

MultiStepForm API design and use

Tokimeki

Background

- Knowledge to install and use Drupal
- Knowledge to develop Drupal module
- Knowledge to Drupal Form API
- Knowledge to Drupal Form Workflow

Outline

- What is Multi Step Form
- Case Study: Commerce checkout workflow
- Similar Drupal modules
- Multi Step Form API design
- Conclusion

What is Multi Step Form

- Fill in the form split into multiple process steps
 - Chinese circles preferences?
 - Field selection / setting operation is more complex
 - Require visual selection / setting
- Generated form may be required before sending the steps

Case Study: Commerce checkout workflow

- Workflow:
 - Cart > Checkout > Review > Complete
- State save:
 - Order Object
- callback:
 - `checkout_form($form, &$form_state, $checkout_pane, $order)`

Similar Drupal modules (1/2)

- **Multistep**

- <https://www.drupal.org/project/multistep>
- depends on Field Group

- **Webform steps**

- https://www.drupal.org/project/webform_steps
- depends on Webform

- **Multi-step forms**

- <https://www.drupal.org/project/mforms>
- universal and complex multistep form api

Similar Drupal modules (2/2)

- Multi-Step Registration
 - <https://www.drupal.org/project/step>
 - multi-step user account registration forms
- Formflow
 - <https://www.drupal.org/project/formflow>
 - join site-wide forms

Multi Step Form API design

- Basic
 - Class
 - Menu Link
 - Step Information
 - Step Navigation
 - Step State
- Extra
 - Step Jump
 - Support Multi-Forms

Class (1/2)

- MultiStep

- cache step information / form
- step state access
- check hook and step information
- prepare form process
- static helper function
- define constant
 - `const INDEX = 'multi_step';`
 - `const SAVE = '__multi_step_save__';`
 - `const JUMP = '__multi_step_jump__';`

Class (2/2)

- **MultiStepInfo**
 - cache menu links
 - process step information and navigation
 - helper function
- **MultiStepItem**
 - step item container object
- **MultiStepProxy**
 - form builder

Menu Link (1/2)

```
$menu['test/msf'] = array(  
  'title' => 'Test MultiStepForm',  
  'page callback' => 'drupal_get_form',  
  'page arguments' => array('multi_step_form', 'test_msf'),  
  'type' => MENU_NORMAL_ITEM,  
);  
$menu['test/msf/%'] = array(  
  'page callback' => 'drupal_get_form',  
  'page arguments' => array('multi_step_form', 'test_msf', 2),  
  'type' => MENU_CALLBACK,  
);
```

Menu Link (2/2)

- hook_menu
- 'page arguments' => array('multi_step_form', 'test_msf', 2)
 - use drupal_get_form to generate form
 - array index 0 : required, always is 'multi_step_form'
 - array index 1 : required, hook name
 - array index 2 : step name

Step Information

- `hook_multi_step_info()`
- return a array
 - `hook (string)` : MSF hook name
 - `entry (string)` : MSF entry path
 - `exit (string)` : MSF exit path
 - `steps (array)` : steps information
 - `key (string) => value (array)`
 - key is the step name
 - value see next page

Steps Information

- **steps value (array)**
 - title (string) : title of step
 - back (string) : title of previous link
 - next (string) : title of next button
 - multiforms (boolean) : has multi-forms
 - order (integer / string) : step order

Steps Hooks

- Hooks

- `hook_STEP_form`
- `hook_STEP_form_validate`
- `hook_STEP_form_submit`

- Proxy

- `multi_step_form($form, &$form_state, $hook, $step = "")`
- `multi_step_form_validate($form, &$form_state)`
- `multi_step_form_submit($form, &$form_state)`

Step Navigation

- generate using steps information
- `hook_multi_step_steps(array $steps, $step)`
 - rewrite navigation array
- `theme_multi_step_steps($variables)`
 - like `theme_item_list`, addition 'active'
- navigation class use Semantic UI

Step State

- use session to save each step submit values
- array structure
 - `$_SESSION['multi_step'][$hook][$step]`
- after exit to clean
 - `$_SESSION['multi_step'][$hook]`

Step Jump

- outside of MSF to submit and jump to MSF
- must have values of previous steps to submit
 - `$form['__multi_step_save__']`
- must give the jumping step name
 - `$form['__multi_step_save__']['__multi_step_jump__']`
- must set submit to step nextAction
 - `unset($form['actions']['submit']);`
 - `$form['actions']['next'] = $info->nextAction('search');`

Support Multi-Forms

- set 'multiforms = true' in steps information
- use a trick for drupal_get_form

```
if ($info->stepItem($step)->multiforms) {  
    $form['steps'] = $steps;  
    $form['__'] = array('#type' => 'form');  
} else {  
    $form['#type'] = 'form';  
    $form['#action'] = $info->url($step);  
    $form['actions'] = $info->formActions($step);  
    $form['steps'] = $steps;  
}
```

Conclusion

- Project URL:
 - <https://www.drupal.org/sandbox/agrozyme/2324393>
- A Framework for building Multi-Step Forms
- Similar to Multi-step forms but more simple
- Use Drupal form way