

YelpReview

Yen

OUTLINE

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4. Data process
5. APP demo & Data analysis
6. <https://github.com/yennanliu/YelpReviews>

What's Yelp : A crowd-sourced review forum

Yelp: Restaurants, Dentists, Bars, Beauty Salons, Doctors

<https://www.yelp.com> ▼

User Reviews and Recommendations of Best Restaurants, Shopping, Nightlife, Food, Entertainment, Things to Do, Services and More at **Yelp**.

Results from yelp.com



Write a Review

Your First Review Awaits. Review your favorite businesses and ...

Log In

Log in to Yelp to write reviews, post photos, share ...

Yelp Blog

Businesses - Yelp Community - News - Product - Data - Careers

Sign Up

Log in to Yelp to write reviews, post photos, share ...



Yelp
Company








[yelp.com](https://www.yelp.com)

Yelp is a business directory service and crowd-sourced review forum, and a public company of the same name that is headquartered in San Francisco, California. The company


What's Yelp : Business (e.g. restaurants, bar..)

 Find Restaurants  [Log In](#) [Sign Up](#)

 Restaurants  Home Services  Auto Services [More](#)  Write a Review  For Businesses

Best Restaurants in Taipei, Taiwan

 Showing 1-30 of 8128


 All Filters

\$

\$

\$\$\$

\$\$\$\$

 Open Now

Good for Groups

Good for Dessert

Full Bar



1. Fuhang Doujiang

阜杭豆漿

★★★★☆ 287 reviews

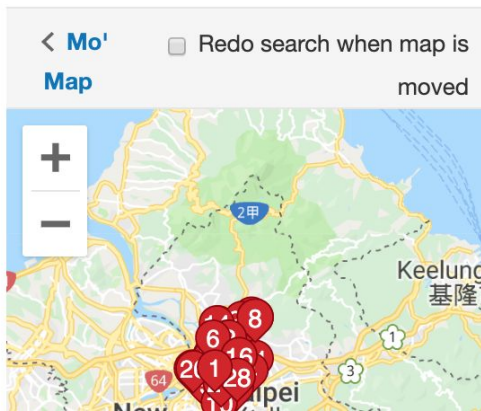
\$ • Breakfast & Brunch, Taiwanese

02 23922175

2/F, No. 108, Section
1, Zhongxiao East
Road, 忠孝東路一段
108號2樓

Zhongzheng

"The entrance to this place is around the corner so it was a little tricky to find. But when we saw a line, one of us hopped in and the other went to confirm..." [read more](#)



What's Yelp : User (profile, comment, friends)



Tay L.

Fairfax, VA

77 Friends 226 Reviews 678 Photos

Elite 2019 '18 '17 '16 [What is Yelp Elite?](#)

- Add friend
- Compliment
- Send message
- Follow Tay L.
- Similar Reviews

Tay's Profile

Profile Overview

Friends

Reviews

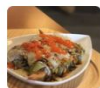
Business Photos

Compliments

Tips

Reviews

Sort by: **Date** ▾



INDY Sushi & Hot Pot

\$\$ • Japanese, Sushi Bars, Hot Pot

14215 Centreville Sq
Centreville, VA 20121



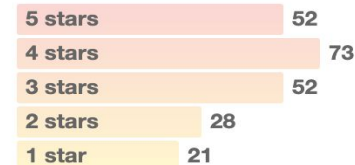
7/29/2019



I am always wary of restaurants that offer and want to be everything-kind of like this place doing Thai, sushi, hot pot and whatever else they serve. I honestly hate myself for even wanting to try this place out. I haven't had such a bad restaurant experience in a while and this place was such a bust :o we went on a Saturday night, prime dinner time but

About Tay L.

Rating Distribution

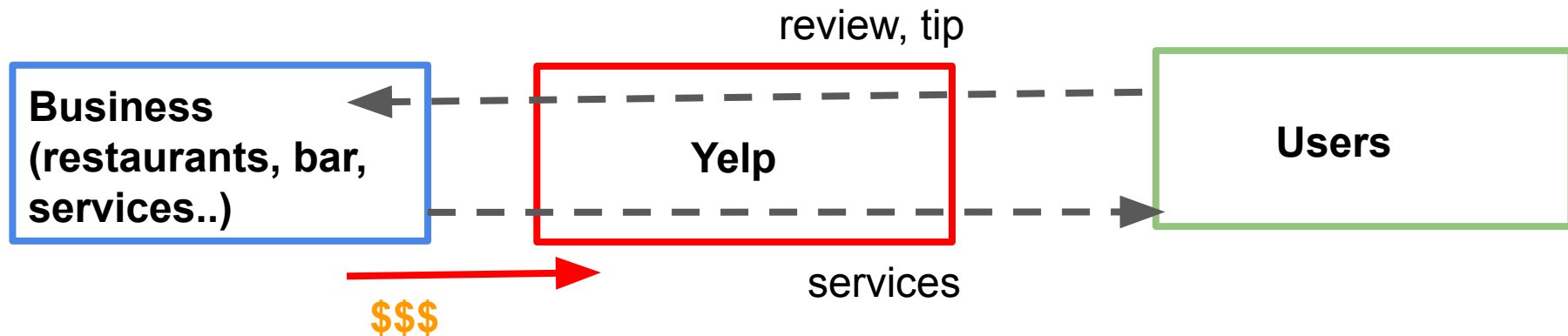


[View more graphs](#)

Review Votes

- Useful **256**
- Funny **78**
- Cool **83**

What's Yelp : Yelp model



Yelp Dataset

Data (4 GB)



Data Sources

- yelp_academic_dataset_business.json
- yelp_academic_dataset_checkin.json
- yelp_academic_dataset_review.json
- yelp_academic_dataset_tip.json
- yelp_academic_dataset_user.json
- Dataset_Challenge_Dataset_Agreement.p...

About this file

No description yet

yelp_academic_dataset_review.json (4.98 GB)

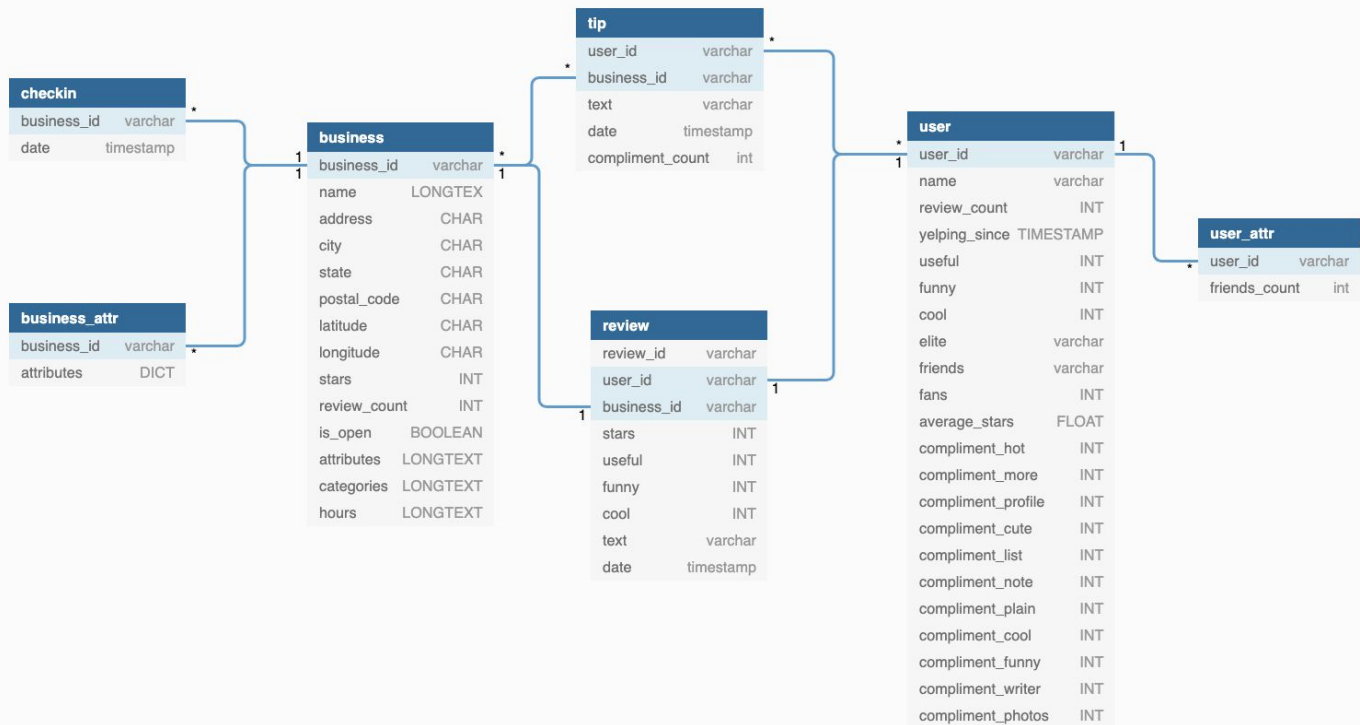


This preview is truncated due to the large file size. The number of JSON items and individual items might be truncated.

Create a Kernel or download this file to see the full content.

```
root: {} 9 items
  review_id: Q1sbwvVQXV2734tPgoKj4Q
  user_id: hG7b0MtEbXx5QzbzE6C_VA
  business_id: ujmEBvifdJM6h6RLv4wQIg
```

Data Modeling : snowflake pattern



Data Modeling

1. “SNOWFLAKE” pattern
2. Review table as “fact” table at center, connected with other tables (as “dimension” table)
 - a. review
 - b. user, business, tip, checkin
3. Attribution table (via ETL) connected to dimension table
 - a. business_attr
 - b. user_attr

Data Process

2. JSON -> csv -> mysql

- a. Flatten JSON to csv
- b. Fix/Clean csv make it OK for analysis
- c. Insert cleaned data to mysql (AWS RDS)

```
column_names = []
for k, v in line_contents.items():
    column_name = "{0}.{1}".format(parent_key, k) if parent_key else k
    if isinstance(v, collections.MutableMapping):
        column_names.extend(
            get_column_names(v, column_name).items()
        )
    else:
        column_names.append((column_name, v))
return dict(column_names)
```

Data Process - ETL

2. JSON -> attr csv -> mysql

- Transform data form make it easy to access via Spark SQL
- Doing aggregation/statistics on complex nest json via Spark
- Insert attribution data to mysql
- Run spark task via Docker

```
# >>> get business attribution
attr_ = bizrdd.map(lambda x : x['attributes'])\
              .map(lambda x : x.asDict())\
              .take(1)
attr_col = list([ i.keys() for i in attr_ ][0])
attr_rdd = bizrdd.map(lambda x : x['attributes'])\
                .filter(lambda x : x != None)\
                .map(lambda x : x.asDict())
# workaround here : enlarge sampleRatio in order to sample more RDD to "guess" dataframe sche
# the formal method is : define schema explicitly
# https://stackoverflow.com/questions/36902665/saving-a-list-of-rows-to-a-hive-table-in-pyspa
attr_df = attr_rdd.toDF(attr_col,sampleRatio=0.2)
print (attr_df.show())
```

App Demo & Analysis

1. How is the core health of Yelp as a review platform
2. What're the high reviewed businesses
3. Who're the active users that engaged to the platform a lot
4. How to profit from the platform

App Demo & Ananlysis

https://app.redash.io/yen_dev/public/dashboards/xpfG9wKgb9qEcMHIGiSpjhFn8dCZuun8XbCN52GN