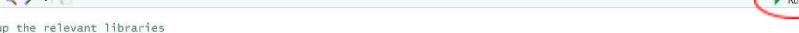


Case 8 Technical Instruction Write-Up

This write-up is everything you will need to fully utilize the attached Obscure Movie Recommendation Generator. The purpose of this generator is to take a list of movies that you have already enjoyed (the input) and run it through a list of filters (genre that you feel like watching, how popular or obscure that you would like the movies recommended to you to be, and how you would like the movies sorted) to present to you a list of movies (the output) that you would potentially also enjoy viewing based off of the list that you have already watched. Ideally, the recommendations will give you a list of movies that are a little more on the obscure side; movies that aren't necessarily "popular" or blockbusters that you are more likely to have already seen. This is a great way to broaden your horizons in regard to your movie choices and, if all goes well, help you become the "Movie Guy/Girl" of your friend group.

The first step in using this generator is to first start it up. We will run the code to create the generator by selecting “Run App,” which can be seen in the visualization in **Figure 1**. The following, **Figure 2**, is the generator itself. This is the outcome of running the app.

Figure 1



```
MovieRecommenderInClass.R
```

```
1 #Load up the relevant libraries
2 library(shiny)
3 library(arules)
4
5 #Repeat data processing
6 #Read in data
7
8
9
10 head(POPULARITY)
11 valid.choices <- sort(POPULARITY$title[ which(POPULARITY$Freq > 0.5) ])
12 genre.choices <- c("Horror", "Science Fiction", "Comedy", "Western", "Romance", "Adventure", "Action", "Thriller", "Documentary", "Thriller", "Ani
13 genre.choices2 <- unique(META$genres)
```

As you can see, once again in **Figure 2**, there are multiple aspects to the generator itself. The first instruction is to select movies that you have already enjoyed.

Figure 2

What movies do you like?

How many recommendations would you like?

1 10 100

1 11 21 31 41 51 61 71 81 91 100

What level of confidence would you like?

0 0.75 1

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

Minimum popularity of recommendations (0-25 percent)

Would you like to sort by movie title/alphabetically?

Yes
 No

Submit

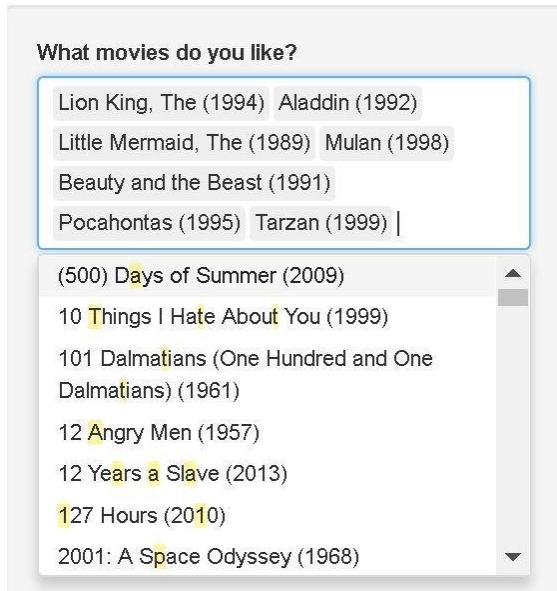


Figure 3

As you can see from **Figure 3**, the process of selecting the movies you have already enjoyed involves simply picking from a list. Once you begin typing a movie that you would like to add to the list, it will begin to autopopulate with movie titles that are included in the data. Unfortunately, our generator is comprised of movies from before 2018, so many of the films that you may have recently seen are not included in what you have available as input for your recommendations. There are more movies soon to be added, though! For this example, we have selected multiple popular animated films created by Disney.

Figure 4



Figure 4 is the next step in the process of generating your next favorite movie. This slider tool allows for you to choose how many recommendations you would like for it to produce. There is some thought that needs to be put into this, though, because the less recommendations that you would like, the more intentional and specific the generator needs to be. It would probably be best to have 5-10 recommendations generated for you so that it's not too overwhelming, but it allows the generator to have some breathing room while also giving you many options to choose from.

Figure 5



The confidence interval is calculated through your selection in **Figure 5**. This means that the generator is estimating a certain parameter, where a whole interval of acceptable values for the parameter is given through the number that you choose, which ultimately decides the likelihood that the real value of the

Minimum popularity of recommendations (0-25 percent)

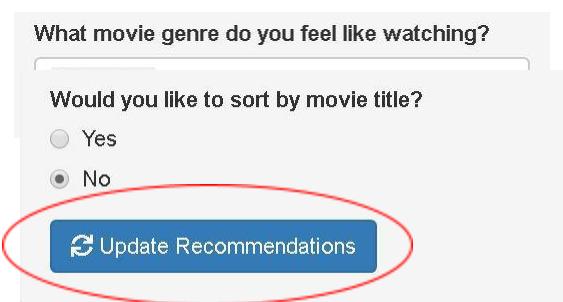
5

parameter is within the interval. In layman's terms, you have a hand in choosing how much room the generator has to work with when it comes to choosing your recommendations and how specific they are.

Figure 6

What makes this generator unique can be found in **Figure 6**. Ultimately, the point of these recommendations is to give you more options for movies that you may not typically hear about from the everyday media. So, with that being said, this numeric picker tool allows for you to pick the level of popularity that your recommendations will be. If you want movies that are absolutely obscure that come out of the woodworks, then select a lower level of popularity. If you want movies that are closer to the level of popularity that the movies you have already viewed probably are, then select a popularity level that's a little higher.

Figure 7



The final step is to simply decide if you want your recommendations to be sorted by movie title (similarly to how your list was sorted at the beginning when selecting your movies, or alphabetically) and running the generator by selecting “Update Recommendations” (**Figure 7**).

Sanity Checks

Movie Recommendations

What movies do you like?

Shawshank Redemption, The (1994)
Godfather, The (1972)
Dark Knight, The (2008)
Pulp Fiction (1994)
Schindler's List (1993)
12 Angry Men (1957)
Inception (2010) Fight Club (1999)

How many recommendations would you like?

10

What level of confidence would you like?

0.25

Minimum popularity of recommendations (0-25 percent)

5

Would you like to sort by movie title/alphabetically?

Yes
 No



Movie	Confidence	Popularity
Whiplash (2014)	0.44	3.85
Lives of Others, The (Das leben der Anderen) (2006)	0.43	3.41
Black Swan (2010)	0.42	4.86
Old Boy (2003)	0.42	4.29
There Will Be Blood (2007)	0.39	3.55
Grand Budapest Hotel, The (2014)	0.37	4.37
Intouchables (2011)	0.35	4.79
Mad Max: Fury Road (2015)	0.35	4.58
Raging Bull (1980)	0.35	4.17
Moon (2009)	0.32	3.86

Movie Recommendations

What movies do you like?

Shutter Island (2010)
Black Swan (2010)
Gone Girl (2014) Arrival (2016)
Get Out (2017)

How many recommendations would you like?

100

What level of confidence would you like?

0.65

Minimum popularity of recommendations (0-25 percent)

0.25

Would you like to sort by movie title/alphabetically?

Yes
 No



data

<----- No rules can be found/No recommendations available

Movie Recommendations

What movies do you like?

- Shutter Island (2010)
- Black Swan (2010)
- Gone Girl (2014) Arrival (2016)
- Get Out (2017)

How many recommendations would you like?

8

What level of confidence would you like?

0.5

Minimum popularity of recommendations (0-25 percent)

7

Would you like to sort by movie title/alphabetically?

Yes
 No



Movie	Confidence	Popularity
Dark Knight Rises, The (2012)	0.61	6.96
Ex Machina (2015)	0.74	4.12
Her (2013)	0.65	3.45
Nightcrawler (2014)	0.76	2.38
The Imitation Game (2014)	0.65	5.62
The Martian (2015)	0.65	5.71
Whiplash (2014)	0.69	3.85
Wolf of Wall Street, The (2013)	0.74	5.21

Movie Recommendations

What movies do you like?

- Donnie Darko (2001)
- Eraserhead (1977) Pi (1998)
- Hostel (2005)
- Blair Witch Project, The (1999)
- Evil Dead, The (1981)

How many recommendations would you like?

100

What level of confidence would you like?

0.5

Minimum popularity of recommendations (0-25 percent)

2

Would you like to sort by movie title/alphabetically?

Yes
 No



Movie	Confidence	Popularity
Lost Highway (1997)	0.86	1.80
Wicker Man, The (1973)	0.86	0.73
Audition (Ã"dishon) (1999)	0.71	0.59
High Noon (1952)	0.71	2.00
Irreversible (IrrÃ©versible) (2002)	0.71	0.66
Texas Chainsaw Massacre, The (1974)	0.71	1.39
Dawn of the Dead (1978)	0.68	1.39
Dead Alive (Braindead) (1992)	0.63	1.08
Videodrome (1983)	0.63	0.88
Twin Peaks: Fire Walk with Me (1992)	0.56	1.04

Output for Graded Cases

1.

Movie Recommendations

What movies do you like?

- Princess Bride, The (1987)
- Groundhog Day (1993)
- Silver Linings Playbook (2012)
- Say Anything... (1989)
- Juno (2007)
- Four Weddings and a Funeral (1994)
- Shakespeare in Love (1998)
- Bridesmaids (2011)
- Knocked Up (2007)

How many recommendations would you like?

What level of confidence would you like?

Minimum popularity of recommendations (0-25 percent)

Would you like to sort by movie title/alphabetically?

Yes
 No

Submit

2.

Movie Recommendations

What movies do you like?

- Mulholland Drive (2001)
- Memento (2000)
- Airplane! (1980)
- Help, The (2011)
- Birdcage, The (1996)
- And Your Mother Too (Y tu mamÃ¡ tambiÃ©n) (2001)

How many recommendations would you like?

What level of confidence would you like?

Minimum popularity of recommendations (0-25 percent)

Would you like to sort by movie title/alphabetically?

Yes
 No

Submit

Movie
Almost Fi
Amadeus
As Good
Breakfast
Graduate
Juno (200
Life Is Be
Little Mis:
Lost in Tr
Magnolia
Monty Py
Pianist, T
Prestige,
Psycho ('
Requiem
Royal Te
Shakespe
Silver Lin
There Wi
Young Fr

3. Movie Recommendations

What movies do you like?

Mulholland Drive (2001)
 Memento (2000) Airplane! (1980)
 Help, The (2011)
 Birdcage, The (1996)
 And Your Mother Too (Y tu mamÃ¡ tambiÃ©n) (2001)

How many recommendations would you like?



What level of confidence would you like?



Minimum popularity of recommendations (0-25 percent)

Would you like to sort by movie title/alphabeticallly?

Yes
 No

Submit

data
 <----- No rules ----->

4. Movie Recommendations

What movies do you like?

Ever After: A Cinderella Story (1998)
 My Best Friend's Wedding (1997)
 Role Models (2008)
 Matrix, The (1999)
 Craft, The (1996)
 Tommy Boy (1995)

How many recommendations would you like?



What level of confidence would you like?



Minimum popularity of recommendations (0-25 percent)

Would you like to sort by movie title/alphabeticallly?

Yes
 No

Submit

Movie
 Americ
 Forgett
 Jumanj
 Fifth El
 Dirty D
 Big Da
 Con Ai
 Sixteer
 Weddir
 10 Thir
 Legally
 Miss C
 Billy Mi
 Alien (1
 Die Ha
 There's

5. Movie Recommendations

What movies do you like?

Taxi Driver (1976)
 Deer Hunter, The (1978)
 Clockwork Orange, A (1971)
 City Lights (1931) Brazil (1985)
 Midnight Cowboy (1969)

How many recommendations would you like?



What level of confidence would you like?



Minimum popularity of recommendations (0-25 percent)

Would you like to sort by movie title/alphabeticallly?

Yes
 No

Movie

Bicycle Thieve
 Thieves) (Ladr
 Conversation,
 General, The (

Gold Rush, Th
 Modern Times
 Paths of Glory
 Touch of Evil (

Yojimbo (1961

