horror, TV	The arrival of a charisma
s7	Movie	My Little Pony: A New	Robert Cullen, Jos	Vanessa Hudgens, J	imiko Glenn, James M	24-Sep-21	2021	PG	91 min	Children & Family Movies	Equestria's divided. But a
s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oya	United States, Ghana,	24-Sep-21	1993	TV-MA	125 min	Dramas, Independent Mov	On a photo shoot in Gha
s9	TV Show	The Great British Bak	Andy Devonshire	Mel Giedroyc, Sue	United Kingdom	24-Sep-21	2021	TV-14	9 Seasons	British TV Shows, Reality	A talented batch of ama
s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy,	United States	24-Sep-21	2021	PG-13	104 min	Comedies, Dramas	A woman adjusting to li
s11	TV Show	Vendetta: Truth, Lies	and The Mafia			24-Sep-21	2021	TV-MA	1 Season	Crime TV Shows, Docuser	Sicily boasts a bold "Ant
s12	TV Show	Bangkok Breaking	Kongkiat Komesiri	Sukollawat Kanarot	Sushar Manaying, Pav	23-Sep-21	2021	TV-MA	1 Season	Crime TV Shows, Internati	Struggling to earn a livin
s13	Movie	Je Suis Karl	Christian Schwocho	Luna Wedler, Janni	Germany, Czech Repu	23-Sep-21	2021	TV-MA	127 min	Dramas, International Mo	After most of her family

Preprocess

Separated director, cast, country, listed_in

show_id	type	title	director	cast
s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	
s2	TV Show	Blood & Water		Ama Qamara
s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila
s4	TV Show	Jailbirds New Orleans		
s5	TV Show	Kota Factory		Mayur Mishra
s6	TV Show	Midnight Mass	Mike Flanagan	Kate Siegel
s7	Movie	My Little Pony: A New Generation	Robert Cullen, Joseph Cho	Vanessa Hessler
s8	Movie	Sankofa	Haile Gerima	Kofi Ghahum
s9	TV Show	The Great British Bake Off	Andy Devonshire	Mel Giedroyc
s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy
s11	TV Show	Vendetta: Truth, Lies and The Mafia		
s12	TV Show	Bangkok Breaking	Kongkiat Komesiri	Sukollawat Anukrit
s13	Movie	Je Suis Karl	Christian Schwochov	Luna Wedderburn

```
listt = []
df_list_m = pd.DataFrame([], columns=['show_id', 'genre'])
for i in range(len(df_list)):
    listed_in = df_list.loc[i, 'listed_in']
    genres = listed_in.split(',')

    for y in genres:
        ap = {
            'show_id': df_list.loc[i, 'show_id'],
            'genre': y
        }
        df_list_m = df_list_m.append(ap, ignore_index=True)
df_list_m
```

	show_id	genre
0	s1	Documentaries
1	s2	International TV Shows
2	s2	TV Dramas
3	s2	TV Mysteries
4	s3	Crime TV Shows
...
19318	s8806	Children & Family Movies
19319	s8806	Comedies
19320	s8807	Dramas
19321	s8807	International Movies
19322	s8807	Music & Musicals

	listed_in	description
0	Documentaries	As her father nears the end of his life, a woman reflects on her childhood and the impact of her father's death.
1	International TV Shows, TV Dramas, TV Horror, TV Mysteries	After crossing paths at a crime scene, two women find themselves drawn into a dangerous world of secrets and lies.
2	Crime TV Shows, International TV Shows, TV Dramas, TV Horror, TV Mysteries	To protect his family from a powerful crime syndicate, a man must navigate a world of corruption and violence.
3	Docuseries, Reality TV	Feuds, flirtations and toilet talk go down among the wives of rich and famous New Orleans residents.
4	International TV Shows, TV Dramas, TV Horror, TV Mysteries	In a city of coaching centers and pressure, a young man's journey to become a professional athlete is fraught with challenges.
5	TV Dramas, TV Horror, TV Mysteries	The arrival of a charismatic new teacher in a small town sparks a series of events that challenge the status quo.
6	Children & Family Movies	Equestria's divided. But as a new threat emerges, the friends must unite to save their world.
7	Dramas, Independent Movies	On a photo shoot in Ghana, a woman's life is turned upside down when she discovers a shocking secret.
8	British TV Shows, Reality TV	A talented batch of amateur bakers compete in a series of challenges to win the title of Britain's best baker.
9	Comedies, Dramas	A woman adjusting to life in a new country finds herself in a series of comedic situations.
10	Crime TV Shows, Docuseries	Sicily boasts a bold "Antimafia" law that challenges the power of the mafia.
11	Crime TV Shows, International TV Shows	Struggling to earn a living, a man is drawn into a world of crime and corruption.
12	Dramas, International Movies	After most of her family is killed, a woman seeks revenge against the man responsible.

DB Model

Separated director, cast, country, listed_in

table_tv	table_movie
show_id INT	show_id INT
type VARCHAR(8)	type VARCHAR(8)
title VARCHAR(100)	title VARCHAR(200)
date_added VARCHAR(30)	date_added VARCHAR(30)
release_year VARCHAR(10)	release_year VARCHAR(10)
rating VARCHAR(10)	rating VARCHAR(10)
duration VARCHAR(15)	duration VARCHAR(15)
description VARCHAR(300)	description VARCHAR(300)
Indexes	Indexes

table_cast	table_country	table_comment
show_id INT	show_id INT	show_id INT
cast VARCHAR(200)	country VARCHAR(30)	comment VARCHAR(300)
Indexes	Indexes	date DATETIME
Indexes	Indexes	Indexes
table_genre	table_director	table_like
show_id INT	show_id INT	show_id INT
genre VARCHAR(30)	director VARCHAR(100)	like INT
Indexes	Indexes	Indexes

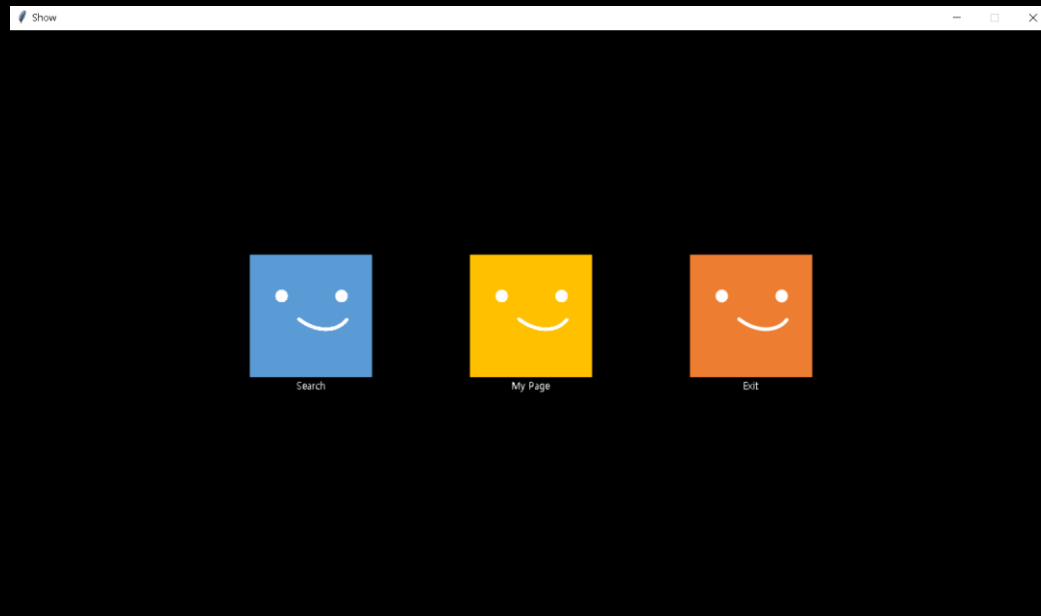
```
maketable = '''CREATE TABLE table_Movie(  
show_id int not null primary key,  
type varchar(8),  
title varchar(200),  
date_added varchar(30),  
release_year varchar(10),  
rating varchar(10),  
duration varchar(15),  
description varchar(300)  
)  
...'''
```

```
myCursor.execute("DROP TABLE IF EXISTS table_Movie")  
myCursor.execute(maketable)  
mydb.commit()
```

```
df = pd.read_csv('MovieOnly.csv')  
for index, row in df.iterrows():  
    tu = [row.show_id, row.type, row.title, row.date_added, row.release_year, row.rating, row.duration, row.description]  
    for i in tu:  
        if(pd.isnull(i)):  
            tu[tu.index(i)]=''
```

```
myCursor.execute(  
    """INSERT INTO table_Movie (show_id,type,title,date_added,release_year,rating,duration,description)  
VALUES (%s,%s,%s,%s,%s,%s,%s,%s)"""  
,tu)  
mydb.commit()
```


Main Points in our UI



1. SEARCH

Find the exact movie you want by searching and filtering.

2. EDITION

Users can change records as resources are added or subtracted

3. MY PAGE

Build your own movie collection

1. SEARCH

STEP1

- Type the key words
- Title, Director or Cast

Type	ALL
Title	Title
Keyword	happy
Search	Reset
Country	ALL
Genre	ALL
Add	

Title	Genre	Director	Release Year	Duration	Country
The Happytime Murders	Comedies	Brian Henson	2018	91 min	Canada
The Happytime Murders	Action & Adventure	Brian Henson	2018	91 min	Canada
The Happytime Murders	Comedies	Brian Henson	2018	91 min	China
The Happytime Murders	Action & Adventure	Brian Henson	2018	91 min	China
The Happytime Murders	Comedies	Brian Henson	2018	91 min	United States
The Happytime Murders	Action & Adventure	Brian Henson	2018	91 min	United States
Happy Old Year	International Movies	Nawapol Thamrongrattanarit	2019	113 min	Thailand
Happy Old Year	Romantic Movies	Nawapol Thamrongrattanarit	2019	113 min	Thailand
Happy Old Year	Dramas	Nawapol Thamrongrattanarit	2019	113 min	Thailand
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	France
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	France
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	France
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	Germany
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	Germany
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	Germany
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	Switzerland
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	Switzerland
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	Switzerland
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	Italy
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	Italy
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	Italy
Happy Go Lucky	International Movies	Amarpreet G S Chabbra	2014	129 min	India

1. SEARCH

STEP2

- Choose the country and Genre

In this situation, User wants to find movies which title has keyword 'happy' and Canada country and Comedies genre...

Option menu consisting of value in the prior output result table

Search for Movie/ TV shows						
Type	Title	Keyword	Search	Reset	Country	Genre
ALL	Title	happy			Canada	
						ALL Comedies Action & Adventure International Movies Romantic Movies Dramas Independent Movies Music & Musicals Comedies Stand-Up Comedy Dramas Stand-Up Comedy Music & Musicals Spanish-Language TV Shows
Title	Genre	Director	Release Year	Duration	Country	
The Happytime Murders	Comedies	Brian Henson	2018	91 min	Canada	
The Happytime Murders	Action & Adventure	Brian Henson	2018	91 min	Canada	
The Happytime Murders	Comedies	Brian Henson	2018	91 min	China	
The Happytime Murders	Action & Adventure	Brian Henson	2018	91 min	China	
The Happytime Murders	Comedies	Brian Henson	2018	91 min	United States	
The Happytime Murders	Action & Adventure	Brian Henson	2018	91 min	United States	
Happy Old Year	International Movies	Nawapol Thamrongrattanarit	2019	113 min	Thailand	
Happy Old Year	Romantic Movies	Nawapol Thamrongrattanarit	2019	113 min	Thailand	
Happy Old Year	Dramas	Nawapol Thamrongrattanarit	2019	113 min	Thailand	
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	France	
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	France	
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	France	
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	Germany	
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	Germany	
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	Germany	
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	Switzerland	
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	Switzerland	
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	Switzerland	
Happy as Lazzaro	Independent Movies	Alice Rohrwacher	2018	127 min	Italy	
Happy as Lazzaro	International Movies	Alice Rohrwacher	2018	127 min	Italy	
Happy as Lazzaro	Dramas	Alice Rohrwacher	2018	127 min	Italy	
Happy Go Lucky	International Movies	Amarpreet G S Chhabra	2014	129 min	India	

1. SEARCH

STEP3

- Find the extract show

In this situation, User wants to find movies which title has keyword 'happy' and Canada country and Comedies genre...

Result

Search for Movie/ TV shows

Type

ALL

Title

Title

Keyword

happy

Search

Reset

Country

Canada

Genre

Comedies

Add

Title	Genre	Director	Release Year	Duration	Country
The Happytime Murders	Comedies	Brian Henson	2018	91 min	Canada

1. SEARCH

pressing the reset button makes to return all selected values back to their default values.

Search for Movie/ TV shows

Type: ALL

Title: Title

Keyword:

Search Reset

Country: ALL

Genre: ALL

Add

Title	Genre	Director	Release Year	Duration	Country
The Happytime Murders	Comedies	Brian Henson	2018	91 min	Canada

Specific information

When users click the title of the show in the table, A page containing detailed information about the show appears.

Show Detail

title

The Happytime Murders

date_added

December 1, 2020

release_year

2018

rating

R

duration

91 min

description

In an LA where puppets and humans coexist, a down-on-his-luck detective teams with his ex-partner to nab a killer targeting the cast of an old TV show.

casts

[' Bill Barretta', ' Cynthia Wu', ' Dorian Davies', ' Elizabeth Banks', ' Joel McHale', ' Leslie David Baker', ' Maya Rudolph', ' Michael McDonald', ' Mitch Silpa', 'Melissa McCarthy']

directors

['Brian Henson']

countries

[' Canada', ' China', 'United States']

genres

[' Comedies', 'Action & Adventure']

Comment

Like

Delete

Edit

2. EDITION

Users can change records as resources are added or subtracted

1

ADD

When new TV shows and movies are released, users can add program recordings

2

DELETE

When some of the movies are not available for viewing due to copyright expiration, users can delete the records themselves

3

MODIFY

If the content of the record is incorrect, the record can be modified

1 ADD

When new TV shows and movies are released, users can add program recordings

Add show

Type

Type

title

DBMS2

date_added

2021.12.04

release_year

2021

rating

DD

duration

210 min

description

It is about database management system

casts

['jaehyun']

directors

['gaya']

countries

['korea']

genres

['comedies']

Save

Add show

Type

title DBMS2

date_added 2021.12.04

release_year 2021

rating DD

duration 210 min

description

casts ['jaehyun']

directors ['gaya']

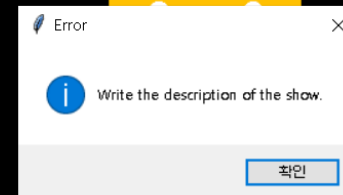
countries ['korea']

genres ['comedies']

If user miss the any value (in this case, description)



Search



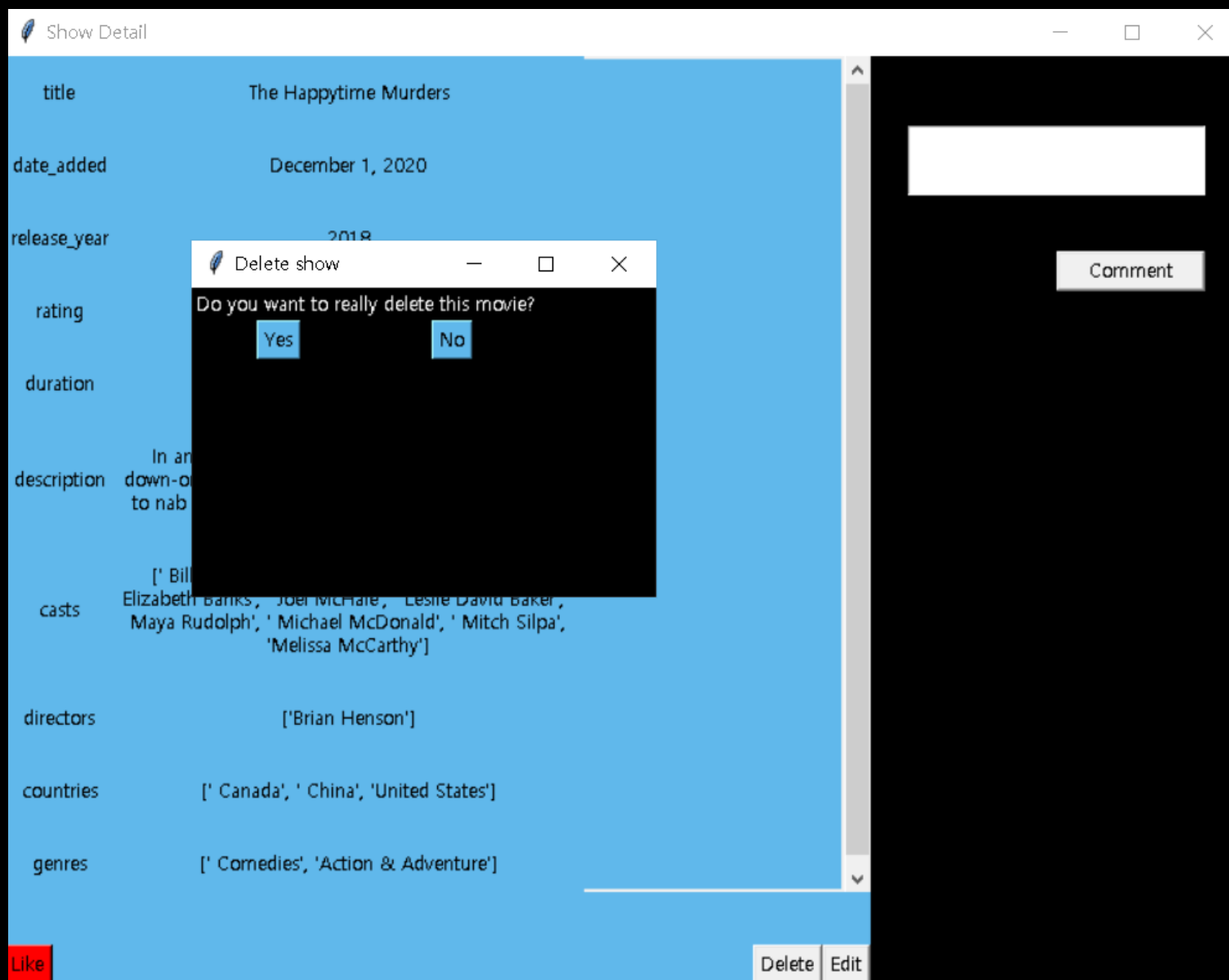
Exit

It can't be stored in the database system,
and error message pop up

2

DELETE

When some of the movies are not available for viewing due to copyright expiration, users can delete the records themselves



3

MODIFY

If the content of the record is incorrect,
the record can be modified

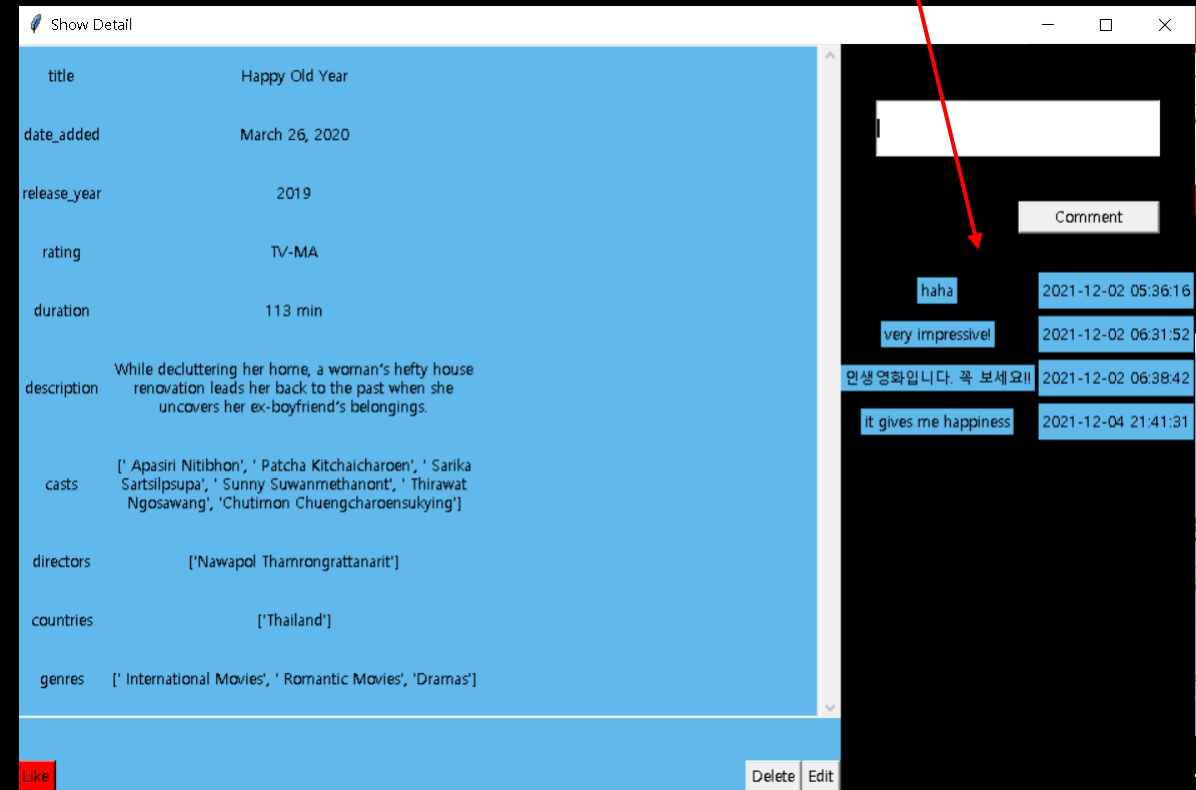
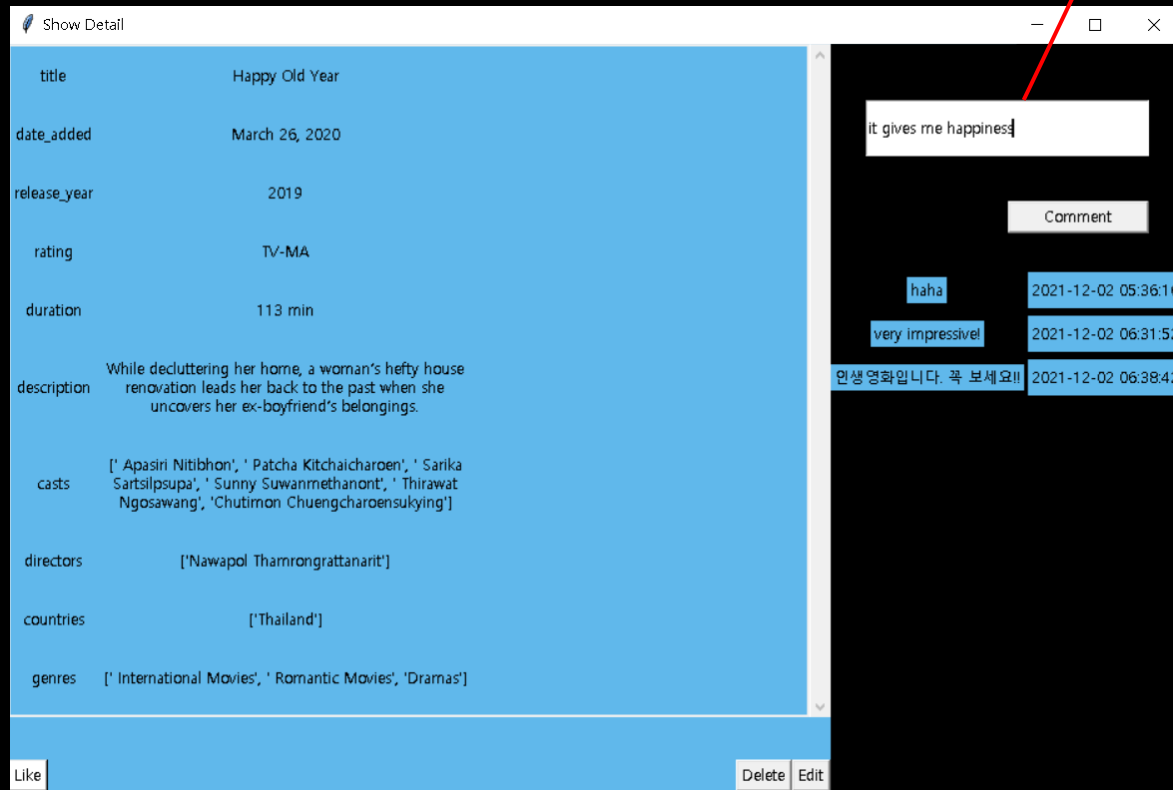
Edit show

title	The Happytime Murders
date_added	December 1, 2020
release_year	2018
rating	R
duration	91 min
description	In an LA where puppets and humans coexist, a down-on-his-luck detective teams with his
casts	[' Bill Barretta', ' Cynthia Wu', ' Dorian Davies', ' Elizabeth Banks', ' Joel McHale', ' Leslie Dav
directors	['Brian Henson']
countries	[' Canada', ' China', 'United States']
genres	[' Comedies', 'Action & Adventure']

Save change

3. MY PAGE

If user want to comment the show, they can write the comments and it is stored in the database



If user likes the show or want to save to see later, user could press the 'like button' and it is stored in the database.
If user press the button last time, it would be maintained.

3. MY PAGE Build your own movie collection

My page			
LIKE	TITLE	COMMENT	Date
Dick Johnson Is Dead	Happy Old Year	haha	2021-12-02 05:36:16
The Starling	Happy Old Year	very impressivel	2021-12-02 06:31:52
Stowaway	Happy Old Year	인생 영화입니다. 꼭 보세요!!	2021-12-02 06:38:42
Jab Harry Met Sejal	Dead Kids	dd	2021-12-02 05:14:39
On the Verge	Dead Kids	dhkdhkdhk	2021-12-02 05:14:43
	Dead Kids	happy	2021-12-02 05:15:06
	Happy as Lazzaro		2021-12-02 06:15:49
	Happy as Lazzaro	haha	2021-12-02 06:15:52
	Happy as Lazzaro	interesting :)	2021-12-02 08:53:18
	Jab Harry Met Sejal	우웅	2021-12-02 04:20:10
	Sankofa	예이~	2021-12-01 23:12:36
	Sankofa	와하하하	2021-12-01 23:12:32
	Blood & Water	GOOOOOD	2021-12-01 19:18:13
	Blood & Water	HEHEHE	2021-12-01 19:18:17
	Blood & Water	너무 좋아움	2021-12-01 19:18:30

User can see the data of likes that user has pressed and comments that user has left before at a glance

What do we learned from this project :

Lesson Learned

It's a long way from learning a skill to applying it better.

Da In

Develop more features of the program

One of the first challenges we encountered was how to use the limited data to provide more services to our customers. With different query methods, data can be used in different combinations to solve various problems. In order to design a logical and reasonable way to query data, we tried to look at data from multiple perspectives. For example, the viewer perspective for finding movie information, the developer perspective for studying the characteristics of Netflix content.

Jaehyun

Generate more interest of people

The second problem we encountered was how we could make our customers happy with the results of their queries. This involves the amount of information that needs to be presented in each layer of the query, and the need to make the customer confirm that the result is what they specified as much as possible within the amount of information that is as concise as possible, and to be able to explain the target content clearly at the same time, which is something worth thinking about

Seo
Chung

Explore more possibilities of data

Exploring more possibilities in limited data is the third challenge we encountered. By designing different types of data query patterns, providing users with the possibility of secondary data development through different combinations of data, and finally being able to find more value from the data, is also one of the things we have repeatedly thought about.

Thank you for listening