

Drupal (And Maybe Wordpress) Site Content with Airtable

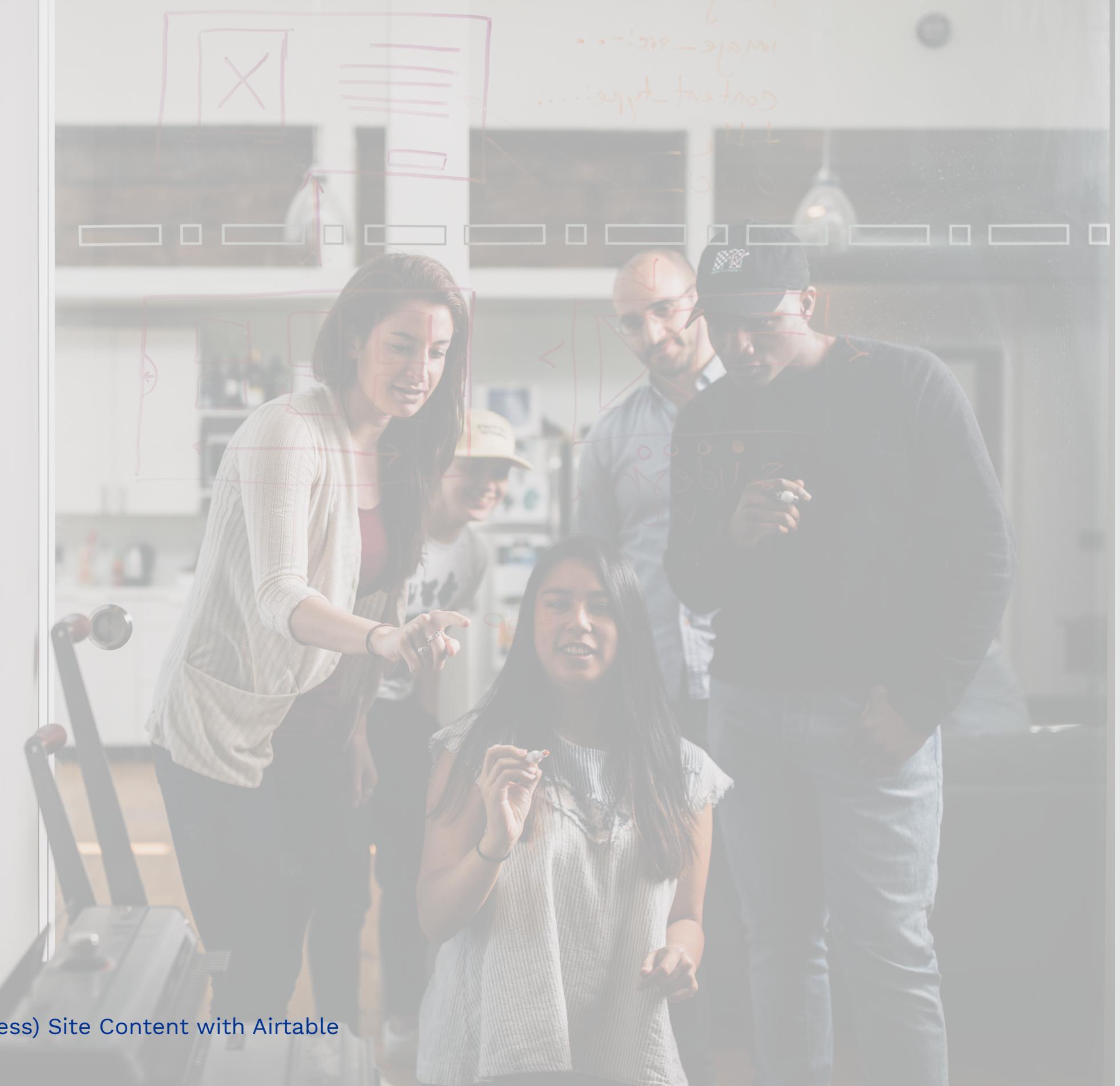
Who am I?

Pete Inge

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[https://github.com/pingevt/
drupal-airtable](https://github.com/pingevt/drupal-airtable)

Bluecadet



Who is this for?

- "Site Builders"
- Moderate to Advanced Coders
- Content Creators
- Anyone concerned with content

What is Airtable?

- "Organize anything, with anyone, from anywhere"
 - On-line collaboration
 - Spreadsheets on steroids

Sales CRM • ⓘ

Products Interactions +

Field Filter Group Sort ...

	\$ Amount	Lead Type	Stage	Date deal closed
	\$65,000	Trade Show	Closed - Win	6/21/2017
	\$50,000	Word of Mouth	Closed - Win	7/12/2017
	\$225,000	Trade Show	Analysis/Value Proposition	
	\$70,000	Word of Mouth	Closed - Win	7/26/2017
	\$40,000	Word of Mouth	Closed - Lost	
	\$10,000	Advertisement	Closed - Win	7/13/2017
	\$13,000	Word of Mouth	Closed - Win	8/10/2017
	\$100,000	Advertisement	Analysis/Value Proposition	
	\$80,000	Word of Mouth	Analysis/Value Proposition	
	\$25,000	Trade Show	Closed - Win	8/16/2017
	\$40,000	Advertisement	Closed - Win	7/19/2017
	\$22,000	Advertisement	Closed - Win	6/21/2017
	\$15,000	Word of Mouth	Closed - Win	8/24/2017
	\$150,000	Word of Mouth	Closed - Lost	
	\$90,000	Word of Mouth	Closed - Win	8/16/2017
	AVG \$63,905			

What is Airtable?

- "Organize anything, with anyone, from anywhere"
- On-line collaboration
- Spreadsheets on steroids

Let's take a look =>

The screenshot shows the Airtable CRM interface with a blue header bar. The top right corner features a logo with a dollar sign and the text "Sales CRM". Below the header, there are tabs for "Products", "Interactions", and a plus sign icon. Underneath these are buttons for "Field", "Filter", "Group", "Sort", and three dots. The main area is a table with columns: "Amount", "Lead Type", "Stage", and "Date deal closed". The table contains 16 rows of data. The "Amount" column includes "\$65,000", "\$50,000", "\$225,000", "\$70,000", "\$40,000", "\$10,000", "\$13,000", "\$100,000", "\$80,000", "\$25,000", "\$40,000", "\$22,000", "\$15,000", "\$150,000", "\$90,000", and "AVG \$63,905". The "Lead Type" column uses colored rounded rectangles: yellow for "Trade Show", purple for "Word of Mouth", pink for "Advertisement", and orange for "Analysis/Value Proposition". The "Stage" column uses green rounded rectangles for "Closed - Win" and red for "Closed - Lost". The "Date deal closed" column lists dates from "6/21/2017" to "8/16/2017".

	Amount	Lead Type	Stage	Date deal closed
	\$65,000	Trade Show	Closed - Win	6/21/2017
	\$50,000	Word of Mouth	Closed - Win	7/12/2017
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	AVG \$63,905			

Why should we care about content development?

- Content is typically developed / changed / altered in tandem with development
- In design, content is either ideal or [Lorem Ipsum](#)
- Web is typically flexible, but other types of projects might not be (kiosks, etc)



Why should we care about content development?

Typical content approach

- develop, develop, develop
- internal CMS review on minimal content
- fix, fix, fix
- client training and content entry
- develop, fix, develop, fix
- LAUNCH! 

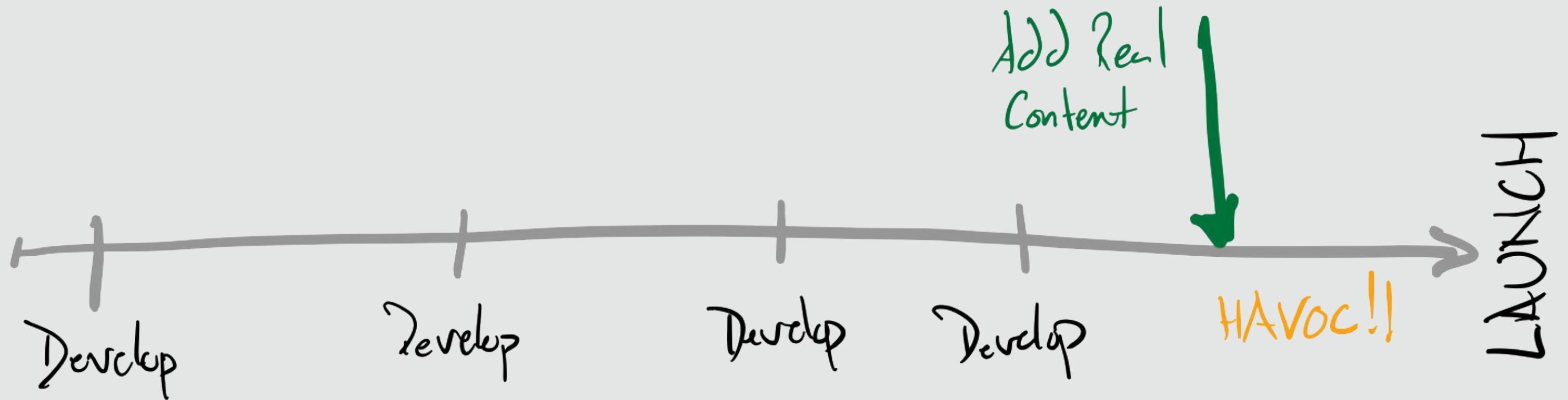
Why should we care about content development?

Typical content approach

- develop, develop, develop
- internal CMS review on minimal content
- fix, fix, fix
- client training and content entry
 - (Content Development starts here and is delayed due to issues in CMS)
- develop, fix, develop, fix
- LAUNCH! 

Why should we care about content development?

Typical content approach



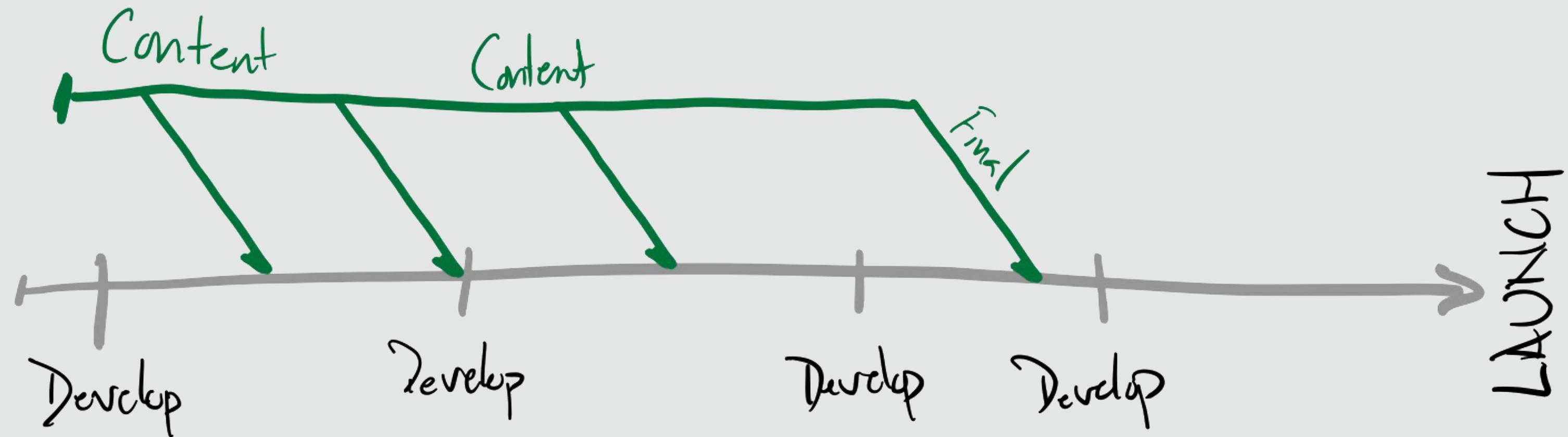
Why should we care about content development?

What we want in a better approach

- We want content development to start as early as possible
 - Use tools like spreadsheets, Airtable or Gather Content
- We would like to see as much real content in the CMS as quickly as we can
- We would like to not have to manually copy paste content from one of these tools to the CMS

Why should we care about content development?

What we want in a better approach



National Association of Broadcasters (NAB)

- Touch wall of Honorees
- Headless Drupal 8 site
- Minimal/Simple Content



National Association of Broadcasters (NAB)

- Two content types
 - One would be developed in the CMS only
- Flat data
- Using paragraphs for the main narrative content
- (Internally) Healthy development time-line for the CMS

I have no regrets at all. None. I consider myself to be the luckiest old broad on two feet.

BETTY WHITE

Regarded as a pioneer of television, Betty White is one of the first women to have control both in front of and behind the camera and is recognized as the first woman to produce a sitcom (*Life with Elizabeth*).

She is known for her award-winning roles as Sue Ann Nivens on *The Mary Tyler Moore Show* (1973–77) and Rose Nylund on *The Golden Girls* (1985–92). She then got her own radio show, called *The Betty White Show*.



lorem ipsum dolor sit amet credits 2019 ©

II —————

Betty White on CBS

1980

lorem ipsum dolor sit amet, consectetuer adipiscing elit,
sed diam nonummy nibh.



FPS: 30.258085



Tom Joyner



wonderful
of Disney



2000



Fawlty
Basil
THIS IS A TAGLINE

▶ 5 •

Liberty & Freedom
1954
Edward R. Murrow discusses how important Liberty and Freedom are in our battle against Communism.

Image Caption

1991

1994 INDULGE

Pond 5



1991 Jerry Lewis

2013 Dave Ramsey

2002 Rowan and Martin's Laugh-In



Guglielmo Marconi

1978



TODAY

The Today Show

1997



FPS: 30.044657



11:55 AM
2/21/2020 165

NAB: Airtable

The screenshot shows a screenshot of an Airtable database titled "NAB Winner Content". The interface has a green header bar with tabs for "Master Winner List", "Content Input Matrix", "Asset Matrix", "Archive ID List", and "Licensing Terms Overview". Below the header is a toolbar with "Grid view", "7 hidden fields", "Filter", "Group", "Sorted by 1 field", "Color", and other icons. The main area is a grid table with the following columns:

	Name	Story Display Name	Sort Name	Copy Entry Status	Year	TV/Radio	Tagline
1	<i>American Idol</i>	<i>American Idol</i>	American Idol	Complete	2013	TV	Collectively D...
2	<i>Amos and Andy</i>	<i>Amos and Andy</i>	Amos and Andy	Complete	1977	Radio	Sitcom First...
3	<i>Everybody Loves Raymond</i>	<i>Everybody Loves Raymond</i>	Everybody Loves Raymond	Complete	2014	TV	A Top-rated S...
4	<i>Fibber McGee and Molly</i>	<i>Fibber McGee and Molly</i>	Fibber McGee and Molly	Complete	1978	Radio	From Vaudev...
5	<i>FOX NFL Sunday</i>	<i>FOX NFL Sunday</i>	FOX NFL Sunday	Complete	2019	TV	America's Mc...
6	<i>Jeopardy!</i>	<i>Jeopardy!</i>	Jeopardy!	Complete	2018	TV	Our Favorite C...
7	<i>Lum and Abner</i>	<i>Lum and Abner</i>	Lum and Abner	Complete	1983	Radio	Folksy Radio...
8	<i>Rowan and Martin's Laugh-In</i>	<i>Rowan and Martin's Laugh-In</i>	Rowan and Martin's Laugh-...	Complete	2002	TV	Unexpected La...
9	<i>Saturday Night Live</i>	<i>Saturday Night Live</i>	Saturday Night Live	Complete	2000	TV	Sketch Come...
10	<i>The Honeymooners</i>	The Honeymooners	Honeymooners	Complete	1990	TV	Golden Age S...
11	<i>The Today Show</i>	<i>The Today Show</i>	Today Show	Complete	1997	TV	Informing, En...
12	<i>The Tonight Show</i>	<i>The Tonight Show</i>	The Tonight Show	Complete	2005	TV	Late-night La...
13	<i>The Wonderful World of Disney</i>	<i>The Wonderful World of Disney</i>	Wonderful World of Disney	Complete	2003	TV	Disney's Imag...
14	<i>Wheel of Fortune</i>	<i>Wheel of Fortune</i>	Wheel of Fortune	Complete	2018	TV	Longest-runn...
15	60 Minutes	<i>60 Minutes</i>	60 Minutes	Complete	1993	TV	1 Hour, Three...
16	All In The Family	<i>All In The Family</i>	All In The Family	Complete	1999	TV	Landmark Tel...
17	Arthur Godfrey	Arthur Godfrey	Arthur Godfrey	Complete	1978	Radio	The Old Red...
18	Benny Goodman	Benny Goodman	Benny Goodman	Complete	1983	Radio	King of Swing...
19	Betty White	Betty White	Betty White	Complete	2012	TV	First Lady of...
20	Bing Crosby	Bing Crosby	Bing Crosby	Complete	1980	Radio	America's Cro...
21	Bob Barker	Bob Barker	Bob Barker	Complete	2008	TV	50 Years of G...
22	Bob Elliot and Ray Goulding	Bob Elliot and Ray Goulding	Bob Elliot and Ray Goulding	Complete	1984	Radio	The Original S...
23	Bob Hope	Bob Hope	Bob Hope	Complete	1977	Radio	Master of the...

How to Sync?

Planning: assets

- Contrib Modules... ?? 
- Drupal 8 Mod: Airtable
- APIs to the rescue
 - Airtable API
 - Drupal Batch API

How to Sync?

Planning: constraints

- We want content to originate in Airtable and update (overwrite) content in the CMS
 - Not nuke and rebuild
- We want a "push button" sync solution
- We want to handle Paragraphs content in Airtable and ordering of bundles in Drupal
- We want to handle media: Images, Video, Audio
- We eventually want to turn off the sync

Headers (7) 1

Headers (16) Test Results

Status: 200 OK Time: 170ms Size: 157.83 KB

Preview

Visualize

JSON



```
records": [
  {
    "id": "rec0cJyqUI8Absfjb",
    "fields": {
      "Year": "2004",
      "Name": [
        "recSdRyTCI6lI7dHe"
      ],
      "Radio / TV": "Radio",
      "Original Description": "\"From the crossroads of the West, we welcome you to a program of inspirational music and spoken word\" was heard for the first time on a hot summer afternoon from",
      "Theme": "Musicians",
      "Batch": "Batch 2 (Due 2/7)",
      "Illustration": [
        {
          "id": "attEEhLH9PLsolBWB",
          "url": "https://dl.airtable.com/.attachments/84fbale33abedd2d19074f2d8a982933/d27099e2/_0037_Music-and-Spoken-Word.png",
          "filename": "_0037_Music-and-Spoken-Word.png",
          "size": 338134,
          "type": "image/png",
          "thumbnails": {
            "small": {
              "url": "https://dl.airtable.com/.attachmentThumbnails/b643d5796701bfc5bc312fe172294693/5deb5b36",
              "width": 37,
              "height": 36
            },
            "large": {
              "url": "https://dl.airtable.com/.attachmentThumbnails/8569147522e08fd64d476a492116f175/b11c032f",
              "width": 530,
              "height": 512
            },
            "full": {
              "url": "https://dl.airtable.com/.attachmentThumbnails/84fbale33abedd2d19074f2d8a982933/d27099e2/_0037_Music-and-Spoken-Word.png",
              "width": 1000,
              "height": 938
            }
          }
        }
      ]
    }
  }
]
```

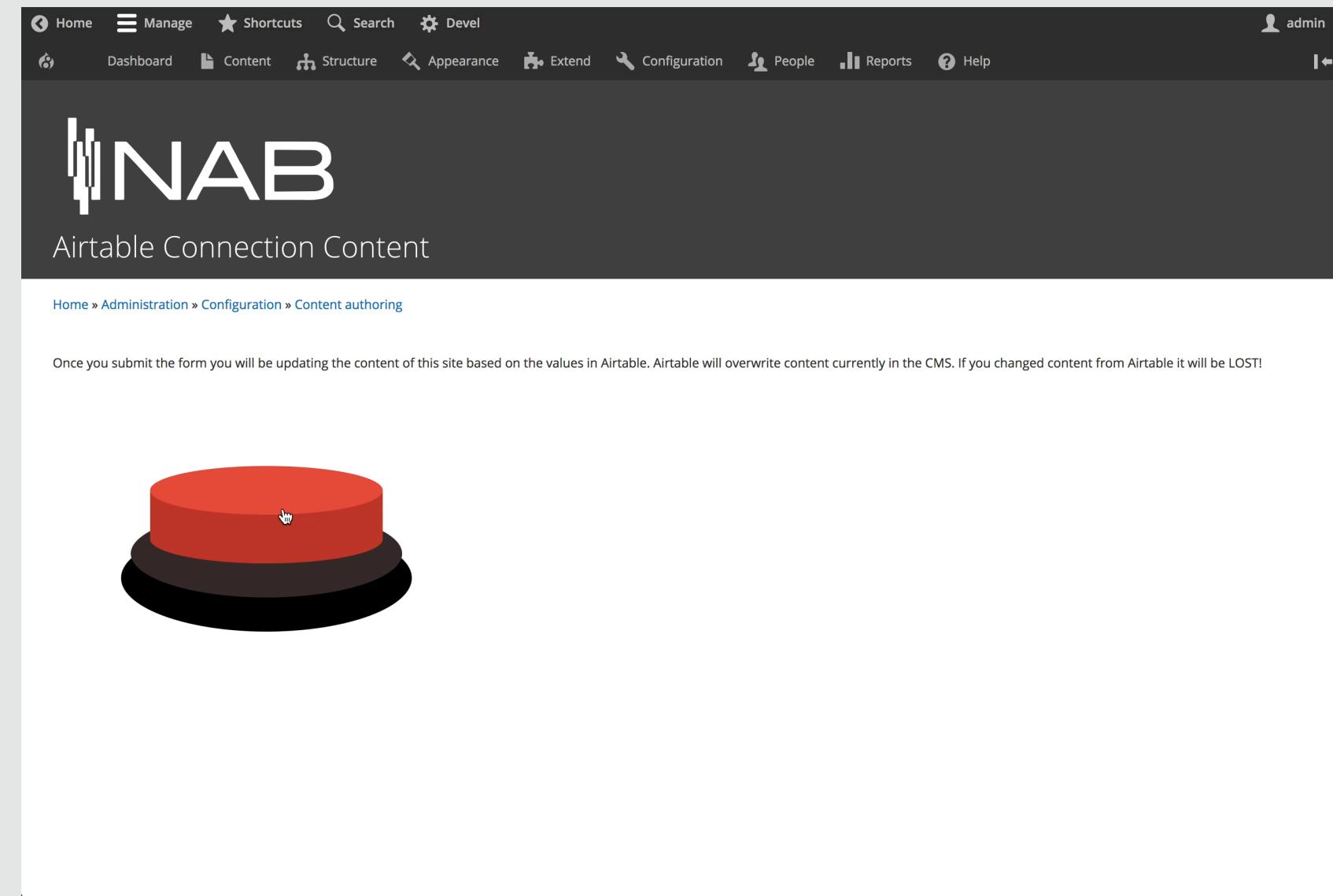
How to Sync?

Deep Dive

Batch API

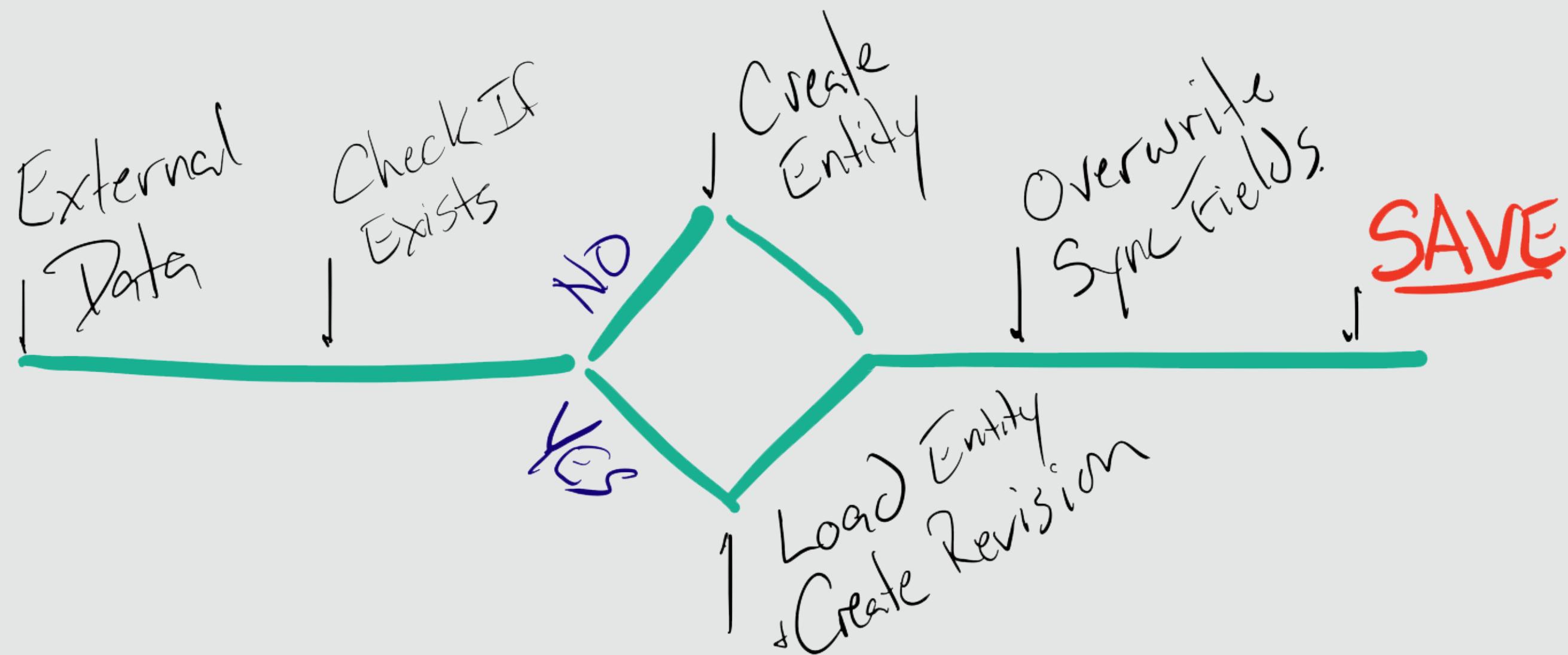
"Batches allow heavy processing to be spread out over several page requests, ensuring that the processing does not get interrupted because of a PHP timeout, while allowing the user to receive feedback on the progress of the ongoing operations. It also can reduce out of memory situations."

- Drupal.org



How to Sync?

Deep Dive: Code



How to Sync?

Deep Dive: Code

We start with a form:

```
class AtConnContent extends FormBase {  
    ...  
    public function submitForm(array &$amp;form, FormStateInterface $form_state) {  
        ...  
        $batch = [  
            'title' => $this->t('Syncing Content'),  
            'operations' => [  
                [$this, 'initiateAirtableData'], [],  
                [$this, 'processAirtableData'], [],  
                [$this, 'syncAirtableData'], []  
            ],  
            'finished' => [$this, 'finishedBatchSync'],  
        ];  
  
        batch_set($batch);  
    }  
}
```

How to Sync?

Deep Dive: Code

syncNode() is The method to actually sync.

```
/**  
 * Sync local node with data from Airtable.  
 */  
private function syncNode($data) {  
    ...  
}
```

How to Sync?

Deep Dive: Code

```
private function syncNode($data) {  
  
    // First Check if we have an existing node.  
    $query = $this->entityQuery->get('node');  
    $query->condition('type', 'inductee');  
    $query->condition('field_sync_id', $data->id);  
    $entity_ids = $query->execute();  
  
    ...  
}
```

How to Sync?

Deep Dive: Code

```
private function syncNode($data) {  
    ...  
    // Create new node if it doesn't exists.  
    if (empty($entity_ids)) {  
        $node = Node::create([  
            'type' => 'inductee',  
            'status' => TRUE,  
        ]);  
    }  
    else {  
        $node_storage = $this->entityTypeManager->getStorage('node');  
        $node = $node_storage->load(current($entity_ids));  
  
        $node->setNewRevision(TRUE);  
        $node->revision_log = 'Updating content from Airtable.';  
        $node->setRevisionCreationTime(REQUEST_TIME);  
        $node->setRevisionUserId(1);  
    }  
    ...  
}
```

How to Sync?

Deep Dive: Code

```
private function syncNode($data) {  
    ...  
    $node->set('title', strip_tags($data->Name[0]->Name));  
    $node->set('field_sync_id', $data->id);  
    $node->set('field_name', preg_replace("/\s*\r\n\s*|\s*\r\s*|\s*\n\s*/",  
        '<br/>', trim($data->Name[0]->{"Story Display Name"})));  
    $node->set('field_plain_name', $data->Name[0]->Name);  
    ...  
}
```

How to Sync?

Deep Dive: Code

Files: Images, Audio, Video

```
// Media object found or created.  
...  
// Save actual image.  
$target_dir = 'public://media';  
$this->fileSystem->prepareDirectory($target_dir, FileSystemInterface::CREATE_DIRECTORY);  
  
$new_filename = bcu_transliterate_filenames_transliteration($illustration_data->filename);  
$target_dir .= "/" . $new_filename;  
$drupal_image = system_retrieve_file($illustration_data->url, $target_dir, TRUE, FILE_EXISTS_RENAME);  
  
if ($drupal_image) {  
    $media->set('field_media_image', [  
        'target_id' => $drupal_image->id(),  
        'alt' => '',  
    ]);  
}  
...
```

How to Sync?

Deep Dive: Paragraph Bundles

- Detail narrative includes different paragraph elements
- We had fairly simple limits for this project
- Airtable does not easily handle ordering of Paragraph bundles
- I personally added the ability to add Paragraphs, that won't get effected by the sync
- Our process was to sync content but keep ordering saved in the CMS



Photo: Getty Images / Alamy Stock Photo © 2019 Getty Images

“

I have no regrets at all. None. I consider myself to be the luckiest old broad on two feet.

BETTY WHITE

Regarded as a pioneer of television, Betty White is one of the first women to have control both in front of and behind the camera and is recognized as the first woman to produce a sitcom (*Life with Elizabeth*).

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Betty White on CBS
1980

Photo: Everett Collection / Alamy Stock Photo © 2019 Getty Images

Defining the Modern Sitcom

In 1949, Betty White began appearing as co-host with Al Jarvis on his daily live television variety show *Hollywood on Television*, originally called *Al Jarvis' Make-Believe Ballroom* on KFWB radio and on KLAC-TV in Los Angeles.



How to Sync?

Deep Dive: Code

```
private function syncNode($data) {  
    ...  
    $new_segment_data = [];  
  
    $this->handleQuoteText($data, $node, $new_segment_data);  
    $this->handleDescriptiveText($data, $node, $new_segment_data);  
    $this->handleMedia($data, $node, $new_segment_data);  
  
    $this->handleSegmentBundles($node, $new_segment_data);  
    ...  
}
```

How to Sync?

Deep Dive: Code

```
// Example object.  
$new_segment_data[$sync_id] = [  
    'type' => 'quote',  
    'field_sync_id' => $sync_id,  
    'field_text' => $data->Name[0]->{$field_name},  
    'field_attribution' => $data->Name[0]->{'Attribution'},  
];
```

How to Sync?

Deep Dive: Code

```
private function handleSegmentBundles(&$node, $new_segment_data) {  
    $current_bundles = $node->field_segments->referencedEntities();  
    $new_bundles = [];  
  
    ...  
}
```

How to Sync?

Deep Dive: Code

```
private function handleSegmentBundles(&$node, $new_segment_data) {  
    ...  
    foreach ($current_bundles as $c_bundle) {  
        // Update bundle if it exists.  
        // Save bundle to create new revision.  
        // Remove from $new_segment_data  
        ...  
        $new_bundles[] = [  
            'target_id' => $c_bundle->id(),  
            'target_revision_id' => $c_bundle->getRevisionId(),  
        ];  
    }  
}
```

How to Sync?

Deep Dive: Code

```
private function handleSegmentBundles(&$node, $new_segment_data) {  
    ...  
    foreach ($current_bundles as $c_bundle) {  
        ...  
    }  
  
    // Add new segments at end of list.  
    foreach ($new_segment_data as $nsd) {  
        // Add new segment para.  
        $para = Paragraph::create($nsd);  
        $para->save();  
  
        $new_bundles[] = [  
            'target_id' => $para->id(),  
            'target_revision_id' => $para->getRevisionId(),  
        ];  
    }  
}
```

How to Sync?

Deep Dive: Code

```
private function handleSegmentBundles(&$node, $new_segment_data) {  
    ...  
    foreach ($current_bundles as $c_bundle) {  
        ...  
    }  
  
    foreach ($new_segment_data as $nsd) {  
        ...  
    }  
  
    // Save new field values.  
    $node->set('field_segments', $new_bundles);  
}
```

How to Sync?

Deep Dive: Code

- Loop through current bundles and update if necessary
- Save Paragraphs for new revision ID
- Add to the end of the field any new bundles
- This Achieves:
 - Keeps order in place,
 - Keeps any bundles that have been manually added.

How this helps with content entry

- We could enter the content in Airtable as we received it, all in one place
- It can be an easier interface than Google Sheets
- There are multiple ways to enter content (rows vs cards)
- We can break up content onto separate sheets according to the content type or task and link them (instead of having 1 really big sheet).
- Linked fields can auto-populate content (less copy and pasting)

How this helped with development

- The "wall" dev team was able to easily see some real content very early on and flag issues
 - A lot of inductees had really long titles which needed to be addressed
- We identified issues with data entry before it became critical
- We were able to polish our CMS => Data => Cinder Pipeline in a timely manner
 - Not 2 hours before a deadline

Some gotchas and help stuff

- Heavier CMS Dev lift upfront
- Line breaks
- Airtable has bad keys...
- Making revisions

Thanks!

Questions?

Comments?

Discussion?

Bluecadet



Pete Inge | Bluecadet | Drupal (And Maybe Wordpress) Site Content with Airtable

<https://github.com/pingevt/drupal-react-widgets>

[https://api.drupal.org/api/examples/
batch_example%21batch_example.module/group/
batch_example/8.x-1.x](https://api.drupal.org/api/examples/batch_example%21batch_example.module/group/batch_example/8.x-1.x)

