

Build and Share

Developing CiviCRM Extensions

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Agenda

- Goals
- What's New
 - Extension Directory
 - Module Extensions
 - APIs
- Demo: Browse & Install Extensions
- Demo: Notify Event Speakers
 - Write basic extension
 - Publish via CiviCRM.org
- Demo: Record Registrant IPs
 - Write advanced extension with SQL, UI regions, resource files

Directory: civicrm.org/extensions

LOGIN | REGISTER

BLOG | DEMO | FIND AN EXPERT | NEED HELP | SUPPORT US [DEVELOPER RESOURCES](#)



WHAT IS CIVICRM

WILL CIVICRM MEET YOUR NEEDS?

GET STARTED

PARTICIPATE

Community Contributed Extensions and Modules Directory

[Extensions Home](#)

[Index](#)

[Advanced Search](#)

[CMS independent](#)

[Drupal](#)

[Joomla!](#)

[WordPress](#)

CiviCRM Extensions and Modules are packaged pieces of functionality that extend CiviCRM's out-of-the-box functionality.

CiviCRM extensions can be provided in the form of **CiviCRM-native extensions**, independent from CMS platform, or **CMS-native modules** that are installed as modules for Drupal, Joomla! or Wordpress CMS.

If you know of an Extension that should be listed here, [please submit it](#).

If you can't find what you are looking for, try **other search tabs**

[Submit an Extension](#)

Extension Name

Description

[CiviCRM Congressional Districts Module](#)

Posted by kreyne on Aug 7 2012 - 08:35 (last updated 1 month 1 week ago)

Part of the Sunlight Congressional Districts module. Provides a way to automatically get congressional district information about your contacts into CiviCRM using the Sunlight Congress API. [... Read more](#)



[CiviCRM Contact Form Integration](#)

Posted by colemanw on Aug 8 2012 - 14:10 (last updated 1 month 1 week ago)

The Drupal core contact module provides a no-frills way for users to email you via a simple webform. If you like that module, but would also like those form submissions to be recorded in CiviCRM, then this no-frills extension is for you. [... Read more](#)



Directory: In-App UI

CiviCRM Extensions



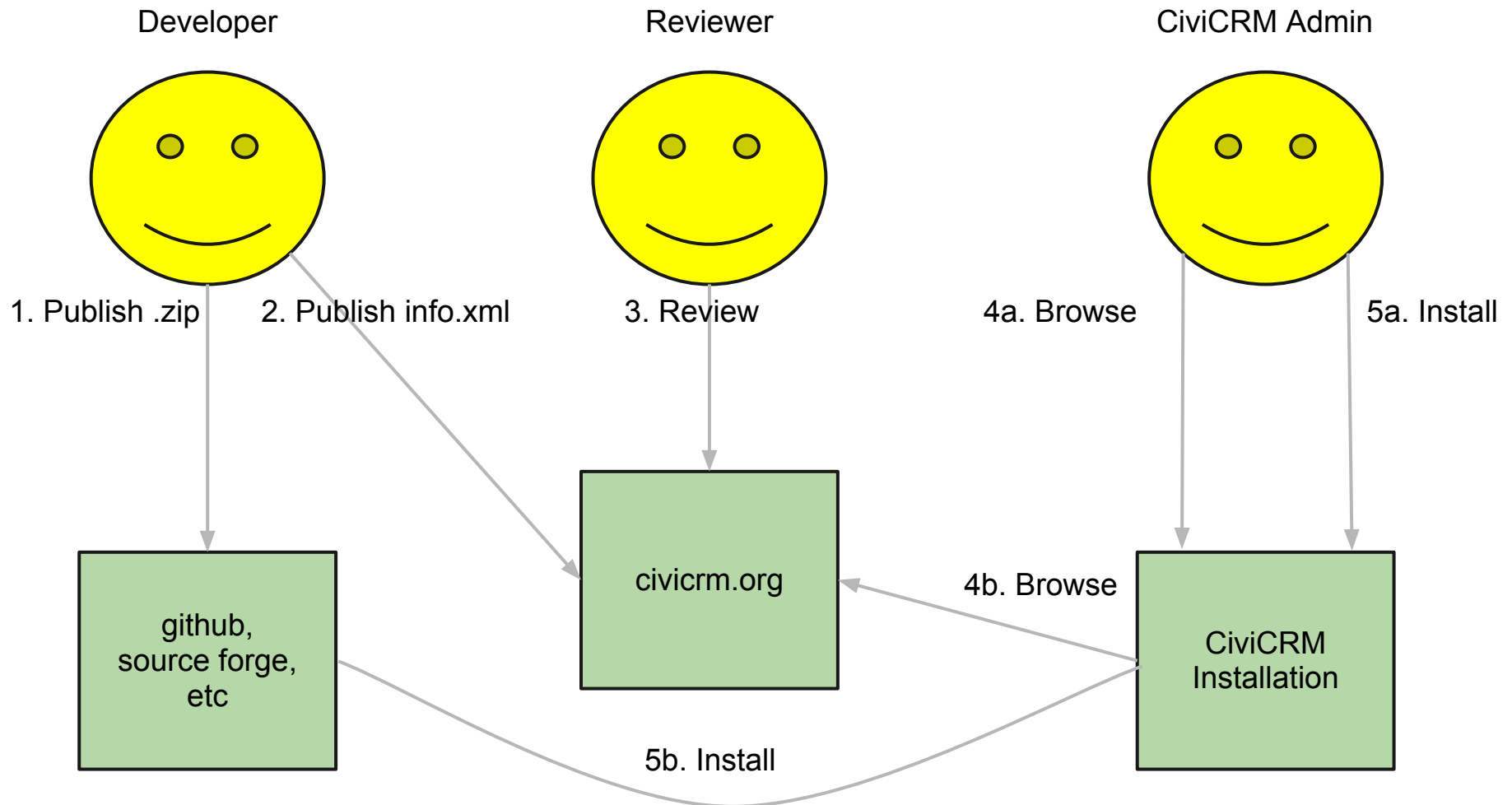
↻ Refresh

CiviCRM extensions allow you to install additional features for your site. This page will automatically list the available "native" extensions from the [CiviCRM.org extensions directory](#) which are compatible with this version of CiviCRM. If you install Custom Searches, Reports or Payment Processor extensions - these will automatically be available on the corresponding menus and screens. You may also want to check the [extensions directory](#) for native Drupal modules that may be useful for you (CMS-specific modules are not listed here).

◆ Extension name (key)	◆ Status	◆ Version	◆ Enabled?	◆ Type	
▶ Notify Speakers (com.example.notifyspeakers)	Local only	1.0	Yes	Module	Install
▶ Stripe (com.drastikbydesign.stripe)	Available	1.1	Yes	Module	Install
▶ ExtendedReport (nz.co.fuzion.extendedreport)	Available	1.1	Yes	Module	Install
▶ nz.co.fuzion.omngateway (nz.co.fuzion.omngateway)	Available	1.1	Yes	Payment	Install
▶ CiviDiscount Module Extension (org.civicrm.module.civildiscount)	Available	1.0	Yes	Module	Install
▶ Sagepay (uk.co.circleinteractive.payment.sagepay)	Available	1.1	Yes	Payment	Install

↻ Refresh

Directory: In-App Process



Module Extension: Goals

- Implement new event-processing tasks, integrations, data tables, web-pages
- Collaborate on cross-CMS projects
- Schedule releases flexibly
- Simplify development
 - Quick Start (code generation)
 - The Big Matrix

Module Extensions: Evolution

- CiviCRM 1.x
 - CiviCRM custom template dir / PHP dir
 - Drupal Module

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 - CiviCRM Payment Processor Extension
 - CiviCRM Report Extension
 - CiviCRM Search Extension
- CiviCRM 4.0
 - Joomla Plugin

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 - CiviCRM Search Extension
- CiviCRM 4.0
 - Joomla Plugin
- CiviCRM 4.2
 - CiviCRM Module Extension

Module Extensions: Comparison

<u>Platform</u>	<u>Package Type</u>	<u>CiviCRM APIs</u>	<u>CMS APIs</u>	<u>Code Gen</u>	<u>Distribution</u>
CiviCRM (Any CMS)	Extension (Module)	APIv3, Hooks, BaseClasses, Templates	None	Yes	civicrm.org (browse)
Drupal	Module	APIv3, Hooks, BaseClasses*, Templates*	CRUD, Hooks, etc	No	drupal.org (upload / url)
Joomla	Extension (Plugin)	APIv3, Hooks, BaseClasses*, Templates*	CRUD, Events, etc	No	joomla.org (upload / url)
WordPress	Plugin	APIv3	CRUD, Actions, Filters, etc	No	wordpress.org (browse)

See also: The Big Matrix at <http://bit.ly/RjkoVo>

New APIs: Goals

- Make CiviCRM module-extensions a viable alternative to Drupal Modules and Joomla Plugins
- Make specialized extension types unnecessary

New APIs: CRM_Core_Resources

Add Javascript

```
CRM_Core_Resources::singleton()->addScriptFile(' com.example.foo', 'bar.js');  
CRM_Core_Resources::singleton()->addScript('alert("Hello")');  
{crmScript ext=com.example.foo file=bar.js}
```

Add stylesheets

```
CRM_Core_Resources::singleton()->addStyleFile(' com.example.foo', 'bar.css');  
CRM_Core_Resources::singleton()->addStyle(' body { background: black; }');  
{crmStyle ext=com.example.foo file=bar.css}
```

Add images, sounds, etc

```
CRM_Core_Resources::singleton()->getUrl(' com.example.foo', 'bar.png');  
{crmResURL ext=com.example.foo file=bar.png}
```

New APIs:

CRM_Core_Region

```
CRM_Core_Region::instance('page-header')->add(array(
    'markup' => '<p class="example">Hello!</p>',
));
```

```
CRM_Core_Region::instance('page-header')->add(array(
    'markup' => '<p class="example">Hello!</p>',
    'weight' => -5,
));
```

```
CRM_Core_Region::instance('page-header')->add(array(
    'template' => 'CRM/Myextension/mytemplatefile.tpl',
));
```

```
CRM_Core_Region::instance('page-header')->update('default', array(
    'disabled' => TRUE,
));
```

New APIs: hook_civicrm_managed

```
/**
 * Declare a report which should be activated whenever this module is enabled
 */
function modulename_civicrm_managed(&$entities) {
  $entities[] = array(
    'module' => 'com.example.modulename',
    'name' => 'myreport',
    'entity' => 'ReportTemplate',
    'params' => array(
      'version' => 3,
      'label' => 'Example Report',
      'description' => 'Longish description of the example report',
      'class_name' => 'CRM_Modulename_Report_Form_Sybunt',
      'report_url' => 'mymodule/mysbunt',
      'component' => 'CiviContribute',
    ),
  );
}
```

Further Reading

Tutorial on creating & publishing extensions

<http://wiki.civicrm.org/confluence/display/CRMDOC42/Create+an+Extension>

(Alt) <http://bit.ly/St3vru>

Reference on APIs, hooks, etc

<http://wiki.civicrm.org/confluence/display/CRMDOC42/Developer+Reference>

(Alt) <http://bit.ly/StWl0H>

CiviCRM developer tools

<https://github.com/totten/civix>

https://github.com/eileenmcnaughton/civicrm_developer

Demos

eof()

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IRC: totten

Administrator Perspective

- mkdir \$WEBROOT/ext
- Administer => System Settings
- Administer => Customize => Manage Extensions

Example:

Notify Event Speakers

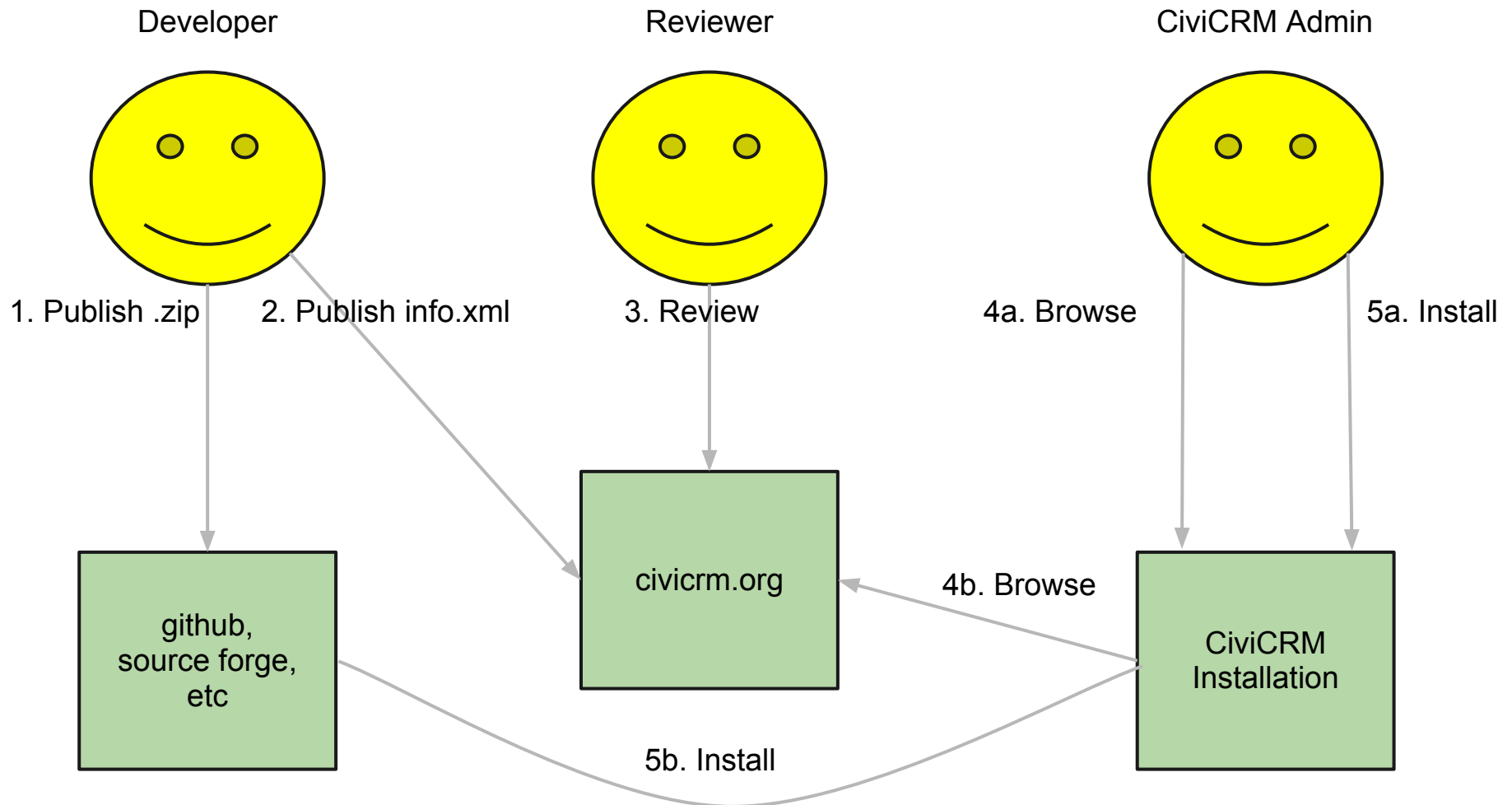
- **Description**: Send email notification to event speakers when a new registrant signs up
- Install composer/civix
- Init module
- Init repo
- Implement `hook_civicrm_postProcess`
 - with an assist from Eileen's `civicrm_developer`

Example:

Record Registrant IPs

- **Description**: Record and display the IP address of each event registrant
- Init module
- Init repo
- Create SQL table
- Record IP during registration
- Display block on

Recall: Distribution



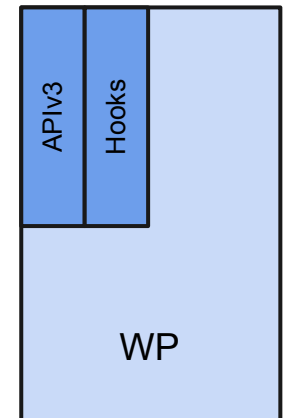
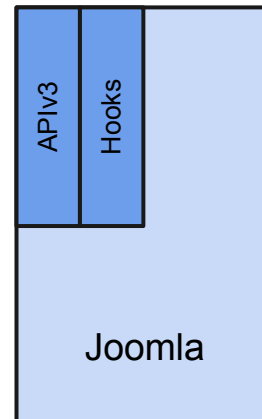
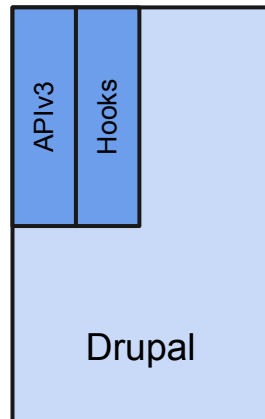
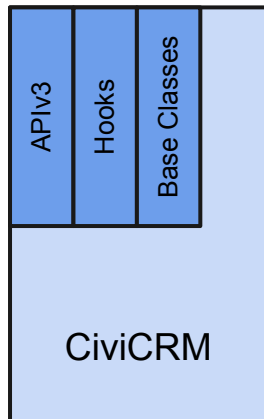
Architecture



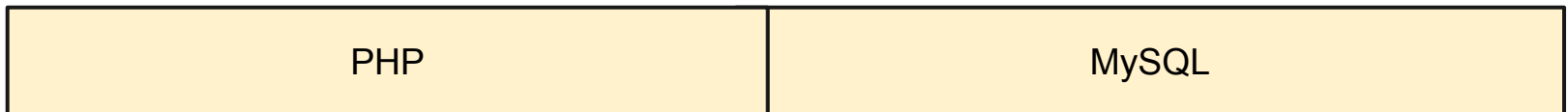
You



Platform



LAMP



New APIs

- CRM_Core_Resources
 - ex: add JS, CSS, or PNG
- CRM_Core_Region
 - ex: insert code at top or bottom
- hook_civicrm_managed
 - ex: register new payment processor in DB
- api/v3/PaymentProcessor
- api/v3/ReportTemplate
- api/v3/CustomSearch