MULTINATIONAL & MULTILINGUAL REUSABLE E-COMMERCE PLATFORM CASE STUDY
Maxime Topolov, @mtopolov
CTO & Co-Founder of @Adyax
6 years of Drupal pain :(
One of the oldest perfume brands in the world, created in 1828.
OBJECTIVES
An e-commerce site connected to SAP with rich editorial content, managing multiple countries and languages, where each country is independent, where the content must be validated by France except some...

Fluid front-end, that must work with IE6...
SOME NUMBERS
2 ERP, INCLUDING SAP
16 COUNTRIES, INCLUDING CHINA
18 LANGUAGES, INCLUDING JAPANESE
2,500 PRODUCT REFERENCES
15,000 MAN HOURS

12 MONTHS OF DEVELOPMENT

15 PEOPLE

70 TEMPLATES  57 CONTENT TYPES
BASIC TECHNIQUES
Strategic choices

A single Drupal instance for all the sites.

Site launch is progressive, country by country.

Export and import of content via Excel.

Certain sites will be e-commerce, others won’t.

No Flash, in spite of luxurious environment.
COUNTRIES & LANGUAGES
<table>
<thead>
<tr>
<th>Country</th>
<th>Country code</th>
<th>Language</th>
<th>Language code</th>
</tr>
</thead>
<tbody>
<tr>
<td>International in EN</td>
<td>int</td>
<td>English</td>
<td>en</td>
</tr>
<tr>
<td>France</td>
<td>fr</td>
<td>French</td>
<td>fr</td>
</tr>
<tr>
<td>US</td>
<td>us</td>
<td>English US</td>
<td>en-us</td>
</tr>
<tr>
<td>UK</td>
<td>uk</td>
<td>English UK</td>
<td>en-uk</td>
</tr>
<tr>
<td>Middle-East</td>
<td>me</td>
<td>English Middle East</td>
<td>en-me</td>
</tr>
<tr>
<td>China</td>
<td>cn</td>
<td>Chinese</td>
<td>zh</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>hk</td>
<td>Chinese</td>
<td>zh-hk</td>
</tr>
<tr>
<td>Spain</td>
<td>es</td>
<td>Spain</td>
<td>es</td>
</tr>
<tr>
<td>Canada</td>
<td>ca</td>
<td>Canadian French</td>
<td>fr-ca</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Canadian English</td>
<td>en-ca</td>
</tr>
<tr>
<td>Russia</td>
<td>ru</td>
<td>Russian</td>
<td>ru</td>
</tr>
<tr>
<td>Korea</td>
<td>ko</td>
<td>Korean</td>
<td>kr</td>
</tr>
<tr>
<td>Taiwan</td>
<td>tw</td>
<td>Simplified Chinese</td>
<td>zh-tw</td>
</tr>
<tr>
<td>Japan</td>
<td>jp</td>
<td>Japanese</td>
<td>ja</td>
</tr>
<tr>
<td>Brazil</td>
<td>br</td>
<td>Brazilian Portuguese</td>
<td>pt</td>
</tr>
<tr>
<td>Italy</td>
<td>it</td>
<td>Italian</td>
<td>it</td>
</tr>
<tr>
<td>Germany</td>
<td>ge</td>
<td>German</td>
<td>de</td>
</tr>
</tbody>
</table>
Management of languages based on several very standard Drupal modules:

Localization Client (i10n_client)

Translation Template Extractor (potx)

Entity Translation (entity_translation)
This page provides an overview of available translatable strings. Drupal displays translatable strings in text groups; modules may define additional text. Because text groups provide a method of grouping related strings, they are often used to focus translation efforts on specific areas of the Drupal interface. See the Languages page for more information on adding support for additional languages.

<table>
<thead>
<tr>
<th>Language</th>
<th>Built-in Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese, Traditional</td>
<td>64/15591 (0.41%)</td>
</tr>
<tr>
<td>Czech</td>
<td>5936/15591 (38.07%)</td>
</tr>
<tr>
<td>Dutch</td>
<td>163/15591 (1.05%)</td>
</tr>
<tr>
<td>English</td>
<td>11/15591 (0.07%)</td>
</tr>
<tr>
<td>French</td>
<td>10523/15591 (67.49%)</td>
</tr>
<tr>
<td>German</td>
<td>8351/15591 (53.56%)</td>
</tr>
<tr>
<td>Greek</td>
<td>5191/15591 (33.29%)</td>
</tr>
<tr>
<td>Italian</td>
<td>166/15591 (1.06%)</td>
</tr>
<tr>
<td>Korean</td>
<td>5271/15591 (33.81%)</td>
</tr>
<tr>
<td>English (built-in)</td>
<td>n/a</td>
</tr>
<tr>
<td>Polish</td>
<td>9424/15591 (60.45%)</td>
</tr>
<tr>
<td>Russian</td>
<td>9218/15591 (59.12%)</td>
</tr>
<tr>
<td>Spanish</td>
<td>147/15591 (0.94%)</td>
</tr>
<tr>
<td>Ukrainian</td>
<td>6121/15591 (39.26%)</td>
</tr>
</tbody>
</table>
Each country can be identified either by its domain (guerlain.co.uk), or by a URL key (guerlain.com/fr)

The Domain Access module (domain) offers this feature on a platter.
Homepage copying
Catalog structure configuration, product displays copying
Magazine dossiers displays copying
Menu, articles, consultations, social network configurations, …
Three features were essential:

1. A ‘central’ country where all original content is first created
2. Possibility of copying all at once all content of one language to another
3. Notification of countries in case of modification of any content in the ‘central’ country
No workflow for the primary contents (editorial, products). The countries are responsible and have two versions at their disposal (draft & published)

A real workflow for the home pages
Content workflow
When we say “content translation gets published”, it means:

- Original language / Central: content is available for the Countries' local translations;
- Country local languages: content translation is available online for the website users.
Specific problem: customization of forms (inscription, newsletter) according to countries.
<table>
<thead>
<tr>
<th>Field name</th>
<th>Visible</th>
<th>Required</th>
<th>Info tooltip</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civilité</td>
<td></td>
<td></td>
<td></td>
<td>Mme, Mr.</td>
</tr>
<tr>
<td>Prénom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of birth</td>
<td></td>
<td></td>
<td>DD/MM/YYYY</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mot de passe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Téléphone</td>
<td></td>
<td></td>
<td>Minimal: 8, maximal: 12</td>
<td></td>
</tr>
<tr>
<td>Cell number</td>
<td></td>
<td></td>
<td>Minimal: 8, maximal: 12</td>
<td></td>
</tr>
<tr>
<td>Membership code</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billing Address</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veuillez cocher cette case si vous souhaitez recevoir la Newsletter de Guerlain.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privacy policy 2</td>
<td></td>
<td></td>
<td>No link to static page</td>
<td></td>
</tr>
<tr>
<td>Privacy policy 1</td>
<td></td>
<td></td>
<td>Link: node/14069</td>
<td></td>
</tr>
<tr>
<td>Veuillez cocher cette case si vous souhaitez recevoir la Newsletter de Guerlain.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile mail address</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Take-home message:

Building the best possible, scalable multilanguage-multicountry perfect solution, with overrides, notifications, permissions and complex workflow is NOT WORKING.

Client wants less features and a simple workflow, even if it requires more manual work from their contributors.
Entity translations vs i18n

Entity translation with best source idea, but with less support - sucked. Since 2 years, we corrected several issues, had many problems with client understanding and support.
GEOLOCALIZATION
1. If “nogeoloc” parameter present in URL on the dispatch page, geolocalization and automatic redirect won’t happen. User will stay on the dispatch page.

2. Otherwise script will check for the value of the “country” cookie, and if it exists - will verify if this country is present in the setting file to run redirect.

3. If “country” cookie was not found - script will try to geolocate user. If geolocated country is available present in “domains” section of settings - country cookie will be populated or updated with geolocated country and user will be redirected to the appropriate local site. If geolocated country isn’t present in settings - user will stay in the dispatch page.
IMPORT / EXPORT of content
We tried many formats to support XLS, one that works with common PHP libs in most of cases is:

The Excel 97 - Excel 2003 Binary file format (BIFF8)

Feeds used to import data.
Master file

Status

Last Import: 2 hours ago.
1765 imported items total.

Import

Choose file

Browse file location

Import file from your local system.

Import
2 files: catalog and products/SKUs

SKUs as well as products could have multiple photos, so we also have:

A ZIP archive with media organized into folders
product/product-ID/xxxxxx.jpeg
or sku/sku-ID/xxxxxx.jpeg
Product images: primary image list, N zoomed images, background image, images & video editorials

SKU images: primary, list, background, texture
No deletion (uniquely via BO)
Import doesn’t make changes
References to products still unknown
All fields (40)
Architecture of a complex catalog

- Family
  - Family
  - Group
    - Group
      - Category
      - Category
      - Category
ERP INTEGRATION
Orders, Clients

XML

SOAP

SKUs, Stock, Order Status
Working with SAP is not complicated, but laborious. One command can be 5000 lines of XML.
We have created a tool to send an XML command to SAP, directly from the Drupal back-office.

In addition, we have put into place a log of each communication (to & from) SAP that is visible from the objects concerned (command, user, SKU).
SOAP Client

REQUEST ENDPOINT
http://prod.guerlain.com/fr/fr-fr/sap-orders/order

REQUEST XML
<?xml version="1.0" encoding="UTF-8"?>
  <SOAP-ENV:Body>
      <DATA>
        <item>
          <OBJECT_TASK>1</OBJECT_TASK>
          <OBJECT_GUID>S10F95DD4C1A14E0E10080000A037809</OBJECT_GUID>
          <OBJECT_ID>0099043542</OBJECT_ID>
          <PROCESS_TYPE>ZCD1</PROCESS_TYPE>
        </item>
      </DATA>
    </saprfc:CRMXIF_ORDER_SAVE>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
Setup of the Secure Pages module

Creation of the sub-domain wws

SSL = User Data (Cart, My-Account)
Necessary to port the **Secure Pages Domain Access** module (securepages_domain).

For submission + redirection of all user forms.
Secure vs insecure / http vs https

Start development with activating all https support. Define https urls at every beginning! Do think about cross-site scripting and ajax, if urls differ. Secured cookies.

Idea: start thinking secure from the beginning of every project.
SMOOTH FRONT-END
LA PETITE ROBE NOIRE
EAU DE PARFUM
Mon Nouveau Parfum

DESCRIPTION

Je suis absolument indispensable et totalement irrésistible. Je suis la création parfumée Guerlain chic et terriblement glamour.

Ma fragrance est une broderie des plus belles notes "roises" de la parfumerie: Cèdre noir, Rose noire, Patchouli, Thi noir; mon roi de viande est le flacon mythique "cœur inversé", recouvert avec audace et modernité. Dans sa transparence cristalline, dégustée au noir au rose poudré, je délivre ma petite robe noire en ombre chinoise, prête à danser!

82,00 €
Never underestimate performance tuning.

Start first Sprint by activating all performance related modules - **memcache**, **entity-cache**, **adv-agg**, Varnish/purge, etc.

Test your deliveries with all those that have been activated, measure load/server responses starting from **Sprint 1**, force your teams to develop in a performance-oriented way.

Idea: Ecommerce is performance-oriented development.
Did you know that cache-form is a table that grows progressively and never cleans?

Mimics cache storage, but used in another way?

Did you know that Drupal commerce locks the tables, while committing updates? Any intensive Ecommerce sites will experience hard locks in order tables?

Idea: never over-estimate Drupal way, have an eye on everything (logs, tuning, etc,) and give back to the community.
DRUPAL ?
From re-use to platform
Countries, Languages, Multi-site system: 100% re-use of modules developed for Guerlain

Import/Export, Workflow: partial re-use

ERP: connectors to SAP or JDEdwards may be partially exchanged

Same platform: features may be easily exchanged
Number one Drupal Integrator in Europe