Home TV Shows Movies News & Popular My list Watchlist

SEARCH SYSTEM
MILESTONE 3

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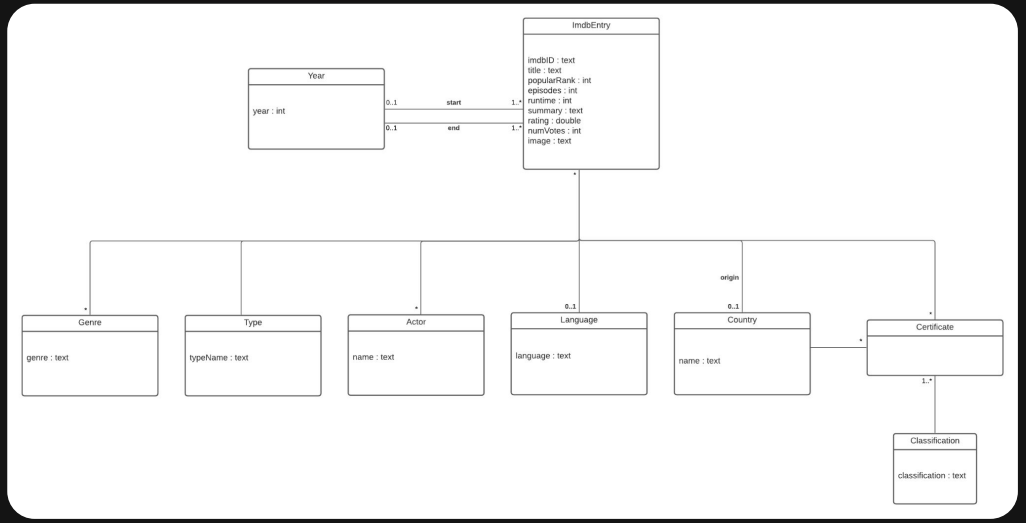
01 Collection

Collection

- **Collection:** All shows in the dataset obtained from Milestone 1
- **Document:** A show
- The dataset is a single CSV file which, for convenience, we transform into a JSON file



02 Indexing

Indexing

- Run Docker image based on Solr's container
- Dockerfile to define a custom image and perform all the basic setup operations
  - Added query 5, synonyms file and new config file modified to include spellcheck
- Script to automatically create a core (shows), define our schema and populate the database
  - Copied the new config file to Solr

```
FROM solr:8.10

COPY netflix_list.json /data/netflix_list.json

COPY query1.json /data/query1.json

COPY query2.json /data/query2.json

COPY query3.json /data/query3.json

COPY query4.json /data/query4.json

COPY query5.json /data/query5.json

COPY schema.json /data/schema.json

COPY synonyms.txt /data/mysynonyms.txt

COPY solrconfig.xml /data/config.xml

COPY startup.sh /scripts/startup.sh

ENTRYPOINT ["/scripts/startup.sh"]
```

```
#!/bin/bash

precreate-core shows

# Start Solr in background mode so we can use the API to upload the schema
solr start

sleep 2

# Define Synonyms
cat /data/mysynonyms.txt >> /var/solr/data/shows/conf/synonyms.txt

cat /data/config.xml > /var/solr/data/shows/conf/solrconfig.xml

# Schema definition via API
curl -X POST -H 'Content-type:application/json' \
    --data-binary @/data/schema.json \
    http://localhost:8983/solr/shows/schema

sleep 2

# Populate collection
bin/post -c shows /data/netflix_list.json
# bin/post -c shows /data/query1.json
# bin/post -c shows /data/query2.json
# bin/post -c shows /data/query3.json
# bin/post -c shows /data/query4.json
# bin/post -c shows /data/query5.json

# Restart in foreground mode so we can access the interface
solr restart -f
```

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03 Revisions Introduced

Revisions Introduced

Changes introduced to the system:

- **Metrics:** Modify, improve and add new Metrics. Update Precision, Recall, Average Precision and add MAP
- **Improvements:** Spellcheck and Synonyms
- **Interface:** Creation of an interface for the search system

	Schema-less	Enhanced Schema	Final Schema
MAP	1.0	0.88	1.0

Synonyms and Spellcheck

- Search for PRC, the initials for Popular Republic of China


```
{
 "responseHeader":{
   "status":0,
   "QTime":7,
   "params":{
     "q":"title:prc",
     "indent":"true",
     "q.op":"OR",
     "_":"1642450558223"}},
 "response":{"numFound":3,"start":0,"numFoundExact":true,"docs":[
     {
       "imdbID":"tt8983180",
       "title":["Made in China"],
```

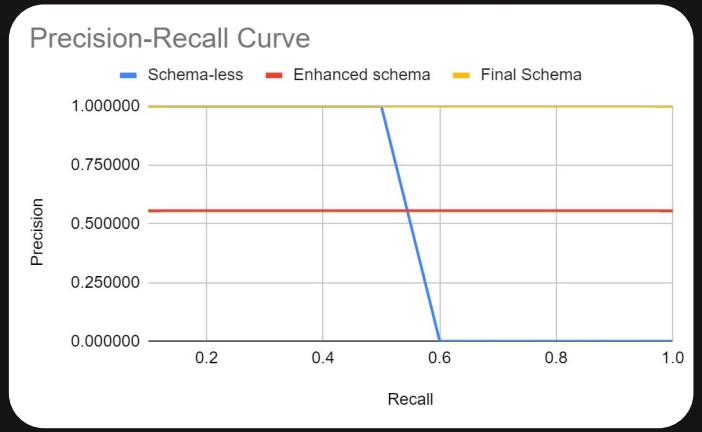

- Spellcheck suggestions when we misspell the word “friends” as “fiends”


```
 "spellcheck":{
   "suggestions":[
     "fiends",{
       "numFound":5,
       "startOffset":6,
       "endOffset":12,
       "origFreq":0,
       "suggestion":[{
           "word":"friend",
           "freq":49},
         {
           "word":"field",
           "freq":7},
         {
           "word":"find",
           "freq":11}]}],
```

04 Final System Evaluation

Final System Evaluation

	Query 4 (revisited)
	- 30 shows - 5 relevant - User expects only series and miniseries



- Schema-less:

	Metric	Value
1	Average Precision	1.0
2	Precision at 9 (P@9)	0.222222
3	Recall at 9 (R@9)	0.4
4	F1 at 9 (R@9)	0.285714

- Enhanced schema:

	Metric	Value
1	Average Precision	0.403492
2	Precision at 9 (P@9)	0.555556
3	Recall at 9 (R@9)	1.0
4	F1 at 9 (R@9)	0.714286

- Final system:

	Metric	Value
1	Average Precision	1.0
2	Precision at 9 (P@9)	0.555556
3	Recall at 9 (R@9)	1.0
4	F1 at 9 (R@9)	0.714286

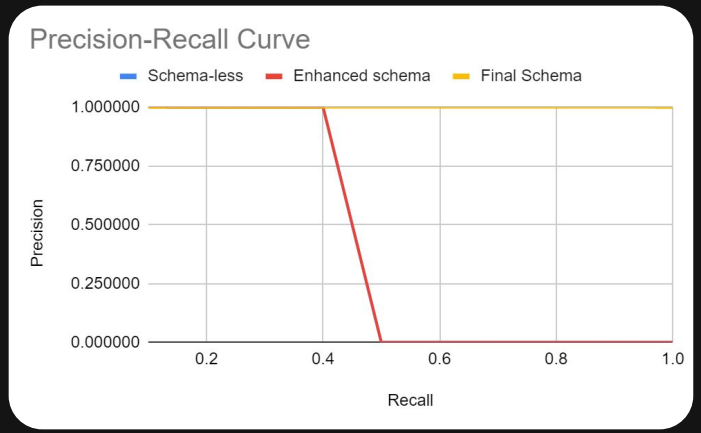
Final System Evaluation

Query 5

- 30 shows
- 10 relevant
- Shows related to the United Kingdom

Example of Results:

- Criminal: UK
- Battle of Britain



Schema-less:

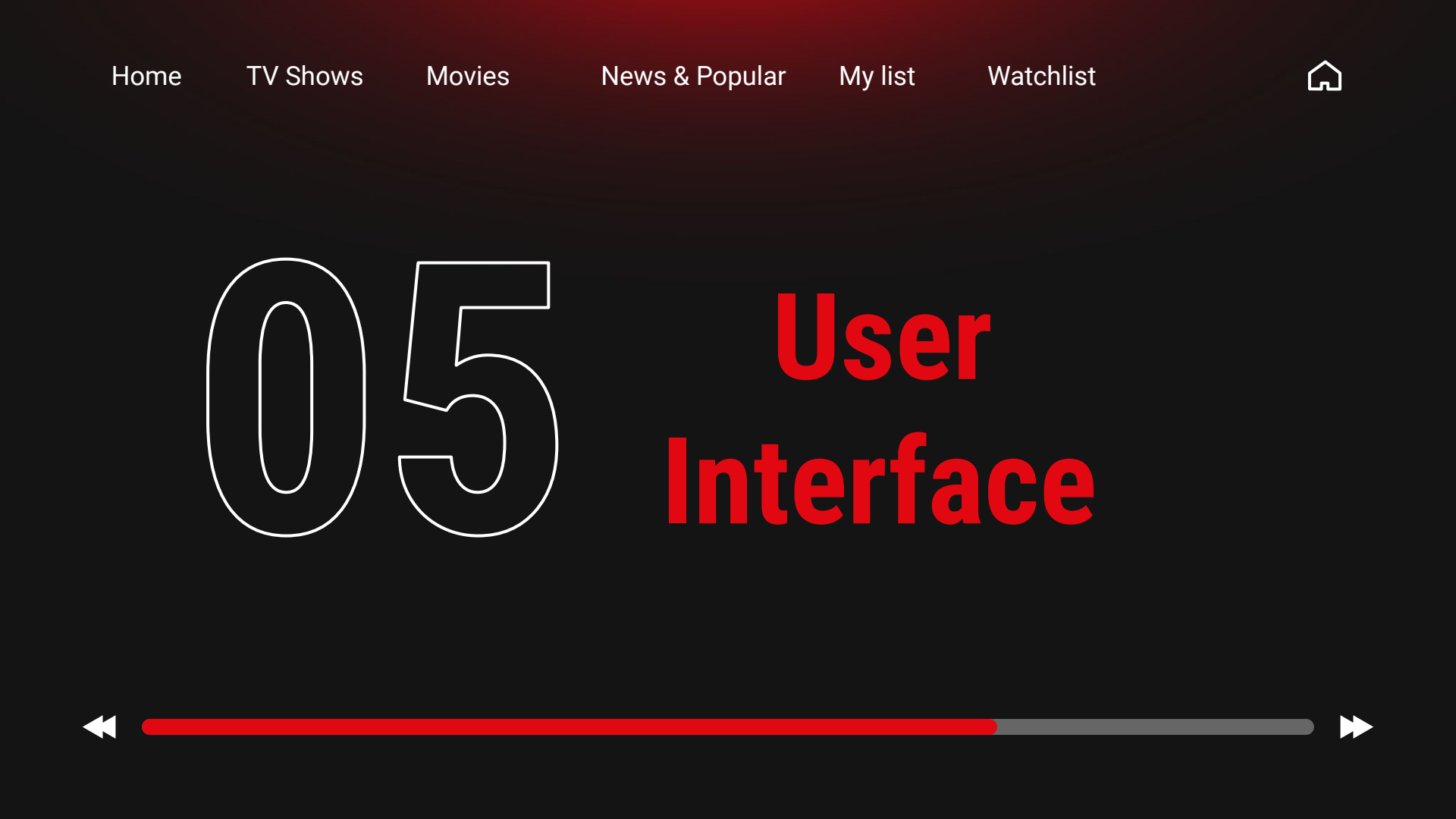
	Metric	Value
1	Average Precision	1.0
2	Precision at 10 (P@10)	0.3
3	Recall at 10 (R@10)	0.3
4	F1 at 10 (R@10)	0.3

- Enhanced schema:

	Metric	Value
1	Average Precision	1.0
2	Precision at 10 (P@10)	0.3
3	Recall at 10 (R@10)	0.3
4	F1 at 10 (R@10)	0.3

- Final system:

	Metric	Value
1	Average Precision	1.0
2	Precision at 10 (P@10)	1.0
3	Recall at 10 (R@10)	1.0
4	F1 at 10 (R@10)	1.0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TV Shows
Movies
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My list
Watchlist
05
User Interface

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Search Page

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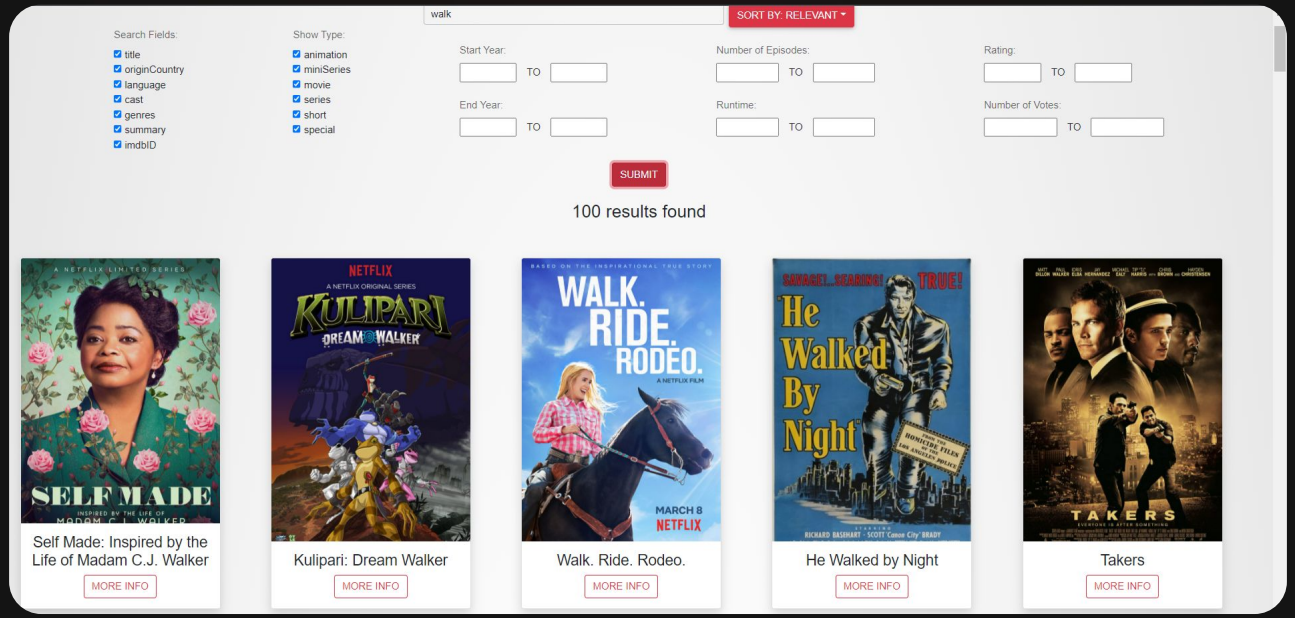
Results Page



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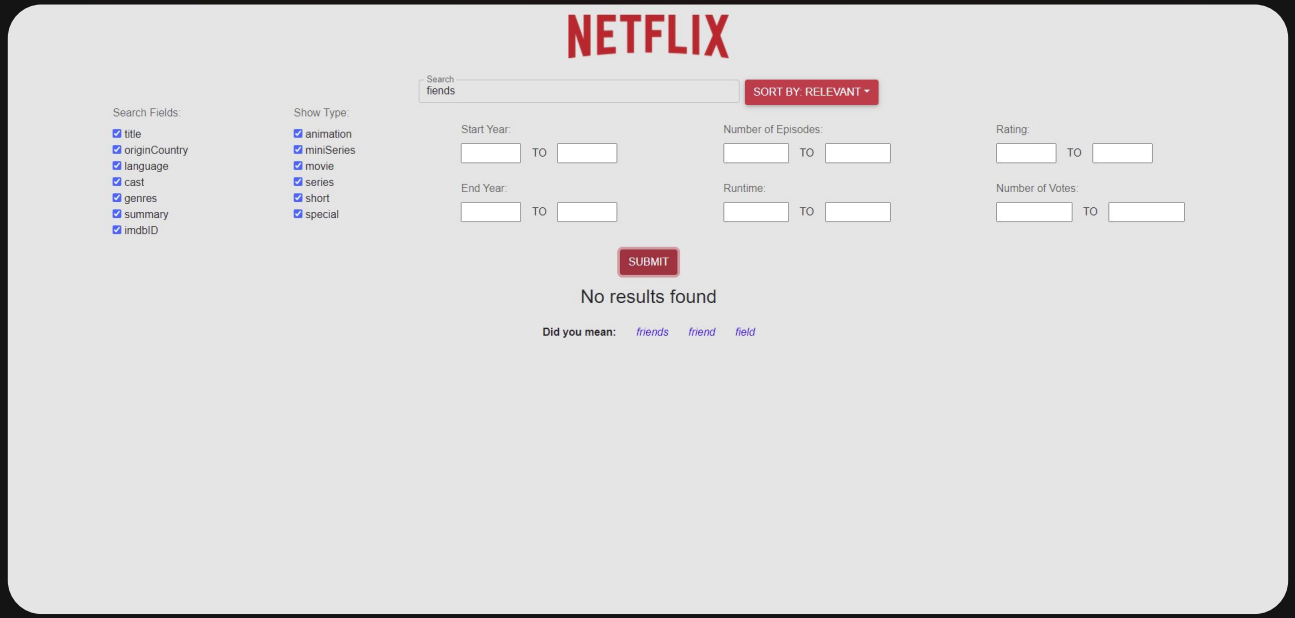
Spell Check



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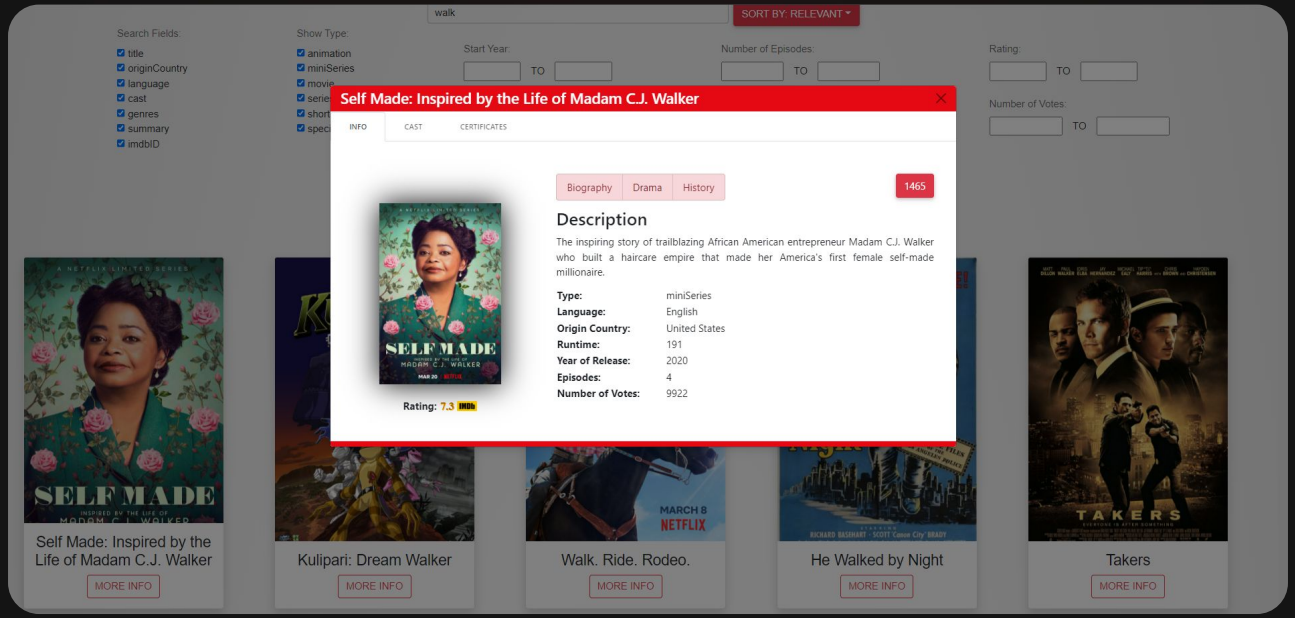
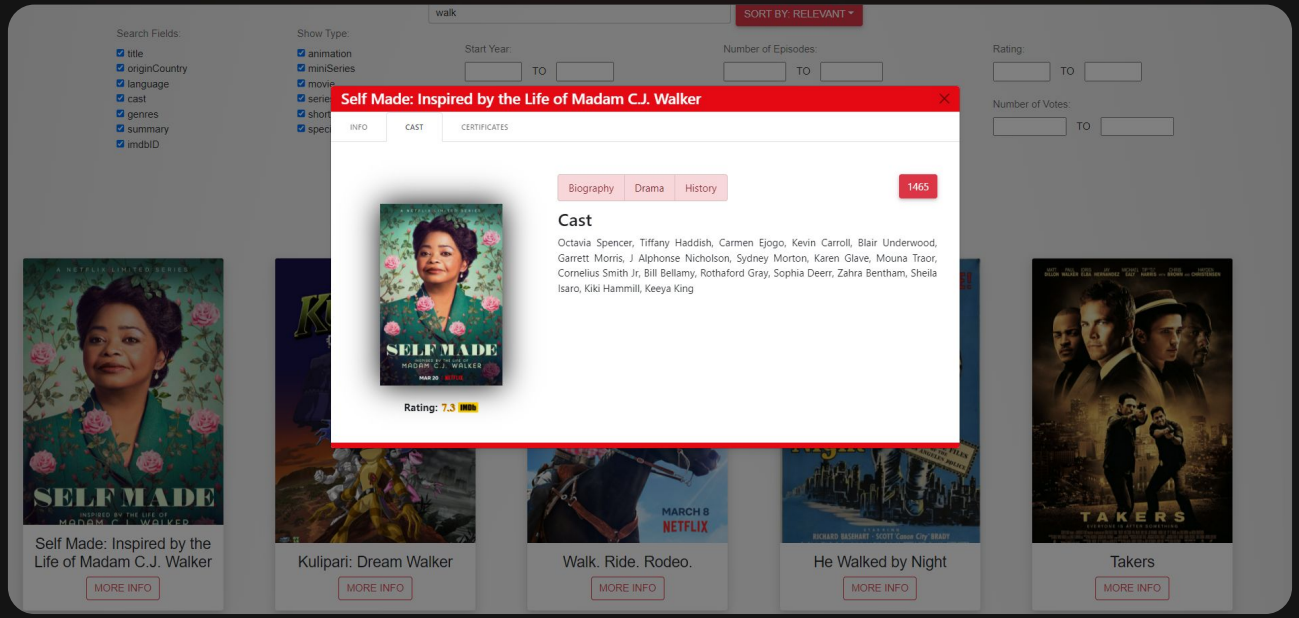
Show Info



Show Cast


walk
SORT BY: RELEVANT
Search Fields:
title
originCountry
language
cast
genres
summary
imdbID
Show Type:
animation
miniSeries
Start Year:
Number of Episodes:
Rating:
Number of Votes:
TO
Self Made: Inspired by the Life of Madam C.J. Walker
INFO
CAST
CERTIFICATES
Biography
Drama
History
1465
Cast
Octavia Spencer, Tiffany Haddish, Carmen Ejogo, Kevin Carroll, Blair Underwood, Garrett Morris, J. Alphonse Nicholson, Sydney Morton, Karen Glave, Mouna Traor, Cornelius Smith Jr, Bill Bellamy, Rothaford Gray, Sophia Deerr, Zahra Bentham, Sheila Isaro, Kiki Hammill, Keeya King
Rating: 7.3
SELF MADE
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NETFLIX
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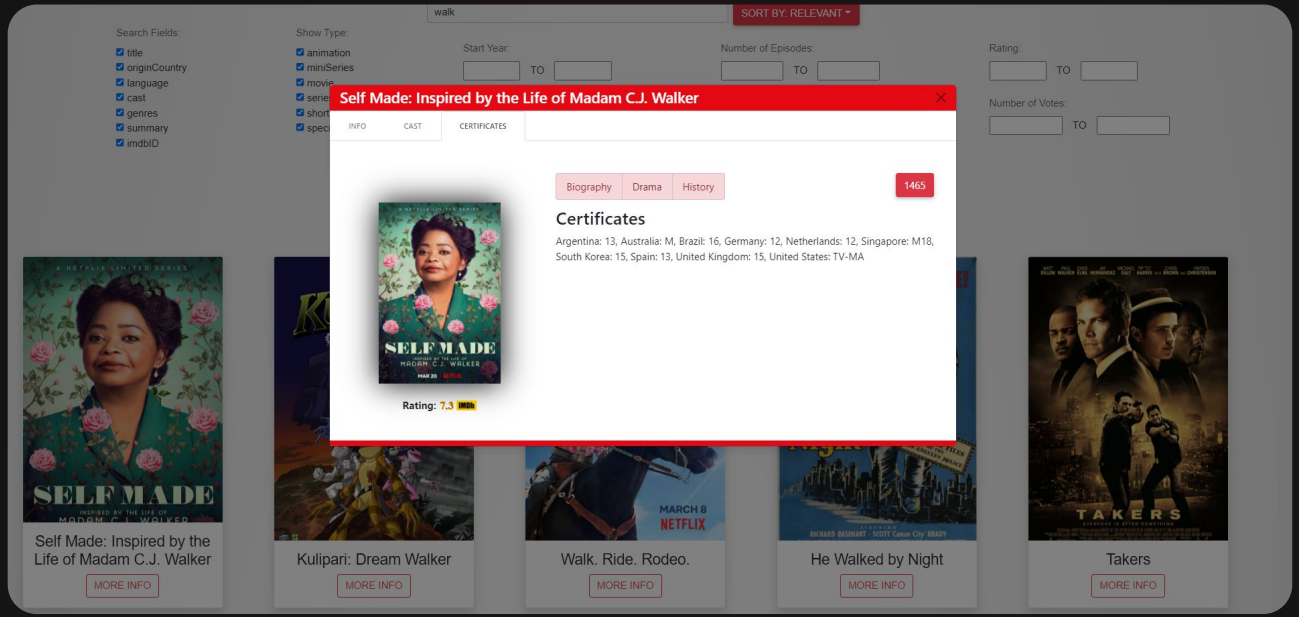
Show Certificates



06 Conclusion & Future Work

THANKS!

Do you have any questions?

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