Project Report

Report of *HAHAHAHA forum* Project

Group 15:
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1. Project Description:

(1) Theme: HAHAHAHA Forum
(2) Purpose: Provide a place for people to share their happiness
(3) Functions:

a. registration
b. Log in
c. Post
d. Delete the Post
e. Modify the Post
f. Comment
g. Nested Comment
h. Notice
i. History List
j. Jump List in Notice and History
k. Automatic Matching of Users' Avatars (Based on the initial letter of user's name)
l. Browsing Page of Post (Paging, hotlist, classification, details)
m. Searching by Keywords

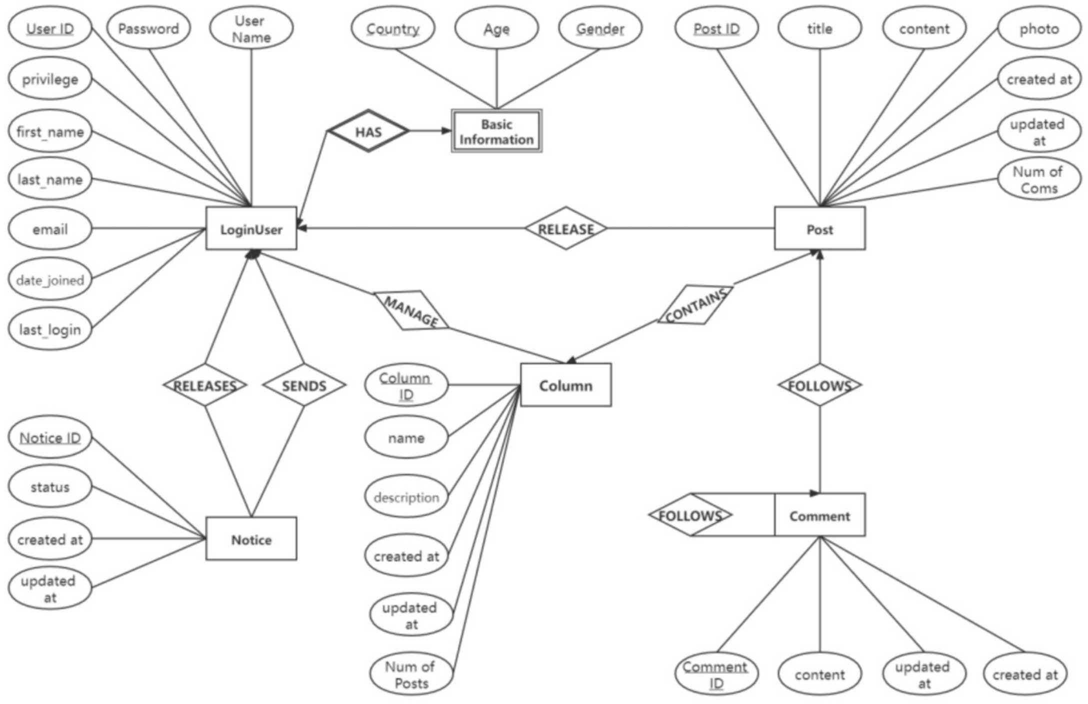
2. Data Description and Data Collection

Downloaded HappyDB dataset which contains 100536 data and 5000 data crawled from Twitter.

3. Data Processing and Data Analysis

a. Data Analysis and Data Processing: Regular expression + Text2emotion + LSTM Network
b. Visualization: Pyecharts
c. Database: Multiple entities that satisfy a paradigm design

4. Latest Version of ER Diagram:



5. **Assumptions we made:**

(1) Login users have their own unique basic information.

(2) Users can release posts; a post can only be released by one user.

(3) A user with privilege can manage many columns, and a column can be managed by one user.

(4) A post can only belong to one module.

(5) A comment can only follow one blog or one comment, and a blog or a comment can contain many comments.

(6) A notice only has one release user and one send user. A user can release and send many notices.

6. **Functional Dependencies**

LoginUser (id→password,
id→last_login,
id→is_superuser,
id→first_name,
id→last_name,
id→email,
id→is_staff,
id→is_active,
id→date_joined,
id→username,
id→privilege,

username→id,
username→password,
username→last_login,
 username→is_superuser,
 username→first_name,
 username→last_name,
 username→email,
 username→is_staff,
 username→is_active,
 username→date_joined,
 username→privilege)
Basic_Information (id→age,
 id→gender,
 id→country,
id→uid_id,
uid_id→id,
uid_id→age,
uid_id→gender,
uid_id→country)
Column (id→name,
 id→description,
 id→post_number,
 id→created_at,
 id→updated_at,
 id→manager_id)
Comment (id→content,
 id→created_at,
 id→updated_at,
 id→author_id,
 id→post_id,
 id→comment_parent_id)
Notice (id→object_id,
 id→status,
 id→type,
 id→integer,
 id→created_at,
 id→updated_at,
 id→content_type_id,
 id→receiver_id,
 id→sender_id)
Post (id→title,
id→content,
id→photo,
id→created_at,

```
 id→updated_at,
id→comment_num,
id→author_id,
 id→column_id)
```

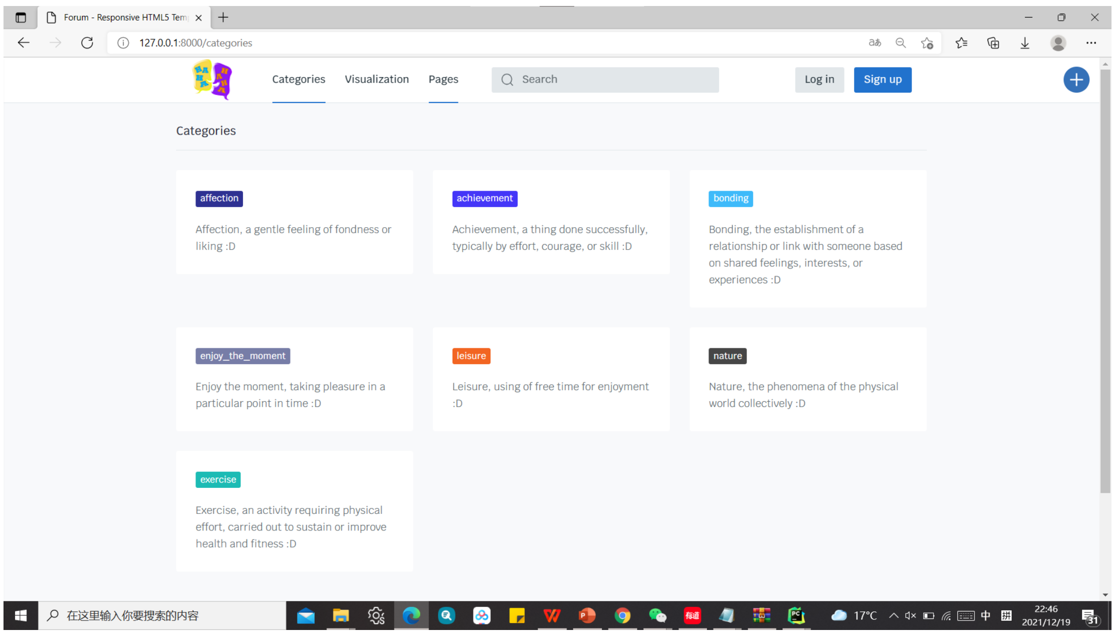
7. **SQL Codes and Explanations:**

```
--
-- Create model LoginUser
--
CREATE TABLE LoginUser IF NOT EXIST(
 id integer AUTO_INCREMENT NOT NULL PRIMARY KEY,
 password varchar(128) NOT NULL,
 last_login datetime(6) NULL,
 is_superuser bool NOT NULL,
 first_name varchar(30) NOT NULL,
 last_name varchar(150) NOT NULL,
 email varchar(254) NOT NULL,
 is_staff bool NOT NULL,
 is_active bool NOT NULL,
 date_joined datetime(6) NOT NULL,
 username varchar(25) NOT NULL UNIQUE,
 privilege varchar(200) NOT NULL
);


--
-- Create model Basic_Information
--
CREATE TABLE forum_basic_information (
 id integer AUTO_INCREMENT NOT NULL PRIMARY KEY,
 age integer NOT NULL,
 gender varchar(2) NOT NULL,
 country varchar(50) NOT NULL,
 uid_id integer NOT NULL UNIQUE,
 FOREIGN KEY (uid_id) REFERENCES class(LoginUser)
);


--
-- Create model Column
--
CREATE TABLE Column (
 id integer AUTO_INCREMENT NOT NULL PRIMARY KEY,
 name varchar(30) NOT NULL,
 description longtext NOT NULL,
 post_number integer NOT NULL,
 created_at datetime(6) NOT NULL,
 updated_at datetime(6) NULL,
 manager_id integer NOT NULL,
 FOREIGN KEY (manager_id) REFERENCES class (LoginUser)
);


--
-- Create model Comment
--
CREATE TABLE Comment (
 id integer AUTO_INCREMENT NOT NULL PRIMARY KEY,
 content longtext NOT NULL,
 created_at datetime(6) NOT NULL,
 updated_at datetime(6) NOT NULL,
 author_id integer NOT NULL,
 post_id integer NOT NULL,
 comment_parent_id integer NULL,
 FOREIGN KEY (Post_id) REFERENCES class (Post),
 FOREIGN KEY (comment_parent_id) REFERENCES class (Comment), --for
comment follows comment
 FOREIGN KEY (author_id) REFERENCES class (LoginUser)
);


--
-- Create model Notice
--
CREATE TABLE Notice (
 id integer AUTO_INCREMENT NOT NULL PRIMARY KEY,
 object_id integer UNSIGNED NOT NULL,
 status bool NOT NULL,
 type integer NOT NULL,
 created_at datetime(6) NOT NULL,
 updated_at datetime(6) NOT NULL,
 content_type_id integer NOT NULL,
 receiver_id integer NOT NULL,
 sender_id integer NOT NULL,
 FOREIGN KEY (receiver_id) REFERENCES class (LoginUser),
 FOREIGN KEY (sender_id) REFERENCES class (LoginUser)
);
```

```
--
-- Create model Post
--
CREATE TABLE Post (
 id integer AUTO_INCREMENT NOT NULL PRIMARY KEY,
 title varchar(64) NOT NULL,
 content varchar(3000) NOT NULL,
 photo varchar(128) NULL,
 created_at date NOT NULL,
 updated_at datetime(6) NULL,
 comment_num integer NOT NULL,
 author_id integer NOT NULL,
 column_id integer NOT NULL,
 FOREIGN KEY (author_id) REFERENCES class (LoginUser),
 FOREIGN KEY (column_id) REFERENCES class (Column)
);
```

8. Website Design and feature implementation

(1) Posting Page:



Categories

affection

Affection, a gentle feeling of fondness or liking :D

achievement

Achievement, a thing done successfully, typically by effort, courage, or skill :D

bonding

Bonding, the establishment of a relationship or link with someone based on shared feelings, interests, or experiences :D

enjoy_the_moment

Enjoy the moment, taking pleasure in a particular point in time :D

leisure

Leisure, using of free time for enjoyment :D

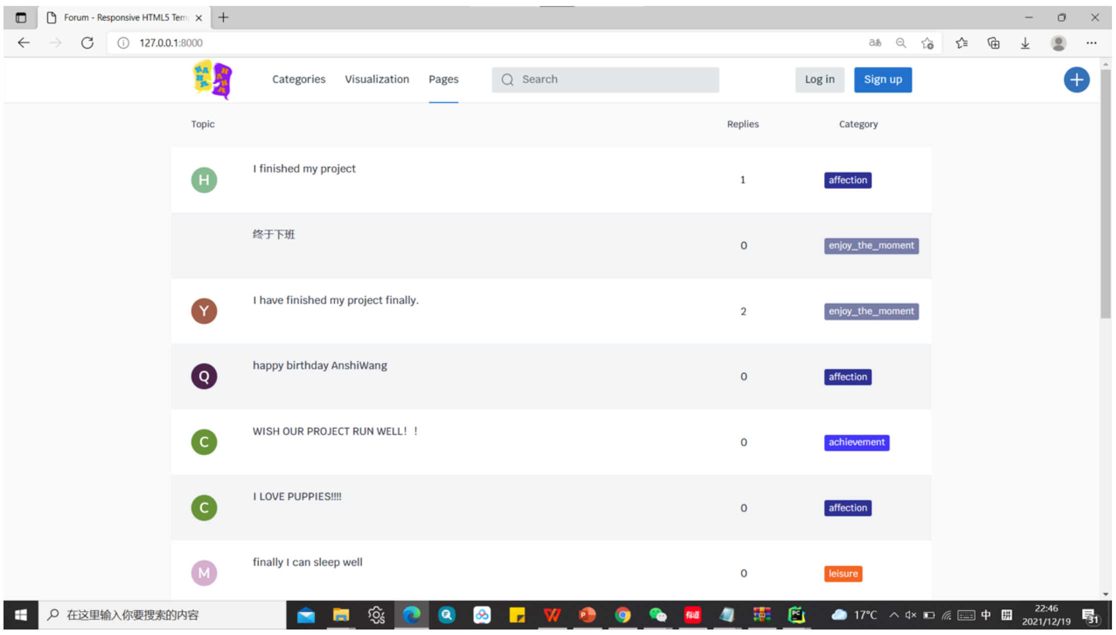
nature

Nature, the phenomena of the physical world collectively :D

exercise

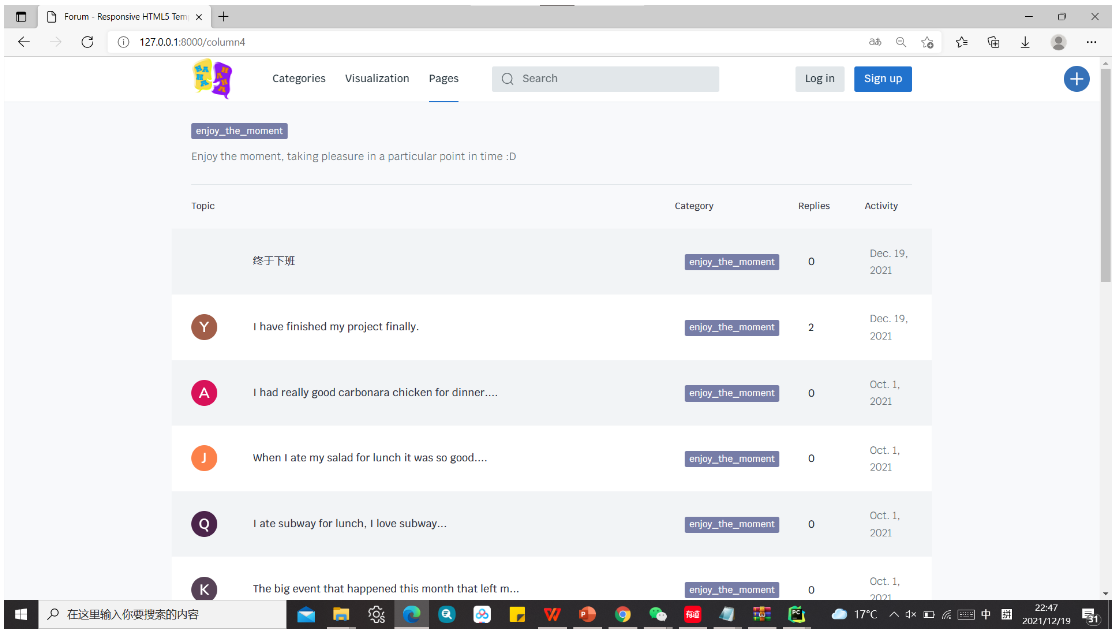
Exercise, an activity requiring physical effort, carried out to sustain or improve health and fitness :D

(2) Category Page:



Topic	Replies	Category
I finished my project	1	affection
终于下班	0	enjoy_the_moment
I have finished my project finally.	2	enjoy_the_moment
happy birthday AnshiWang	0	affection
WISH OUR PROJECT RUN WELL！！	0	achievement
I LOVE PUPPIES!!!!	0	affection
finally I can sleep well	0	leisure

(3) Posting Page in enjoy_the_moment category:

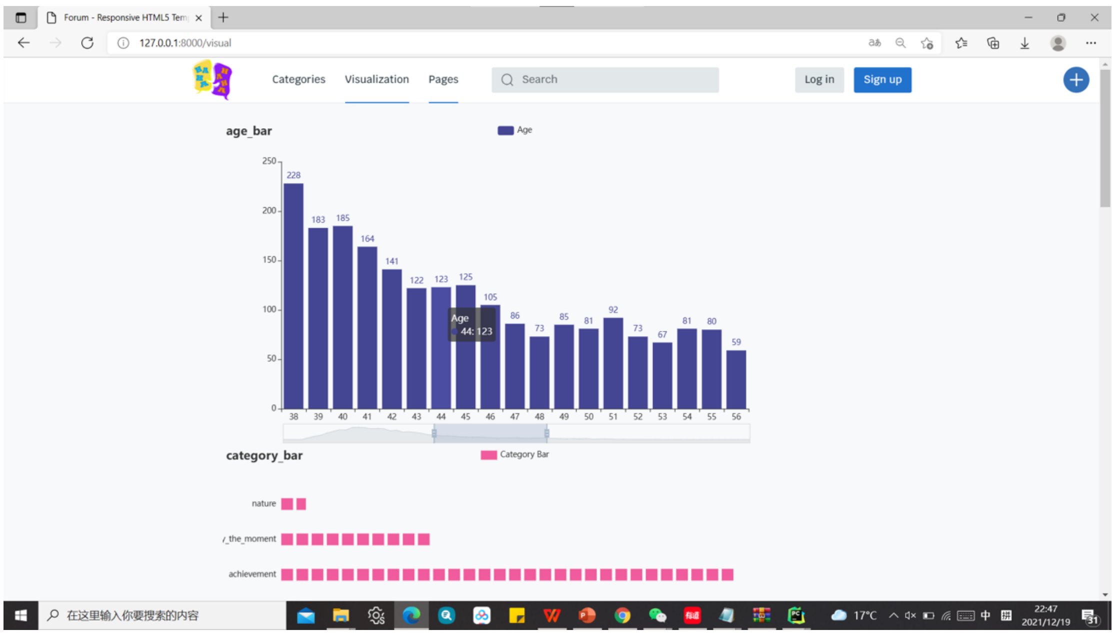


enjoy_the_moment

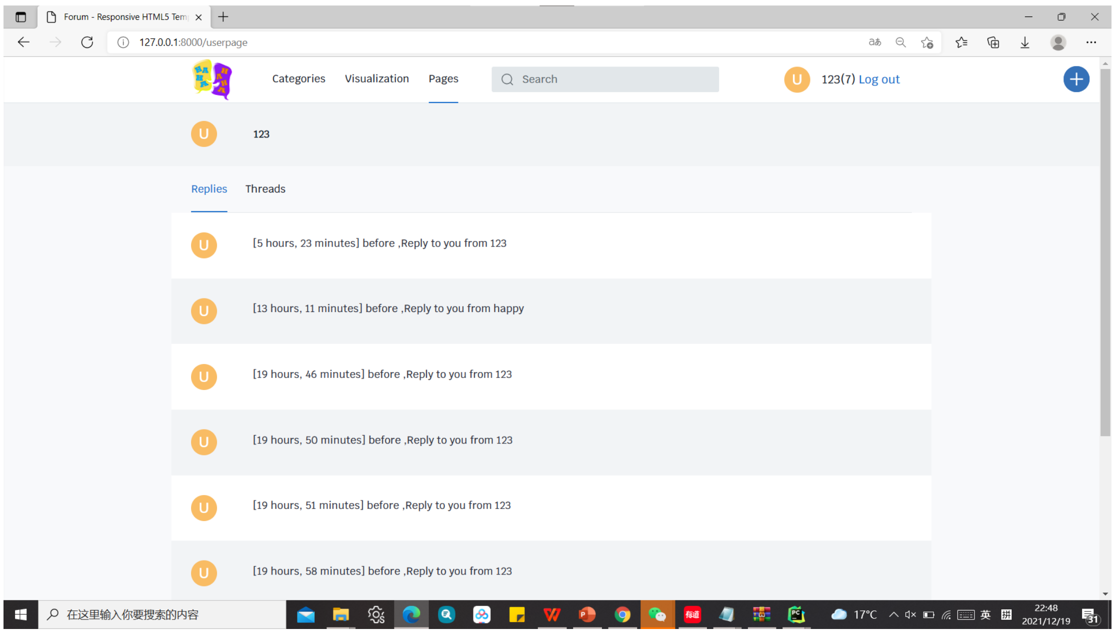
Enjoy the moment, taking pleasure in a particular point in time :D

Topic	Category	Replies	Activity
终于下班	enjoy_the_moment	0	Dec. 19, 2021
I have finished my project finally.	enjoy_the_moment	2	Dec. 19, 2021
I had really good carbonara chicken for dinner....	enjoy_the_moment	0	Oct. 1, 2021
When I ate my salad for lunch it was so good....	enjoy_the_moment	0	Oct. 1, 2021
I ate subway for lunch, I love subway...	enjoy_the_moment	0	Oct. 1, 2021
The big event that happened this month that left m...	enjoy_the_moment	0	Oct. 1, 2021

(4) Visualization Page:



(5) Personal Notice Page:



U 123

Replies Threads

U [5 hours, 23 minutes] before ,Reply to you from 123

U [13 hours, 11 minutes] before ,Reply to you from happy

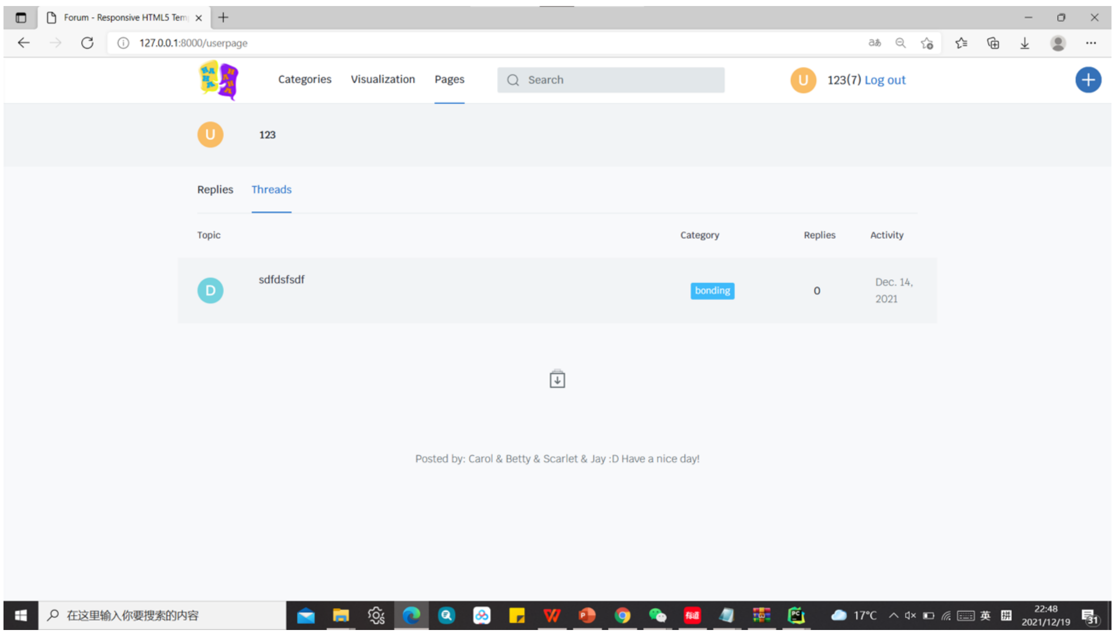
U [19 hours, 46 minutes] before ,Reply to you from 123

U [19 hours, 50 minutes] before ,Reply to you from 123

U [19 hours, 51 minutes] before ,Reply to you from 123

U [19 hours, 58 minutes] before ,Reply to you from 123

(6) Threads Page:


Forum - Responsive HTML5 Tem ×

127.0.0.1:8000/userpage

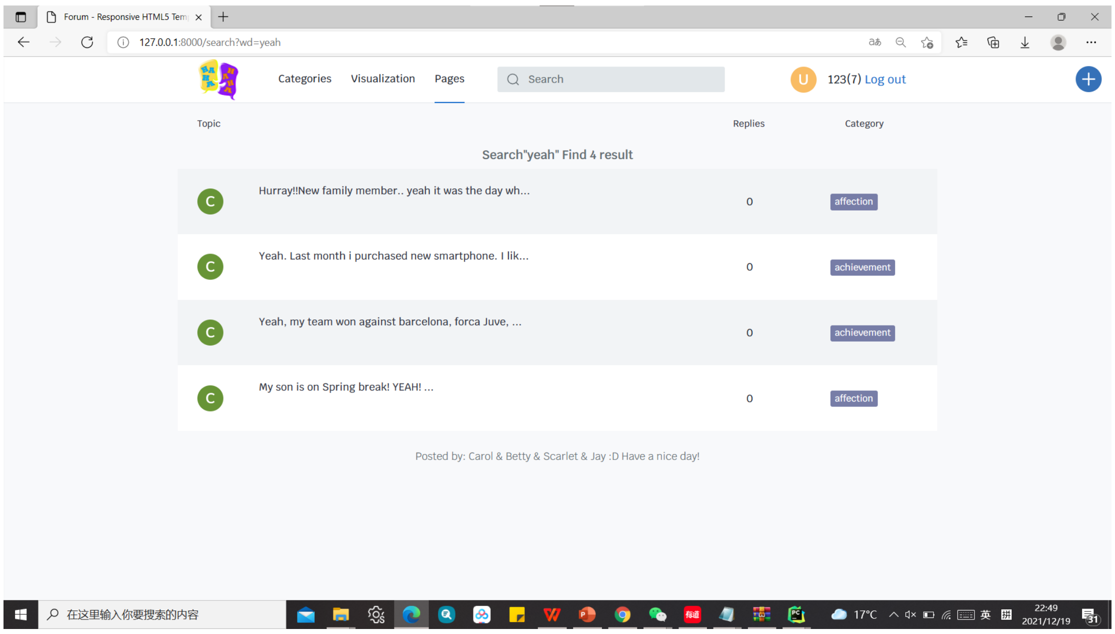
123

Replies Threads

Topic	Category	Replies	Activity
sdfdsfsdf	bonding	0	Dec. 14, 2021

Posted by: Carol & Betty & Scarlet & Jay :D Have a nice day!

(7) Searching Page:


Forum - Responsive HTML5 Tem ×

127.0.0.1:8000/search?wd=yeah

Search"yeah" Find 4 result

Topic	Replies	Category
Hurray!!New family member.. yeah it was the day wh...	0	affection
Yeah. Last month i purchased new smartphone. I lik...	0	achievement
Yeah, my team won against barcelona, forca Juve, ...	0	achievement
My son is on Spring break! YEAH! ...	0	affection

Posted by: Carol & Betty & Scarlet & Jay :D Have a nice day!

9. Difficulties & handling

(1) Data Collection:

When we collect data, the first question is where to collect the data. We finally decided to gather information on social media and apply the Twitter API. But tweets are truncated when they reach a certain number of words. In order to solve this problem we search the tweepy package, find a get_full_text() method to solve this problem.

(2) Data Cleansing:

When we see our cleaned data, one headache is its classification of types of happiness. When using new data, existed package only can judge happiness or not. So, we are faced with the problem of classifying data. Since the text is NLP, this is usually the best time to use a neural network, but we didn't build NLP models before and had to learn from scratch. Finally, we learned the hard way how to build our model in LSTM. The final classification.

(3) Web Design:

In the process of finishing the project, I encountered some problems with website layout design, function realizing and the way of connecting the functions I wrote in views with the templates. I think writing functions are the hardest for me. I searched for some courses about Django on bilibili and CSDN, and then tried to write my own program. I also went to ask teachers for help. All the teachers that I asked were patient and enthusiastic. They helped me to debug my code and it could run successfully. I would like to express my sincere thanks for that.

(4) Visualization

Visualization is not a hard module. But it’s quite important to find an appropriate package, a better tool to show the visualization. I choose to use pyecharts, combined with python and echarts, which turned out to have a very good effect at last. Then, it’s about data cleansing. The data need to be cleaned several times since the dataset is so big and so much interesting data is hidden inside.

(5) Database

After we build up model.py, we need to make migration. However, it is hard for us to connect pycharm with and upload csv file to mysql, phpadmin or sqlite which can automatically download in pycharm on our own. Because our computers have problems in recognizing the right password to the database. After 2 days of struggling in asking help from classmates, TAs, and professors, we finally give up building the local database which is our first choice. Instead, we seek help from our database TA Kitty to reset our phpadmin password which we ourselves can’t deal with. Thank god, it finally works. Additionally, uploading data needs patience, circumspection, and experience. Next time, we may try our best to make clear conversation and fully understand what data is needed so that we can save more time.