

CSE 586 Distributed Systems Project 1 Phase 1

A Simple Dockerized Web Application using Python

Group: 60

Description:

The aim of this phase of the project is to create a simple container Docker application that bundles a user interface client and server, code logic, and database. To achieve this, a simple web application has been created which collects a keyword from the user, searches Twitter for tweets containing the keyword and displays the top ten tweets containing the keyword to the user. The keyword used is stored in the database and ten most recent searches are also displayed. The application is deployed using Docker.

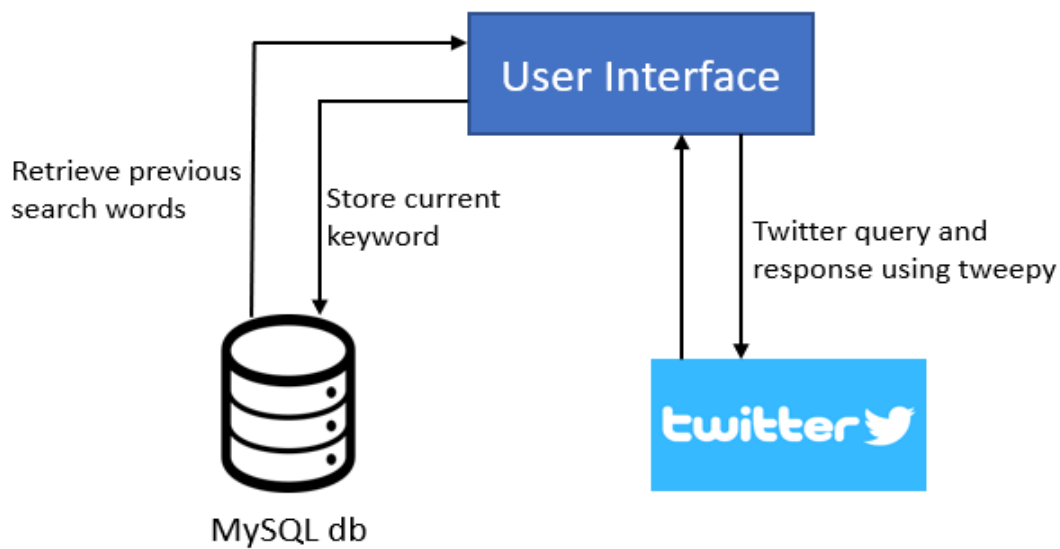


Figure 1: Design of the Web application

Design:

The project is implemented in Python 3 and the following libraries are used,

- Flask web framework
- Tweepy to access the Twitter API

MySQL database service is used to store and retrieve data. The user interface is developed using HTML.

The application first displays a web page on which the user enters a keyword in the text box. This keyword is used to query the Twitter API using the tweepy library to get the recent tweets containing the keyword. The top 10 tweets are displayed in a new page. Meanwhile, this keyword is also stored in the database. On going back, this stored keyword along with previously searched keywords are retrieved from the database and displayed to the user.

Deployment and Execution:

- Install Docker and Docker compose (if using Linux system)
- Open a terminal window and move to the location of the source code and enter the command,

```
$ docker-compose up
```

- Open a new browser window and open the link,

<http://localhost:5000/>

- When the UI of web application opens, enter the keyword for which the tweets are to be searched in the text box and click search
- A new page opens up and displays the tweets collected for the keyword
- Go back to enter a new keyword. The previous searches are listed in previous searched section