CHAPTER 15

Online calendars and Event Aggregators

Online calendars will move from being merely trendy to virtually indispensible as our lives move increasingly to the network. Calendaring (e.g., scheduling appointments and coordinating calendars) is something most of us can relate to since we all have appointments that we make and keep.

As we use electronic calendars, there is a good chance that we will have more than one calendars to synchronize -- people use different calendars or work with people with other calendars, no matter how much Microsoft or Apple or Google or Yahoo might want everyone to use its calendar alone. A lot of this calendaring activity has moved to not only digital form, but specifically to a networked digital form. In addition to the old calendars, new generations of online calendars are coming into existence -- that's the focus of this chapter.

Online calendars exist in the context of other digital calendars: desktop calendars such as Microsoft Outlook and Apple iCal, and calendars on hand-held device such as the Palm calendar. Much work has been done on synchronizing these calendars. Of course, calendar synchronization has been operant for a while, but these approaches (specialized conduits/ SyncML) have been more opaque than the APIs now available.[1] Today’s online calendars with APIs generally make synchronization easier.

In addition to the proliferation of online calendars, event aggregation sites such as eventful.com and upcoming.yahoo.com are starting to create a marketplace of event data. Such are focused on public events, whereas online calendars have as their focal point, individuals and their private events. These worlds intersect, of course, because individual users often track public events on that they attend on their individual calendars.

When it comes to public events, the point of focus is different. depending whether you are an attendee (and consumer of information about the event) or as a publisher or purveyor of even information. As an individual viewer, you want to browse, aggregate, and select events, typically from multiple sources. You might be conducting these tasks in a social context. What are your friends interested in? What do they invite you to and you to them? Your friends might know what you care about and direct you to events you'll find interesting. As a publisher of events, you probably want to disseminate information about the event as widely as possible. There are technical mechanisms for supporting the interchange of data between publishers of event data and consumers of event data, a subject of this chapter.

The chapter (following the approach used to frame the entire book) shows first steps to take in learning this subject:

* show what data you can get in and out of calendars without programming: iCalendar, XML feeds, hCalendar microformats

[1] http://www.coldsync.org/description.html

- show how to program individual calendars: Google Calendar and 30boxes (and spongecell?), move data from one calendar to another, move event data into calendars, and republish calendars into public event data.
- study how to use the APIs for event aggregators such as upcoming.org.
- touch upon the future of calendaring standards

Google Calendar

Google Calendar is fast increasing in popularity among online calendars.[2] Not only does it have some clever features, it is highly remixable, with its extensive API and use of feeds and excellent data import and export functionality.

Let's talk about how to use Google Calendar as a user first and then look at how to program it.

Setting up Google Calendar as an End-User

Login to your google account at

`http://calendar.google.com`

There are some noteworthy features to Google Calendar:

- You can have many calendars which you can layer together by turning on or off the visibility of any given calendar. You get a composite view of the events of all your visible calendars. On the sidebar, you get a list of your own calendars and other calendars to which you are subscribing.
- You can search for public events. You can also make your events publicly searchable right within your own calendar --tightly coupling he process of publishing and consuming events,
- Permissions are tied to specific calendars and not to individual events. With a specific event, you can invite individuals. (This way of thinking is different from say Oracle Calendar, in which I make events and grant specific people access to that event. Maybe there is easier calendar sharing in Google Apps among users of a specific domain.[3])
- To delete a calendar, you have to go to the "Manage Calendars" link.
- In sharing your calendar, you have the following options for handling generic access: 1) keep it totally private, 2) making it totally public, 3) share only "free/busy" information. In addition, you can grant individuals permissions to do a variety of functions (e.g., change events, change settings to the calendar, see free/busy.)

[2] http://www.techcrunch.com/2007/01/04/online-calendar-wiars/

[3] http://30boxes.com/api/

* There is Gmail/Google Calendar integration: " Gmail users can send event invitations directly from their Gmail accounts without accessing Google Calendar".[4]
* SMS integration (ie.,, sms to add an event)[5] sounds intriguing. There is also a mobile viewing of Google Calendar via SMS.[6]
* There is no direct offline access to Google Calendar.[7]

What are my own Google calendars?

To think through use case scenarios for Google Calendar, I will list the calendars that I have set up and the reason why:

* a personal calendar for events I don't want to share with anyone else.
* a family and friends calendar for my closest friends.
* a calendar of "Raymond Yee's public events"
* a calendar called "Mashup Guide Demo Calendar"

I believe that categories that drive the setting up of calendars include:

* who I want to share the calendar with
* the broad topic of that calendar

Sharing Calendars

There are calendar addresses that are visible to others if the calendar is public. There are three formats:[8]

* HTML
* ical/iCalendar[9]
* XML (Atom feed)

For the Mashup Guide Demo calendar, they are specifically:

* HTML:

```
http://www.google.com/calendar/embed?src=9imfjk71chkcs66t1i436je0s0%40group.calendar
.google.com
```

* iCalendar:

[4] http://www.google.com/support/calendar/bin/answer.py?answer=53231&topic=8556

[5] http://www.google.com/support/calendar/bin/answer.py?answer=37249&topic=8556

[6] http://www.google.com/support/calendar/bin/answer.py?answer=37228

[7] http://www.google.com/support/calendar/bin/answer.py?answer=61527&topic=8556

[8] http://www.google.com/support/calendar/bin/answer.py?answer=34578&hl=en and http://www.google.com/support/calendar/bin/answer.py?answer=37104&ctx=sibling

[9] http://en.wikipedia.org/wiki/ICalendar

```
http://www.google.com/calendar/ical/9imfjk71chkcs66t1i436je0s0%40group.calendar.goog
le.com/public/basic.ics
```

* XML (Atom feed):

```
http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calendar.goo
gle.com/public/basic
```

If your calendar is not public, there are still private addresses that other applications can use to access the calendar. Note that you can reset these URLs too in case you want to reset access.[10]

Creating Calendars

Can you import data to create a calendar? Yes. The official Google answer[11] says to do a

```
Settings->Import Calendar
```

Google Calendar can import iCalendar or CSV (from Microsoft Outlook). See below for a description of the iCalendar data format.

What to do if you are an events publisher without much programming?

See the advice that Google gives.[12] What I glean from a cursory look are:

* You an create events manually or by importing iCalendar or CSV. By CSV, Google means a comma separated value file with at least the following columns: Subject, Start Date, Start Time.
* You mark the calendar public.[13]
* There are some UI widgets that you can set up on your own web page for embedding a Google Calendar and then allowing users of that calendar to send one or many events to the users' calendar. (It would be helpful to come back to experimenting with this feature.)

Programming Google Calendar

The Google Calendar API is built upon GData.[14] There are API kits for various languages, including PHP and Python (as well as Java ,.NET, and Objective-C)[15]

[10] http://www.google.com/support/calendar/bin/answer.py?answer=34576&hl=en

[11] http://www.google.com/support/calendar/bin/answer.py?answer=37118&topic=8566

[12] http://www.google.com/googlecalendar/event_publisher_guide.html

[13] http://www.google.com/support/calendar/bin/answer.py?answer=45656

[14] http://code.google.com/apis/calendar/overview.html

[15] http://code.google.com/apis/gdata/clientlibs.html

Declarative approaches to programming

Before we look at how to programmatically interact with the Google Calendar, let's look first at what one can do by changing documents.

It's useful to take a look at specific instances of iCal and the XML feeds. You can use curl to look at the data:

iCalendar/iCal

iCalendar is a standard for the exchange of calendar data. It is based on the older vCalendar statndard. iCalendar is sometimes refered to as "iCal", which is also the name of

The official documentation for iCalendar is RFC2445:

```
http://tools.ietf.org/html/rfc2445
```

There are also some other allied standards built around RFC2445:

* iCalendar Transport-Independent Interoperability Protocol (iTIP) Scheduling Events, BusyTime, To-dos and Journal Entries (RFC2446)[16]

* iCalendar Message-Based Interoperability Protocol (iMIP) (RFC2447)[17]

See the Wikipedia article on iCalendar for a list of the wide range of products that support iCalendar.[18] Calendaring standards are complex. I recommend Good overview of how standards relate ("Calendaring and Calendaring-Related Standards")[19]

A few words on the structure of an iCalendar files:

* iCalendar has a top level object: VCALENDAR

* There are subobjects: VEVENT, VTODO, VJOURNAL, VFREEBUSY

There seems to be a lot of subtleties around issues such as validity of iCalendar files. For example, a VEVENT has to have a dtstart but not a dtend.

Let me quote a simple example of iCalendar data, quoted from RFC2445:[20]

```
BEGIN:VCALENDAR
VERSION:2.0
PRODID:-//hacksw/handcal//NONSGML v1.0//EN
BEGIN:VEVENT
DTSTART:19970714T170000Z
DTEND:19970715T035959Z
SUMMARY:Bastille Day Party
END:VEVENT
END:VCALENDAR
```

[16] http://tools.ietf.org/html/rfc2446

[17] http://tools.ietf.org/html/rfc2447

[18] http://en.wikipedia.org/wiki/ICalendar

[19] http://www.calconnect.org/calendaringstandards.shtml

[20] http://tools.ietf.org/html/rfc2445#section-4.4

You can use Google Calendar via

```
curl
http://www.google.com/calendar/ical/9imfjk71chkcs66t1i436je0s0%40group.calendar.goog
le.com/public/basic.ics
```

gets the iCalendar rendition of my public "Mashup Guide Demo Calendar"

```
BEGIN:VCALENDAR
PRODID:-//Google Inc//Google Calendar 70.9054//EN
VERSION:2.0
CALSCALE:GREGORIAN
METHOD:PUBLISH
X-WR-CALNAME:Mashup Guide Demo Calendar
X-WR-TIMEZONE:America/Los_Angeles
X-WR-CALDESC:a Google Calendar to support mashupguide.net
BEGIN:VTIMEZONE
TZID:America/Los_Angeles
X-LIC-LOCATION:America/Los_Angeles
BEGIN:DAYLIGHT
TZOFFSETFROM:-0800
TZOFFSETTO:-0700
TZNAME:PDT
DTSTART:19700308T020000
RRULE:FREQ=YEARLY;BYMONTH=3;BYDAY=2SU
END:DAYLIGHT
BEGIN:STANDARD
TZOFFSETFROM:-0700
TZOFFSETTO:-0800
TZNAME:PST
DTSTART:19701101T020000
RRULE:FREQ=YEARLY;BYMONTH=11;BYDAY=1SU
END:STANDARD
END:VTIMEZONE
BEGIN:VEVENT
DTSTART;TZID=America/Los_Angeles:20070507T130000
DTEND;TZID=America/Los_Angeles:20070507T140000
DTSTAMP:20070510T155641Z
ORGANIZER;CN=Mashup Guide Demo Calendar:MAILTO:9imfjk71chkcs66t1i436je0s0@g
 roup.calendar.google.com
UID:vk021kggr20ba2jhc3vjg6p8ek@google.com
CLASS:PUBLIC
CREATED:20070510T021623Z
DESCRIPTION:
LAST-MODIFIED:20070510T021623Z
LOCATION:110 South Hall\, UC Berkeley
SEQUENCE:0
STATUS:CONFIRMED
SUMMARY:Mixing and Remixing Information Class Open House
TRANSP:OPAQUE
END:VEVENT
BEGIN:VEVENT
DTSTART;TZID=America/Los_Angeles:20070411T123000
```

```
DTEND;TZID=America/Los_Angeles:20070411T140000
DTSTAMP:20070510T155641Z
ORGANIZER;CN=Mashup Guide Demo Calendar:MAILTO:9imfjk71chkcs66t1i436je0s0@g
 roup.calendar.google.com
UID:d9btebsfd121lhqc4arhj9727s@google.com
CLASS:PUBLIC
CREATED:20070411T144226Z
DESCRIPTION:
LAST-MODIFIED:20070411T144226Z
LOCATION:
SEQUENCE:0
STATUS:CONFIRMED
SUMMARY:Day 22
TRANSP:OPAQUE
END:VEVENT
END:VCALENDAR
```

This format is a bit complicated. I recommend using a good iCalendar library to deal with parsing or creating iCalendar data.

Google Calendar Atom data

Let's take a look at the Atom feed that is produced by Google Calendar, using

```
curl
http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calendar.goo
gle.com/public/basic
```

to return:

```
<?xml version="1.0" encoding="UTF-8"?>
<feed xmlns="http://www.w3.org/2005/Atom" xmlns:openSearch="http://a9.com/-
/spec/opensearchrss/1.0/" xmlns:gd="http://schemas.google.com/g/2005"
xmlns:gCal="http://schemas.google.com/gCal/2005">

<id>http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calendar
.google.com/public/basic</id>
  <updated>2007-05-10T02:16:23.000Z</updated>
  <category scheme="http://schemas.google.com/g/2005#kind"
term="http://schemas.google.com/g/2005#event"/>
  <title type="text">Mashup Guide Demo Calendar</title>
  <subtitle type="text">a Google Calendar to support mashupguide.net</subtitle>
  <link rel="http://schemas.google.com/g/2005#feed" type="application/atom+xml"
href="http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calend
ar.google.com/public/basic"/>
  <link rel="self" type="application/atom+xml"
href="http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calend
ar.google.com/public/basic?max-results=25"/>
  <author>
    <name>Raymond Yee</name>
    <email>raymond.yee@gmail.com</email>
  </author>
  <generator version="1.0" uri="http://www.google.com/calendar">Google
Calendar</generator>
  <openSearch:totalResults>2</openSearch:totalResults>
  <openSearch:startIndex>1</openSearch:startIndex>
  <openSearch:itemsPerPage>25</openSearch:itemsPerPage>
  <gd:where valueString=""/>
  <gCal:timezone value="America/Los_Angeles"/>
  <entry>

<id>http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calendar
.google.com/public/basic/vk021kggr20ba2jhc3vjg6p8ek</id>
    <published>2007-05-10T02:16:23.000Z</published>
    <updated>2007-05-10T02:16:23.000Z</updated>
    <category scheme="http://schemas.google.com/g/2005#kind"
term="http://schemas.google.com/g/2005#event"/>
    <title type="text">Mixing and Remixing Information Class Open House</title>
    <summary type="html">When: Mon May 7, 2007 1pm to 2pm&amp;nbsp; PDT&lt;br&gt;
&lt;br&gt;Where: 110 South Hall, UC Berkeley &lt;br&gt;Event Status:
confirmed</summary>
    <content type="text">When: Mon May 7, 2007 1pm to 2pm&amp;nbsp; PDT&lt;br&gt;
&lt;br&gt;Where: 110 South Hall, UC Berkeley &lt;br&gt;Event Status:
confirmed</content>
    <link rel="alternate" type="text/html"
href="http://www.google.com/calendar/event?eid=dmswMjFrZ2dyMjBiYTJqaGMzdmpnNnA4ZWsgO
WltZmprNzFjaGtjczY2dDFpNDM2amUwczBAZw" title="alternate"/>
    <link rel="self" type="application/atom+xml"
href="http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calend
ar.google.com/public/basic/vk021kggr20ba2jhc3vjg6p8ek"/>
    <author>
      <name>Mashup Guide Demo Calendar</name>
    </author>
    <gCal:sendEventNotifications value="false"/>
  </entry>
  <entry>

<id>http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calendar
.google.com/public/basic/d9btebsfd121lhqc4arhj9727s</id>
    <published>2007-04-11T14:42:26.000Z</published>
    <updated>2007-04-11T14:42:26.000Z</updated>
    <category scheme="http://schemas.google.com/g/2005#kind"
term="http://schemas.google.com/g/2005#event"/>
    <title type="text">Day 22</title>
    <summary type="html">When: Wed Apr 11, 2007 12:30pm to 2pm&amp;nbsp;
PDT&lt;br&gt;   &lt;br&gt;Event Status:     confirmed</summary>
    <content type="text">When: Wed Apr 11, 2007 12:30pm to 2pm&amp;nbsp;
PDT&lt;br&gt;   &lt;br&gt;Event Status:     confirmed</content>
    <link rel="alternate" type="text/html"
href="http://www.google.com/calendar/event?eid=ZDlidGVic2ZkMTIxbGhxYzRhcmhqOTcyN3MgO
WltZmprNzFjaGtjczY2dDFpNDM2amUwczBAZw" title="alternate"/>
```

```
    <link rel="self" type="application/atom+xml"
href="http://www.google.com/calendar/feeds/9imfjk71chkcs66t1i436je0s0%40group.calend
ar.google.com/public/basic/d9btebsfd121lhqc4arhj9727s"/>
    <author>
      <name>Mashup Guide Demo Calendar</name>
    </author>
    <gCal:sendEventNotifications value="false"/>
  </entry>
</feed>
```

Things to note about this data:

* It is in Atom format.[21]

* It uses GData extension, Opensearch, and Google Calendar extensions.

There are a lot of details in programming Google Calendar. The best thing to do here is to refer you to the excellent online documentation and note a few highlights:

* " Google Calendar Data API Developer's Guide: Protocol" is the best place to start. You learn how to set up some calendars, access the the right URLs for various feeds. [22]

* Follow the advice for the specific language-specific libraries that you want to use.[23] Below, I give a quick run down on how to use the PHP and Python API kits.

Using the PHP API kit

I will recommend starting with the good documentation at

`http://code.google.com/apis/calendar/developers_guide_php.html`

where you will be refered to the Zend Google Data Client Library, which "is available as part of the Zend Framework and also as a separate download. The client library is developed and maintained by Zend and is only available for use with PHP 5.1.4 or later." You can download the Zend Framework from:

`http://framework.zend.com/`

The latest one right now is `ZendFramework-0.9.3-Beta.tar.gz` There is also documentation on the Zend site that is relevant.

`http://framework.zend.com/manual/en/zend.gdata.calendar.html`

You install the Zend framework by copying the files over to a directory of your choice. I dI set up the Zend Framework in

`http://examples.mashupguide.net/lib/ZendFramework/`

To get the demos to work though, I had to comment out the mentions of

```
require_once 'Zend.php';
```

[21] http://en.wikipedia.org/wiki/Atom_(standard)

[22] http://code.google.com/apis/calendar/developers_guide_protocol.html

[23] http://code.google.com/apis/gdata/clientlibs.html

in the files -- and then things worked. It turns out that the Zend.php file has been deprecated but references to it have yet to be removed.[24] You can try out the demos:

```
http://examples.mashupguide.net/lib/ZendFramework/demos/Zend/Gdata/Calendar-AuthSub.php
```

to read the events on your calendar (and see Google Authorization at work).

```
http://examples.mashupguide.net/lib/ZendFramework/demos/Zend/Gdata/Calendar-expanded.php
```

will get you a list of your calendars.

Once you get that far, you can use the documentation and message the working demos to access Google Calendar.

Using the Python API kit

The documentation on the Python API kit is at:

```
http://code.google.com/apis/calendar/developers_guide_python.html
```

Here's a quick how to get jumpstarted:

1. use svn to check out the library:

```
svn checkout http://gdata-python-client.googlecode.com/svn/trunk/ gdata-python-client
```

2. make sure your Python PATH is ok.

3. run the sample program to confirm that things are working.[25]

```
python calendarExample.py --user [username] --pw [password] --delete [true|false]
```

30boxes

30boxes.com is another online calendar service, one that has won some rave reviews.[26] It has very noteworthy features, inaddition to an API -- making it worthwhile describing it here.

For the site, go to:

```
http://30boxes.com
```

For information about the API go to:

* http://30boxes.com/developers

* http://30boxes.com/api/

[24] http://framework.zend.com/issues/browse/ZF-958#action_13285

[25] http://code.google.com/apis/calendar/developers_guide_python.html#GettingStarted

[26] http://30boxes.com/press

A end-user tutorial

Before programming 30boxes, it's useful of course to view it as an end-user.

1. Sign up for an account if you don't already have one:

```
http://30boxes.com/signup
```

2. Once you have an account, login to it:

```
http://30boxes.com/login
```

3. You learn how to do various tasks in 30boxes by consulting the help section (`http://30boxes.com/help`)

One noteworthy thing from the point of view of an end-user: in terms of sharing, it seems that by default all calendars are completely private. You can add buddies. You have options as to how much a given buddy can see:

1. Buddies can see your entire calendar unless you mark an event as "private"

2. Buddies can see events that are marked with a certain tag.

3. Buddies can see only stuff in the buddy page.

30 boxes API

The Main documentation is at:

```
http://30boxes.com/api/
```

You have to get a key:

```
http://30boxes.com/api/api.php?method=getKeyForUser
```

Below, we exercise the API. Please substitute your own <APIKEY> and <AUTHTOKEN>

* Test ping[27]:

```
http://30boxes.com/api/api.php?method=test.Ping&apiKey=<APIKEY>
```

* user.FindByEmail

```
http://30boxes.com/api/api.php?method=user.FindByEmail&apiKey=<APIKEY>&email=yee@ber
keley.edu
```

* user.Authorize Many methods require authorization, which then yields an authorization token. In this example, I use a small picture of me as the application icon.[28] In calling user.FindByEmail, I also drop the returnURL:

[27] http://30boxes.com/api/#t

[28] http://farm1.static.flickr.com/4/5530475_48f80eece8_s.jpg

```
http://30boxes.com/api/api.php?method=user.Authorize&apiKey=<APIKEY>&applicationName
=Raymond+Yee&applicationLogoUrl=http%3A%2F%2Ffarm1.static.flickr.com%2F4%2F5530475_4
8f80eece8_s.jpg
```

I get an authentication token, which I show here as <AUTHTOKEN>

- user.GetAllInfo

```
http://30boxes.com/api/api.php?method=user.GetAllInfo&apiKey=<APIKEY>&authorizedUser
Token=<AUTHTOKEN>
```

- events.Get

```
http://30boxes.com/api/api.php?method=events.Get&apiKey=<APIKEY>&authorizedUserToken
=<AUTHTOKEN>&start=2007-01-01 &end=2007-09-01
```

Note: Some subtleties here. The "end" parameter cannot be more then 180 days after start.

- events.GetDisplayList -- expanded and sorted

```
http://30boxes.com/api/api.php?method=events.GetDisplayList&apiKey=<APIKEY>&authoriz
edUserToken=<AUTHTOKEN>&start=2007-01-01 &end=2007-09-01
```

- todos.Get

```
http://30boxes.com/api/api.php?method=todos.Get&apiKey=<APIKEY>&authorizedUserToken=
<AUTHTOKEN>
```

- todos.Add

```
http://30boxes.com/api/api.php?method=todos.Add&apiKey=<APIKEY>&authorizedUserToken=
<AUTHTOKEN>&text=Eat+more+veggies&externalUID=123456x
```

- todos.Update

```
http://30boxes.com/api/api.php?method=todos.Update&apiKey=<APIKEY>&authorizedUserTok
en=<AUTHTOKEN>&text=Eat+more+veggies+and+fruit&todoId=123110&externalUID=123456x
```

- todos.Delete

```
http://30boxes.com/api/api.php?method=todos.Delete&apiKey=<APIKEY>&authorizedUserTok
en=<AUTHTOKEN>&text=Eat+more+veggies+and+fruit&todoId=123110
```

- events.AddByOneBox

```
http://30boxes.com/api/api.php?method=events.AddByOneBox&apiKey=<APIKEY>&authorizedU
serToken=<AUTHTOKEN>&event=eat+some+sushi+tomorrow+at+7pm
```

Other Calendars

Yahoo! has an important online calendaring service. It had announced in March 2006 that it would open up an API.[29] As of the writing of this chapter (April 2007), no such API has yet appeared. There are other calendaring services, such as Spongecell, that offer an API.[30]

Event Aggregators

Which ones are important? Look at

`http://www.programmableweb.com/apilist/bycat`

and look at the Events-oriented APIs. The ones that have any meaningful number of mashups are upcoming.org and eventful (I think.)

Upcoming

The URL for upcoming is:

`http://upcoming.yahoo.com/`

e.g., `http://upcoming.yahoo.com/event/76140/` for CHI 2007

Documentation for the API can be found at:

`http://upcoming.yahoo.com/services/api/`

Eventful

The URL for the website can be found at:

`http://eventful.com/`

The API is at

`http://www.programmableweb.com/api/Eventful`

You need to request a key:

`http://api.eventful.com/keys/`

PHP API kit for eventful.com

`http://api.eventful.com/libs/Services_EVDB`

```
pear install -f --alldeps http://api.evdb.com/libs/Services_EVDB.latest.tgz
```

Let's say we want to extract:

`http://eventful.com/events/categories/technology?l=Berkeley%2C%20California%2C%20USA`

[29] http://yhoo.client.shareholder.com/press/ReleaseDetail.cfm?ReleaseID=189562

[30] http://spongecell.com/api_info

The corresponding REST call is

```
http://api.evdb.com/rest/events/search?category=technology&location=Berkeley%2C%20Ca
lifornia%2C%20USA&within=25&page_size=5&app_key=<APIKEY>
```

Note that the default is 25 mile radius of location

Let's see how we can do this with the PHP API kit

```
<?php
// http://api.eventful.com/libs/Services_EVDB

ini_set(
  'include_path',
    ini_get( 'include_path' ) . PATH_SEPARATOR . "/home/rdhyee/pear/lib/php" .
PATH_SEPARATOR . '/usr/local/lib/php'
    );

require 'Services/EVDB.php';

// Enter your application key here. (See http://api.evdb.com/keys/)
$app_key = '<APIKEY>';

$evdb = &new Services_EVDB($app_key);

// Authentication is required for some API methods.
$user     = $_REQUEST['user'];
$password = $_REQUEST['password'];

if ($user and $password)
{
  $l = $evdb->login($user, $password);

  if ( PEAR::isError($l) )
  {
      print("Can't log in: " . $l->getMessage() . "\n");
  }
}

// All method calls other than login() go through call().
$args = array(
  'id' => $_REQUEST['id'],
);
$event = $evdb->call('events/get', $args);

if ( PEAR::isError($event) )
{
    print("An error occurred: " . $event->getMessage() . "\n");
    print_r( $evdb );
}

// The return value from a call is an XML_Unserializer data structure.
print_r( $event );
?>
```

`http://examples.mashupguide.net/ch15/evdb1.php?id=E0-001-004433237-3`

gives me info about event # E0-001-004433237-3[31]

Microformats

Relevant URLs:

- http://microformats.org/
- http://en.wikipedia.org/wiki/Microformats
- http://microformats.org/wiki/hcalendar

You can embed hCalendar data -- such as in upcoming.org. These microformats can be acted upon, such as with the following programs such as the Operator Firefox Add-on:

`https://addons.mozilla.org/en-US/firefox/addon/4106`

Install it and go to `http://upcoming.yahoo.com/event/172254/` and see all the microformats embedded.

Interoperability between Calendars and Event Aggregators

Let's study how upcoming and eventful allow users to send an event to a calendar.

eventful allows one to add to:

- Eventful calendar
- Yahoo calendar
- Google calendar
- Microsoft Outlook
- Rabble

You can download:

- iCalendar

According to the Wikipedia article on Yahoo! Calendar, Yahoo! Calendar can "automatically read, integrate, and republish public and personal events syndicated from Eventful, Upcoming, and Evite."[32] (I need to verify this fact.)

Live clipboard

You can copy

[31] http://eventful.com/events/E0-001-004433237-3

[32] http://en.wikipedia.org/wiki/Yahoo_Calendar

```
http://spaces.live.com/editorial/rayozzie/demo/liveclip/liveclipsample/techPreview.h
tml
```

You can copy to Live Clipboard

```
http://spaces.live.com/editorial/rayozzie/demo/liveclip/liveclipsample/clipboardexam
ple.html
```

Use the Operator Add-on to formulate the live clipboard example and paste the microformat.

Syntax for buttons/URLs to add events

http://www.google.com/googlecalendar/event_publisher_guide.html#individual

Using this example

http://eventful.com/events/E0-001-004433237-3

study the URLs to add to various calendars:

Yahoo

```
http://calendar.yahoo.com/?v=60&view=d&type=20&title=What+Should+We+Do+With+Our+Digi
tized+Books%253F&st=20071102T110000&rend=20071102T123000&desc=The+University+of+Cali
fornia+is+engaged+in+partnerships+with+Google+and+the+Open+Content+Alliance+to+digit
ize+thousands+of+books+from+university%2527s+libraries.++What+will+our+patrons+want+
to+do+with+these+digital+books%253F++What+is+even+possible+to+do%252C+from+a+functio
nal%252C+technical%252C+or+legal+context%253F++What+fascinating+ways+can+we+imagine+
--+or+not+imagine+--
+how+these+books+will+be+presented%252C+interpreted%252C+analyzed%252C+remixed+and+u
nderstood%253F+++What+services+should+our+libraries+build+to+support+such+scenarios%
253F+++How+do+we+engage+our+potential+users+now%253F+How+do+we+prototype+these+servi
ces%253F%250A%250AThis+session+will+be+a+hands-
on+demonstration+of+the+possibilities%252C+combined+with+group+brainstorming+and+dis
cussion.+++Participants+will+learn+about+the+functional%252C+technical%252C+and+soci
al%252Flegal+context+of+digitized+books+via+a+close+and+interactive+study+of+concret
e+examples.+Please+bring+your+laptop+if+possible%2521&in_loc=University+of+Californi
a%252C+Berkeley&in_csz=Berkeley,+CA++
```

Google

```
http://www.google.com/calendar/event?action=TEMPLATE&dates=20071102T1100
00/20071102T123000&ctz=US/Pacific&text=What+Should+We+Do+With+Our+Digiti
zed+Books%3f+at+University+of+California,+Berkeley&location=,Berkeley,Ca
lifornia,United+States&details=The+University+of+California+is+engaged+i
n+partnerships+with+Google+and+the+Open+Content+Alliance+to+digitize+tho
usands+of+books+from+university's+libraries.++What+will+our+patrons+want
+to+do+with+these+digital+books%3f++What+is+even+possible+to+do,+from+a+
functional,+technical,+or+legal+context%3f++What+fascinating+ways+can+we
+imagine+--+or+not+imagine+--
+how+these+books+will+be+presented,+interpreted,+analyzed,+remixed+and+u
```

```
nderstood%3f+++What+services+should+our+libraries+build+to+support+such+
scenarios%3f+++How+do+we+engage+our+potential+users+now%3f+How+do+we+pro
totype+these+services%3fThis+session+will+be+a+hands-
on+demonstration+of+the+possibilities,+combined+with+group+brainstorming
+and+discussion.+++Participants+will+learn+about+the+functional,+technic
al,+and+social/legal+context+of+digitized+books+via+a+close+and+interact
ive+study+of+concrete+examples.+Please+bring+your+laptop+if+possible!&sp
rop=partner:evdb.com&sprop=partneruuid:E0-001-004433237-3
```

Outlook

http://eventful.com/ical/events/E0-001-004433237-3/E0-001-004433237-3.ics

Using iCalendar

Since iCalendar is an important data format, it's worth looking at bit more at how to manipulate it in PHP and Python.

iCalendar and Python

A good Python module to use is iCalendar:

`http://codespeak.net/icalendar/`

As of the type of writing, latest version is 1.2. You download

`http://codespeak.net/icalendar/iCalendar-1.2.tgz`

and run

```
python setup.py install
```

(Version 1.2 uses Python eggs.)

To run a basic test of iCalendar interoperability, I created an event on Apple iCal and emailed it to myself (On my notebook, the filename is

`D:\Document\Docs\2007\05\iCal-20070508-082112.ics`

What's actually in the file?

```
BEGIN:VCALENDAR
VERSION:2.0
X-WR-CALNAME:open house at the Academy
PRODID:-//Apple Computer\, Inc//iCal 2.0//EN
CALSCALE:GREGORIAN
METHOD:PUBLISH
BEGIN:VTIMEZONE
TZID:US/Pacific
LAST-MODIFIED:20070508T152112Z
BEGIN:DAYLIGHT
```

```
DTSTART:20070311T100000
TZOFFSETTO:-0700
TZOFFSETFROM:+0000
TZNAME:PDT
END:DAYLIGHT
BEGIN:STANDARD
DTSTART:20071104T020000
TZOFFSETTO:-0800
TZOFFSETFROM:-0700
TZNAME:PST
END:STANDARD
END:VTIMEZONE
BEGIN:VEVENT
DTSTART;TZID=US/Pacific:2007 0510T190000
DTEND;TZID=US/Pacific:20070510T200000
SUMMARY:open house at the Academy
UID:AAE603F6-A5A1-4E11-91CF-E6B06649A756
ORGANIZER;CN="Raymond Yee":mailto:rdhyee@yahoo.com
SEQUENCE:6
DTSTAMP:20070508T152047Z
END:VEVENT
END:VCALENDAR
```

Now, I want to read it in using Python. Let's also consult the documentation to build a simple example.[33]

```
from icalendar import Calendar, Event
fname = r'D:\Document\Docs\2007\05\iCal-20070508-082112.ics'
cal = Calendar.from_string(open(fname,'rb').read())
ev0 = cal.walk('vevent')[0]
print ev0
```

If you run it, you get:

```
BEGIN:VEVENT
DTEND;TZID=US/Pacific:20070510T200000
DTSTAMP:20070508T152047Z
DTSTART;TZID=US/Pacific:20070510T190000
ORGANIZER;CN=Raymond Yee:mailto:rdhyee@yahoo.com
SEQUENCE:6
SUMMARY:open house at the Academy
UID:AAE603F6-A5A1-4E11-91CF-E6B06649A756
END:VEVENT
```

An alternative library is http://vobject.skyhouseconsulting.com/

[33] http://codespeak.net/icalendar/, http://codespeak.net/icalendar/example.html, http://codespeak.net/icalendar/small.html and http://codespeak.net/icalendar/groupscheduled.html

iCalendar and PHP

A possibly useful module:

- `http://phpicalendar.net/`
- `http://www.kigkonsult.se/iCalcreator/index.php` (iCalcreator) -- " PHP implementation of RFC2445, creating iCal formatted files, iCal/xCal.... Next major release (2.x) will include functions for iCal file parsing and component editing and is scheduled to be implemented and tested within five-six-seven weeks."
- `http://www.nabber.org/projects/ical/` -- libical -- " a read/write library of classes for object oriented languages (Initial goals of PHP and Python) that implement and enforce the iCal standard (RFC 2445)"
- Bennu: "an object-oriented library written in PHP that implements the iCalendar standard (RFC 2445). It is easy to use, fully standards compliant, and powerful." `http://bennu.sourceforge.net/`)

What Applications Can read iCalendar?

First I validated the file with the iCalendar Validator:[34]

`http://severinghaus.org/projects/icv/`

With

`D:\Document\Docs\2007\05\iCal-20070508-082112.ics`

the following applications could successfully read the file:

- Google Calendar
- 30boxes.com: `http://30boxes.com/help?tab=addingEvents`

I couldn't get the following to work:

- Microsoft Outlook 2003. Others have fou]TJ90 44ook 2rugan endar Va28 Tm0c 0.4e f:o bene fabilityPHP

> *xCal is a representation of iCalendar objects in XML. xCal is not an alternative nor next generation of iCalendar. xCal does represent iCalendar components, properties, and parameters as defined in iCalendar.*

Since `http://tools.ietf.org/html/draft-royer-calsch-xcal-03` is a draft that expired on April 25, 2006, I don't know whether more work is forthcoming.

RDF experimental work: `http://www.w3.org/TR/2005/NOTE-rdfcal-20050929/`

More notes: `http://www.innerjoin.org/iCalendar/import-export-xCal.html`

Email integration with Calendars

GMail can make iCalendar attachments. If it gets one, I think you can add the event to Google Calendarendar.

Mashup Ideas

Now that you have worked through the UIs and APIs for a variety of calendar and event aggregation services, you have at your disposal knowledge of how to use the following:

- Google Calendar
- 30boxes.com
- upcoming.yahoo.com
- eventful.com

Let me brainstorm some ideas of applications:

- EccoPro (a PIM) + iCalendar import and export + wxPython app. That would be a good test of one's knowledge of iCalendar, especially VEVENT, VTODO, VJOURNAL, freebusy (any synchronization functionality in iCalendar?) How to deal with repeating events?
- synchronization between personal and group calendars: Google Calendar, 30Boxes OR CalDAV/WebDAV or some open source system (Cosmo: http://cosmo.osafoundation.org/)
- using Greasmonkey to add some more functionality to existing group event calendars -- adding hCalendar microformats and/or buttons to add to specific calendars or download iCalendar files.
- server-side scripts to generate iCalendar files or push data into Google Calendar/30boxes/upcoming/eventful from UC Berkeley events or SF Chronicle or East Bay Expess events (LJWorld and Washington Post had less than I thought it might.)
- maybe a simpler application: upcoming/eventful -> Google Calendar mashup
- Yahoo! Pipoes on filters on upcoming and eventful for Bach, Matisse, Chinese related events and packaged as alerts for me.

Conclusions

Some points to note:

- Online calendars are becoming more popular -- they are especially useful when they have APIs and feeds to help with data integration.
- Event aggregators are interesting complements in this space to the online calendars.
- iCalendar is an important data exchange standard. There are variant forms that play off of it: hCalendar and parts of the Google Atom format for calendars

----

Other stuff that may or may not make it it to the final draft.

Basecamp/ Python API

```
bc = basecamp.Basecamp('https://ist-dataservices.grouphub.com/',"Raymond",
"<MYPASSWORD>")
bc.create_milestone(530019,"learn the Basecamp API","2007-03-10",746005,True)
create_milestone(self, project_id, title, deadline, party_id, notify)

curl -H 'Accept: application/xml' -H 'Content-Type: application/xml' -u
Raymond:xyz123ds! -d '<request>'  https://ist-
dataservices.grouphub.com/contacts/person/746005
```

In windows -- must use " not '

- to get person info

```
curl  -H "Accept: application/xml" -H "Content-Type: application/xml" -u
Raymond:xyz123ds!  https://ist-dataservices.grouphub.com/contacts/person/746005
```

- create a milestone

```
curl  -H "Accept: application/xml" -H "Content-Type: application/xml" -u
Raymond:xyz123ds!  -d  "<request> <milestone><title>Learn the Basecamp
API</title><deadline type='date'>2007-03-10</deadline> <responsible-
party>746005</responsible-party>     <notify>true</notify> </milestone> </request>"
https://ist-dataservices.grouphub.com/projects/530019/milestones/create
```

- try the Python output

```
curl  -H "Accept: application/xml" -H "Content-Type: application/xml" -u
Raymond:xyz123ds!  -d  "<request><milestone><title>learn the Basecamp
API</title><deadline type='date'>2007-03-10</deadline><responsible-
party>746005</responsible-party><notify>true</notify></milestone></request>"
https://ist-dataservices.grouphub.com/projects/530019/milestones/create
```

References

- I want to work through Jon Udell's article: http://blog.jonudell.net/2007/01/31/calendar-cross-publishing-concepts/

Palm synchronization

I have had a Palm Pilot of one form or another for quite a few years now (Palm V, Treo 300, Treeo 700p). I've always kept the Palm calendar up to date via a palm conduit that Ecco Pro includes. That is, the way I get events (and to dos, contact info) on the Palm is to put that data into Ecco Pro first and then use the Palm synchronization mechanism.

In some cases, it would be nice to have more direct access to the Palm data. For instance, many of you Palm owners would not be using Ecco Pro. To that end, I've been wanting to figure out the basics of programming the Palm Pilot or writing a synchronization tool. Here are some starter references that I've found so far:

- Building Palm Conduits, Part 1[36] -- the first of a four-part series. The links for the other three parts are contained in the first part.
- the Python Pyrite project (which may be very old).[37] At least there is some documentation of the palm .doc file format
- Is the following helpful: http://www.coldsync.org/

Sunbird and Lightning

Still very experimental.

- http://www.mozilla.org/projects/calendar/ to get to both Sunbird and Lightning (an extension for Thunderbird)
- I installed https://addons.mozilla.org/en-US/thunderbird/addon/2313 into Thunderbird.
- With Lightning installed, if I get an email with an attached iCalendar file, I can add the event(s) to the Lightning calendar.
- http://www.linuxjournal.com/article/8091 ("Sunbird and iCalendar") describes the role played by iCalendar in Sunbird -- and presumably Lightning.

Google Base

`http://base.google.com/base/search?authorid=1604565&hl=en&gl=US`

More stuff to cover -- if I have space and time

- webcal:// for subscribing -- works in Apple iCal -- http://en.wikipedia.org/wiki/Webcal

[36] http://www.ondotnet.com/pub/a/dotnet/excerpt/vbpalm_4/index1.html

[37] http://www.pyrite.org/doc_format.html

Creating a Google Calendar of Berkeley Events

How to create a public calendar programmatically so that others can access those events? The specific development scenario I have in mind is creating a Google Calendar version of the Berkeley Events Calendar (http://events.berkeley.edu).