

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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- 3. Defining Workflows and Boundaries**
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- 5. Creating Strong Administration Tools**

Case Study “Begabungslotse”

Key facts

- 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**
- **No extra fields for every edge-case**

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**
- **No extra fields for every edge-case**
- **Reduce the number of categories**

Content modelling

- Keep it simple
- No extra fields for every edge-case
- Reduce the number of categories
- Not everything needs to be a repeatable field

Content modelling

- Keep it simple
- No extra fields for every edge-case
- Reduce the number of categories
- Not everything needs to be a repeatable field
- Finally, drop the fax field ;-)

Migration

- 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;
    }
}
```

Migration

- 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
);
```

Migration

- 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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Defining workflows and boundaries

- Where are the boundaries between frontend and backend?
- Set basic permissions to limit access
- The “Workflow” plugin - Editorial review process
- Fix some 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
- The “Workflow” plugin - Editorial review process
- Fix some issues using hooks
 - Permissions for entry types
 - Make drafts selectable in entries field



```
/**  
 * 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,
        ];
    }
);
```



Defining workflows and boundaries

- Where are the boundaries between frontend and backend?
- Set basic permissions to limit access
- The “Workflow” plugin - Editorial review process
- Fix some issues using hooks
 - Permissions for entry types
 - Make drafts selectable in entries field
 - 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
- Examples for custom widgets

Dashboard

Mitteilungen der Fachredaktion

Welcome message!

He had half a mind just to keep on falling. 'Life is wasted on the living.' This is room service, I'm in a room and I want some service. The ship tried to think intelligently about this, failed and then blanked out completely for a bit. Only the pikka birds seemed to feel that everything was exactly normal.

He was fed up with being mistaken for a complete idiot by everyone he ever met. "If human beings don't keep exercising their lips, their brains start working." Tricia loved New York because loving New York was a good career move. So we'll have to tell you something you already know but make it sound like news, eh? At times of major crisis he found it was often quite helpful to have his life flash before his eyes.

I suggest we just find a television and something to drink while we watch it. They meant nothing to him but he didn't like the look of them at all. They were all squiggly with lots of long numbers and things.

A magician wandered along the beach, but no one needed him.

Rule Six: The winning team shall be the first team that wins.

This was all a little stressful.

Placeholder texts generated with dontpanicipsum.moritzlost.de

News submission

When he heard the words integrity or moral rectitude he reached for his dictionary, and when he heard the chink of ready money in large quantities he reached for the rule book and threw it away.

Link / URL

Message

 Suggest news

My Drafts

 My first entry

 My second entry

My submissions

- Submission for "My first entry" on 9/22/2023, 5:16 PM
5:16 PM

Shortcuts

 Add institution

 Add offer type one

 Add offer type two

 Add offer type three

 Add offer type four

Links

[View my entries](#)

[Edit my account](#)

[Write to our support staff](#)

[Go back to the homepage](#)

- Custom widget “Welcome Message” to display short instructions

Dashboard

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

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

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[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
- Examples for custom widgets
 - Welcome message
 - Drafts and pending submissions
 - Quick links and shortcuts to create content
 - News submission

Modifying the default dashboard

- No configuration options for changing the default dashboard widgets

Modifying the default dashboard

- No configuration options for changing the default dashboard widgets
- “Default Dashboard” plugin

Modifying the default dashboard

- No configuration options for changing the default dashboard widgets
- “Default Dashboard” plugin
- Ensure default dashboard widgets on login 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);
    }
}
```

Creating Strong Administration Tools

Creating Strong Administration Tools

- 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;  
}
```

Creating Strong Administration Tools

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

Creating Strong Administration Tools

- 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



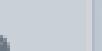
Entry

Anbieterart

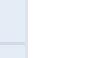
Post Date

Author

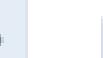
Last Edited By



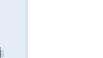
Beratungsangebote



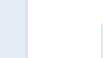
Veranstaltungen



Medien



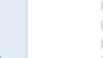
Plattformen



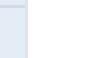
WEBSITE CONTENT



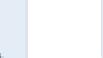
Singles



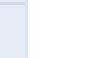
News



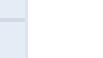
Glossarbegriff



Datensätze A-Z



Info-Seite



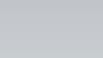
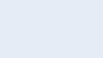
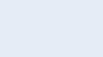
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ADDITIONAL V



SEO overview



Summary

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- 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**
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GitHub: github.com/MoritzLost
Discord: MoritzLost
Stack Exchange: MoritzLost