CiviCon 2015 - Denver

CiviCRM/Drupal Integration

Presented by Skvare
https://skvare.com
Mark Hanna
Senior Developer, Skvare

Benefits of Robust CiviCRM/Drupal Integration

CiviCRM has access to Drupal's ability to scale big

Multitude of existing add on modular functionality ~20,000 modules

Large ecosystem of Drupal Developers and Site Builders

Attracting New Drupal Developers and Implementers to integrate CiviCRM

Theme it once, make it responsive!

Organizations spend a lot of time and money on custom themes

Leverage that theme effort for CiviCRM data and forms

Mobile phones now represent 50%+ of web traffic.

Any public facing form, information, content should be responsive

 Event registration, donation, membership forms, membership directories, event information pages…

Better SEO, get more and better content integrated with CiviCRM forms

Benefits of Robust CiviCRM/Drupal Integration

Drupal is evolving into a "Systems Management System" -- so many 3rd party services integrate with Drupal

- Google's different Services and public APIs
- Mailchimp
- Disqus
- ShareThis, Reddit

By connecting CiviCRM with Drupal, you can mix, promote, and cross reference CiviCRM data with data from external sources.

Make CiviCRM/Drupal the "database of record", the hub of your organization's data wheel

Associate CiviCRM contacts with data from

- Google Analytics
- Google Civic Information
- Facebook accounts, Twitter accounts

Drupal modules integrating CiviCRM

General Integration

Specific Integration

CiviCRM Entity -- Integrate data for use by Core and many modules

CiviCRM data as Drupal Entities. Opens up CiviCRM data to functionality from Drupal Core and modules that use the Entity API

Webform CiviCRM -- Integrate forms and business functionality

Create Drupal webforms that interact with CiviCRM, great UI, lots of development customization possibilities.

Views CiviCRM Expose Tables -- Expose raw data for display

Expose any CiviCRM table to Views

Views in CiviCRM Dashlets -- Put the display in a certain location

Display a Drupal view in a CiviCRM Dashlet

Commerce CiviCRM -- Specific functionality

Integrate Drupal Commerce with CiviCRM, connect purchaser to CiviCRM contacts, create CiviCRM contribution data for Drupal side purchases

Many Many more:
https://www.drupal.org/search/site/civicrm?f[0]=ss_meta_type%3Amodule

Views in CiviCRM Dashlets

Overview

- The Views in CiviCRM Dashlets enables creation of custom dashlets.
- The robust flexibility of Views can now be used to create dashlets.
- Site builders can quickly create dynamic dashlet content. Takes only minutes!
- Custom dashlets without hard coding CiviCRM reports
- Create dashlets with CiviCRM data, Drupal data or both.
- If data can be used in a View, it can be used in a CiviCRM dashlet

Requirements

CiviCRM 4.4, 4.5, or 4.6

Drupal 7, Views 3

Download

https://www.drupal.org/sandbox/brandonferrell/2389543

Developed by Brandon Ferrell, Developer, Skvare

Views in CiviCRM Dashlets - Features

- Custom dashlets without hard coding CiviCRM reports
- Provides A CiviCRM Dashlet Views display plugin
- Views integration functionality
  - Ajax exposed filters, inside the dashlet
  - Ajax exposed sorts
  - Ajax pagination
  - Toggle CiviCRM Dashlet enabled/disabled
  - Use Views standard fields, headers, footers, etc..

Views in CiviCRM Dashlets

Views in CiviCRM Dashlets

Views in CiviCRM Dashlets

Use Cases:

- Provide quick links to documentation in Drupal nodes
- Maintain quick links to external resources
- Make custom reports of CiviCRM data, no coding required
- Answer questions, faster and easier
  - "This week's new student memberships"
  - "Total contributions for today"
  - "Total merchandise sales for the year"
  - "Total no-shows to last nights event"
  - "How many people purchased the dinner option for the conference event"

Views in CiviCRM Dashlets

Quickly build custom searches using Views with exposed filters.

- Multiple filterable types of searches on the Dashboard.
- Search for contacts, members, contributions, participants from one location

Integrate any Drupal or Drupalized data

- Integrate external data such as Google Analytics/AdWords Campaign information on the Dashboard.
- Track impact of marketing campaigns to memberships, contributions, or event registrations

Views in CiviCRM Dashlets

Install the module in the normal Drupal fashion

1. Create a new View. Add fields, filters, sorts, relationships, header and footer text, or no-results text as normal.
2. Set 'Use Ajax' to yes
3. Add a CiviCRM Dashlet Views Display
4. Set the Description (this will be the label of the Dashlet)
5. Set the Active, is_fullscreen, and weight properties in the "CiviCRM Dashlet Settings" section
6. Set the page display path in the Page settings section
7. Goto <site_root>/civicrm
8. Click Configure Dashboard
9. Find you dashlet and drag onto one of the Dashboard panes
10. Click Done

Views in CiviCRM Dashlets

Recommended Views features or add-on modules to use in conjunction:

Aggregation

Views Calc -- provides SUM, COUNT, MIN, MAX, and other operations on views data

Views Data Export -- exports views results as a csv,xls

Views Aggregator Plus -- provides advanced aggregation

Views CiviCRM Expose Tables

CiviCRM Entity

For developers: views hooks run and affect the output. We've used this method to create dc.js/d3 graphs of views data in Dashlets. Sky's the limit

There are hundreds of modules that extend Views, try them out and let us know!

Views CiviCRM Expose Tables

Overview

This module is a utility module, intended for use by Drupal site builders to create Drupal interfaces or reports of CiviCRM data with Views that were previously unavailable to them except by developing code with knowledge of the CiviCRM API, the BAO or DAO, or php CiviCRM Reports.

Views CiviCRM Expose Tables provides an admin interface listing every table in the CiviCRM database and allowing a admin to check which tables to expose.

Download:

https://www.drupal.org/sandbox/markusa/2474103

Developed by Mark Hanna, Senior Developer, Skvare

Views CiviCRM Expose Tables

Use Cases and real world examples

Create a custom formatted list of contribution pages which a potential donor could contribute to.

Create a set of Views to display an organized interface for a Crowdfunding website which contains multiple CiviCRM Campaigns, Contribution Pages, which each have multiple CiviCRM Personal Campaign Pages.

Expose CiviCRM extension data in Views

Custom list of system log entries.

Lots of possibilities, use your imagination!

Views CiviCRM Expose Tables

Crowdfunding with Personal Campaign Pages

Useful for both front-end interfaces and reporting

How to connect CiviCRM campaign, contribution page, Personal Campaign Pages, and Team Campaign extension data in one easy to navigate user interface?

Views CiviCRM Expose Tables

https://crowdfund.umn.edu/campaign/1

Uses Views CiviCRM Expose Tables to expose the contribution_page table. The view accepts a contextual filter of the contribution page id which is passed to 2 other views embedded in the first view with the Views Field View module. These secondary views list the Team and Personal Campaign pages which have the same page_id column value corresponding with the contribution_page id it is connected with.

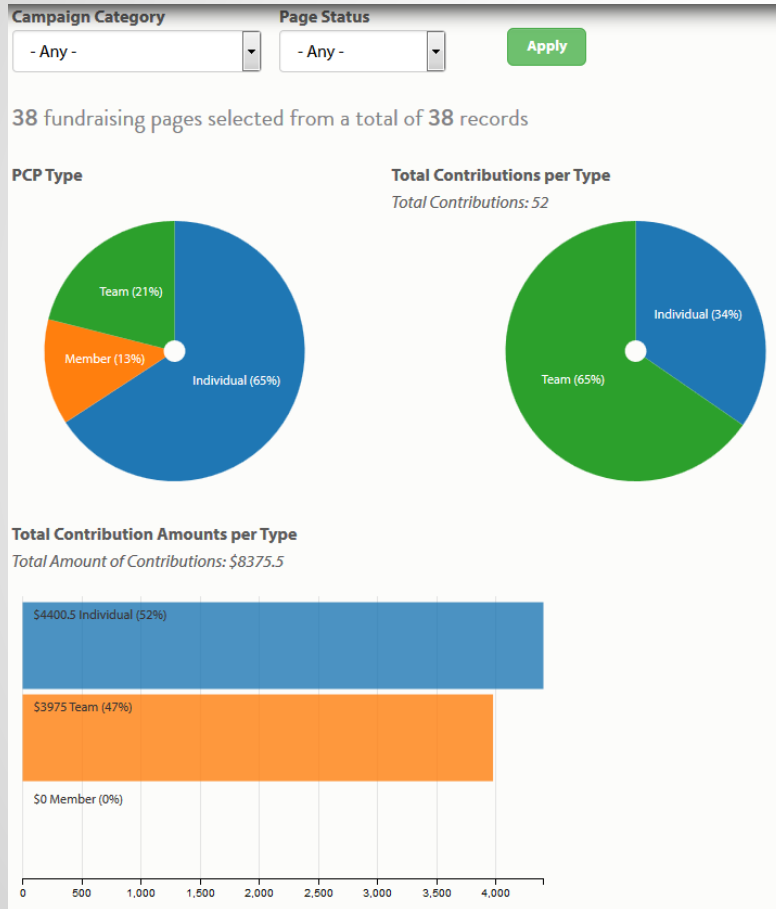PCP Teams Extension -- Mathieu Lutfy

https://github.com/mlutfy/ca.bidon.pcpteams

Views Field View

https://www.drupal.org/project/views_field_view

Views based Interactive Graphs

Can be placed in Dashlets

Some assembly required, but not much

Views CiviCRM Expose Tables

Download the module and install in the normal Drupal fashion.

<site_root>/admin/structure/views/expose_civicrm_tables

The module will attempt to detect the CiviCRM's database name from the values in the settings.php

Check the tables you want to expose. Click Save

Create a new View. The checked tables will now be shown in "Show" dropdown on the View create page.

All columns exposed as fields.

The module detects table column type and attempts to provide appropriate views field, filter, sort, and argument handlers.

String, numeric, datetime, and default

Views CiviCRM Expose Tables

Home » Administration » Structure » Views

Views CiviCRM Expose Tables ⊕

Follow the instructions in the CiviCRM Views 3 Intregration wiki first. This makes Drupal aware of the database tables.

Then go to the CiviCRM CMS Integration Settings page and copy the code displayed there to your Drupal settings.php file

CiviCRM database

civicon2015_civicrm

Enter the CiviCRM database name.

CiviCRM tables to expose as raw data to views

☐ civicrm_acl

☐ civicrm_acl_cache

☐ civicrm_acl_contact_cache

☐ civicrm_acl_entity_role

☐ civicrm_action_log

☐ civicrm_action_mapping

☐ civicrm_action_schedule

☐ civicrm_activity

☐ civicrm_activity_contact

☐ civicrm_address

☐ civicrm_address_format

☐ civicrm_batch

☐ civicrm_cache

Views CiviCRM Expose Tables

Views CiviCRM Expose Tables

Developers: For maximum utility, create a small module to add Views Relationships to connect exposed tables. Example below.

```
YOUR_MODULE_views_data_alter(&$data) {
//CiviCRM Event Queue View adds relationship to the civicrm_mailing_event_bounce table
   $data['civicrm_mailing_event_queue']['civicrm_mailing_event_bounce'] = array(
   'group' => t('CiviCRM Mailing Bounce'),
   'title' => t('CiviCRM Mailing Event Bounce'),
   'help' => t('Joins with the civicrm_mailing_event_bounce table'),
   'relationship' => array(
      'handler' => 'views_handler_relationship',
      'label' => t('civicrm_mailing_event_queue_related_to_civicrm_mailing_event_bounce'),
      'title' => t('civicrm_mailing_event_queue_related_to_civicrm_mailing_event_bounce'),
      'base' =>   'civicrm_mailing_event_bounce',
      'base field' => 'event_queue_id',
      'relationship field' => 'id',
   ),
 );
}
```

CiviCRM Entity 2.x

Overview

Drupal module

Exposes CiviCRM data as Drupal data. CiviCRM data becomes properties of Drupal Entities.

Learn what it does and what you can do with it.

Thanks Eileen for creating this awesome module!

https://www.drupal.org/project/civicrm_entity

Use case? 1001 and uses. To understand, lets understand what it does

Skvare is an active contributor including code for:

- Drupal field integration
- Display Suite Integration
- Drupal view/add/edit/delete forms
- Bugfixes

CiviCRM Entity

Drupal = <u>C</u>ontent Management System

CiviCRM =<u>C</u>onstituent Management System

Each has a feature set to handle the needs of its "C" with excellence

Lets make them one. Synthesis

CiviCRM Entity

CiviCRM Entity = The Glue, The Welding Torch

CiviCRM Entity makes Drupal think CiviCRM data is Drupal data.

CiviCRM Entity 2.x Features

Do more with your CiviCRM data!

Exposes 17 CiviCRM entities as Drupal Entities

Rules Integration

Drupal Fields!

Display Suite Integration

Site building only custom view pages, edit forms

Customizability

Exposes CiviCRM data to Drupal's powerful and popular Entity API

Existing Drupal modules that act on Entities via the Entity API can interact with CiviCRM data

CiviCRM Entity 2.x

Rules Integration

- React to CiviCRM entity create/update/delete
- Create Drupal users upon new membership create

Drupal displays of CiviCRM Data

- Public facing data theme once, responsively
- Provide configurable, custom displays of data, no coding required

Provide limited scope admin/add/edit forms.

Make CiviCRM data available to a wide range of existing Drupal modules

Entity Tokens provides CiviCRM data as Drupal tokens to any module that utilizes them.

CiviCRM Entity 2.x

Drupal View Pages

Available at paths such as /civicrm-contact/1, or [entity-name]/[id]

Display Suite Integration

Create multiple view modes of CiviCRM data

Display Suite "custom" fields, combine field data with tokens

Place and order CiviCRM entity properties and Drupal fields in Display Suite layout regions,

Show/hide fields, Show label above/inline/hide label

Display Suite Properties Formatters

- Boolean: (Raw value, True/False, Yes/No)
- Option lists (Key or Value)
- "Reference fields" can link to referenced entity. For example, contact_id on a contribution will link to the Drupal view page contact record

Property HTML Wrappers, div, h2, span, strong, etc...

Add classes to wrappers for easier theming

CiviCRM Entity 2.x -- Drupal Fields

Add Drupal fields to CiviCRM entities via the standard Drupal interface.

Fields are available in Views listings, Drupal entity view pages, or when rendered programmatically.

Take advantage of the 100s of Drupal modules that provide field types or field functionality

Fields

- many add ons,
- multi-valued fields
- field level permissions

Images and Files

- Image Styles
- Responsive images with the Picture Module
- Slideshows with the Flex Slider module
- Drag and Drop with PLUpload
- public/private file system infrastructure

CiviCRM Entity 2.x -- Drupal Fields

Add more types of data to your CiviCRM displays

Media or other video or audio fields, with player on view page

Geofield (store polygonal geo-data, or sets of points, regular long/lat points)

- Layered Maps
- Advanced Proximity calculations

Entity Reference, (reference any entity, not just contacts)

Field Collections

Many others…

CiviCRM Entity 2.x

Integration possibilities

Use the Entity Reference module to make links between CiviCRM data and Drupal data

Views Bulk Operations...use https://github.com/eileenmcnaughton/civicrm_entity_actions

Flag, Fivestar, VotingAPI -- let users rate events

Relation -- make custom relationship sets

Search API

Theoretically any module that uses Drupal Entity API could access and "do its thing" with CiviCRM Data

CiviCRM Entity 2.x

Drupal based Add/Edit/Delete Forms

/[civicrm-entity]/add or /[civicrm-entity]/[id]/edit

Example:/civicrm-contact/add, or /civicrm-contact/2/edit

Drupal form widgets for dates, booleans, option lists.

Display Suite Forms integration for showing/hiding properties or Drupal fields available for edit
- Provide very specific editing capabilities to users in the standard Drupal theme and html structure
- Provide volunteers access to specific forms for specific tasks without giving them access to the CiviCRM backend.
- Provide form for volunteers to update on their smartphone the participant status as people check in at an event.

Drupal Based Delete forms /[civicrm-entity]/[id]/delete, for example, /civicrm-contact/2/delete

CiviCRM Entity 2.x

Drupal developers could develop new modules or theme elements without learning a new API.

Makes available all the core Drupal API entity objects and methods, as well as that provided by the separate Entity API module.

CiviCRM Entity 2.x Entity API examples

EntityFieldQuery

$contact_query = new EntityFieldQuery();

//this will return an array of contact ids for contacts with the first name of 'Iris', sorted by last name
$contacts = $contact_query->entityCondition('entity_type','civicrm_contact')
                ->propertyCondition('first_name','Iris','=')
                 ->propertyOrderBy('last_name','ASC')
                ->execute();

https://api.drupal.org/api/drupal/includes%21entity.inc/class/EntityFieldQuery/7

CiviCRM Entity 2.x Entity API examples

Entity Metadata Wrapper

Recommended method for saving and viewing entity data.

$contact_id=2; $entity_type = 'civicrm_contact';

$entity=entity_load($entity_type,array($contact_id));

$wrapper = entity_metadata_wrapper($entity_type, $entity[$contact_id]);

// setting and saving property data

$wrapper->legal_name->set('Some Name');

$wrapper->save();

//get the updated entity object

$updated_entity = $wrapper->value();

//viewing property data -- prints the contact's display name

print $wrapper->display_name->value();

http://www.drupalcontrib.org/api/drupal/contributions!entity!entity.module/function/entity_metadata_wrapper/7

CiviCRM/Drupal Integration

What can we do today with
CiviCRM + Drupal + CiviCRM Entity ?

Anything we imagine!

Questions? Need help? Want to learn more?

Want cutting edge CiviCRM/Drupal Integration?

Mark Hanna, Senior Developer -- mark@skvare.com

jackrabbithanna on:

- #civicrm IRC
- forums.civicrm.org
- civicrm.stackexchange.com
- #drupal IRC
- drupal.stackexchange.com
- markusa on Drupal.org