Group Project Report

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How to compile the application

Run the following command in the terminal:

stack build

How to execute the application

After compiling, run the following command in the terminal:

stack exec haskell-project-exe

How to use the application (main functionality)

After executing, we will see the following information and start the interaction:

Welcome to the Movie info app
Please choose a query option below:
(1) Download Data
(2) Query by entering the park name
(3) Query by entering the movie name
(4) Query by entering both the park & movie name
(5) Quit

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1. Type “1” in the consoles to download and parse the XML data, and save it to the database:

   1
   Downloading...
   Parsing...
   Saving on DB...
   Saved!
   The XML is now ready for query processing

2. After it prints “The XML is now ready for query processing”, the user will be required to type “2”, “3” or “4” they interested in to get the event information. For example, type “3” and “Coco”:

   3
   Enter movie name >
   Coco
   Looking for Coco events...
   ----On Tue, 2019-08-06T00:00:00, Coco will be screened in Lawler Park, 5210 W. 64th St.. The rating of the movie is PG. CC is provided. Please call (773) 284-7328 for more information.
   ----On Tue, 2019-08-06T00:00:00, Coco will be screened in West Lawn Park, 4233 W. 65th St.. The rating of the movie is PG. CC is provided. Please call (773) 284-2803 for more information.
   ...

3. Type “5” to quit:

   Hope you've enjoyed using the app!

Note: If the user enters an invalid name they want to search, the application will give some error information. For example, after entering a park name “kkk” that is not listed in the database, the application will print “Couldn't find events for the given park name”.

Details of the web source we are using

We use Chicago Park District: Movies in the Parks 2019 - CKAN (data.gov) to download the XML file. It is a list all Movies in the Parks events in Chicago in 2019.
The XML file looks like:

<response>
<row>
<row _id="row-4tmw.yqp4-zarr" _uuid="00000000-0000-0000-E34C-A9EF5A15E2DE" _position="0" _address="https://data.cityofchicago.org/resource/_7piw-z6r6/row-4tmw.yqp4-zarr">
<day>Mon</day>
<date>2019-07-08T00:00:00</date>
<park>Chippewa Park</park>
<park_phone>(773) 731-0380</park_phone>
<title>Bee Movie</title>
<cc>Y</cc>
<rating>PG</rating>
<underwriter>JCC Chicago</underwriter>
<park_address>6748 N. Sacramento Ave.</park_address>
<location latitude="42.00438076" longitude="-87.70475177"/>
</row>
...

How we are extracting the information

1. We firstly download the file using “download” function in “Fetch.hs”.
2. In “Parse.hs”, we use xeno library to parse the XML to xeno.DOM.Node. Then we parse the Node data to Rows we defined in “Type.hs”.

Extra features

- We have 3 tables (event, movie and park). The “movie” in the “event” table maps to the “title” in the “movie” table. The “park” in the “event” table maps to the “name” in the “park” table.
- We use XML-type data, which is more complex to parse. The external library we use has little documentation and no example.
- We write an instance of Show of the data type we query, so that it's more user-friendly when printing the results.