Building Facebook Application using Python

ECS-15, Fall 2010

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Facebook Applications

- Farmville
  - Game
  - 57.5m users
  - http://www.facebook.com/FarmVille

- Causes
  - Issues/Movement
  - 26.4m users
  - http://www.facebook.com/causes

Outline

- Facebook Applications
- Writing Applications
- Development Documentation

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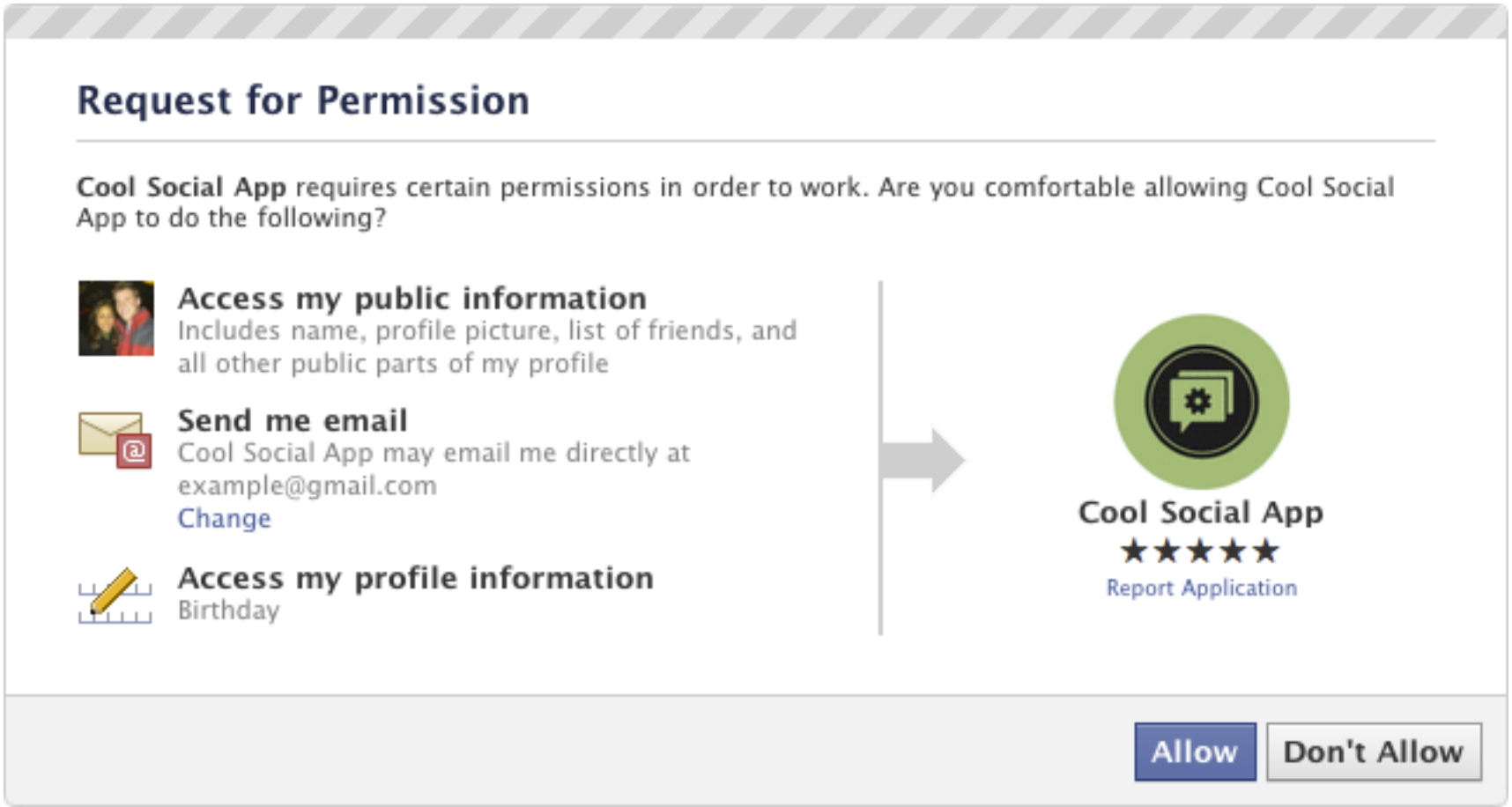
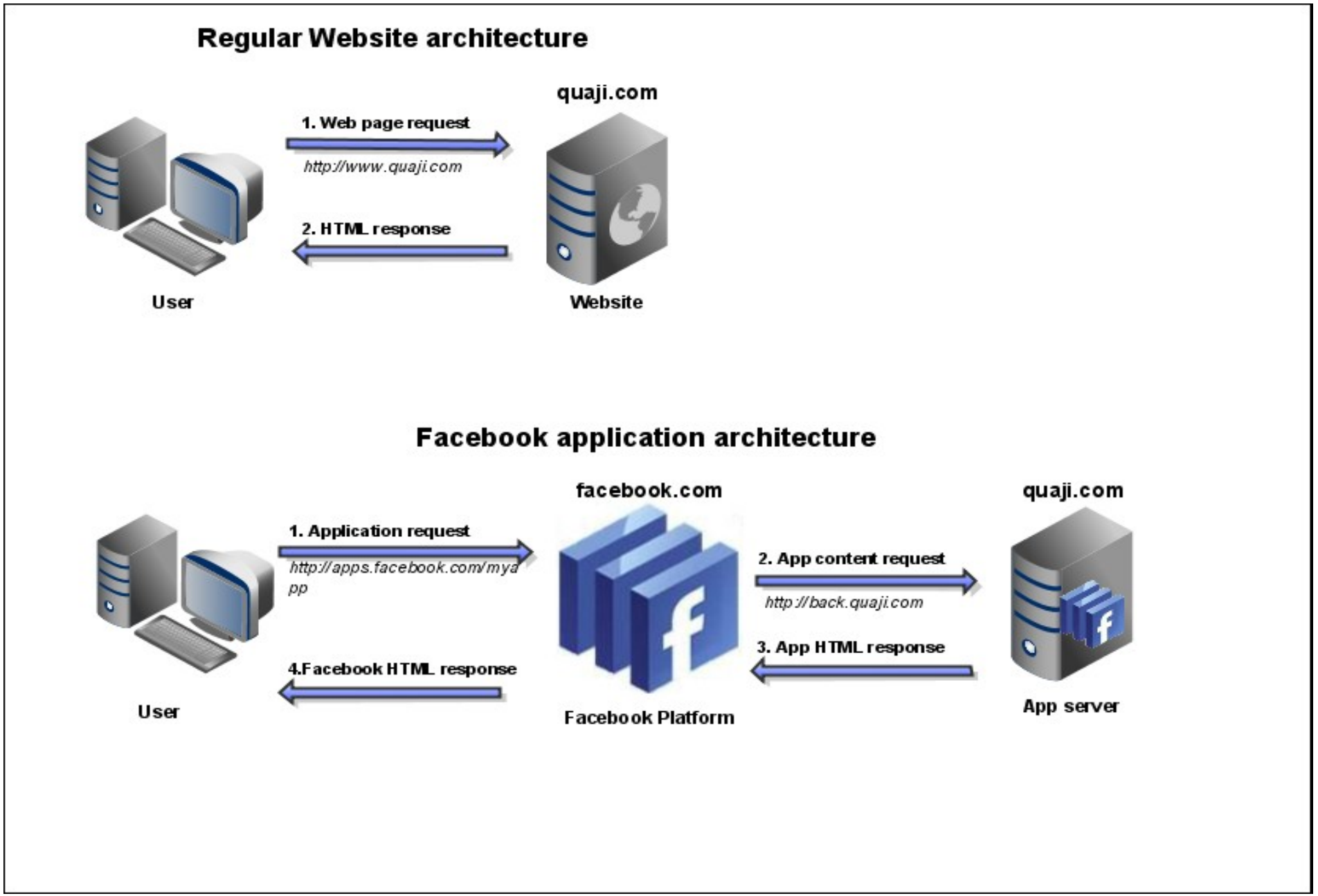
- Each application asks for permission during sign up
- Facebook provided them information on your behalf





From http://blog.quaji.com/2009/08/facebook-csrf-attack-full-disclosure.html

Facebook Application Model

- Application lives on your server, you register the base url of your app with Facebook

  (http://www.example.com/canvas)

- When user visits your application, Facebook calls the corresponding url

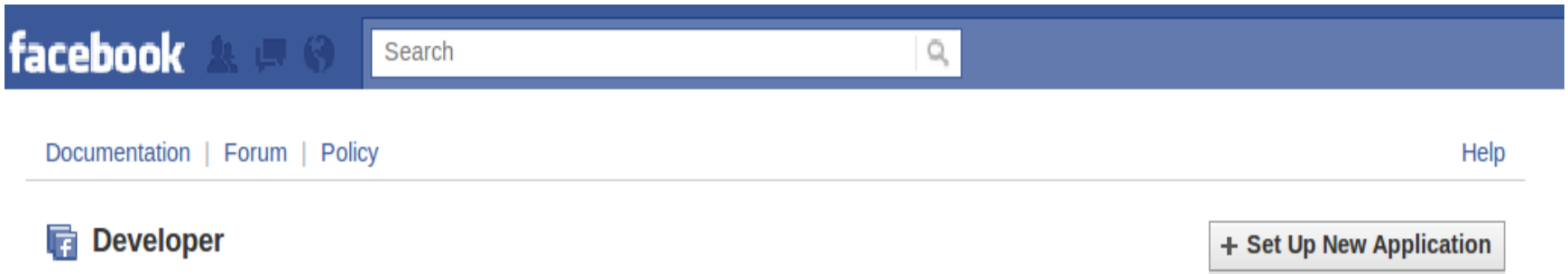
  (http://apps.facebook.com/your_app)

- Application calls Facebook API to get information about user and their friends

Writing Applications

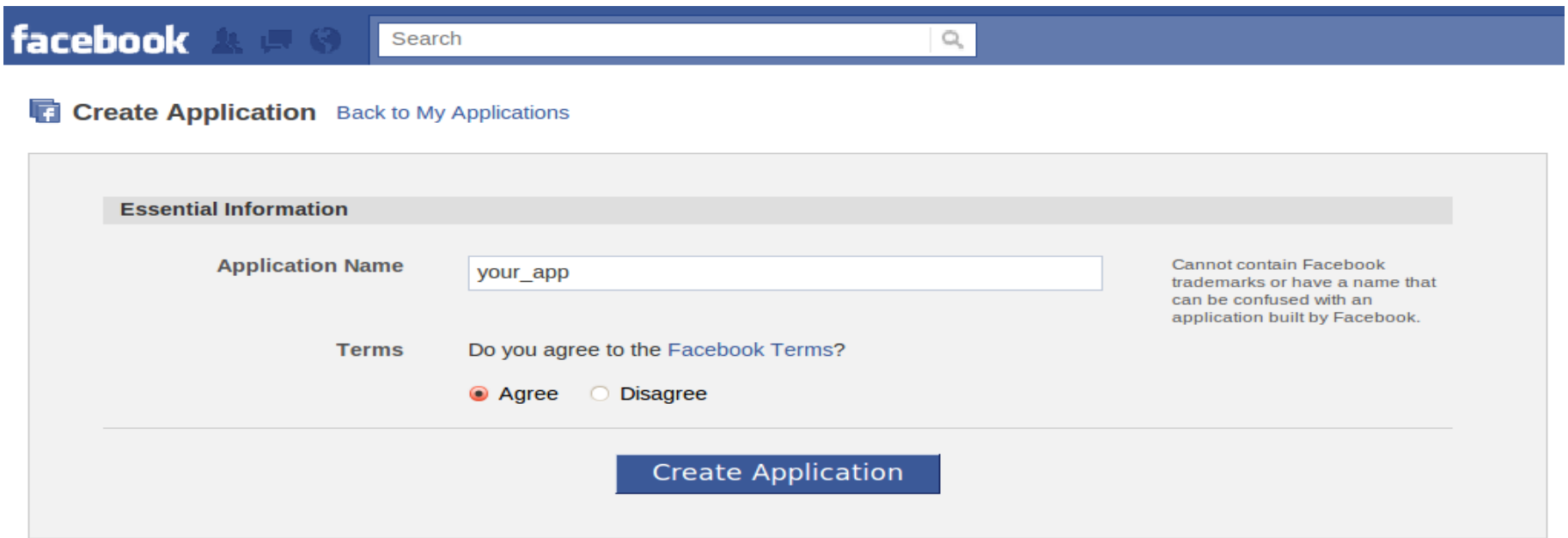
Getting Started

- First visit http://www.facebook.com/developers/
- You have to sign up and authenticate developers application
- Next step: Set Up New Application



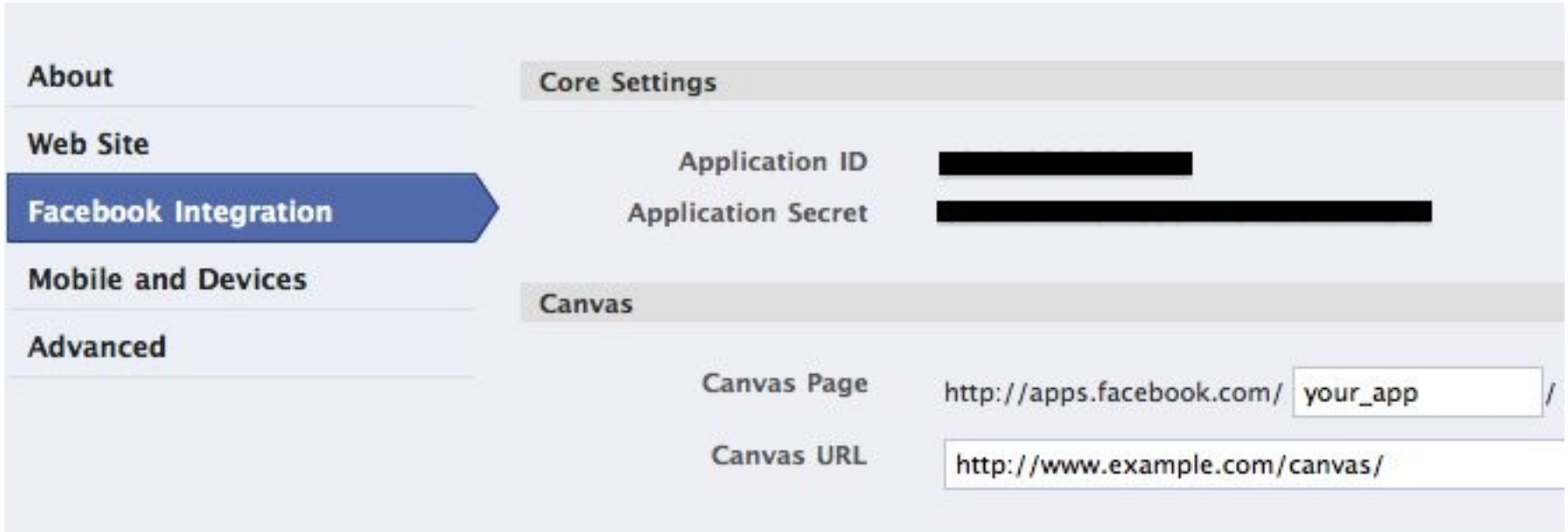
Getting Started

- Provide your application name: your_app
- Agree to Facebook Terms and Click on Create Application to proceed



Getting Started

- Register your Facebook application
  - Note down your Application ID and Application Secret

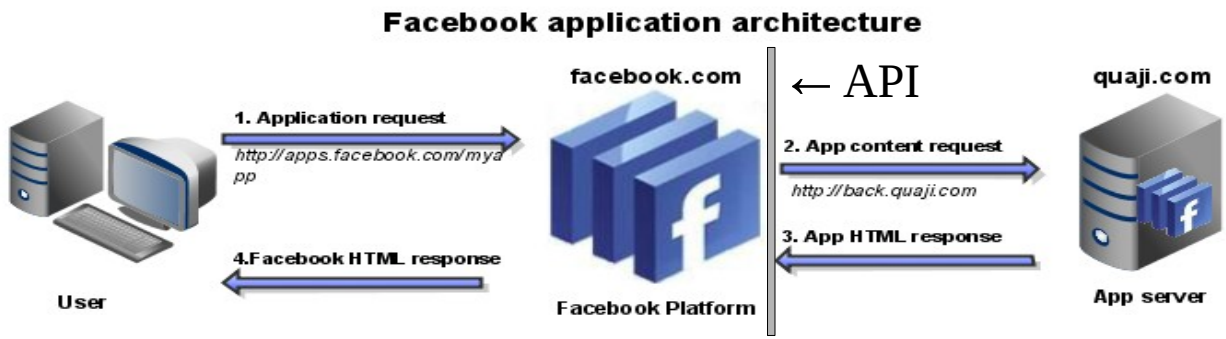


Facebook APIs

- API (Application Programming Interface)
  - Facebook APIs to interact with Facebook Servers
- Core APIs
  - Graph API

    http://developers.facebook.com/docs/reference/api/
  - Social Plugin

    http://developers.facebook.com/docs/reference/plugins/



Facebook SDKs

- JavaScript SDK
- PHP SDK
- Python
    - Python SDK (github.com/facebook/python-sdk)
    - PyFacebook (github.com/scioshi/pyfacebook)
- iOS SDK for iPhone and iPad
- Android SDK

PyFacebook

- Download and extract the library
- Install PyFacebook
  - sudo python setup.py install
- Example Code at

  http://github.com/sciyoshi/pyfacebook/blob/master/examples/examples.py

```
# Desktop Application example

def desktop_app():
    from facebook import Facebook

    # Get api_key and secret_key from a file
    facebook = Facebook('48c351b8adaae5a1600a1bbc3a7dc132', '8e12c35cef98919a5c9ee915d5829463')

    facebook.auth.createToken()
    # Show login window
    facebook.login()

    # Login to the window, then press enter
    print 'After logging in, press enter...'
    raw_input()

    facebook.auth.getSession()
    info = facebook.users.getInfo([facebook.uid], ['name', 'birthday', 'affiliations', 'sex'])[0]

    for attr in info:
        print '%s: %s' % (attr, info[attr])

    friends = facebook.friends.get()
    friends = facebook.users.getInfo(friends[0:5], ['name', 'birthday', 'relationship_status'])

    for friend in friends:
        if 'birthday' in friend:
            print friend['name'], 'has a birthday on', friend['birthday'], 'and is', friend['relationship_status']
        else:
            print friend['name'], 'has no birthday and is', friend['relationship_status']

    arefriends = facebook.friends.areFriends([friends[0]['uid']], [friends[1]['uid']])


if __name__=="__main__":
desktop_app()
```

Run Example

- Save file as python-fb_example.py in your canvas folder
- Open a terminal and type
  - python python-fb_example.py

Example (Contd)

- Example code also has sample code to run Web application framework
- Give it a try

```
info = facebook.users.getInfo([facebook.uid],
['name', 'birthday', 'affiliations', 'sex'])[0]

for attr in info:
    print '%s: %s' % (attr, info[attr])
```

- users.getInfo is a Facebook API
- Read more about users.getInfo at developers.facebook.com/docs/reference/rest/users.getInfo

Development Documentation

More Facebook APIs

- Graph Realtime API
- Facebook Query Language (FQL)
- Facebook Markup Language (FBML)
- Old REST API
- Old JavaScript Client Library
- Internationalization
- Integrating with Facebook Chat
- Facebook Ads API

Old REST API

- developers.facebook.com/docs/reference/rest/
- Data Retrieval Methods
    - users.getInfo
    - pages.getInfo

pages.getInfo

```
info_pages = facebook.pages.getInfo(uid)
    for info in info_pages:
     for attr in info:
       print '%s: %s' % (attr, info[attr])
```

- Returns you list of all pages a user is a fan
- You can go to each page at http://wwww.facebook.com/profile.php?id=%s" % (info[attr])
- Let's look at it more closely

Parameters

Name	Type	Description
fields	string	List of desired fields to return. This is a comma-separated list of field strings and is described below.
callback	string	Wrap the response inside a function call. This is primarily to enable cross-domain javascript requests using the <script> tag, sometimes known as "JSONP". This works with both XML and JSON.
page_ids	string	List of page IDs. This is a comma-separated list of page IDs.
uid	int	The ID of the user. Defaults to the logged in user if the session_key is valid, and no page_ids are passed. Used to get the pages a given user is a fan of.

Response

The Page info elements returned are those visible to Facebook Platform. Following is a list of arguments and the elements they return

```
info_pages =
    facebook.pages.getInfo(fields='page_id,website',uid=uid)


    print info_pages
    print "\n\n"
    for info in info_pages:
        print info
        for attr in info:
            print attr,":",str(info[attr]).replace("\n","\t")
     print “\n”
```

Sample Response

[{u'website': u'http://www.familyguy.com/\nhttp://www.fox.com', u'page_id': 24609282673L},
{u'website': u'http://abc.go.com/shows/castle/\n\n', u'page_id': 50812608637L}, {u'website':
u'http://www.mirchmasala.me/\n\nhttp://soimarriedameataholic.blogspot.com/', u'page_id':
284961680127L}]

{u'website': u'http://www.familyguy.com/\nhttp://www.fox.com', u'page_id': 24609282673L}

website : http://www.familyguy.com/ http://www.fox.com

page_id : 24609282673

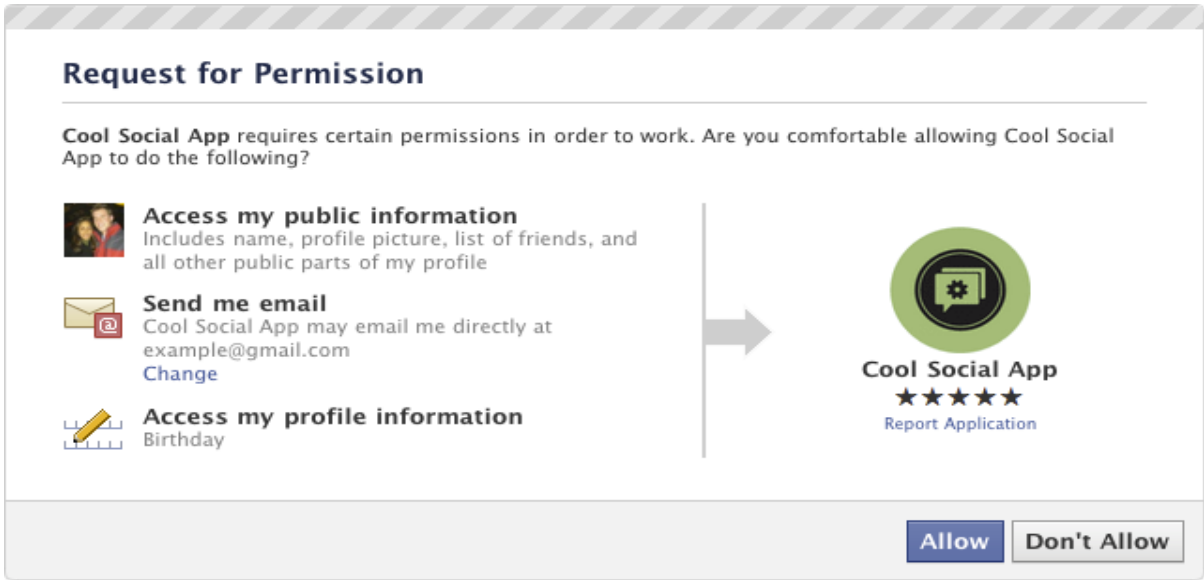
{u'website': u'http://abc.go.com/shows/castle/\n\n', u'page_id': 50812608637L}

website : http://abc.go.com/shows/castle/

page_id : 50812608637

Privacy Note

- Before your application can get data or publish data on behalf of the user, they need user approved permission
  - developers.facebook.com/docs/authentication/permissions



Thank You!

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