

Building a Collaborative Content Platform with the Control Panel

Dot All 2023 · Moritz L'Hoest

Introduction

- Frontend for users → User Experience (UX)
- Backend for authors → Author Experience (AX)

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- Backend for authors → Author Experience (AX)
- Authors are captive users

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- Frontend for users → User Experience (UX)
- Backend for authors → Author Experience (AX)
- Authors are captive users
- What if you need to provide AX for non-captive users?

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- 2. Content Modelling and Migration**
- 3. Defining Workflows and Boundaries**
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Case Study “Begabungslotse”

Key facts

- Website and database for education programs in Germany
- Registration for external collaborators
- Relaunched with Craft 3 in 2021
- Updated to Craft 4 in 2022
- Website: begabungslotse.de

Suche

Volltextsuche

bildung

Standort

Postleitzahl ...

Inhalte

Alle anzeigen

Zielgruppe

- Schüler/in 1,320
- Lehrkraft/Lehrende 838
- Eltern 565
- Bildungspraktiker/in 541
- Schüler/in Sek. I 434

+ Mehr anzeigen

Fach

- Mathematik und Naturwissenschaften 382
- MINT 201
- Technik- und Ingenieurwissenschaften 155
- Musik, Kunst, Gestaltung und Sport 139
- Technik 119

+ Mehr anzeigen

Thema

- Berufsorientierung 287
- Unterrichtsentwicklung 163
- Persönlichkeitsbildung 125
- Schulentwicklung 75
- Digitalisierung 62

+ Mehr anzeigen

2,087 Ergebnisse

Anbieter Institution, Verein, Verband

Bildung & Begabung

gemeinnützige GmbH

Bildung & Begabung

Kortrijker Str. 1

53177 Bonn



Medien Buch, Zeitschrift

**Bildung braucht Beziehung.
Selbstkompetenz stärken- Begabungen
entfalten**

Autor: Prof. Dr. Julius Kuhl, Dr. Susanne Müller-Using, Prof. Dr.

Claudia Solzbacher, Wiebke Warnecke (Hrsg.)

Verlag: Herder

Medien Buch, Zeitschrift

Bildung braucht Persönlichkeit

Wie Lernen gelingt

Autor: Gerhard Roth

Verlag: Klett-Cotta

Medien Buch, Zeitschrift

Bildung? Bildung!

26 Thesen als Herausforderung im 21.
Jahrhundert

Herausgeber: Andreas Schlüter, Peter Strohschneider

Verlag: Berlin Verlag

Medien Buch, Zeitschrift

Bildung in Deutschland 2012

Umwertungen Autorengruppe Bildungswissenschaften

Content Modelling and Migration

Content Modelling

- Keep it simple

Content Modelling

- **Keep it simple**
- **Avoid adding fields for edge-cases**

Subjects and Topics

Subject

- Subject one ×
- └── ● Subject two ×
- └── ● Subject three ×

+ Select subjects

Topic

- Topic one ×
- + Select topics

Additional subjects

Some more subjects ...

380

Additional topics

Some additional topics ...

351

Content Modelling

- Keep it simple
- Avoid adding fields for edge-cases
- Reduce the number of categories

Content Modelling

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- Avoid adding fields for edge-cases
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- Not everything needs to be a repeatable field

Content Modelling

- Keep it simple
- Avoid adding fields for edge-cases
- Reduce the number of categories
- Not everything needs to be a repeatable field
- Finally, drop the fax field ;-)

Content Migrations

- Import content using migrations



```
$json = file_get_contents(__DIR__ . '/data.json');
$entries = json_decode($json, true, 512, JSON_THROW_ON_ERROR);

foreach ($entries as $entryData) {
    $section = $this→sections→getSectionByHandle('offer');
    $entryType = $section→getEntryTypes()[0];

    $entry = new Entry();
    $entry→sectionId = $section→id;
    $entry→typeId = $entryType→id;
    $entry→slug = $entryData['slug'];
    $entry→title = $entryData['title'];

    $entry→setFieldValues([
        'description' => $entryData['body'],
        // Set additional fields ...
    ]);

    $success = Craft::$app→getElements()→saveElement($entry);

    if (!$success) {
        echo '### ERROR: FAILED SAVING ENTRY' . PHP_EOL;
        echo sprintf('Validation errors: %s', print_r($entry→getErrors(), true));
        return false;
    }
}
```

Content Migrations

- Import content using migrations
- Use the migration to clean up data

```
// Replace <h4> tags with <h3>
$html = str_replace(
    ['<h4>', '</h4>'],
    ['<h3>', '</h3>'],
    $html
);

// Remove disallowed tags and decode entities
array $allowedTags = ['p', 'h3', 'em', 'strong', 'a', 'ol', 'ul', 'li', 'br'];
$html = strip_tags($html, $allowedTags);
$html = html_entity_decode($html, ENT_QUOTES | ENT_HTML5, 'UTF-8');

// Remove empty tags (like <p> tags inserted for spacing)
return preg_replace(
    "/<[a-z]{1,10}>(?:\s|&nbsp;|\cdot)*<\/[a-z]{1,10}>/",
    '',
    $html
);
```

Content Migrations

- Import content using migrations
- Use the migration to clean up data
- Not every special case can be handled - and you shouldn't try to



```
$number = $entryData['phone_number'];
$phoneNumberUtil = PhoneNumberUtil::getInstance();

try {
    $phoneNumber = $phoneNumberUtil→parse($number, 'DE');
} catch (\Throwable $e) {
    echo sprintf(
        '### WARNING: Dropping invalid phone number %s. Error: %s',
        $number,
        $e→getMessage()
    ) . PHP_EOL;
}
```

Defining Workflows and Boundaries

Defining Workflows and Boundaries

- Where are the boundaries between frontend and backend?

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- Fix workflow issues using hooks

Defining Workflows and Boundaries

- Where are the boundaries between frontend and backend?
- Set basic permissions to limit access
- Add an editorial review process with the **Workflow** plugin
- Fix workflow issues using hooks
 - Permissions for entry types

```
/* UserPermissions :: EVENT_REGISTER_PERMISSIONS */
public function defineWorkflowPermissions(RegisterUserPermissionsEvent $event)
{
    $section = Craft::$app->sections->getSectionByHandle('offer');
    $entryTypes = $section->getEntryTypes();

    $entryTypePermissions = [];
    foreach ($entryTypes as $entryType) {
        $permission = 'workflowAccess:' . $entryType->uid;
        $entryTypePermissions[$permission] = [
            'label' => "Access entry type {$entryType->name}"
        ];
    }

    $event->permissions[] = [
        'heading' => 'Custom workflows',
        'permissions' => $entryTypePermissions,
    ];
}
```

```
● ● ●

/**
 * Entry::EVENT_DEFINE_ENTRY_TYPES
 */
public function limitEntryTypesByUserGroup(DefineEntryTypesEvent $e)
{
    $user = Craft::$app->getUser()->getIdentity();
    if (!$user) {
        return;
    }

    if ($e->sender->getSection()->handle != 'offer') {
        return;
    }

    $allowedEntryTypes = array_filter(
        $e->entryTypes,
        fn (EntryType $entryType) => $user->can('workflowAccess:' . $entryType->uid),
    );

    $e->entryTypes = $allowedEntryTypes;
}
```

Defining Workflows and Boundaries

- Where are the boundaries between frontend and backend?
- Set basic permissions to limit access
- Add an editorial review process with the **Workflow** plugin
- Fix workflow issues using hooks
 - Permissions for entry types
 - Make drafts selectable in entries fields



```
/**  
 * Entries::EVENT_DEFINE_SELECTION_CRITERIA  
 */  
public function allowDraftsAsRelatedInstitute(ElementCriteriaEvent $e): void  
{  
    if ($e->sender->handle !== 'institutes') {  
        return;  
    }  
  
    $e->criteria = [  
        'drafts' => null,  
        'draftOf' => false,  
        'savedDraftsOnly' => true,  
    ];  
}
```

Closed

BaseRelationField::normalizeValue doesn't fire an ElementCriteriaEvent #9963

MoritzLost opened this issue on Oct 14, 2021 · 3 comments



brandonkelly commented on Oct 15, 2021

Member

Just made this possible for the next release. Made the change in the private `_all()` method, not `normalizeValue()`, so it only affects internal field queries; not the default results you'd get in your own templates. So you will still need to add `.drafts(null)` when querying for the relations in your templates, if you want them to include any related drafts.

```
{% set related = clone(entry.myEntriesField)
    .drafts(null)
    .all() %}
```



That said, I would encourage you to `not` set `drafts => null` on the criteria without also setting these:

- `draftOf => false` – Only allow selecting *unpublished drafts*, rather than drafts of normal entries. This is important because if you were to relate to a draft of a normal entry, that relation would get deleted as soon as the draft was applied to its entry.
- `savedDraftsOnly => true` – Ignore any unpublished drafts which have never actually been edited (e.g. where someone clicked "New entry" and then immediately discarded the draft).

```
Event::on(
    Entries::class,
    Entries::EVENT_DEFINE_SELECTION_CRITERIA,
    function (ElementCriteriaEvent $e) {
        $e->criteria += [
            'drafts' => null,
            'draftOf' => false,
            'savedDraftsOnly' => true,
        ];
    }
);
```



1 1

Defining Workflows and Boundaries

- Where are the boundaries between frontend and backend?
- Set basic permissions to limit access
- Add an editorial review process with the **Workflow** plugin
- Fix workflow issues using hooks
 - Permissions for entry types
 - Make drafts selectable in entries fields
 - Assigning existing entries to new authors

```
● ● ●

/**
 * Entry :: EVENT_AFTER_SAVE
 */
public function changeAssetAuthorWithEntry(ModelEvent $e)
{
    if (ElementHelper::isDraftOrRevision($e→sender)) {
        return;
    }

    $affectedAssets = Asset::find()→relatedTo([
        'sourceElement' ⇒ $e→sender→id,
        'field' ⇒ ['user_image', 'user_logo', 'user_files'],
    ])→all();

    foreach ($affectedAssets as $asset) {
        $asset→uploaderId = $e→sender→authorId;
        Craft::$app→elements→saveElement($asset);
    }
}
```

Inviting Contributions with a Custom Dashboard

Custom Dashboard Widgets

- The dashboard is great, but the default widgets aren't super useful

Custom Dashboard Widgets

- The dashboard is great, but the default widgets aren't super useful
- Improve the dashboard with custom widgets

BL Begabungslotse MK

Dashboard

Welcome Message

In the beginning the Universe was created. This has made a lot of people very angry and been widely regarded as a bad move. Isn't it enough to see that a garden is beautiful without having to believe that there are fairies at the bottom of it too? In the beginning the Universe was created. This has made a lot of people very angry and been widely regarded as a bad move.

Arthur suggested they go for a walk. Anything that, in happening, causes something else to happen, causes something else to happen. "Some factual information for you. Have you any idea how much damage that bulldozer would suffer if I just let it roll straight over you?"

I don't want to buy a ticket, I just want to buy the zoo. I am omniscient and omnipotent, extremely vain and, what is more, I come in a handy self-carrying package. Let's be straight here. If we find something we can't understand we like to call it something you can't understand, or indeed pronounce.

"Forty-two," said Deep Thought, with infinite majesty and calm. Life was so pleasant and relaxed these days, there was time to let things sink in. He was a little man in a strange hat and he sold them a ticket. So we'll have to tell you something you already know but make it sound like news, eh?

Any such things that came his way were referred to others, who had, in turn, other people to refer such things to. Laser light flickered all over him as if he were a packet of biscuits at a supermarket check-out. Arthur Dent was grappling with his consciousness the way one grapples with a lost bar of soap in the bath.

Placeholder text generated by [dontpanic ipsum.moritzlost.de](#)

Submit News
Have a suggestion for our news blog?
Submit it here and we'll take a look!

Link / URL

Message

Suggest news

Shortcuts

- + Add institution
- + Add offer type one
- + Add offer type two
- + Add offer type three
- + Add offer type four

My Drafts

- My first draft
- My second draft

My Submissions

- Submission for "My first draft" on 9/28/2023, 3:41PM 3:41PM

- Custom widget “Welcome Message” to display introductory instructions

The screenshot shows the Craft CMS dashboard with a dark theme. On the left, there's a sidebar with navigation links: Dashboard, Entries, and Assets. The main content area has a title "Dashboard". Below it is a "Welcome Message" section containing placeholder text from dontpanicipsum.moritzlost.de. To the right are several widgets:

- Submit News**: A form with fields for "Link / URL" and "Message", and a "Suggest news" button.
- Shortcuts**: Buttons for adding institutions and different types of offers (one, two, three, four).
- Links**: Links to "View my entries", "Edit my account", "Support inquiry", and "Go back to the homepage".
- My Drafts**: A list with "My first draft" and "My second draft".
- My Submissions**: A list showing a single submission: "Submission for 'My first draft' on 9/28/2023, 3:41PM 3:41PM".

- Built-in widget “My Drafts” to show unsubmitted drafts
- Customized Workflow widget “My Submissions” to show pending submissions

BL Begabungslotse MK

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Links

[View my entries](#)
[Edit my account](#)
[Support inquiry](#)
[Go back to the homepage](#)

My Drafts

My first draft
 My second draft

My Submissions

● Submission for "My first draft" on
9/28/2023, 3:41PM
3:41PM

- Custom widget “Shortcuts” to all entry types
- Custom widget “Links” to other areas

BL Begabungslotse MK

Dashboard

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My Drafts

My first draft
 My second draft

My Submissions

● Submission for "My first draft" on 9/28/2023, 3:41PM 3:41PM

Links

[View my entries](#)
[Edit my account](#)
[Support inquiry](#)
[Go back to the homepage](#)

- Custom widget “News submission” to hold a tiny piece of functionality

Custom Dashboard Widgets

- The dashboard is great, but the default widgets aren't super useful
- Improve the dashboard with custom widgets
 - Welcome message
 - Drafts and pending submissions
 - Quick links and shortcuts to create content
 - News submission

Modifying the Default Dashboard

- How can you change the default dashboard widgets?

Modifying the Default Dashboard

- How can you change the default dashboard widgets?
- Default Dashboard plugin

Modifying the Default Dashboard

- How can you change the default dashboard widgets?
- Default Dashboard plugin
- Ensure default dashboard widgets with a hook

```
/*
 * User::EVENT_AFTER_LOGIN
 */
public function ensureDefaultDashboardWidgets(User $user): void
{
    $existingWidgets = Craft::$app->dashboard->getAllWidgets();
    foreach ($existingWidgets as $widget) {
        Craft::$app->dashboard->deleteWidget($widget);
    }

    $defaultWidgets = [
        Craft::$app->dashboard->createWidget([
            'type' => 'modules\\Workflow\\widgets\\AdminNotes',
            'colspan' => 2,
        ]),
        Craft::$app->dashboard->createWidget(
            'modules\\Workflow\\widgets\\Shortcuts'
        ),
        Craft::$app->dashboard->createWidget(
            'modules\\Workflow\\widgets\\QuickLinks'
        ),
        // More widgets ...
    ];

    foreach ($defaultWidgets as $widget) {
        Craft::$app->dashboard->saveWidget($widget);
    }
}
```

Optimizing the Control Panel for Editors

Optimizing the Control Panel for Editors

- Custom diff view of changes in drafts

Custom diff view (changed)

Entwurf 1



Vorschau

Ansicht

Entwurf anwenden

Entwurf speichern

Inhalt

SEO

Intern

Änderungen vergleichen

Titel

Custom diff view

Custom diff view (changed)

Beschreibungstext

Any such things that came his way were referred to others, who had, in turn, other people to refer such things to.He had kept it ever since because he found it useful to carry a form of currency that no one would accept.The ground was hanging menacingly above his head.

Any such things that came his way were referred to others, who had, in turn, other people to refer such things to.It can be very dangerous to see things from somebody else's point of view without the proper training.The ground was hanging menacingly above his head.

Unterzeile / Einleitungstext

The Sandwich Maker almost sliced his thumb off.

Arthur Dent almost sliced his thumb off.

Tags

Don't (1201111)

Panic (1201112)

Panic (1201112)

Bild

Daniel Leone 197357 unsplash (1200888)

Etienne Delorieux 267370 unsplash (1200892)

Weiterführende Links

<https://dontpanic ipsum.moritzlost.de/> | Dummy text generated with Don't Panic Ipsum

<https://dontpanic ipsum.moritzlost.de/> | Dummy text generated with Don't Panic Ipsum by Moritz L'Hoest

Standort

Händelstraße 26

50674 Köln

NRW

Deutschland

50.9350682 | 6.9368545 | 15

Händelstraße 25

50674 Köln

NRW

Deutschland

50.9346217 | 6.9361193 | 15

Anbieterart

Schule (136)

Beratungsstelle (137)

Hochschule (962924)

Schule (136)

Beratungsstelle (137)

Slug

custom-diff-view

Autor

ML ● Moritz L'Hoest ✖

Eintragsdatum

22.09.2023 17:06



Ablaufdatum



STATUS

Aktiviert



NOTIZEN ZU DIESER VERSION

ID

1201123

Status

● Aktiv

Erstellt am

22.09.2023, 17:06

Aktualisiert

22.09.2023, 17:07

```
/*  
 * Normalize the given value to a string representation.  
 */  
public function normalizeValue(mixed $value): string  
{  
    if (is_array($value)) {  
        $value = implode(PHP_EOL, array_map($this->normalizeValue( ... ), $value));  
    }  
    if (is_bool($value)) {  
        $value = Craft::t('app', $value ? 'Yes' : 'No');  
    }  
    if ($value instanceof DateTime) {  
        $value = Craft::$app->getFormatter()->asDatetime($value, 'medium');  
    }  
    if ($value instanceof MultiOptionsFieldData) {  
        $value = $this->normalizeValue(ArrayHelper::getColumn($value, 'label'));  
    }  
    if ($value instanceof SingleOptionFieldData) {  
        $value = $value->label;  
    }  
    if ($value instanceof Address) {  
        $value = $this->normalizeAddress($value);  
    }  
    if ($value instanceof ElementQuery) {  
        $value = $this->normalizeValue($value->all());  
    }  
    if ($value instanceof SuperTableBlockElement) {  
        $value = $this->normalizeSuperTableBlock($value);  
    }  
    if ($value instanceof User) {  
        $value = "{$value->fullName} ({$value->id})";  
    }  
    if ($value instanceof Element) {  
        $value = $value->hasTitles()  
            ? "{$value->title} ({$value->id})"  
            : $value->id;  
    }  
    return (string) $value;  
}
```

Optimizing the Control Panel for Editors

- Custom diff view of changes in drafts
- Dashboard widgets for admins

Optimizing the Control Panel for Editors

- Custom diff view of changes in drafts
- Dashboard widgets for admins
- Optimized entry lists

Entries

All

Search

View

New entry

All entries

ANBIETER &

Anbieter

Angebot

ANGEBOTE I

Förderange

Beratungsan

Veranstaltu

Medien

Plattformen

WEBSITE CON

Singles

News

Glossarbegri

Datensätze A-Z

Info-Seite

Themen

ADDITIONAL V

Themen

ADDITIONAL

SEO-Übers

Entry

Anbieterart

Post Date

Author

Last Edited By

Beratungsangebote

Veranstaltungen

Medien

Plattformen

WEBSITE CONTENT

Singles

News

Glossarbegriff

Datensätze A-Z

Info-Seite

Themen

ADDITIONAL V

Themen

ADDITIONAL

SEO-Übers

Label

SEO overview

Entry Criteria

Section

is one of

Begabungsorte

Datensätze A-Z

Glossar

Glossarbegriff

Home

Info-Seite

Kalender

News

News-Übersicht

Suche

Themen

+ Add a filter

Default Sort

Title



Default Table Columns

Choose which table columns should be visible for this source by default.

+ SEO title

+ SEO description

+ Preview image

+ Entry Type

+ Post Date

+ URI

+ Link

+ Section

+ Author

Cancel

Save

 ● Katholisches Bildungsforum Leverkusen

 ● Weiterbildungsanbieter

9/15/2021

II Import Import

 ● Grundschule Strullendorf

9/14/2021

II Import Import

 ● FVA GmbH

 ● Institution, Verein, Verband

9/13/2021

II Import Import

> 1-100 of 2,640 entries

Export...

● Zentralstelle für Politische Jugendbildung im DVV

● Institution, Verein, Verband

9/1/2021

II Import Import

Summary

- Consider using the Control Panel for its great AX, and to reduce development and maintenance costs.

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- Simplify the data model as much as possible to pave the way for good AX.

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- Define your boundaries and workflows, and adjust the Control Panel to your needs using hooks.

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- Simplify the data model as much as possible to pave the way for good AX.
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- Custom Dashboard widgets provide a great entry point to the Control Panel.

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- Simplify the data model as much as possible to pave the way for good AX.
- Use migrations to clean up existing contents and fit them into your new data model.
- Define your boundaries and workflows, and adjust the Control Panel to your needs using hooks.
- Custom Dashboard widgets provide a great entry point to the Control Panel.
- Save time where you can, so you can spend time where it really matters.

Thank you!

- **Slides and code examples**
github.com/MoritzLost/dot-all-2023
- **Work**
schwarzdesign.de
- **Contact**
E-mail: m@moritzlost.de
GitHub: github.com/MoritzLost
Discord: MoritzLost
Stack Exchange: MoritzLost