

整合

2017/06/14

整合

API安全防護

API使用流程



API使用流程

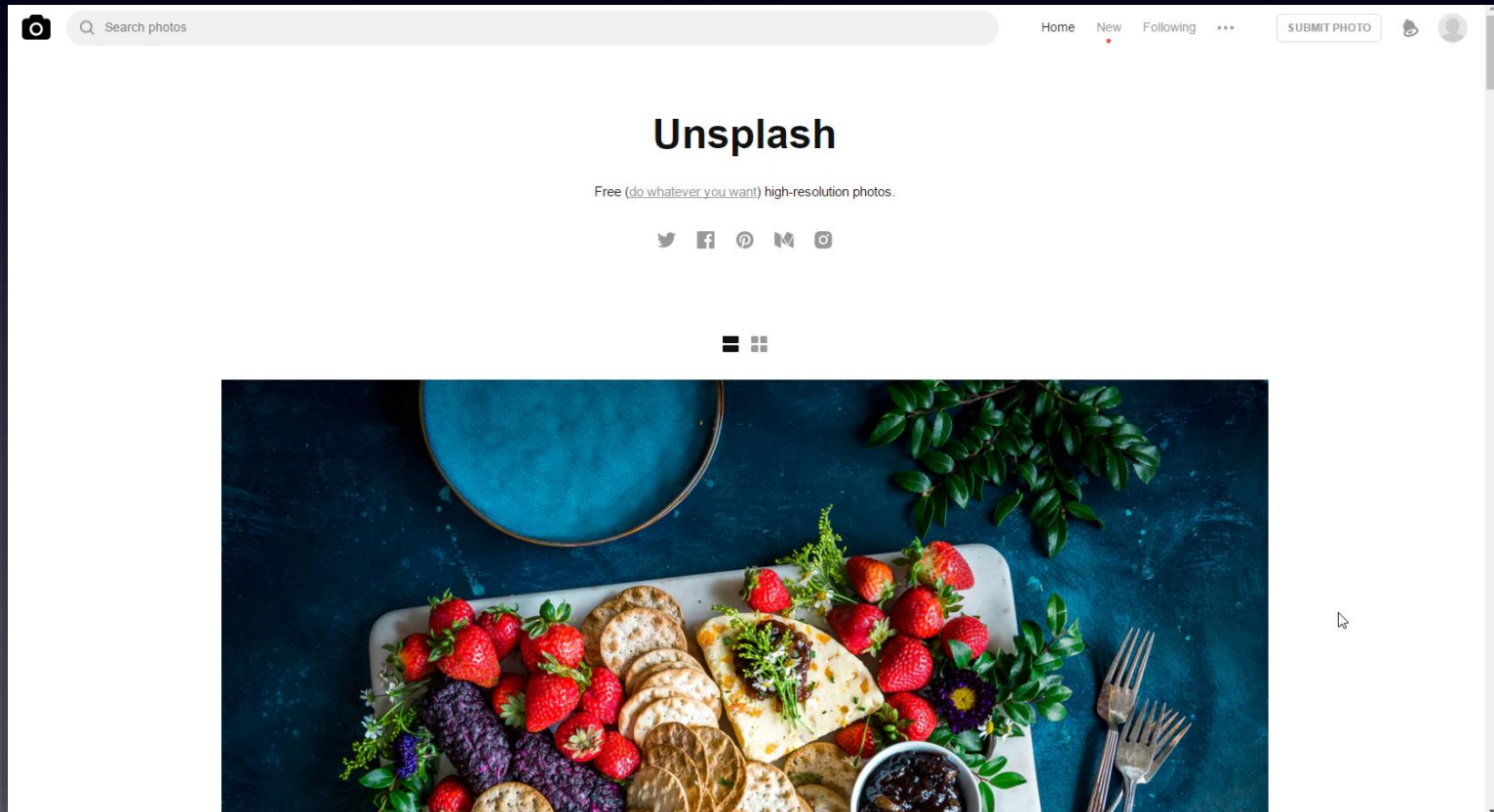
- 很多網站為了避免被攻擊，對於API的呼叫者需要做認證
- 最常見的認證方式是API KEY
- 另外還有OAUTH Token, HTTP Authentication

整合

申請API KEY

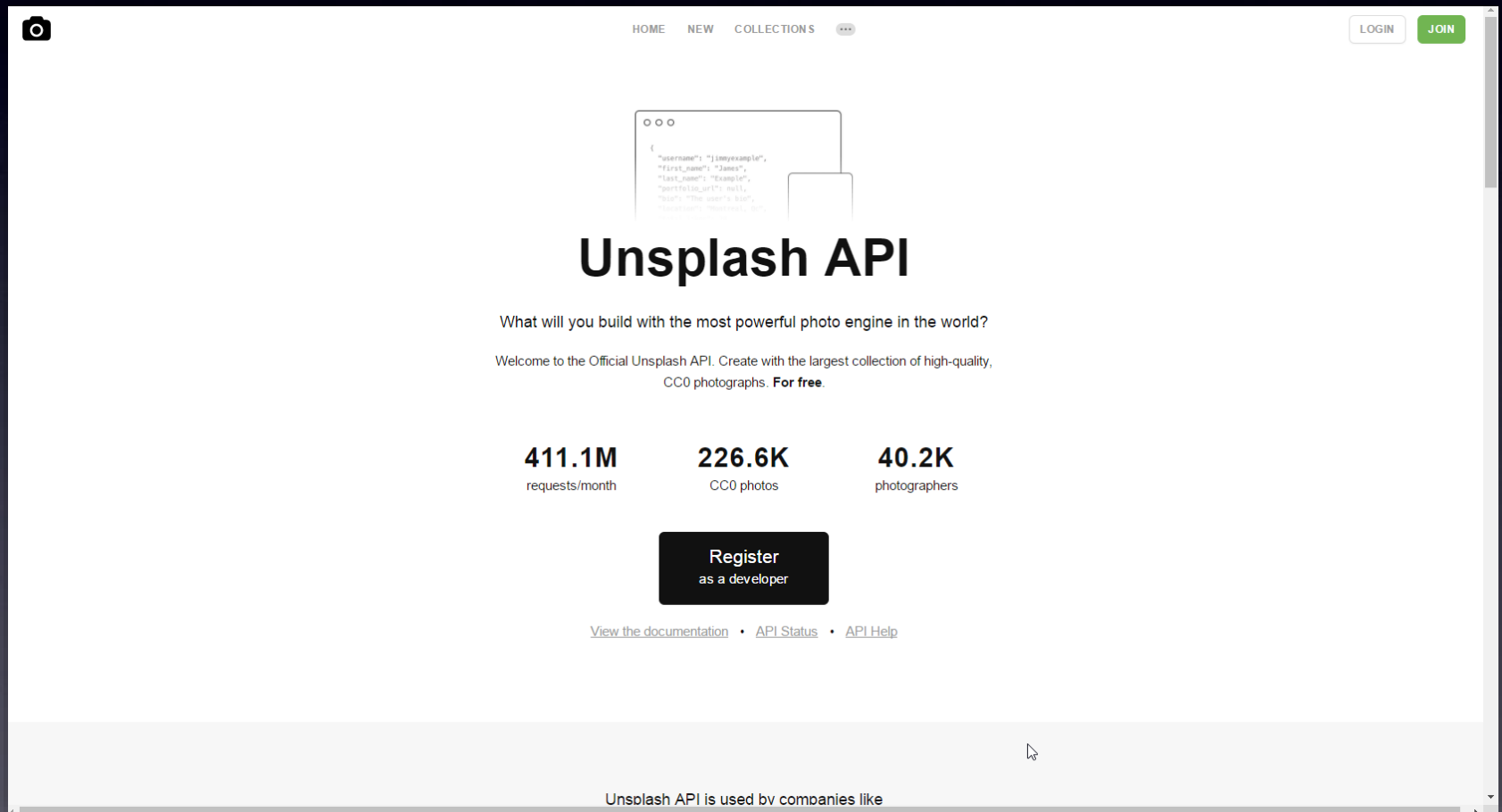
申請API KEY

- 本次範例的Usplash API便是使用API Key來做為基本的安全防護



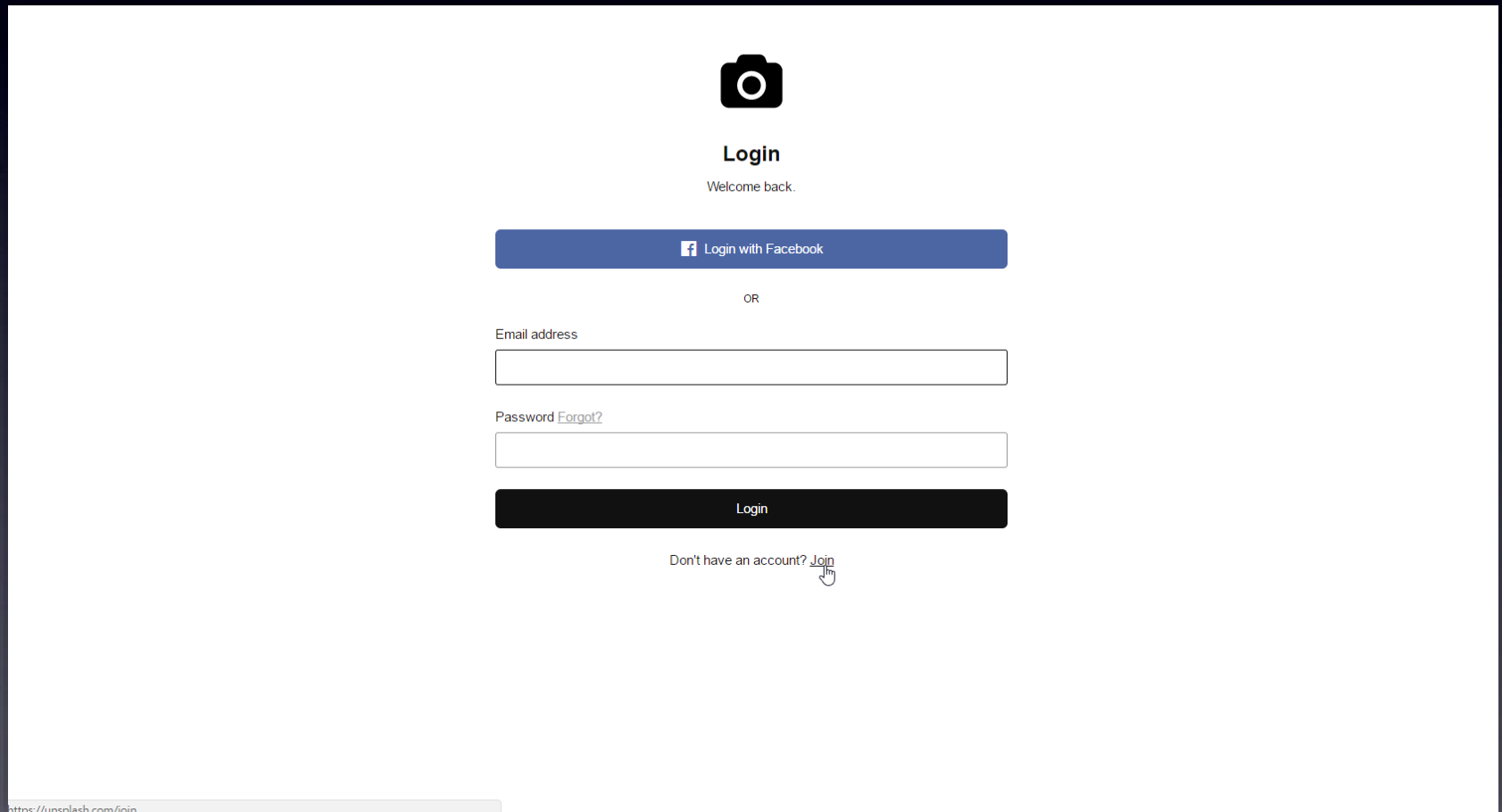
申請API KEY

- 進入Unsplash開發者網站
<https://unsplash.com/developers>，點Register




申請API KEY


- 若沒申請過會員，點選最下方Join



The image shows the login page of Unsplash. At the top center is a camera icon. Below it is the word "Login" and the text "Welcome back.". There is a blue button with a Facebook icon and the text "Login with Facebook". Below this is the word "OR". There are two input fields: "Email address" and "Password". The "Password" field has a link "Forgot?" next to it. Below the input fields is a black button with the text "Login". At the bottom, there is a link "Don't have an account? Join" with a mouse cursor pointing at it.



Login
Welcome back.

 Login with Facebook

OR

Email address

Password [Forgot?](#)

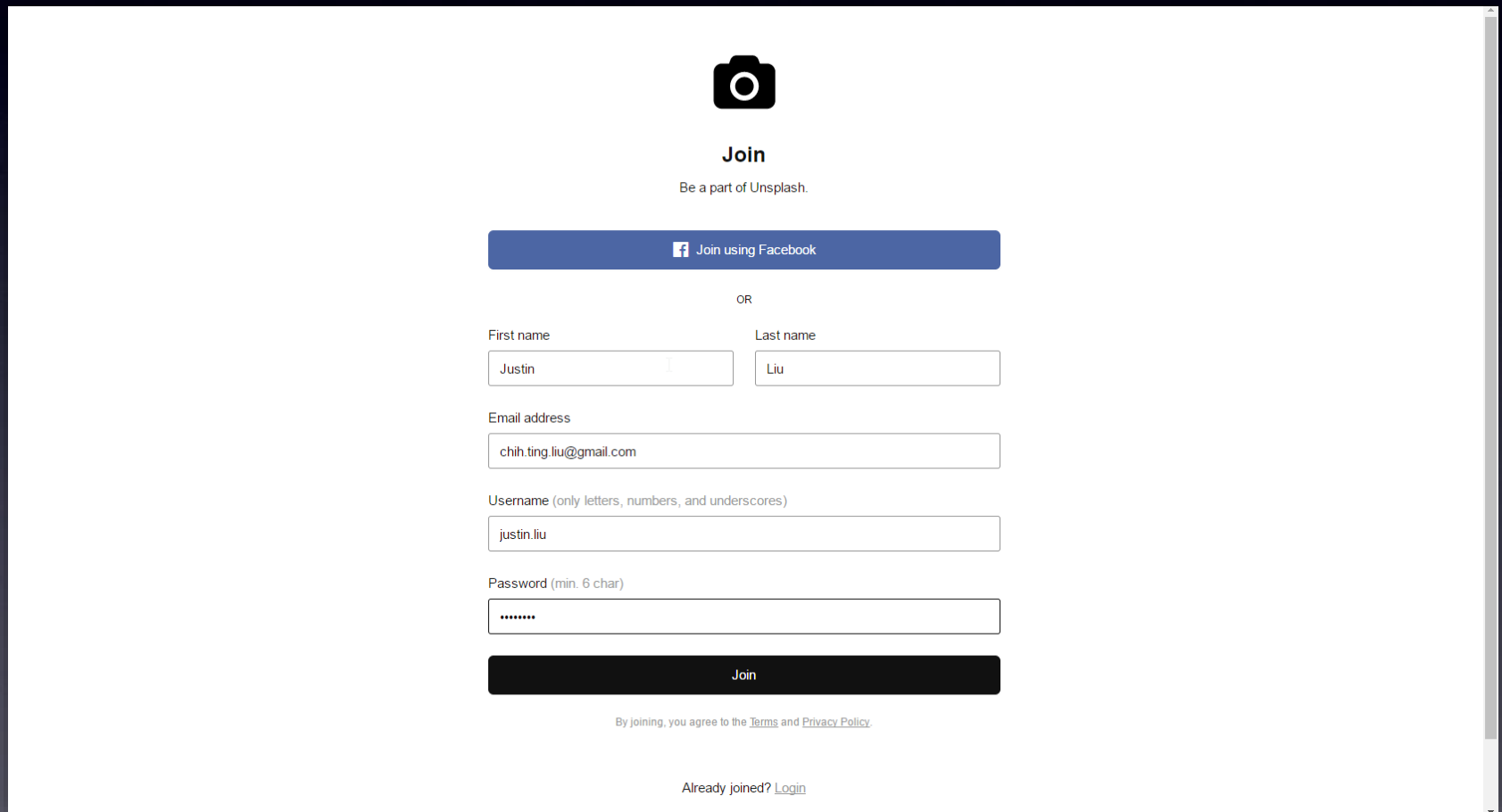
Login

Don't have an account? [Join](#)


<https://unsplash.com/join>

申請API KEY

- 填入所有資訊，按下Join，正式成為會員




The screenshot shows the Unsplash registration page. At the top is a camera icon and the word "Join". Below it is the text "Be a part of Unsplash." and a blue button labeled "Join using Facebook". In the center is the word "OR". Below this are input fields for "First name" (containing "Justin"), "Last name" (containing "Liu"), "Email address" (containing "chih.ting.liu@gmail.com"), "Username (only letters, numbers, and underscores)" (containing "justin.liu"), and "Password (min. 6 char)" (containing "*****"). At the bottom is a black button labeled "Join". Below the button is the text "By joining, you agree to the [Terms](#) and [Privacy Policy](#)." and at the very bottom is the text "Already joined? [Login](#)".



Join

Be a part of Unsplash.

 Join using Facebook

OR

First name

Last name

Email address

Username (only letters, numbers, and underscores)

Password (min. 6 char)

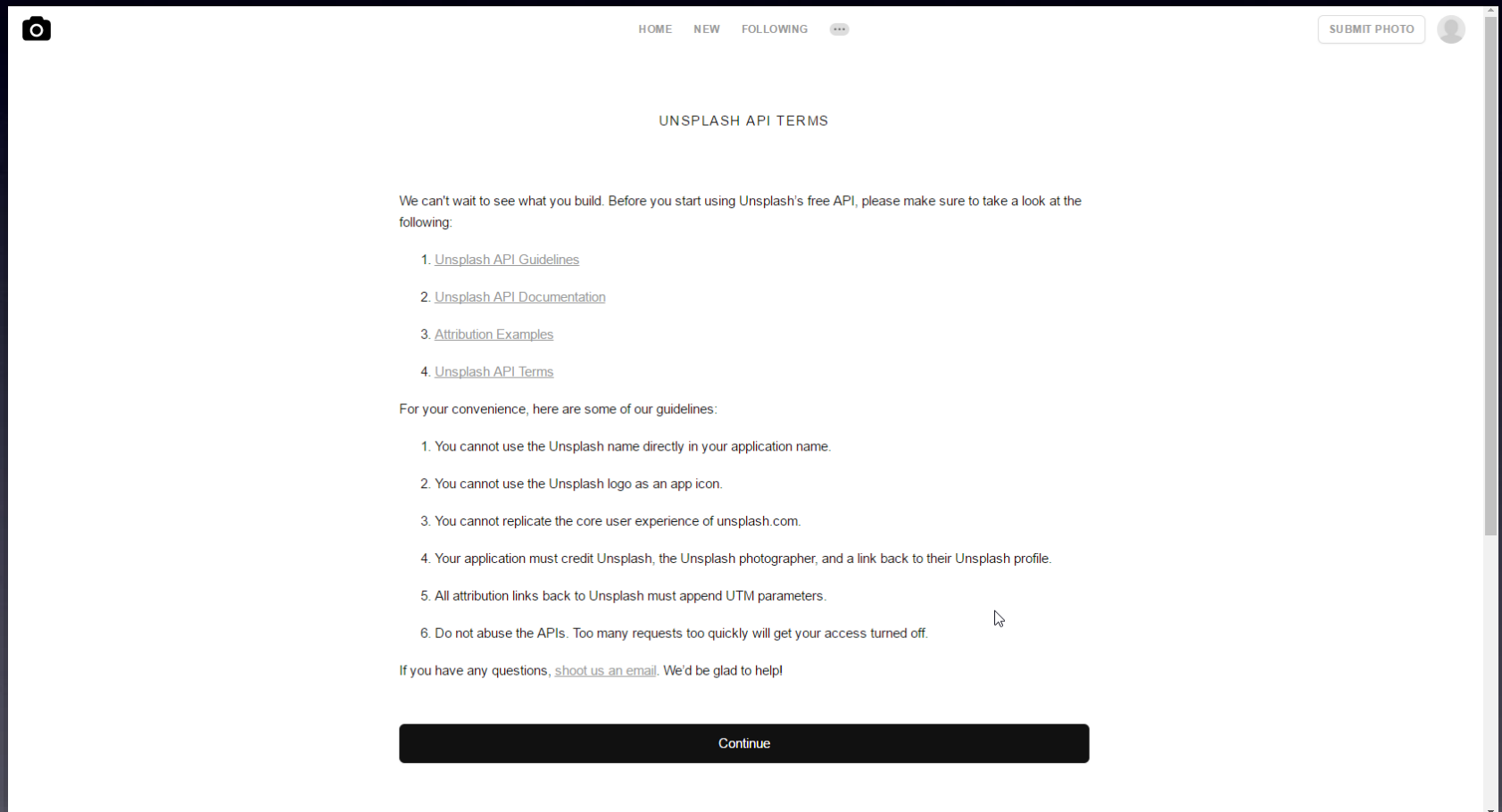
Join

By joining, you agree to the [Terms](#) and [Privacy Policy](#).

Already joined? [Login](#)

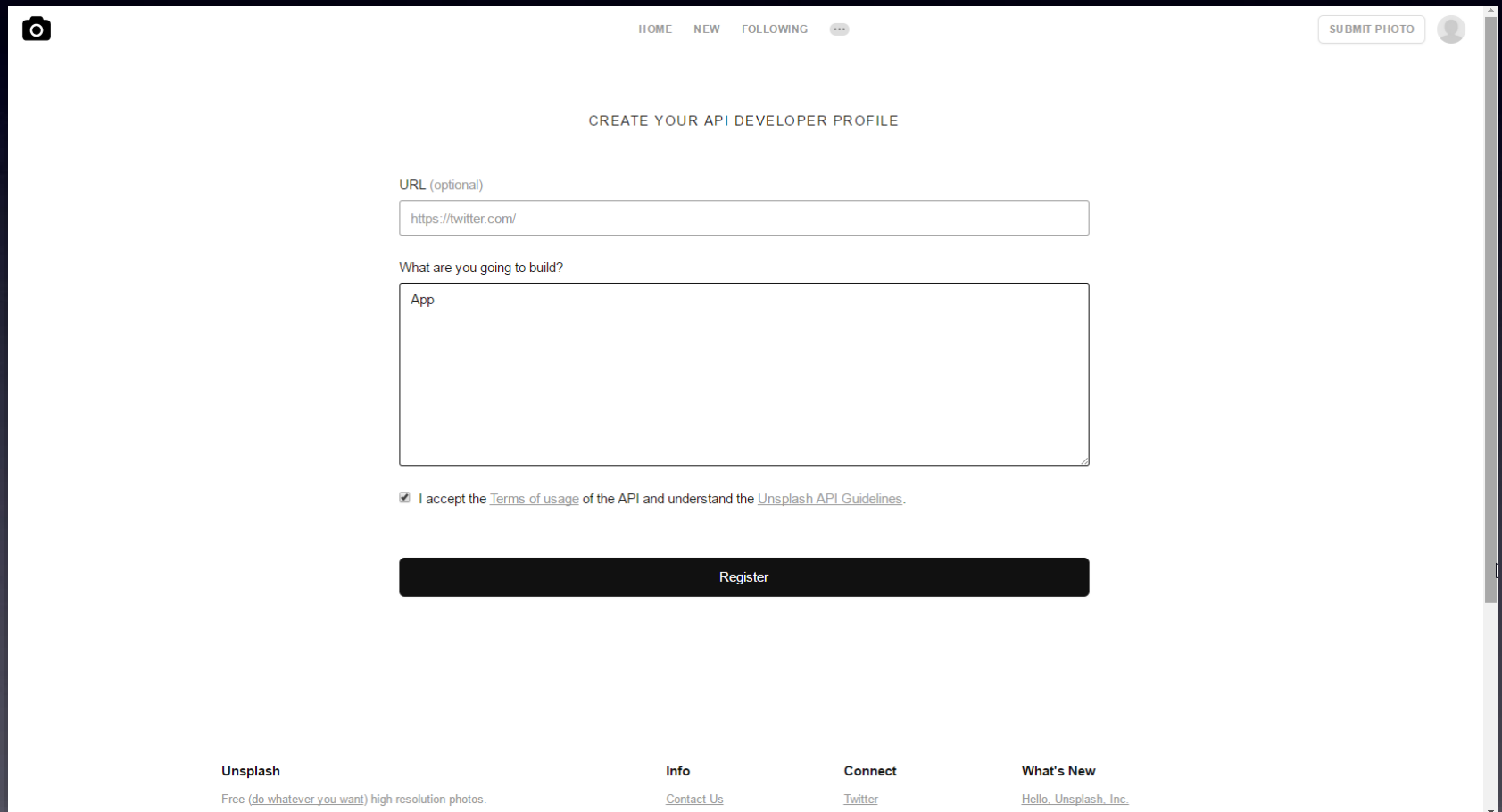
申請API KEY

- 接下來點選Continue，建立開發者資料



申請API KEY

- URL不一定要填寫，What are you going to build要填寫原因，並且在I accept打勾後按下Register



The screenshot shows the 'CREATE YOUR API DEVELOPER PROFILE' page on Unsplash. At the top, there is a navigation bar with 'HOME', 'NEW', 'FOLLOWING', and a menu icon. A 'SUBMIT PHOTO' button and a user profile icon are on the right. The main heading is 'CREATE YOUR API DEVELOPER PROFILE'. Below it, there is a form with two input fields: 'URL (optional)' with the value 'https://twitter.com/' and 'What are you going to build?' with the value 'App'. Below the second field is a checkbox labeled 'I accept the Terms of usage of the API and understand the Unsplash API Guidelines.' which is checked. At the bottom of the form is a large black 'Register' button. The footer contains the Unsplash logo and tagline, links for 'Info' (Contact Us), 'Connect' (Twitter), and 'What's New' (Hello, Unsplash, Inc.).

HOME NEW FOLLOWING ...

SUBMIT PHOTO

CREATE YOUR API DEVELOPER PROFILE

URL (optional)

https://twitter.com/

What are you going to build?

App

☒ I accept the [Terms of usage](#) of the API and understand the [Unsplash API Guidelines](#).

Register

Unsplash
Free (do whatever you want) high-resolution photos.

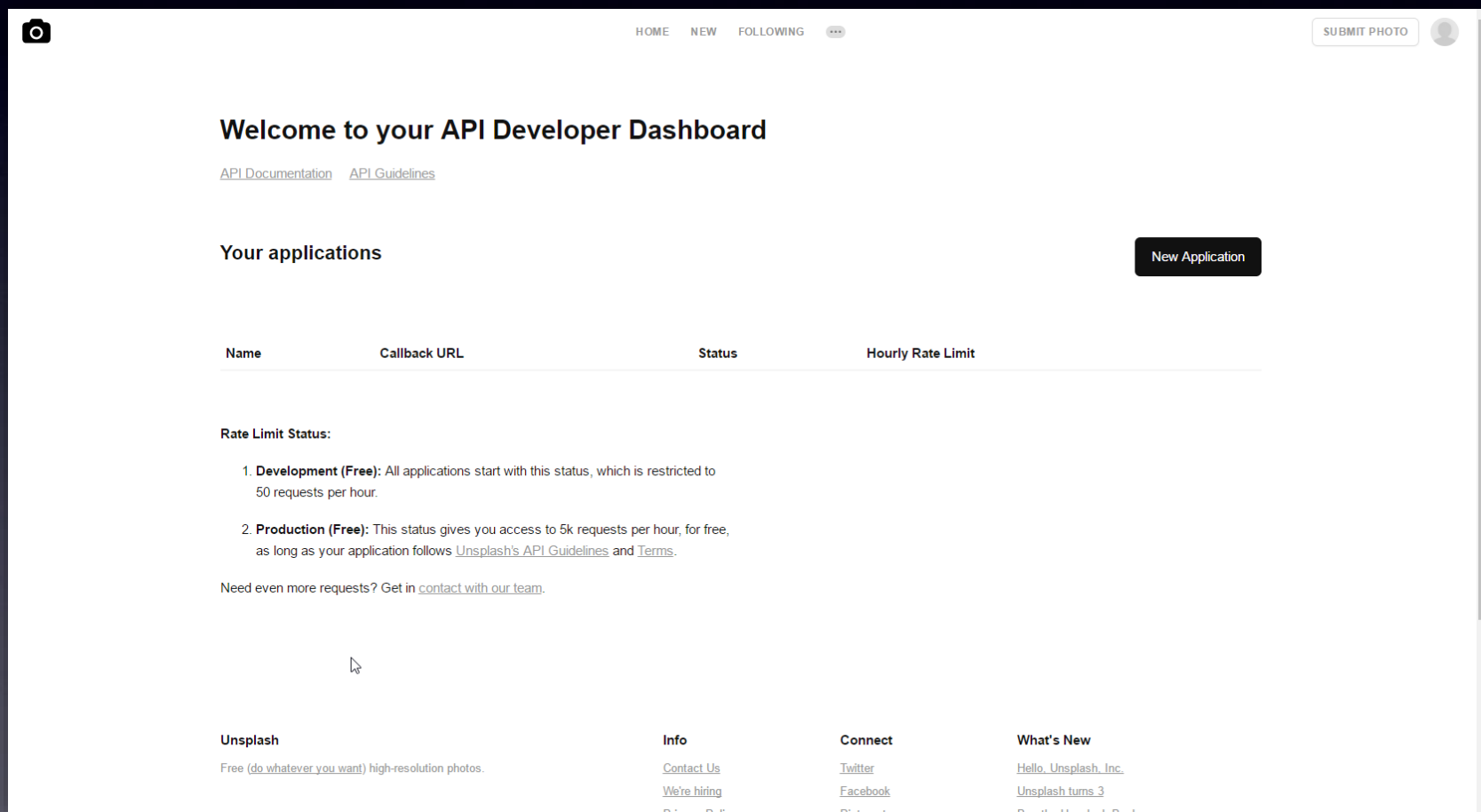
Info
[Contact Us](#)

Connect
[Twitter](#)

What's New
[Hello, Unsplash, Inc.](#)

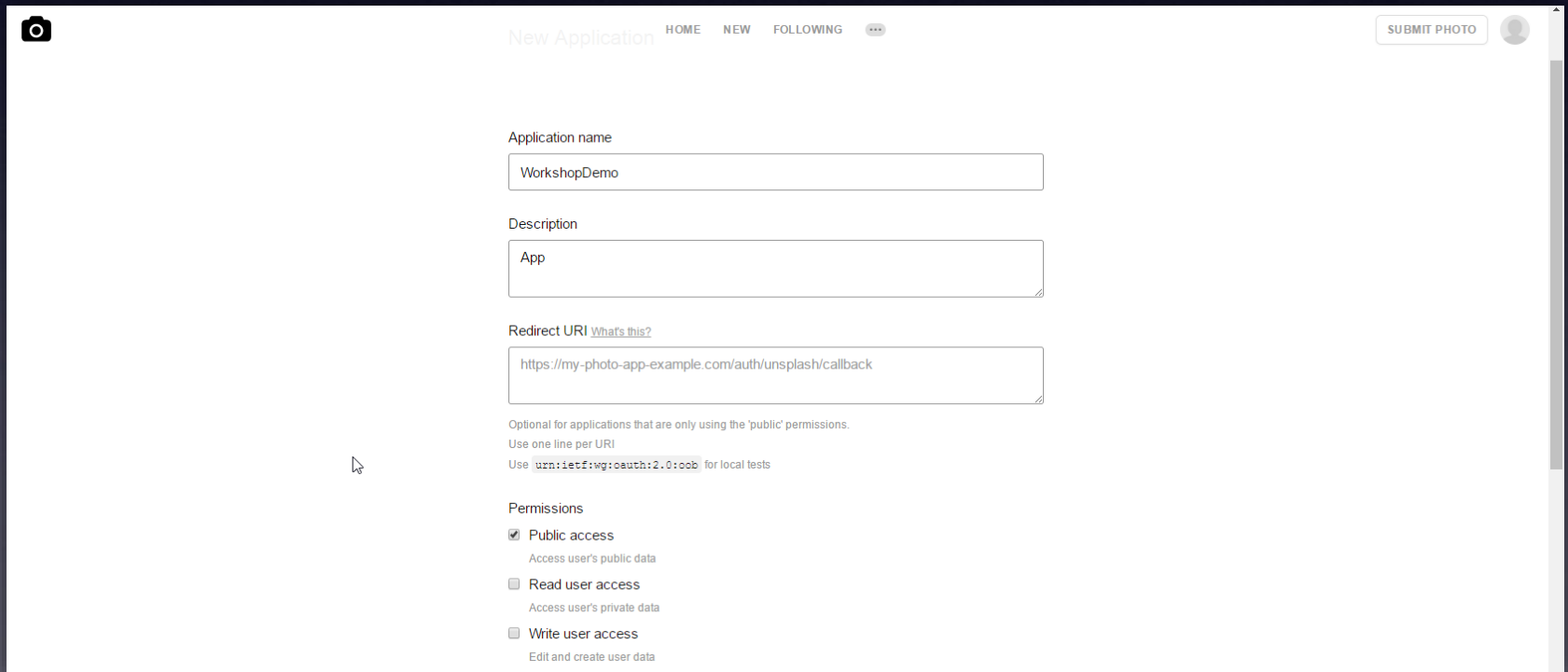
申請API KEY

- 完成了開發者資料填寫，接下來點下New Application按鈕



申請API KEY

- Application name填寫你的應用程式名稱
Description填寫應用程式說明
Redirect URI留空白即可
Permission勾選第一個Public access即可



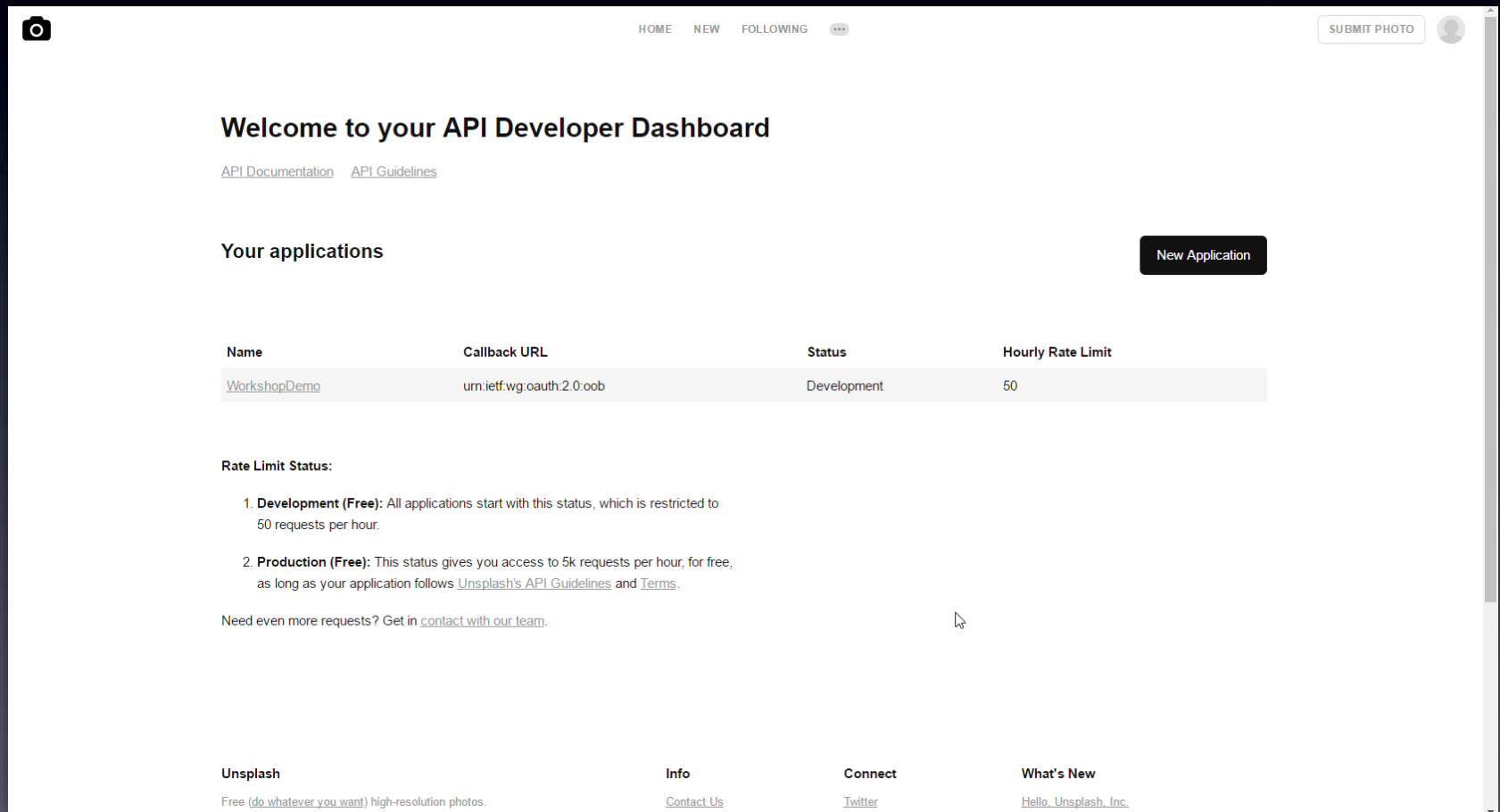
The screenshot shows the 'New Application' form on the Unsplash website. The form includes the following fields and options:

- Application name:** A text input field containing 'WorkshopDemo'.
- Description:** A text input field containing 'App'.
- Redirect URI:** A text input field containing 'https://my-photo-app-example.com/auth/unsplash/callback'. A link 'What's this?' is provided next to the label.
- Permissions:** A section with three checkboxes:
 - ☒ **Public access**
Access user's public data
 - ☐ **Read user access**
Access user's private data
 - ☐ **Write user access**
Edit and create user data

Additional text below the Redirect URI field states: 'Optional for applications that are only using the 'public' permissions. Use one line per URI. Use `urn:ietf:wg:oauth:2.0:oob` for local tests'.

申請API KEY

- 應用程式建立成功，接下來點選應用程式的名稱



The screenshot shows the Unsplash API Developer Dashboard. At the top, there's a navigation bar with links for HOME, NEW, FOLLOWING, and a menu icon. A 'SUBMIT PHOTO' button and a user profile icon are on the right. The main heading is 'Welcome to your API Developer Dashboard', followed by links to 'API Documentation' and 'API Guidelines'. Below this is a section titled 'Your applications' with a 'New Application' button. A table lists the applications, with one entry 'WorkshopDemo' in 'Development' status and a rate limit of 50. Below the table, there's a 'Rate Limit Status' section explaining the 'Development (Free)' and 'Production (Free)' statuses. The footer contains 'Unsplash' branding, 'Info' (Contact Us), 'Connect' (Twitter), and 'What's New' (Hello, Unsplash, Inc.) links.

HOME NEW FOLLOWING ... SUBMIT PHOTO

Welcome to your API Developer Dashboard

[API Documentation](#) [API Guidelines](#)

Your applications

New Application

Name	Callback URL	Status	Hourly Rate Limit
WorkshopDemo	urn:ietf:wg:oauth:2.0:oob	Development	50

Rate Limit Status:

- Development (Free):** All applications start with this status, which is restricted to 50 requests per hour.
- Production (Free):** This status gives you access to 5k requests per hour, for free, as long as your application follows [Unsplash's API Guidelines](#) and [Terms](#).

Need even more requests? Get in [contact with our team](#).

Unsplash
Free (do whatever you want) high-resolution photos.

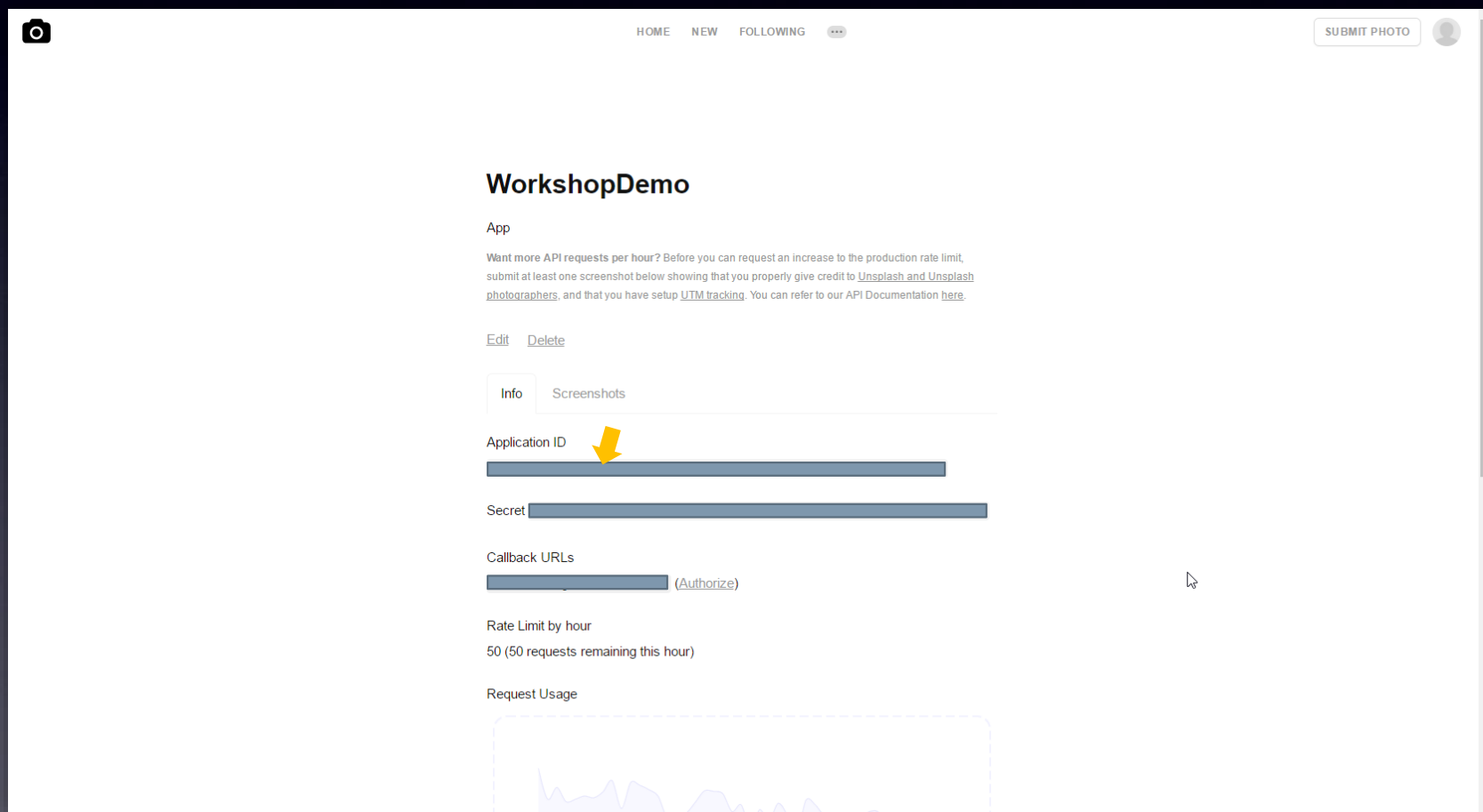
Info
[Contact Us](#)

Connect
[Twitter](#)

What's New
[Hello, Unsplash, Inc.](#)

申請API KEY

- 呈現出應用程式的資料，其中的Application ID就是API KEY

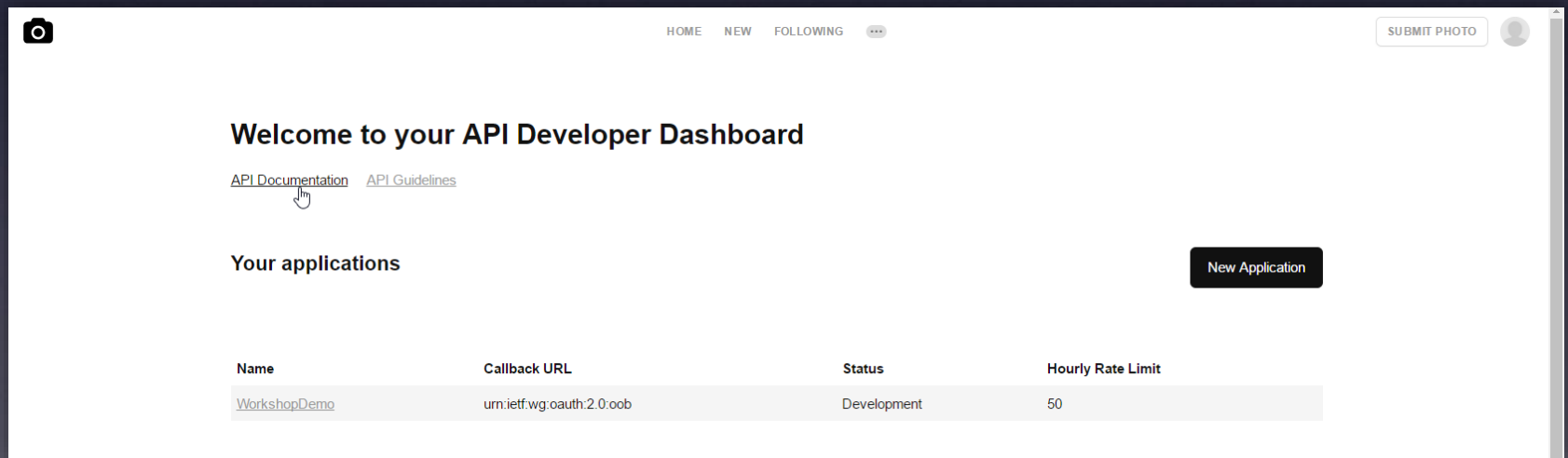


整合

使用API KEY

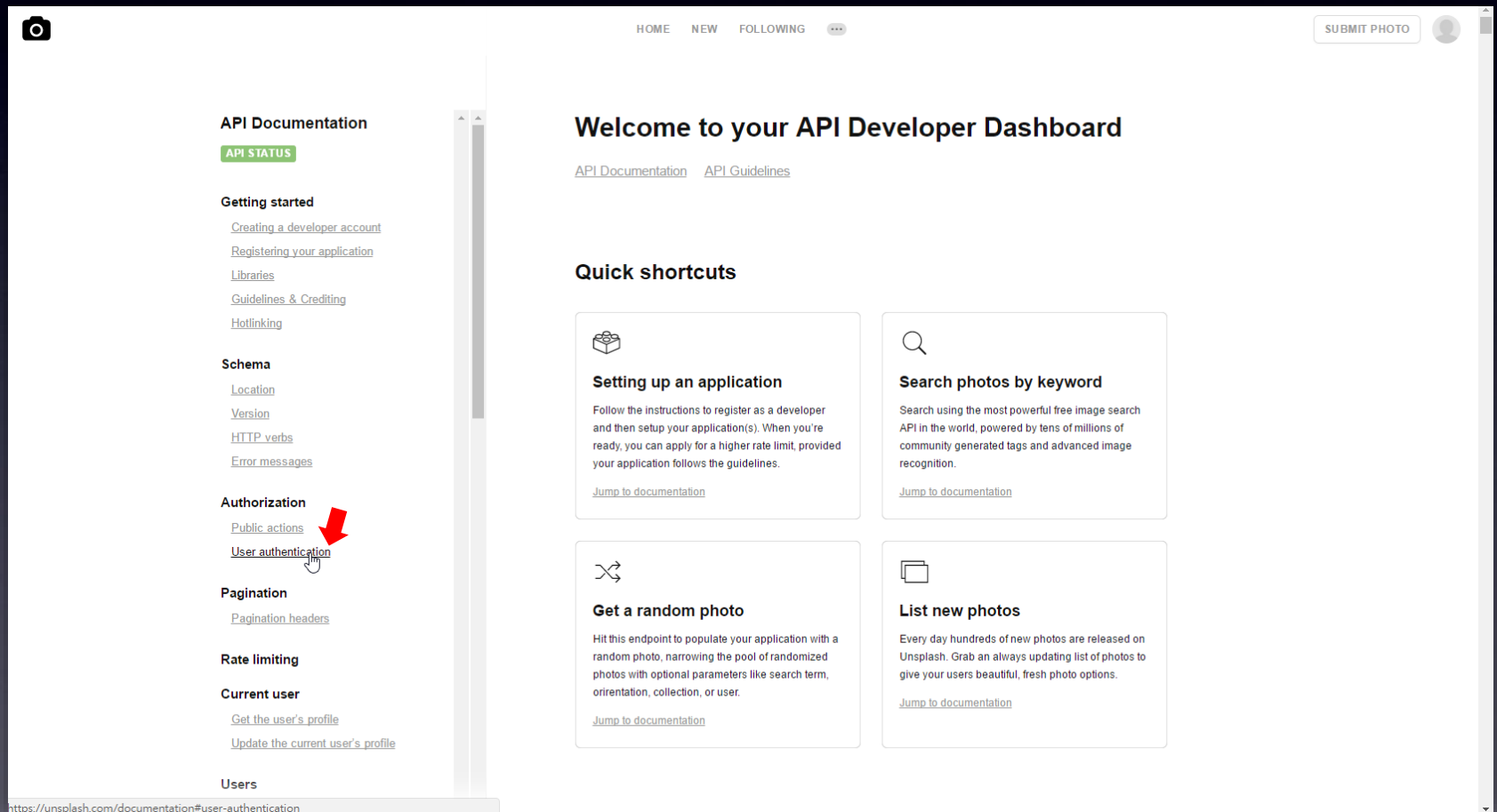
使用API KEY

- 每個服務的API設計使用API KEY的方式不見得相同
需要看API的文件才能知道
- 以Unsplash API為例，可以在開發者網頁點選API Documentation



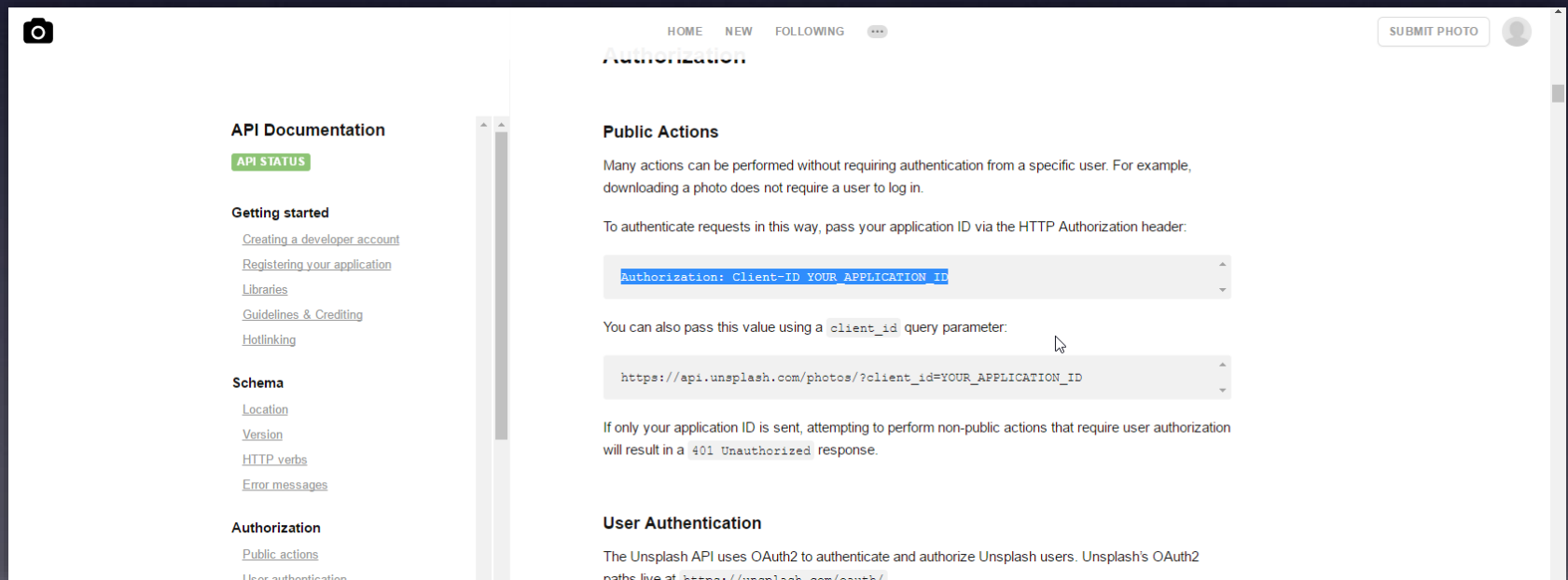
使用API KEY

- 要使用認證的API，在文件中應該都會有個 Authorization專區



使用API KEY

- Authorization就會說明如何使用認證
- 以Unsplash API為例子，呼叫API時在Header帶入 Authorization: Client-ID <API KEY>

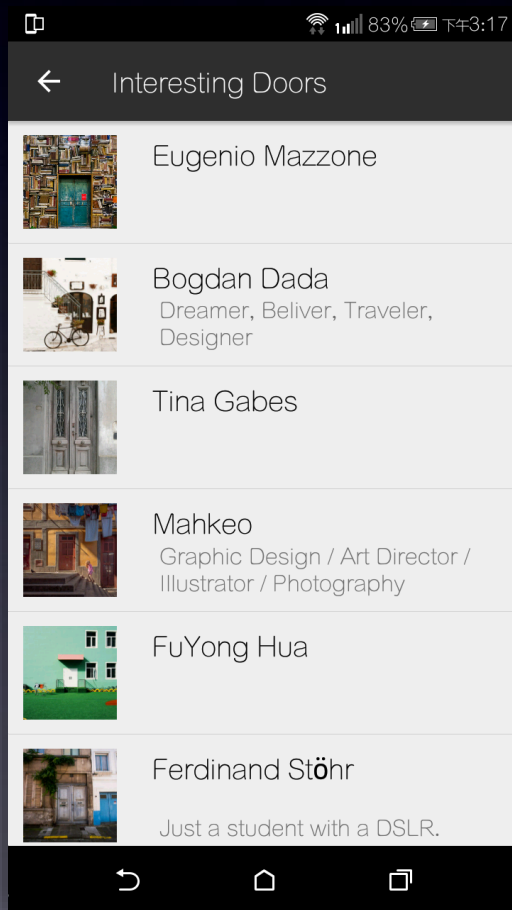
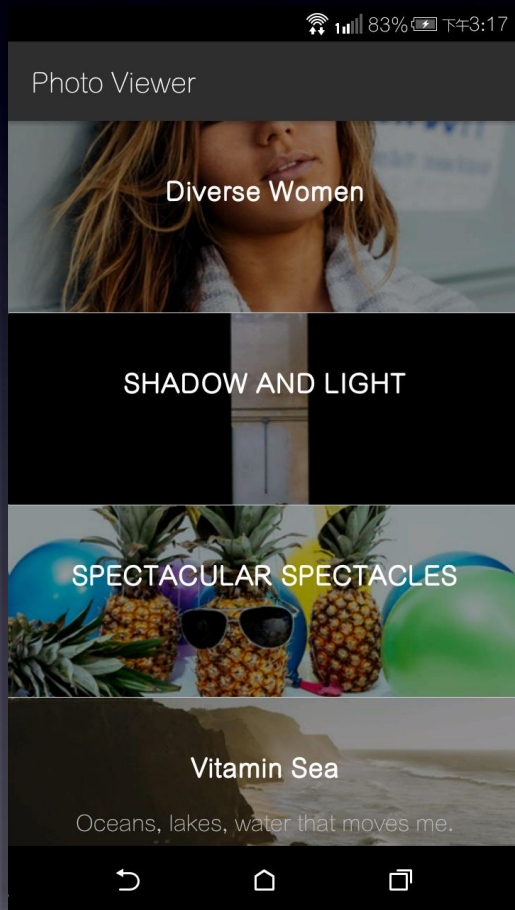


整合

開發步驟說明

開發步驟說明

- 本次範例總共分三個頁面

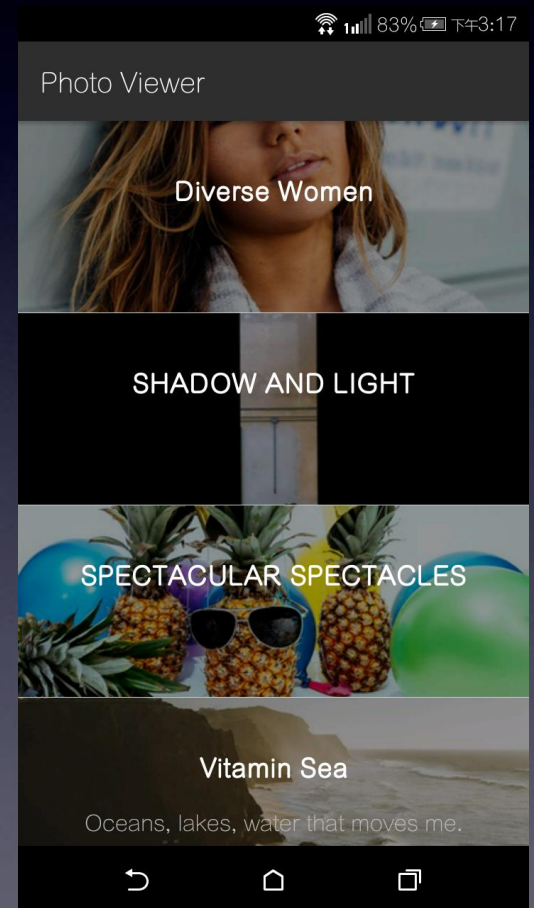


開發步驟說明

- 針對每個頁面都包含以下幾個步驟
 1. 準備要使用的第三方套件
 2. 補上權限及activity宣告
 3. 建立Layout
 4. 準備API並處理網路呼叫及回傳結果
 5. 建立Adapter
 6. 處理點選事件

整合

頁面一



頁面一重點提示

- 使用套件
 - **ButterKnife**
 - 用途：簡化程式碼
 - `compile 'com.jakewharton:butterknife:8.6.0'`
`annotationProcessor 'com.jakewharton:butterknife-compiler:8.6.0'`
 - **Android Fast Networking**
 - 用途：處理網路連線
 - `compile 'com.amitshekhar.android:android-networking:1.0.0'`
 - **Glide**
 - 用途：網路圖片下載及呈現
 - `compile 'com.github.bumptech.glide:glide:3.8.0'`

頁面一重點提示

- 更換佈景顏色
 - 在res/values/color.xml更換colorPrimary, colorPrimaryDark, colorAccent

res/values/color.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#2E2E2E</color>
    <color name="colorPrimaryDark">#000000</color>
    <color name="colorAccent">#FF4081</color>
</resources>
```

頁面一重點提示

- 因為專案有多重頁面，Android Fast Networking最好在Application做初始化

MyApplication.java

```
public class MyApplication extends Application {  
  
    @Override  
    public void onCreate() {  
        super.onCreate();  
        AndroidNetworking.initialize(getApplicationContext());  
    }  
}
```

AndroidManifest.xml

```
<application  
    android:name=".MyApplication"  
    ...>  
</application>
```

頁面一重點提示

- 呼叫的API <https://api.unsplash.com/collections/featured>
 - Headers
 - Authorization: Client-ID <申請的API KEY>
 - Query Parameter
 - page – 分頁，目前不探討分頁，先預設第一頁
 - per_page – 每頁回傳幾筆資料，訂為50

e.g. https://api.unsplash.com/collections/featured?page=1&per_page=50
- 回傳的結果
 - 標題：[i].title
 - 副標題：[i].description
 - 背景圖：[i].cover_photo.urls.small
 - 點擊ListView的Item：將[i].id與[i].title傳送到下一個Activity

頁面一重點提示

- 在AndroidManifest.xml中宣告使用權限

- 給網路使用

AndroidManifest.xml

```
<uses-permission android:name="android.permission.INTERNET"/>
```

- 給Glide使用

AndroidManifest.xml

```
<uses-permission  
android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
```

頁面一重點提示

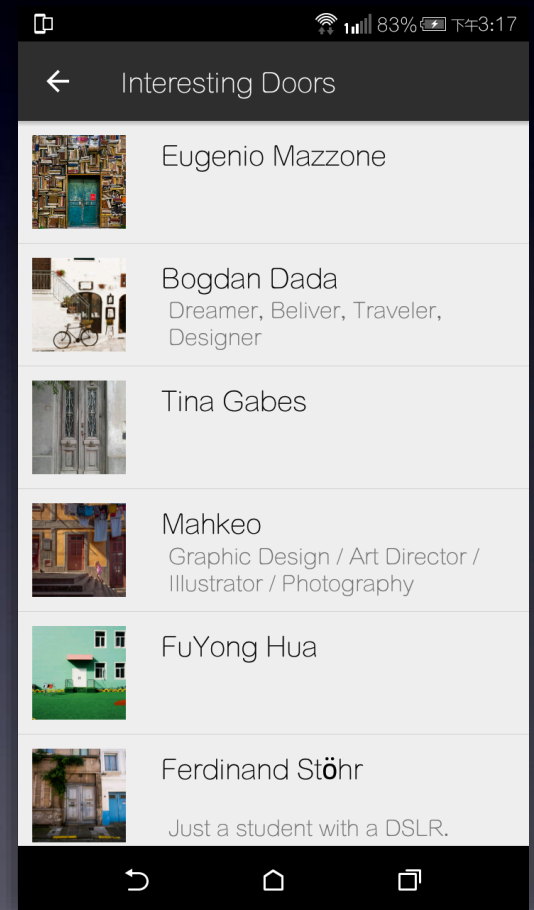
- 使用Glide在Adapter的getView()時讀取圖，使用以下的寫法

CollectionListAdapter.java

```
Glide.with(parent.getContext()).load(圖片網址)  
.centerCrop()  
.into(imageview);
```

整合

頁面二



頁面二重點提示

- 更改ActionBar的標題

PhotoListActivity.java

```
getSupportActionBar().setTitle(標題名稱);
```

- 讓ActionBar出現回上一頁的箭頭

PhotoListActivity.java

```
getSupportActionBar().setDisplayHomeAsUpEnabled(true);
```

頁面二重點提示

- 處理上一頁箭頭點下後的行為
 - android預設當作Menu來處理，id是android.R.id.home

PhotoListActivity.java

```
public boolean onOptionsItemSelected(MenuItem item) {  
    if (item.getItemId() == android.R.id.home) {  
        finish();  
    }  
    return super.onOptionsItemSelected(item);  
}
```


頁面二重點提示

- 呼叫的API

https://api.unsplash.com/collections/{collection_id}/photos

- Headers

- Authorization: Client-ID <申請的API KEY>

- Query Parameter

- page – 分頁，目前不探討分頁，先預設第一頁
 - per_page – 每頁回傳幾筆資料，訂為50

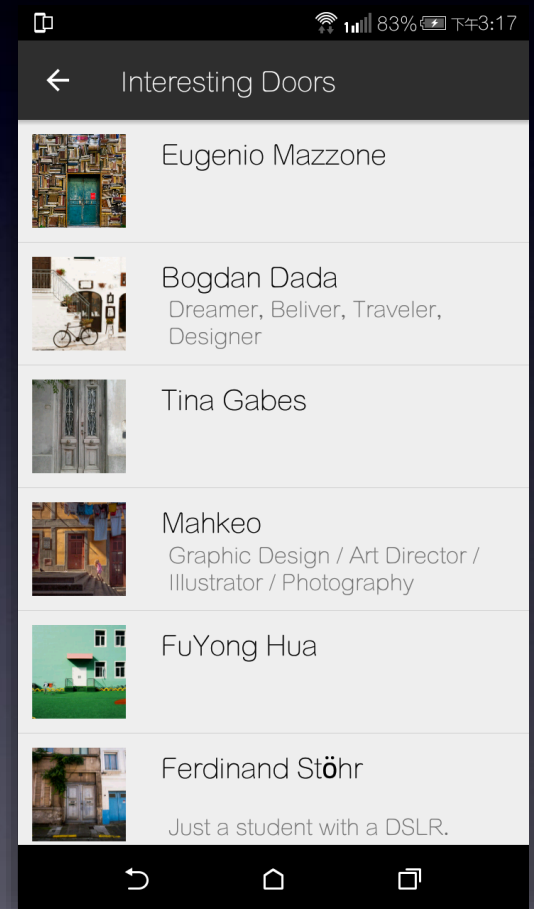
e.g. https://api.unsplash.com/collections/featured?page=1&per_page=50

- 回傳的結果

- 標題：[i].user.name
 - 副標題：[i].user.bio
 - 圖：[i].urls.small
 - 點擊ListView的Item：將[i].urls.regular傳送到下一個Activity

整合

頁面三



頁面三重點提示

- 使用套件
 - PhotoView
 - 用途：支援手勢操作的ImageView
 - `compile 'com.github.chrisbanes:PhotoView:2.0.0'`

頁面三重點提示

- PhotoView在Layout中的使用

activity_detail.xml

```
<com.github.chrisbanes.photoview.PhotoView  
    android:id="@+id/photo_view"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"/>
```

- 隱藏ActionBar的方法

FullscreenActivity.java

```
getSupportActionBar().hide();
```

Q & A