

# PJ2 实验报告

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## 1、基本信息

- 姓名：贾子安
  - 学号：18307130017
  - 访问地址：[123.57.244.164/index.html](http://123.57.244.164/index.html)(由于域名jimmyok.site的备案迟迟没有批下来，暂时无法通过域名访问)
  - 网站无加密，勿输入任何个人信息
- 

## 2、项目完成情况

### 2.0 技术选择

- 前端：原生html、css、js， JQuery库。
  - 后端：原生php
  - 数据库：MariaDB
  - 前端和后端的交互主要使用JQuery的ajax实现。
- 

### 2.1 登录页、注册页

- 注册页
  - 前端增加各字段是否为空的检查
  - 前端增加邮箱、密码格式合法性检查
  - 前端增加密码安全性、两次密码是否匹配检查
  - 后端增加用户名、邮箱存在性检查
  - 注册时实现密码**哈希加盐**，注册时输入的密码与盐拼接后通过SHA256哈希加密后存储于数据库中。
  - 盐通过加密随机数实现并同样存储于数据库，当用户登录时取出盐值与用户输入的密码拼接后哈希，如果和数据库中存储的密码匹配则成功登录。
  - 注册成功一秒后跳转到**登陆界面**。
  - 增加以游客身份登录选项，在游客身份下不需要登录，但是不能访问详情页、我的照片、我的收藏页。


  
[Register](#)

Username:

E-mail:

Password:

Confirm Your Password:

Invalid E-mail!

[Register](#)

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[Register](#)

Username:

E-mail:

Password:

Confirm Your Password:

Password mismatch!

[Register](#)

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[Register](#)

Username:

E-mail:

Password:

Confirm Your Password:

Such user already exists!

[Register](#)

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- 登录页

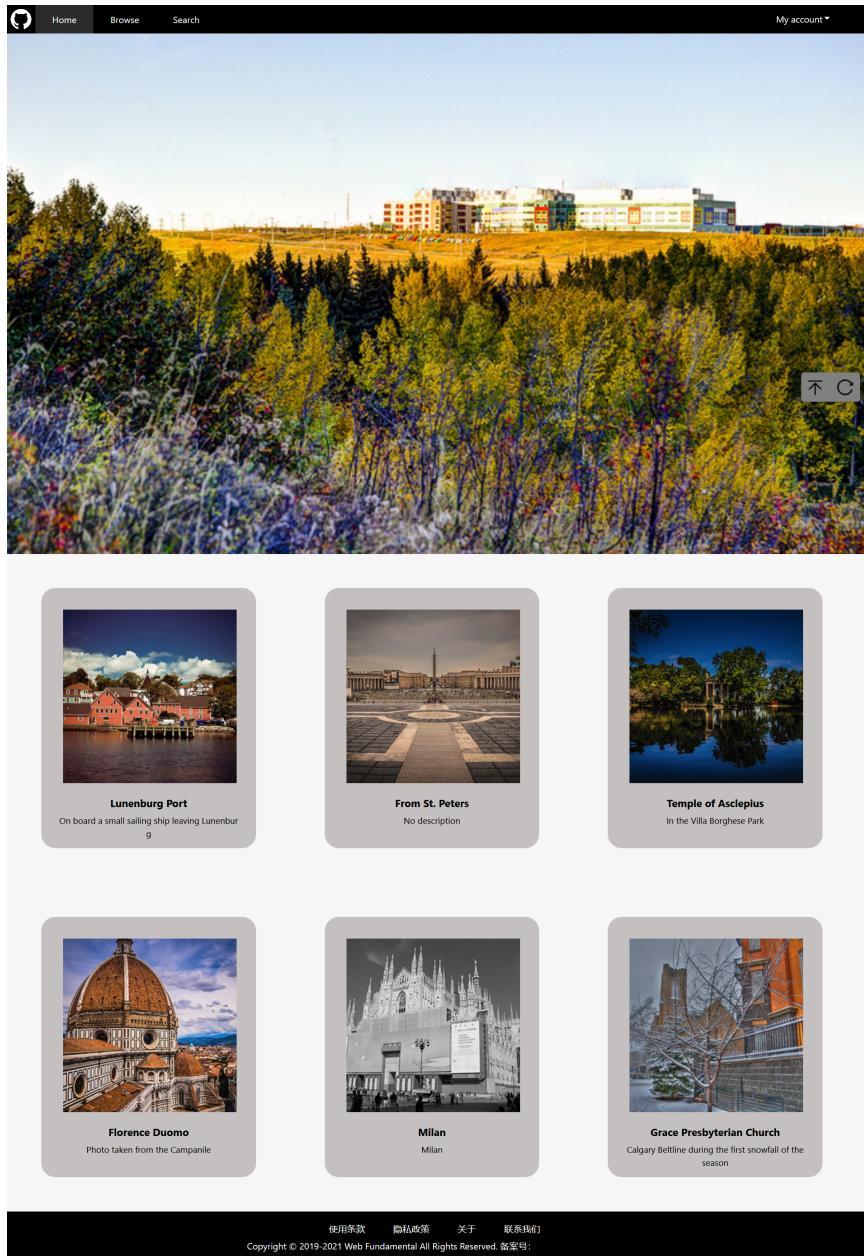
- 可以通过用户名或者邮箱登录。
- 前端增加对用户名、密码填写是否为空的检查。
- 后端增加登录功能，使用php的session存储登录状态。

The screenshot shows a login form with a GitHub logo at the top. The form fields are labeled "Username/E-mail:" and "Password:". The "Password:" field contains the placeholder "newtest". A red error message "Password is empty!" is displayed below the password field. A green "Sign In" button is centered at the bottom of the form. Below the form, there is a black footer bar with links: "使用条款", "隐私政策", "关于", and "联系我们". The footer also includes the text "Copyright © 2019-2021 Web Fundamental All Rights Reserved. 备案号:".

This screenshot is identical to the one above, except the "Password:" field now contains "\*\*\*\*\*" and a red error message "Wrong password!" is displayed below it.

## 2.2 首页

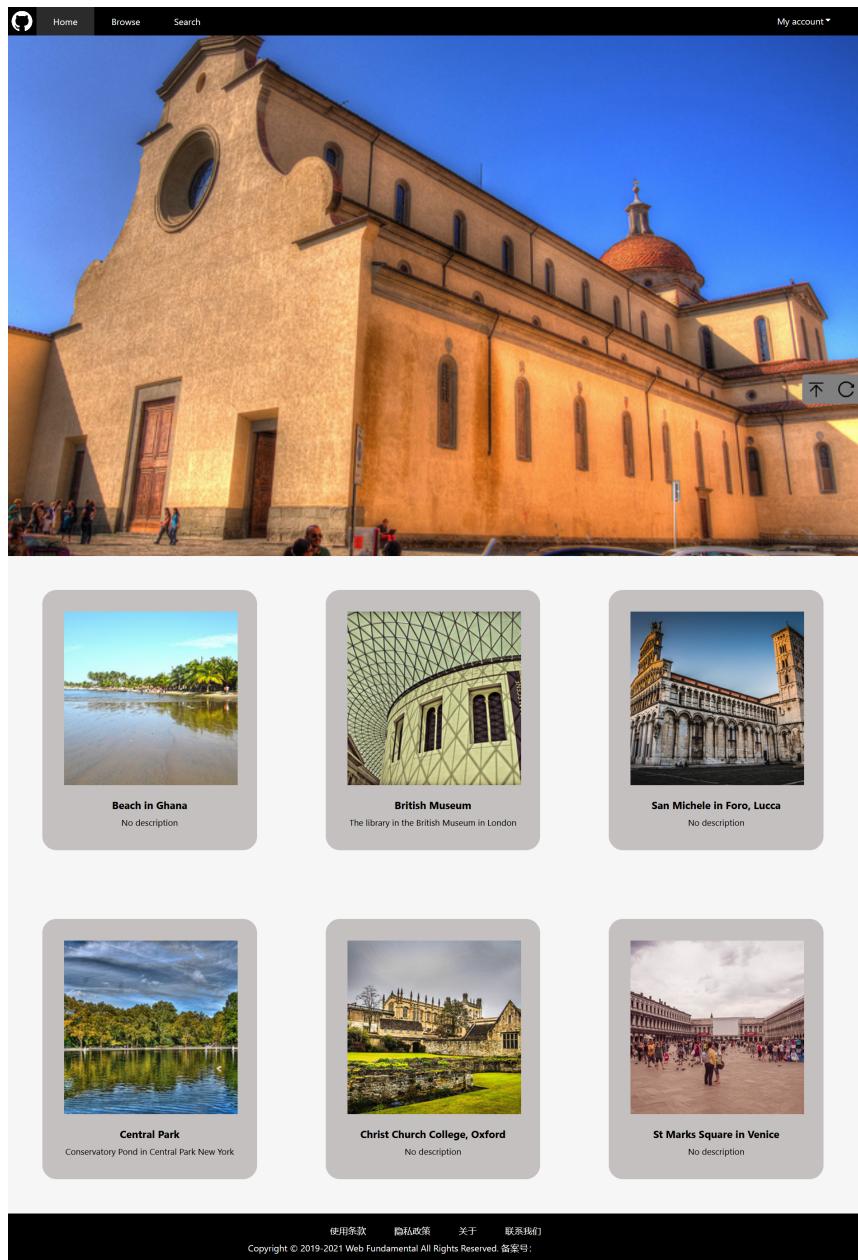
- 大图展示改为轮播区。
- 页面加载完成后与服务器交互，获取登录信息。
  - 根据登录状态的不同设置下拉菜单为`登录`还是`个人中心`。
  - `个人中心`中`登录`功能改为`登出`。
- 页面加载完成后从服务器获取前十张最受欢迎的图片，其中前四张展示于轮播区，其中没有描述的图片自动显示"No description"。



[使用条款](#) [隐私政策](#) [关于](#) [联系我们](#)

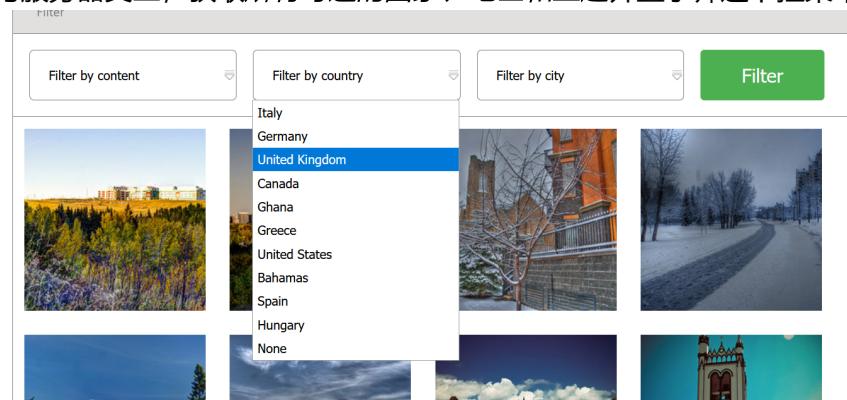
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- 点击刷新按钮后随机选取十张图片代替上述图片的位置。



## 2.3 浏览页

- 页面加载完成后与服务器交互，获取总收藏人数前五的国家、地区和主题并置于侧边栏内。
- 页面加载完成后与服务器交互，获取所有可选的国家、地区和主题并置于筛选下拉菜单内。、



- 点击侧边栏内的筛选条件可以直接选出相应图片
- 通过筛选栏和搜索框也能够筛选出相应图片
- 根据图片搜索结果数量，显示在不同的页内；可以通过底部页码选择要浏览的图片页。

- 如果页面数大于5，则页码按钮只显示五个
- 但是能通过左右箭头按钮实现浏览无法用页码按钮到达的页面——比如我正在浏览第五页，底部页码按钮则是<< 1 2 3 4 5 >>，此时我按下右箭头，如果第六页存在的话，便切换到第六页，同时底部页码按钮变为<< 2 3 4 5 6 >>，左箭头同理

The screenshot shows a web application interface. At the top, there is a navigation bar with 'Home', 'Browse', 'Search', and 'My account' buttons. On the left, there is a sidebar with three sections: 'Search by title' (with a search input field), 'Hot City' (listing Florence, Roma, London, Calgary, Verona), 'Hot Country' (listing Italy, Germany, United Kingdom, Canada, Ghana), and 'Hot Content' (listing Scenery). The main area features a 'Filter' section with dropdowns for 'Filter by content', 'Filter by country', and 'Filter by city', followed by a 'Filter' button. Below this is a grid of 20 images arranged in five rows of four. At the bottom of the grid is a page navigation bar with buttons for '<<', '1', '2', '3', '4', and '>>'.

## 2.4 搜索页

- 增加了对待查询标题或者描述是否为空的检查
- 增加了一个消息框，提醒搜索结果。

The screenshot shows a search results page. At the top, there is a navigation bar with 'Home', 'Browse', 'Search', and 'My account' buttons. Below it is a search form with a 'Search' input field and a 'Search' button. The search term 'aaa' is entered. There are two filter options: 'Filter by Title' (selected) and 'Filter by description'. A message 'Not found!' is displayed at the bottom of the page. At the very bottom, there is a footer with links for '使用条款', '隐私政策', '关于', '联系我们', and copyright information: 'Copyright © 2019-2021 Web Fundamental All Rights Reserved 备案号:'.

- 搜索结果将会以每页四个的形式展现，如果没有搜到，不显示结果仅出现消息框提示。

- 如果页面数大于8，则页码按钮只显示八个

The screenshot shows a search interface with a search bar at the top containing the letter 'a'. Below the search bar, there are two filter options: 'Filter by Title' (selected) and 'Filter by description'. A green 'Search' button is located below the filters. A message 'Search complete! Found 68 results.' is displayed above the results table. The results table has a header 'Result' and four rows, each showing a thumbnail image, the title, and a brief description. The titles are: 'Edworthy Park', 'Calgary Downtown', 'Grace Presbyterian Church', and 'Along the Bow River'. The descriptions provide context for each image. At the bottom of the results table, there is a page navigation bar with numbers 1 through 8 and arrows for navigating between pages.

Result
Edworthy Park Calgary Children's Hospital from Edworthy Park
Calgary Downtown Calgary Downtown from Edworthy Park
Grace Presbyterian Church Calgary Beltline during the first snowfall of the season
Along the Bow River Along the Bow River in downtown Calgary

« 1 2 3 4 5 6 7 8 »

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## 2.5 我的图片、我的收藏页

- 文档加载完后先与服务器交互，获取当前登录用户信息，如果没有登录则跳转到登陆界面。
- 如果已经登录则获取当前账号所上传(收藏)的所有照片信息，以与2.4搜索页相似的规则展示出来。
- 删除按钮将会与服务器交互，从数据库中删除所上传(收藏)的图片信息。
- 修改按钮将会跳转到上传界面，同时在url查询字符串中加入当前图片的信息供查询页调用。

The screenshot shows a user interface for managing photos. At the top, there are navigation links: Home, Browse, Search, and My account. Below this is a section titled "My Photo" containing four items:

- Lunenburg Port**: On board a small sailing ship leaving Lunenburg. Includes a photo of a harbor with red buildings, a "Delete" button, and a "Modify" button.
- Central United Church**: No description. Includes a photo of a church at night, a "Delete" button, and a "Modify" button.
- Peggy's Cove**: No description. Includes a photo of a rocky coastline under a cloudy sky, a "Delete" button, and a "Modify" button.
- Near Peggy's Cove**: An interesting pile of junk. Includes a photo of a pile of debris, a "Delete" button, and a "Modify" button.

Below the photos is a navigation bar with page numbers: < 1 2 >.

The screenshot shows a user interface for managing favorites. At the top, there are navigation links: Home, Browse, Search, and My account. Below this is a section titled "My Favorite" containing one item:

- Palatine Hill**: Walking up the via di San Gregorio side of the Hill. Includes a photo of a path through trees, a "Delete" button, and a navigation bar with < 1 >.

Below the favorite list is a footer with links: 使用条款, 隐私政策, 关于, 联系我们, Copyright © 2019-2021 Web Fundamental All Rights Reserved. 备案号:.

## 2.6 上传页面

- 前台、后台加入对输入信息的检查
- 图片内容、国家和地区改为下拉菜单选择，其中内容类别限于 **Scenery,City,People,Animal,Building,Wonder,Other** 七个类别，国家和地区下拉菜单具有联动。
- 解析自身url，如果带有图片信息，说明是更新图片，从服务器中获得图片信息注入表单中。
- 修改的图片上传到服务器后将会覆盖原图片。

The screenshot shows two views of a web application interface. The top view is an 'Upload' form with fields for Title, Description, Country, City, and Content, each with dropdown menus. A green 'Upload' button is at the top right. The bottom view shows a modified item with a preview image of a building, its title '222223.jpg', and a green 'Modify' button. Below it is another set of form fields identical to the first, followed by a green 'Confirm' button. Both views include a dark footer bar with links like '使用条款', '隐私政策', '关于', '联系我们', and copyright information.

## 2.7 详情界面

- 上述所有界面中的图片点击后都会跳转到此，同时在url的查询字符串内加入图片path信息，如 `details.html?path=222223.jpg`。
- 解析自身url，从服务器中获取相应图片的资料，展示在各个内容部分里。
- 收藏按钮可以实现在收藏与不收藏的状态之间切换。

Details

**Palatine Hill** by ellie.sullivan

Like Number  
1

Image Details  
Content : Scenery  
Country : Italy  
City : Roma

Favor

Description  
Walking up the via di San Gregorio side of the Hill

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Details

**Palatine Hill** by ellie.sullivan

Like Number  
2

Image Details  
Content : Scenery  
Country : Italy  
City : Roma

Unfavor

Description  
Walking up the via di San Gregorio side of the Hill

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### 3、Bonus完成情况

#### 3.1 密码哈希加盐存储

- 实现方式：
  - 在数据库表格traveluser中新增一列Salt存储该用户注册时随机生成的盐。

UID	Email	UserName	Pass	State	DateJoined	DateLastModified	Salt
26	puja.srivastava@yahoo.in	puja.srivastava	abcd1234	1	2013-02-01 00:00:00	2013-05-07 00:00:00	NULL
27	mark.taylor@yahoo.au	marktaylor	abcd1234	1	2012-09-17 00:00:00	2012-11-06 00:00:00	NULL
28	ricunningham@hotmail.com	ricunningham	abcd1234	1	2012-08-21 00:00:00	2012-11-10 00:00:00	NULL
29	patrick.gray@aol.com	patrick.gray	abcd1234	1	2012-08-27 00:00:00	2012-08-30 00:00:00	NULL
30	terhi.hamalainen@apple.fi	terhi.hamalainen	abcd1234	1	2013-01-24 00:00:00	2013-01-28 00:00:00	NULL
31	stanslaw.wojciech@wp.pl	stanslaw.wojciech	abcd1234	1	2012-11-25 00:00:00	2012-12-13 00:00:00	NULL
34	newtest@test.com	newtest	55d4c50b92081a72c916	1	2020-06-10 11:32:13	2020-06-10 11:32:13	LBNeqqKko0IW9hsEpd1m1YNOi4/8EP2DNoYainVx9M=

其中没有salt的用户数据将会很快删除

- 在用户注册时取一个32位随机数并进行BASE64加密得到盐存入数据库的Salt列，再将此盐和用户输入的密码拼接，得到\$hashed\_password存入数据库的Pass列。

```
$salt=base64_encode(random_bytes(32));
$register_password=hash("sha256",$password.$salt);
```

```

...
$sql="INSERT INTO traveluser
(email,username,pass,state,datejoined,datelastmodified,salt)
VALUES
('{$email}','{$username}', '{$register_password}',1,'$time','$time','$salt');");
mysqli_query($mysqli,$sql);

```

- 在用户登录时首先取出数据库中对应的盐，与用户输入的密码拼接后执行SHA256哈希函数，得到 \$hashed\_password，接着从数据库中取出对应用户的pass(也就是当他注册时获得的 \$hashed\_password)，将两者比较，如果相同则密码正确。

```

$result = $mysqli->query("SELECT pass,username,uid FROM traveluser WHERE
username='{$username}' OR email='{$username}';");
...
$row = mysqli_fetch_assoc($result);
$result->close();
$result1 = $mysqli->query("SELECT salt FROM traveluser WHERE
username='{$username}' OR email='{$username}';");
$salt = mysqli_fetch_assoc($result1);
...
$hashed_password=hash("sha256",$password.$salt['salt']);
$result1->close();
if($row[ 'pass ']==$hashed_password){
...
}

```

## 3.2 服务器部署

- (免费)租了一台阿里云服务器，在上面安装XAMPP，设置路径、开放合适的安全组后即可通过外网ip地址访问。
- 域名绑定了服务器ip，但是服务器在国内，没备案访问会被拦截，备案敬请期待。



## 4. 参考文献

fudansswebfundamental

W3school

[菜鸟教程](#)

[阿里巴巴矢量图标库](#)