An Introduction to Form Builder

A New Interface for Fields

NATHAN HAUG * DRUPALCON LONDON * AUGUST 25, 2011

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Webform, Insert, Flag, FileField, ImageField

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original (view actual size)
600px
800px
thumbnail (view actual size)
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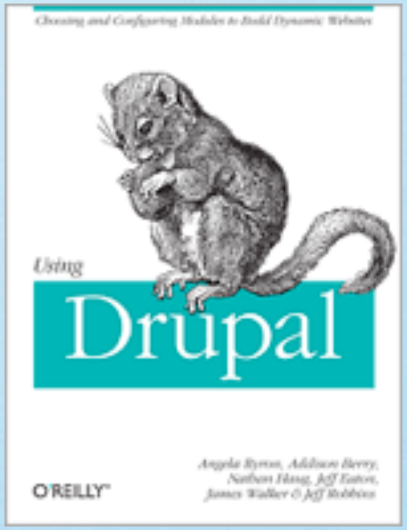
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O'REILLY
Angela Byron, Addison Berry, Nathan Haug, Jeff Eaton, James Walker & Jeff Robbins

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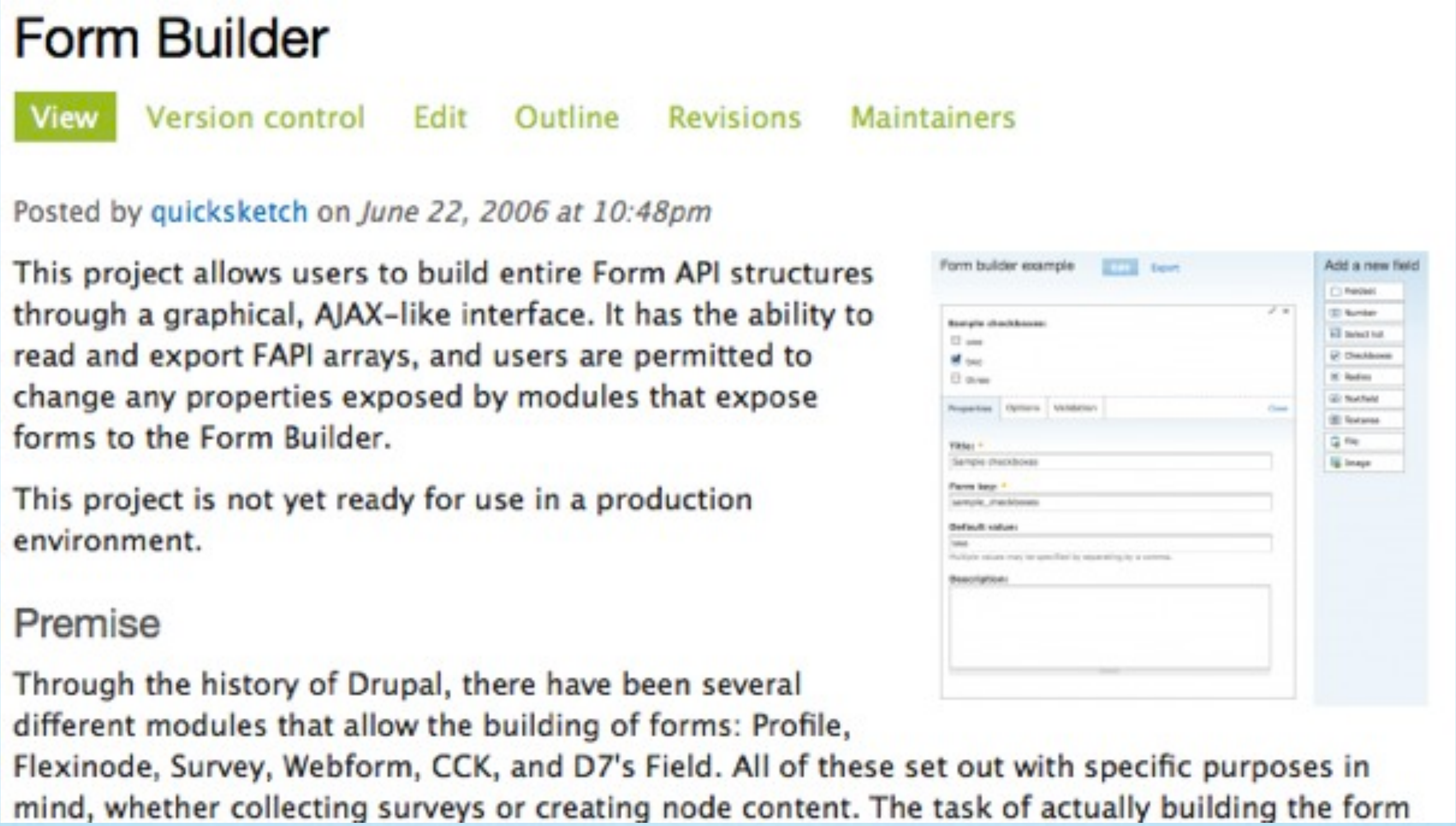
Form Builder History



Form Builder

Posted by quicksketch on *June 22, 2006 at 10:48pm*

This project allows users to build entire Form API structures through a graphical, AJAX-like interface. It has the ability to read and export FAPI arrays, and users are permitted to change any properties exposed by modules that expose forms to the Form Builder.

This project is not yet ready for use in a production environment.

Premise

Through the history of Drupal, there have been several different modules that allow the building of forms: Profile, Flexinode, Survey, Webform, CCK, and D7's Field. All of these set out with specific purposes in mind, whether collecting surveys or creating node content. The task of actually building the form

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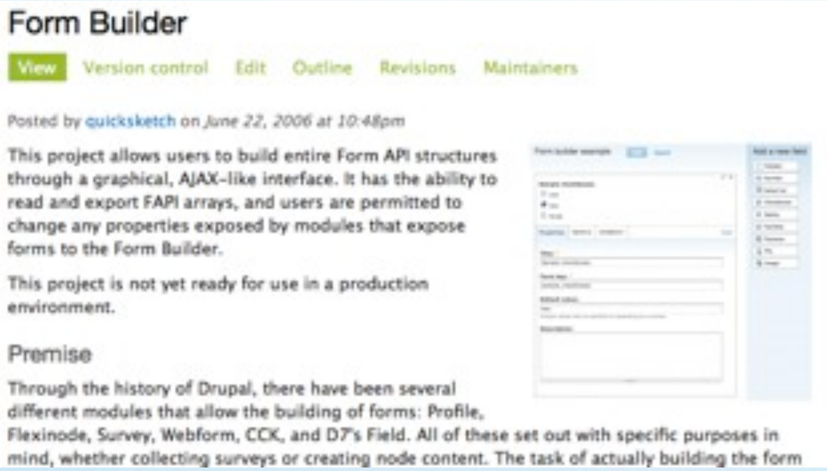

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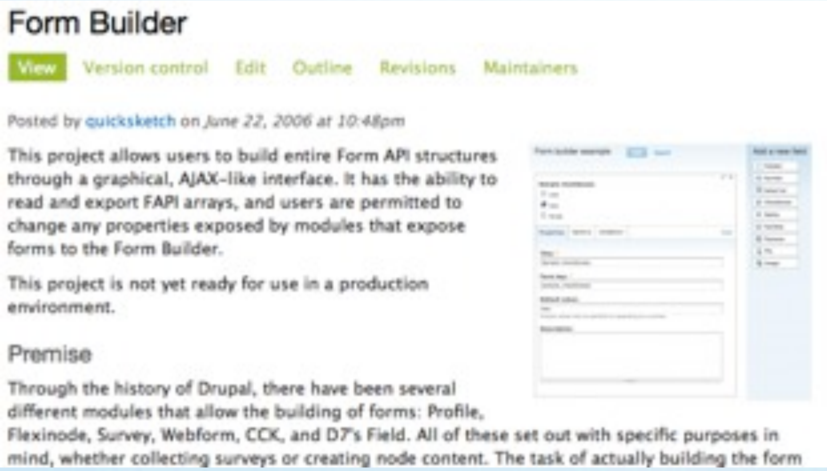

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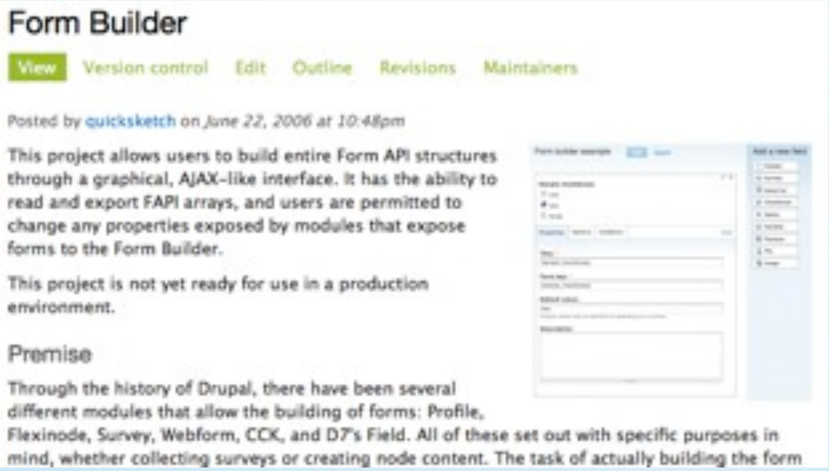

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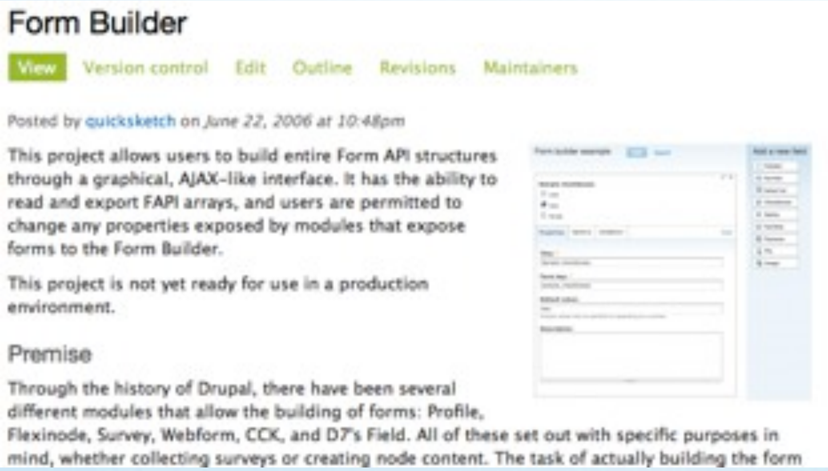

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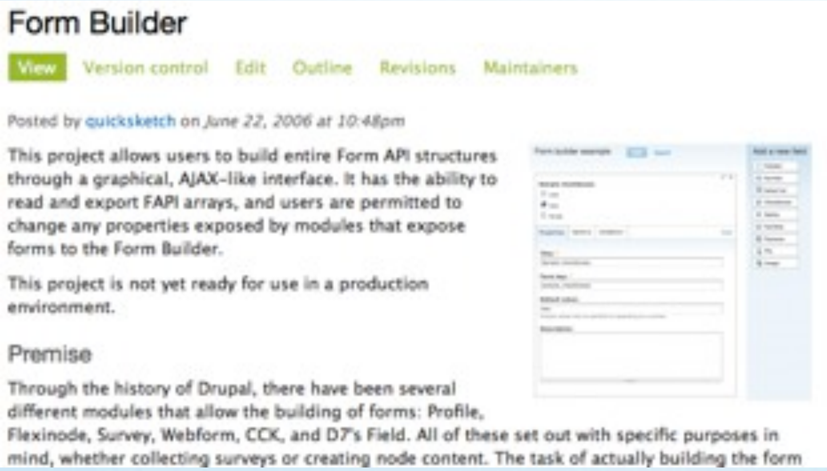

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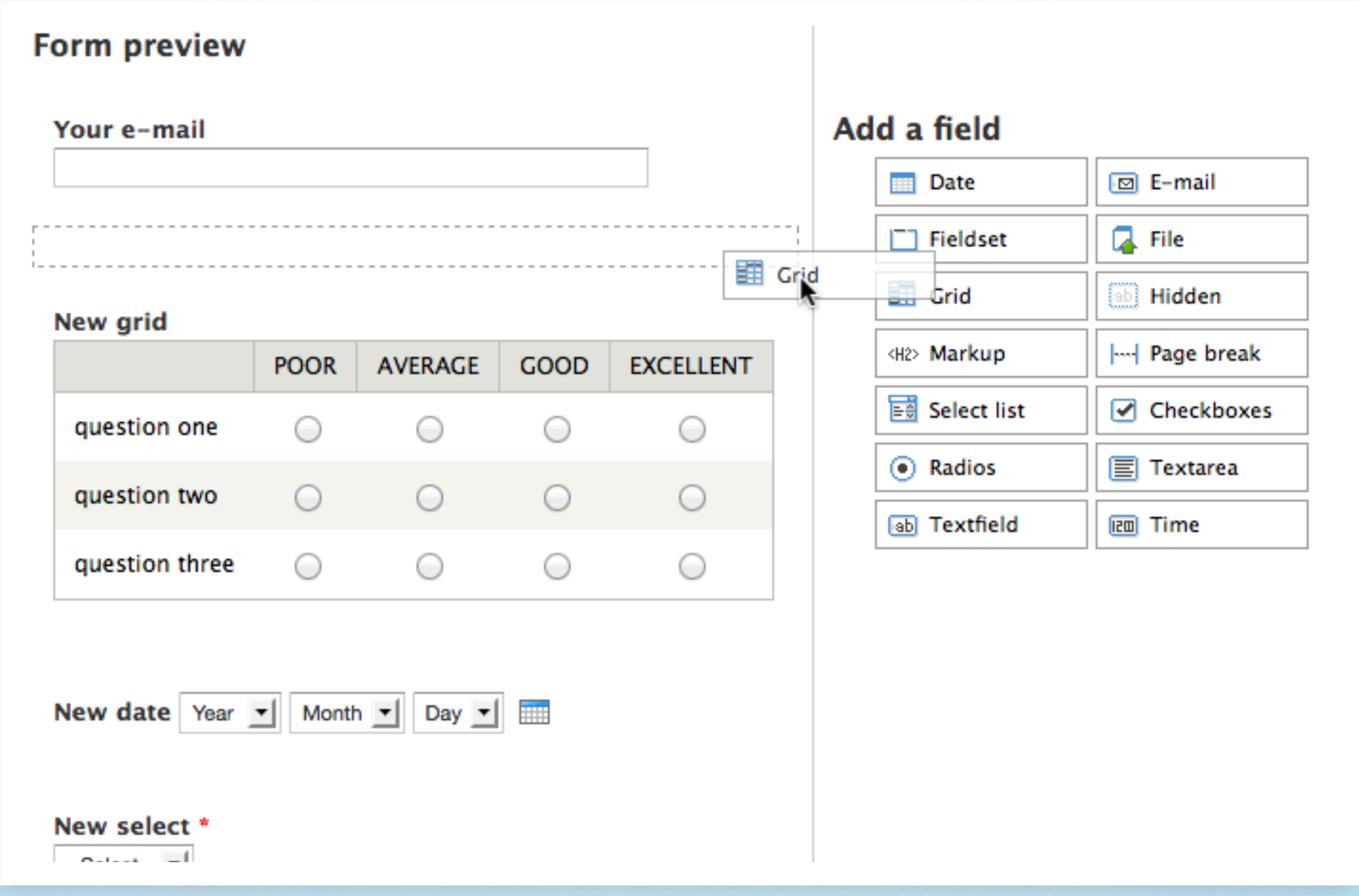
- 2011 - Expanded and fully supported in Webform



Form preview

Your e-mail

New grid

	POOR	AVERAGE	GOOD	EXCELLENT
question one	○	○	○	○
question two	○	○	○	○
question three	○	○	○	○

New date Year Month Day

New select *

Demo of Webform Today

More on Webform (DrupalCon Chicago): http://www.archive.org/details/webform_3

The Way It Works

FormAPI array editor

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FormAPI array editor

```
$form['title'] = array(
  '#type' => 'textfield',
  '#title' => t('Title'),
  '#description' => t('Please enter the title for your post.'),
  '#maxlength' => 140,
  '#required' => TRUE,
  '#weight' => -10,
);
```

The Way It Works

~~FormAPI~~ Renderable array editor

The Way It Works

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```
$node->content['title'] = array(
  '#type' => 'markup',
  '#title' => t('Title'),
  '#label_display' => 'hidden',
  '#markup' => 'Sample title',
  '#weight' => -10,
);
```

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- Let Form Builder manipulate properties it knows about
- Use a separate form to actually save all the changes by loading the Form Builder renderable from cache

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- hook_form_builder_properties()
  - Define renderable properties (i.e #title) and forms to edit that property.
- hook_form_builder_load($form_builder_type, $form_builder_id)
  - Load a complete FAPI array based on a form type and ID. Called when form_builder_interface() is invoked.

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  - Change elements right after its been dragged out of the palette (e.g. to assign it an ID of some kind).
- hook_form_builder_preview_alter(&$element, $form_type, $form_id)
  - Essentially a pre-render hook to modify the display of an element while in the preview (e.g. Show a #type = 'hidden' element as a text field)

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- form_builder_cache_difference($form_type, $form_id, $exclude_weight = TRUE)

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- form_builder_cache_difference($form_type, $form_id, $exclude_weight = TRUE)
  - Get a list of changed elements only; used during save operations.

Saving your changes

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```
function form_builder_field_entity_page($entity_type, $bundle) {
  module_load_include('inc', 'form_builder', 'includes/form_builder.admin');

  $output = array();
  $output['form_builder_interface'] = form_builder_interface('mymodule', $form_id);
  $output['form_builder_save_form'] = drupal_get_form('mymodule_save_form');
  return $output;
}
```

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```

- mymodule_form_builder_load($form_builder_id, $type = NULL)

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  return $output;
}
```

- mymodule_form_builder_load($form_builder_id, $type = NULL)

```
function mymodule_save_form($form, $form_state) {

  $form['submit'] = array(
    '#type' => 'submit',
    '#value' => t('Save'),
    '#weight' => -1,
  );

  return $form;
}
```

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  $form['submit'] = array(
    '#type' => 'submit',
    '#value' => t('Save'),
    '#weight' => -1,
  );

  return $form;
}
```

Saving your changes

```
function mymodule_save_form_submit($form, &$form_state) {
  // The entire renderable array with all the changes.
  $changed_form = form_builder_cache_load('myform', $type);

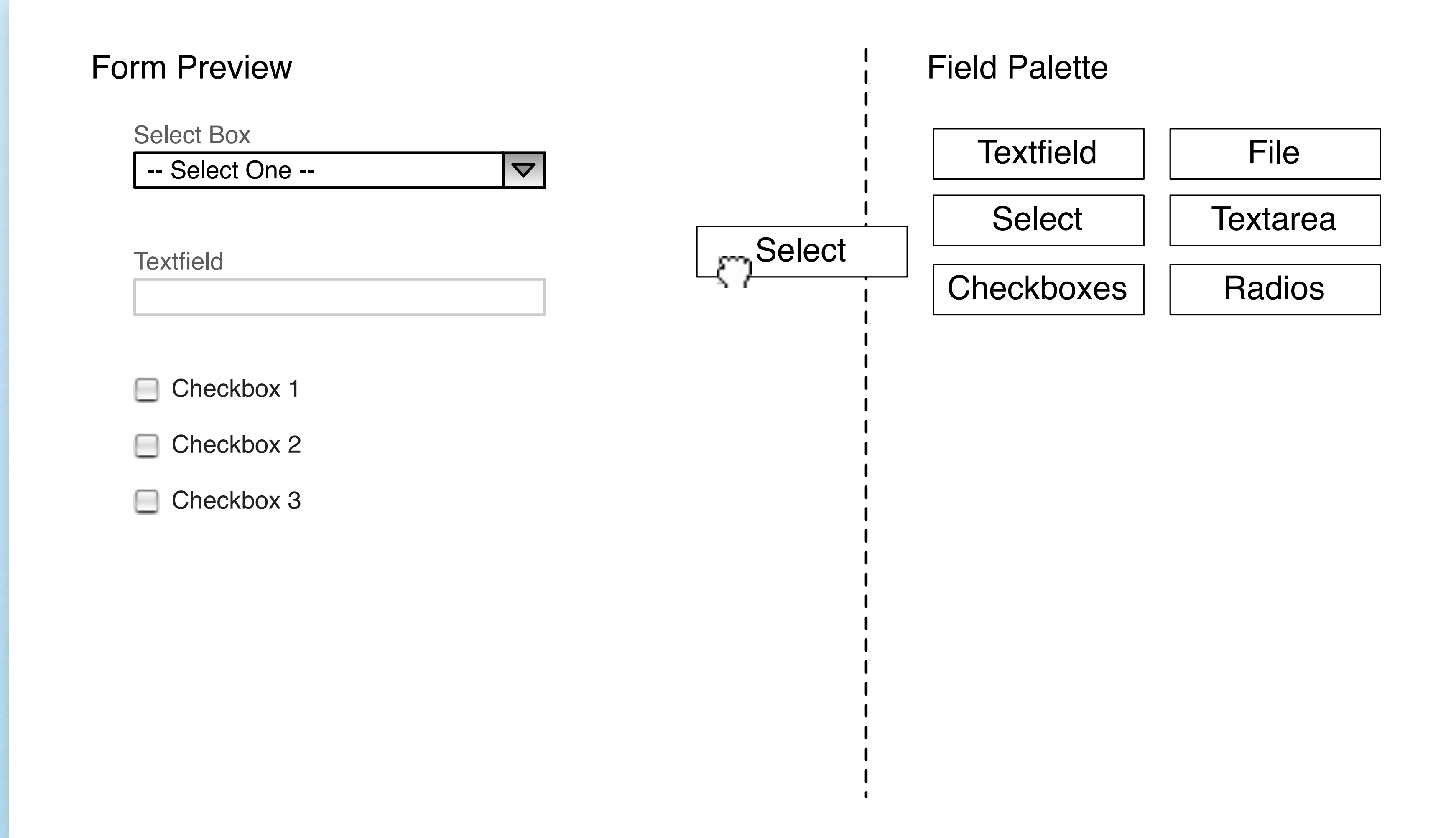
  // An array of just elements that have been modified.
  $differences = form_builder_cache_difference('myform', $type);

  foreach ($differences as $element_id => $element) {
    $original = $element['original'];
    $modified = $element['modified'];
    // Save the changes for the $modified element here.
    // db_insert/update, etc.
  }
}
```

Architectural Questions?

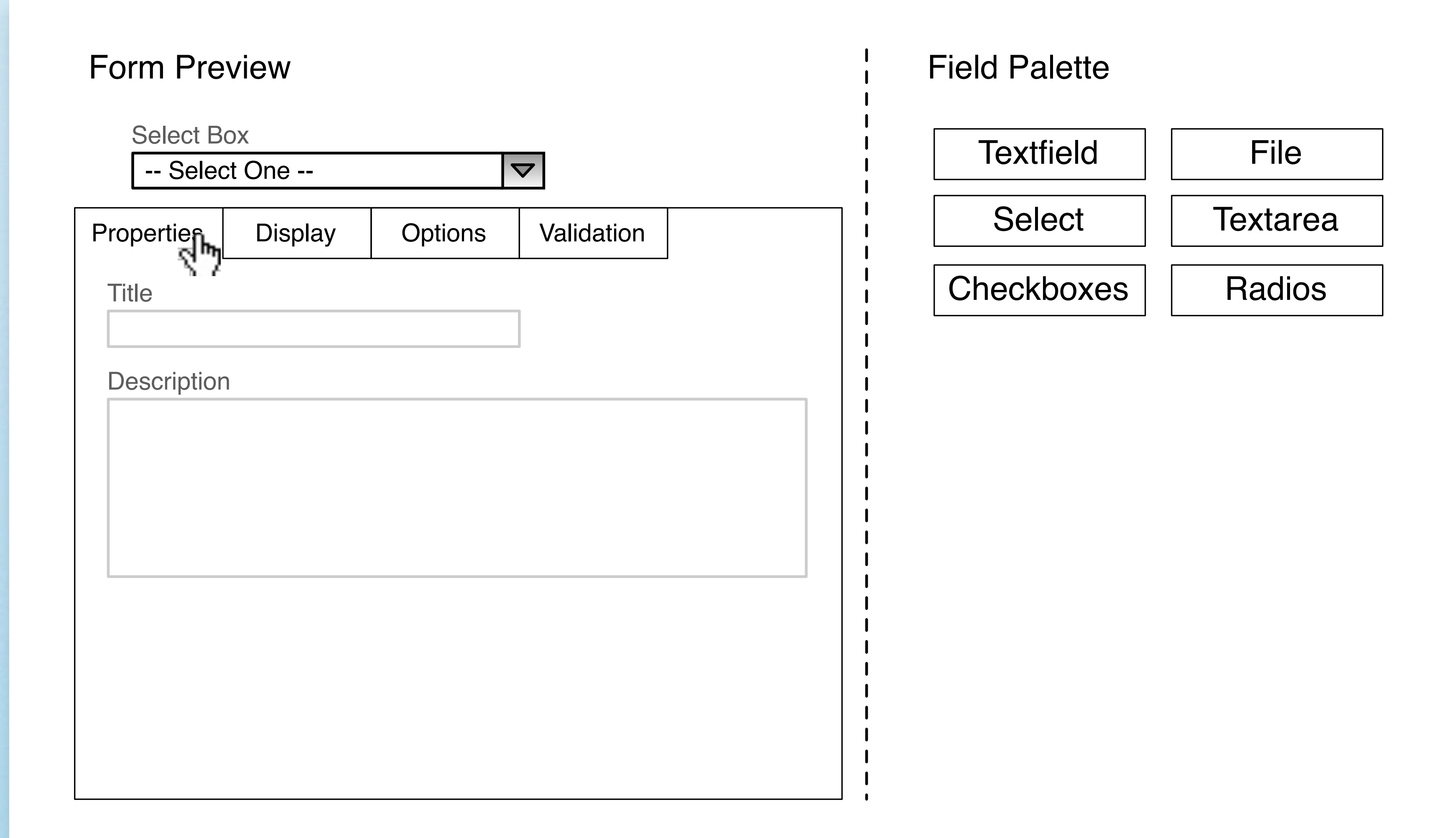
The Potential for "Fields"

Option 1: Stick with "Widget"-first palette



The Potential for "Fields"

Option 1: Which edits a field just like Webform



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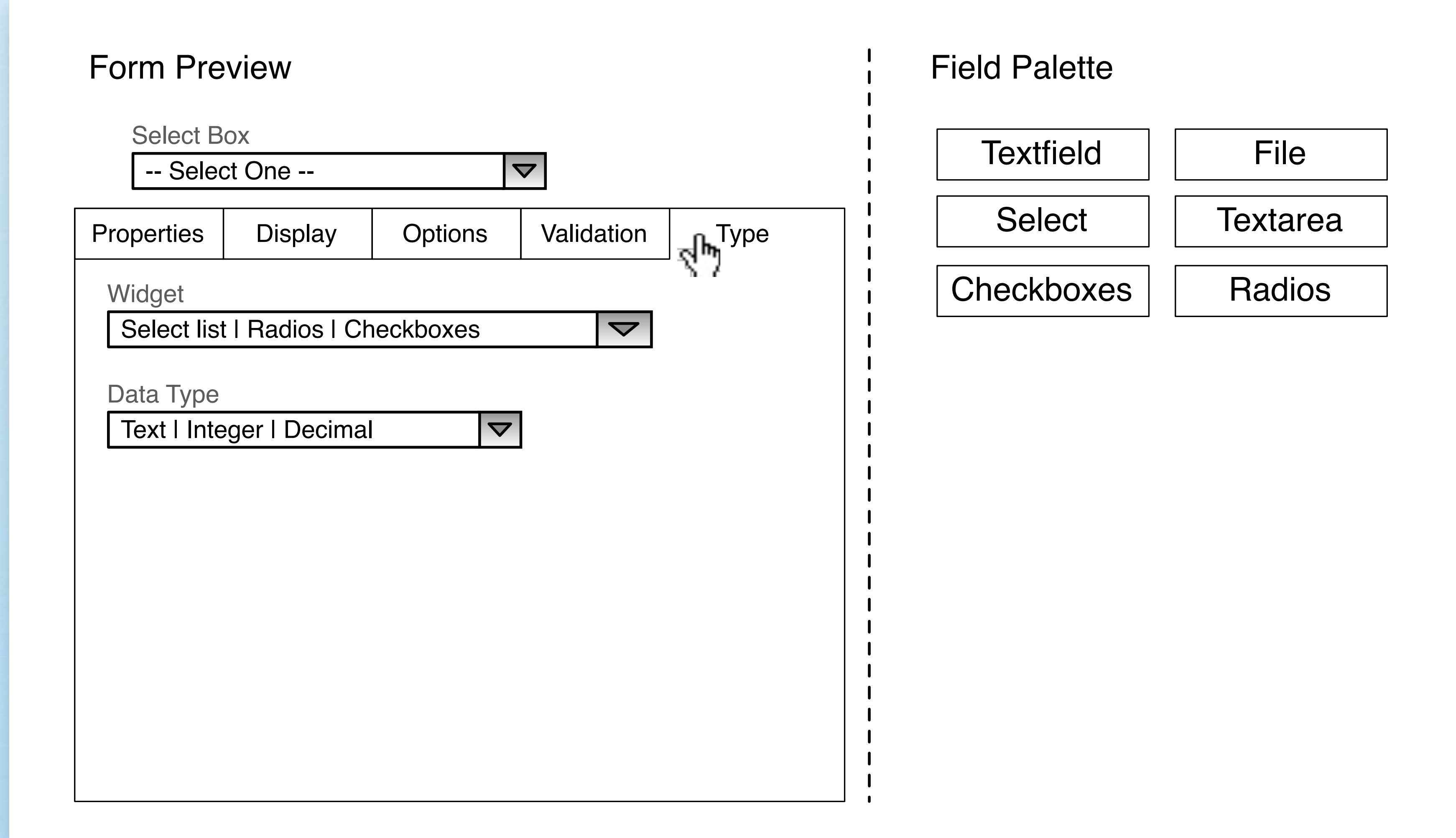
Option 1: But adds a new tab for Widget and Data type



Form Preview

Select Box: -- Select One --

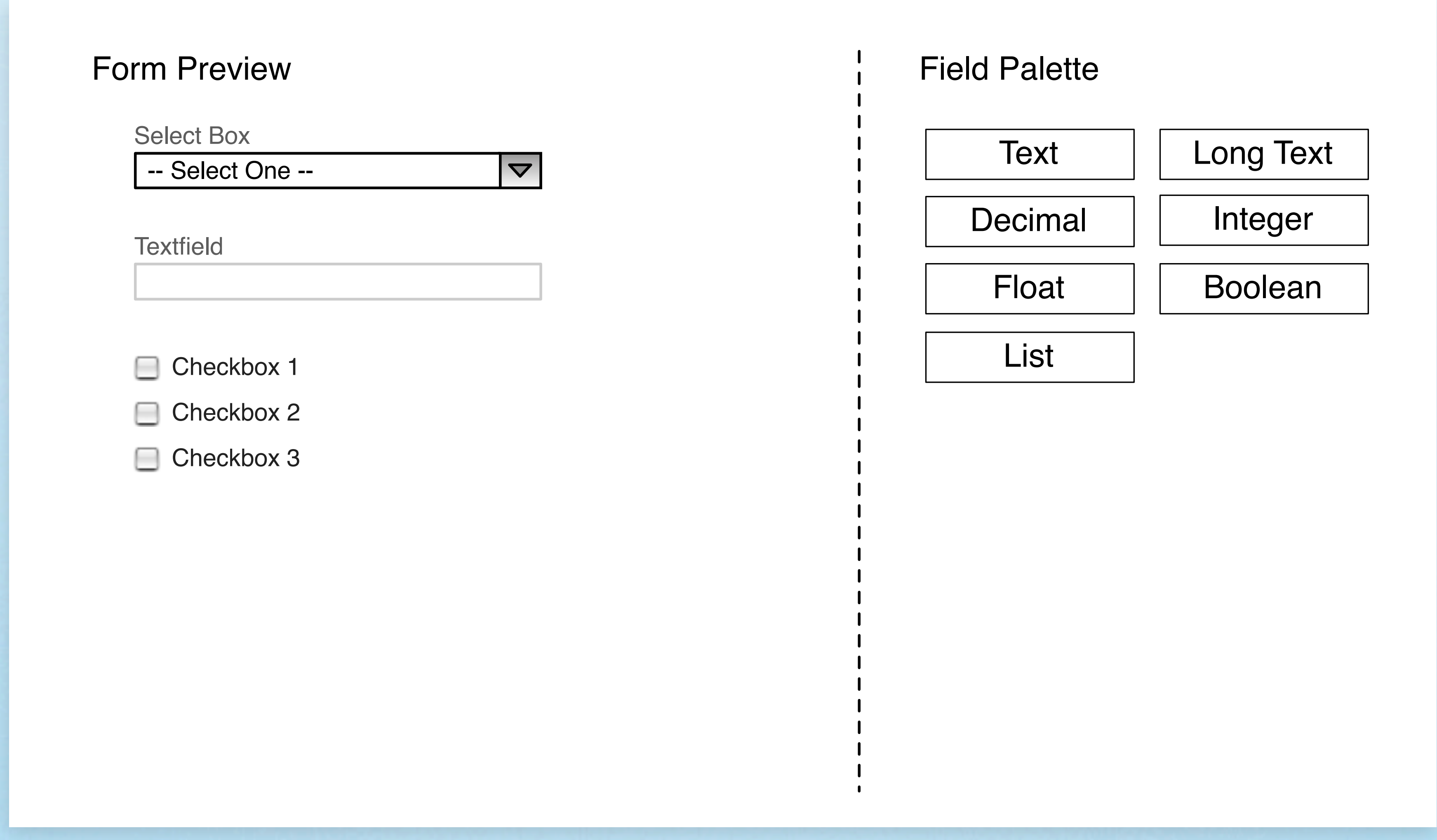
Widget: Select list | Radios | Checkboxes

Data Type: Text | Integer | Decimal

Field Palette

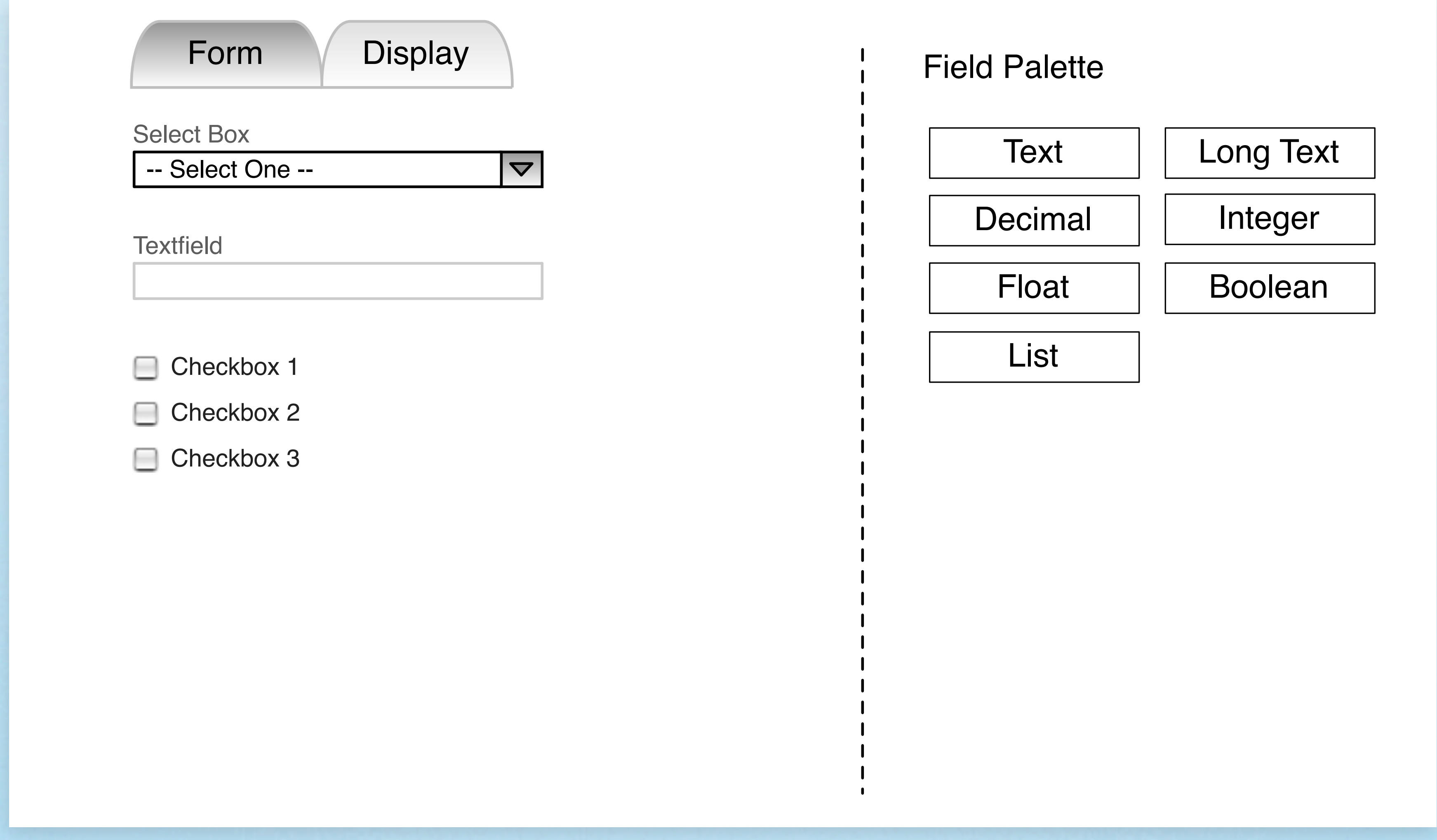
The Potential for "Fields"

Option 2: Replace widget palette with Data type



The Potential for "Fields"

Option 2: Has dual-purpose for forms **and** display



Select Box

-- Select One --

Textfield

□ Checkbox 1

□ Checkbox 2

□ Checkbox 3

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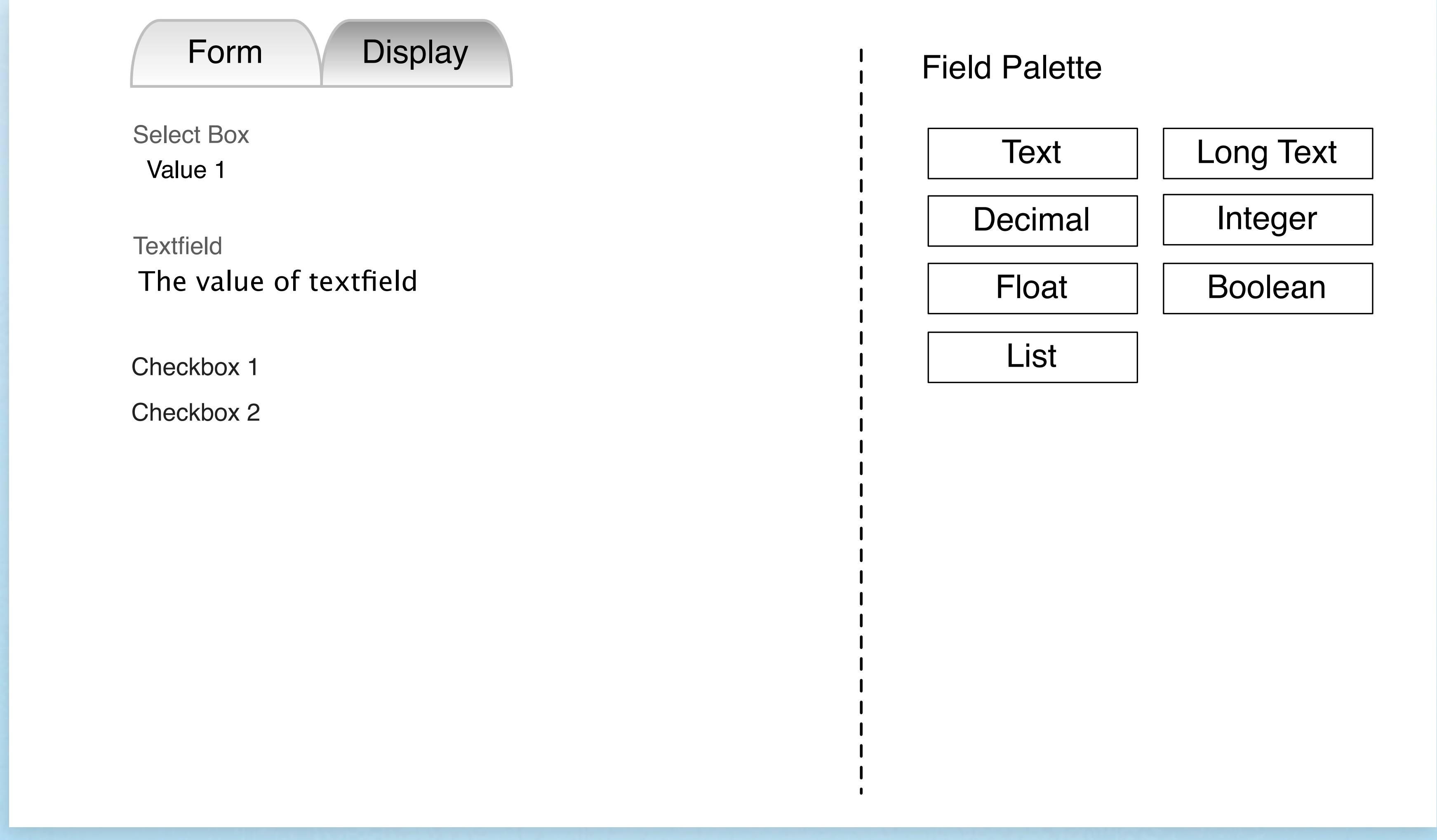


Select Box
Value 1

Textfield
The value of textfield

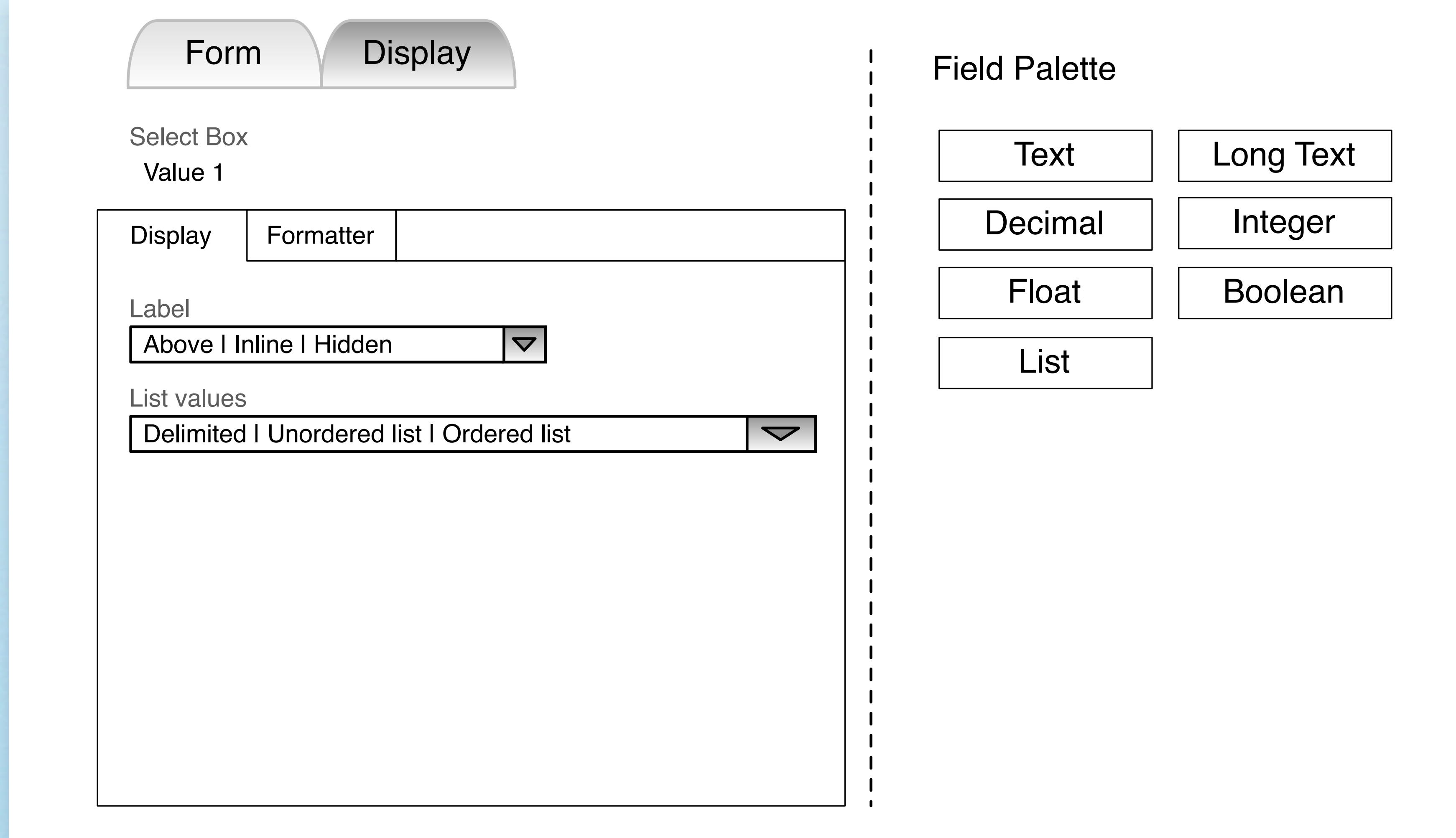
Checkbox 1

Checkbox 2

Field Palette

The Potential for "Fields"

Option 2: Configure formatter options for front-end



Select Box
Value 1

Label
Above | Inline | Hidden

List values
Delimited | Unordered list | Ordered list

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- Each field must be able to provide a set of defaults, including label, default, list of options (in the case of radio buttons), etc.
- Static data object storage from CTools

Final Questions?

Locate this session on the DrupalCon London website:
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Click the "Evaluate this session" link.

Thanks!