

Group member: Heng Yao (0679-4920)

My submission folder structure

```
|  
|__web  
|  
|__api  
|  
|__README.pdf  
|  
|__demo.mp4
```

## 1. How to run the code

My code consists of two parts, server and client. We can see the above folder structure. The server side is in “api” folder and client side is in the “web” folder.

To run the code, we need to start the server first.

- Enter the “api” folder in command line and run “mix deps.get” to get all dependencies.
- Run “mix echo.create” to create the database in postgres.
- Then run the “mix echo.migrate” to update the database repository.
- Run “npm install” to install node\_modules folder.
- Then run “mix phoenix.server” to start the server.

Now the client can send request to the server and will receive response message in Json format. And we need to start the server now.

- Enter the “web” folder in command line and run “npm install http-server -g” to install http-server.
- Run “http-server -c-1” to access the client webpage.

We can use the system now. I use Phoenix on the server side and use AngularJS to implement the client. I

## 2. System structure

I used Phoenix to implement the server side and AngularJS to complete the client side. I also used the Postgres database and pgAdmin4 database management tool. The working procedure of my system is shown as follow:

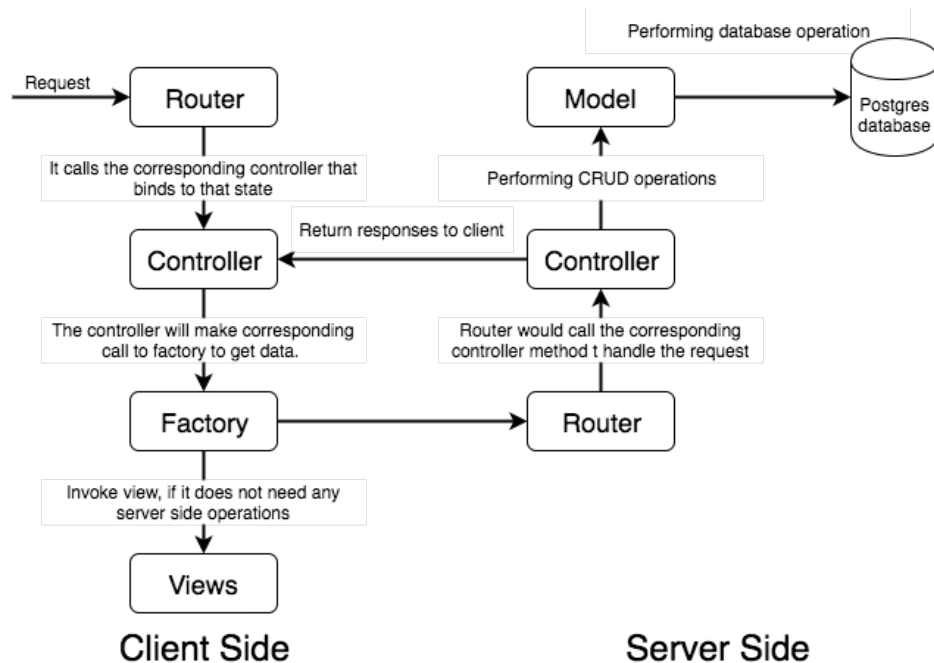
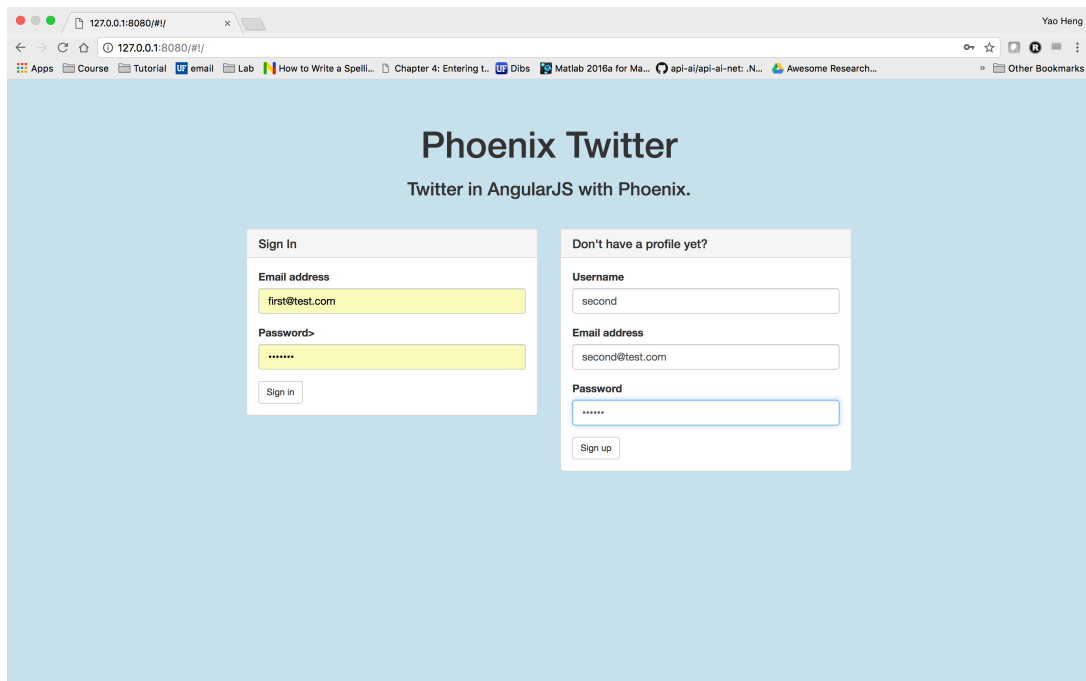


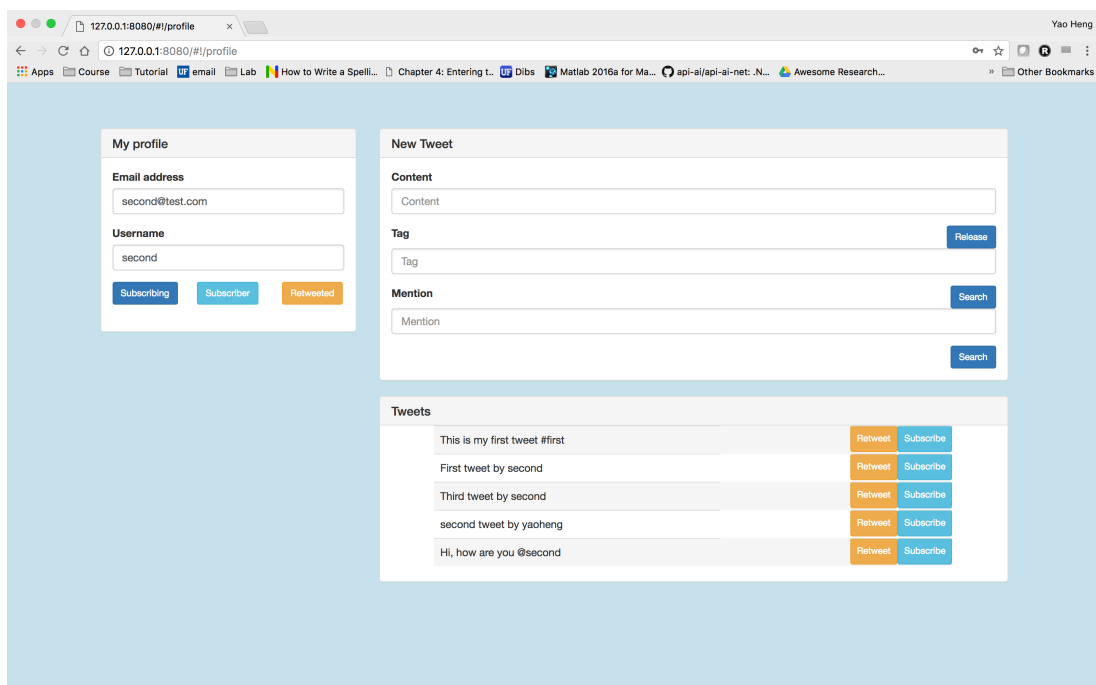
Figure1. System working procedure

## 3. Function Test

Here is the first page of my system:



You can just sign in if you already have an account, or you need to sign up for a new account. After you fill in the information and click “Sign up”, you will jump to the main page, which is shown is below:



You can check your profile in the “My profile” panel. You can see your subscriber and people you are subscribing by clicking buttons on the left side. You can also see the tweets that you have retweeted by clicking “Retweeted”, which is the yellow button on the left side.

All the tweets that sent by all users will be shown in the “Tweets” panel on the right. You can click “Retweet” to retweet the tweet and also click “Subscribe” to subscribe the user.

You can send a new tweet in the “New Tweet” panel. You can write the content in the “Content” input field and click “Release”. You can also use the “Tag” and “Mention” input field to see the tweets with specific Tag or Mention.

#### 4. Json API

Here is the router of server side:

```
scope "/api", Project4 do
  pipe_through :api
  resources "/users", UserController, except: [:new, :edit]
  resources "/follow", FollowerController, except: [:new, :edit]
  resources "/follower", FollowController, except: [:new, :edit]
  resources "/tag", TagController, except: [:new, :edit]
  resources "/mention", MentionController, except:
[:new, :edit]
  resources "/retweet", RetweetController, except: [:new, :edit]
  post "/tweets/new", TweetController, :create
  post "/users/authenticate", UserController, :authenticate
  post "/users/new", UserController, :create
  get "/tweets/list", TweetController, :list
  post "/users/follow", FollowerController, :create
  post "/retweet/new", RetweetController, :create
end
```

Json response message for “Sign up”

```
▼ {username: "third", id: 3, email: "third@test.com", api_token: "nT9JAF4QEwk/Apw1EpLNF/fdIA+s0Qgc"}
  api_token: "nT9JAF4QEwk/Apw1EpLNF/fdIA+s0Qgc"
  email: "third@test.com"
  id: 3
  username: "third"
```

## Json response message for tweet list query

```
▼ {data: [{username: "yaoheng", user_id: 1, tweet_id: 1, content: "This is my first tweet #first"},...]}
▼ data: [{username: "yaoheng", user_id: 1, tweet_id: 1, content: "This is my first tweet #first"},...]
  ▶ 0: {username: "yaoheng", user_id: 1, tweet_id: 1, content: "This is my first tweet #first"}
  ▶ 1: {username: "second", user_id: 2, tweet_id: 2, content: "First tweet by second"}
  ▶ 2: {username: "second", user_id: 2, tweet_id: 3, content: "Third tweet by second"}
  ▶ 3: {username: "yaoheng", user_id: 1, tweet_id: 4, content: "second tweet by yaoheng"}
  ▶ 4: {username: "yaoheng", user_id: 1, tweet_id: 5, content: "Hi, how are you @second"}
```

## Json response message for Subscribe

```
▼ {username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"}
  follower: "third"
  follower_id: 3
  user_id: 1
  username: "yaoheng"
```

## Json response message for Retweet

```
▼ {user_id: 3, tweet_id: 1, content: "This is my first tweet #first"}
  content: "This is my first tweet #first"
  tweet_id: 1
  user_id: 3
```

## Json response message for New Tweet

```
▼ {username: "third", user_id: 3, tweet_id: 6, content: "new tweet from third"}
  content: "new tweet from third"
  tweet_id: 6
  user_id: 3
  username: "third"
```

## Json response message for Tag Search

```
▼ {data: [{username: "yaoheng", user_id: 1, tweet_id: 1, content: "This is my first tweet #first"},...]}
▼ data: [{username: "yaoheng", user_id: 1, tweet_id: 1, content: "This is my first tweet #first"},...]
  ▶ 0: {username: "yaoheng", user_id: 1, tweet_id: 1, content: "This is my first tweet #first"}
  ▶ 1: {username: "third", user_id: 3, tweet_id: 7, content: "tag #first"}
```

## Json response message for Mention Search

```
▼ {data: [{username: "yaoheng", user_id: 1, tweet_id: 5, content: "Hi, how are you @second"},...]}
▼ data: [{username: "yaoheng", user_id: 1, tweet_id: 5, content: "Hi, how are you @second"},...]
  ▶ 0: {username: "yaoheng", user_id: 1, tweet_id: 5, content: "Hi, how are you @second"}
  ▶ 1: {username: "third", user_id: 3, tweet_id: 8, content: "mention tag@second"}
```

## Json response message for current Subscribing user

```
▼ {data: [{username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"},...]}
▼ data: [{username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"},...]
  ▶ 0: {username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"}
  ▶ 1: {username: "second", user_id: 2, follower_id: 3, follower: "third"}
```

## Json response message for user that currently Followers

```
▼ {data: [{username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"},...]}
  ▼ data: [{username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"},...]
    ► 0: {username: "yaoheng", user_id: 1, follower_id: 3, follower: "third"}
    ► 1: {username: "second", user_id: 2, follower_id: 3, follower: "third"}
```