Develop for an international audience

Speaker: Ratnadeep Debnath

Slides: https://github.com/rtnpro/pycon_india_2012_i18n_and_l10n/

Event:

About me

- Developer and QA at www.transifex.com
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- @rtnpro at Freenode, Twitter
- https://github.com/rtnpro
- http://ratnadeepdebnath.wordpress.com

Transifex

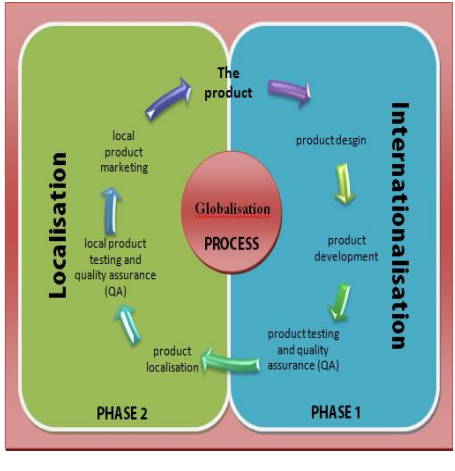
- https://www.transifex.com
- A modern localization workflow management system
- A Django based startup
- It's like a Github for localization
- Popular projects (among many) using Transifex: Fedora, Django, Dropbox, Pinterest, Opentranslators, Eventbrite, Intel, Nokia ...

Why?

- 95% people on the Earth with native language other than English
- 50% internet users speak no English at all
- Around 120 published languages on `wordpress.com`
- 4X chances to buy from a website in native language
- $25 additional revenue per $1 spent on localization

i18n & l10n

- i18n: Internationalization
- l10n: Localization



Encoding

Rules of thumb

- Always use Unicode rather than ASCII
- Decode in input and encode in output

Timezone

- Use UTC to save time information
- You can use `pytz` module for converting timezone info.

Choice of formats

- Gettext
- Qt
- YAML
- INI

Use a real format

- Plural support
- Context
- Comment
- Suggestions
- Validation

Basic steps for i18n and l10n

- Mark translation strings
- Extract them (PO files)
- Translate them
- Compile them (MO files)
- Load them in application

Python & Gettext

```
from gettext import gettext as _

string  = _(u'A sentence to translate')
```

Simple! Isn't it?

Let's take a look at an example from

https://github.com/rtnpro/pycon_india_2012_i18n_and_l10n/tree/master/examples/python

Initialize

```
import gettext

# Set up message catalog access
t = gettext.translation('myapplication', 'locale', fallback=True)
_ = t.ugettext
```

Usage

```
def greet_user(user):
    print _(u'Hello, %s.') % user
```

Plurals

```
def report_children(user):
  print t.ungettext(
      u'You have %s child',
      u'You have %s children',
      children[user]
  ) % children[user]
```

Extract

```
xgettext -d myapplication -o app.pot l10n.py
vim app.pot
```

PO file headers

```
# MyApplication
# Copyright (C) 2012 Apostolis Bessas
# This file is distributed under the same license as the MyApplication package.
# Apostolis Bessas <mpessas@transifex.com>, 2012.
#
#, fuzzy
msgid ""
msgstr ""
"Project-Id-Version: 0.1\n"
"Report-Msgid-Bugs-To: http://github.com/mpessas/going_international/issues\n"
"POT-Creation-Date: 2012-06-30 09:45+0300\n"
"PO-Revision-Date: YEAR-MO-DA HO:MI+ZONE\n"
"Last-Translator: FULL NAME <EMAIL@ADDRESS>\n"
"Language-Team: LANGUAGE <LL@li.org>\n"
"Language: \n"
"MIME-Version: 1.0\n"
"Content-Type: text/plain; charset=UTF-8\n"
"Content-Transfer-Encoding: 8bit\n"
"Plural-Forms: nplurals=INTEGER; plural=EXPRESSION;\n"
```

POT file content

```
#: l10n.py:10
#, python-format
msgid "Hello, %s."
msgstr ""

#: l10n.py:17
#, python-format
msgid "You have %s child"
msgid_plural "You have %s children"
msgstr[0] ""
msgstr[1] ""
```

PO files

```
mkdir -p locale/en/LC_MESSAGES/
msginit -i app.pot -o locale/en/LC_MESSAGES/en.po -l en
msgfmt locale/en/LC_MESSAGES/en.po -o \
    locale/en/LC_MESSAGES/myapplication.mo

mkdir -p locale/it/LC_MESSAGES/
msginit -i app.pot -o locale/it/LC_MESSAGES/it.po -l it
msgfmt locale/it/LC_MESSAGES/it.po -o \
    locale/it/LC_MESSAGES/myapplication.mo

mkdir -p locale/el/LC_MESSAGES/
msginit -i app.pot -o locale/en/LC_MESSAGES/el.po -l el
msgfmt locale/el/LC_MESSAGES/el.po -o \
    locale/el/LC_MESSAGES/myapplication.mo
```

Running

```
bash> LANG=it python l10n.py
Ciao, John
You have 1 child
Ciao, Mary.
You have 3 children
```

i18n in Django models

```
from django.utils.translation import ugettext_lazy as _

class Person(models.Model):
    name = models.TextField(
        _('Name'),
        help_text=_('First & last name')
    )
```

i18n in Django templates

```
{% load i18n %}

{% trans "Person:" %}
```

Extract marked strings in Django

```
./manage.py makemessages
```

Compile translations

```
./manage.py compilemessages
```

Localize dynamic content

- Add separate tables to hold localized data: django-multilingual
- Add new fields in the same table to hold localized data: django-transmeta
- Use Gettext to localize dynamic data: django-vinaigrette, django-lingua

Gotchas with Gettext & Python

- Issues with `%` character in source string. Consider the following scenario.

```
#: foo.py: 10
#, python-format
msgid "100% translated strings"
msgstr "100% strings traduzidas"
```

`msgfmt -c` for the translation file fails.

Work arounds:

- Consider removing `python-format` flag (**not recommended**)
- You can modify the source string marked up in source code as:

```
_("%(percent)s translated strings") % {percent: "%d%" % n}
```

Gotchas with Gettext & Python

- Are you using new Python format strings?

```
"This is a {format} string".format(format='format')
```

  Well, Gettext does not recognize them and so no validation support from it.

- It's always better to use named format specifiers than positional format specifiers. Makes more sense during translation.

Workflow

- Mark translate strings, export
- Release string freeze
- Translator: VCS checkout
- Translate w/ specialized tools
- Get 'em files back: SSH, email, tickets
- For every friggin release

Challenges

- Too darn hard
- Community isolation
- Quality
- Scalability
- Always more languages, more users

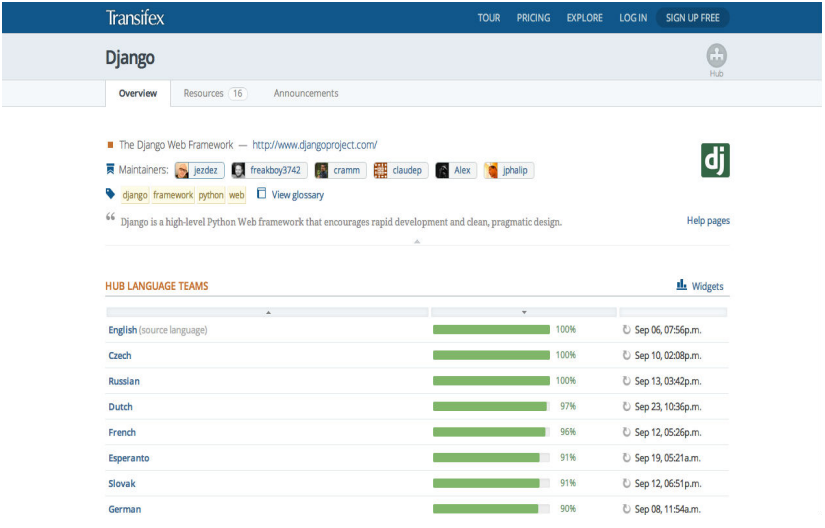
Modern solutions

- Localization workflow management tools on the cloud, e.g., **Transifex**
- **Pontoon**: A tool from Mozilla for live website localization

What does Transifex offer?

- VCS abstraction
- Easy integration with the help of `transifex-client`
- Collaboration: teams, crowdsourced, watches, outsourcing
- Translation Memory
- Glossary
- API
- Release management
- Webhooks, autofetch
- Web editor, file formats, 270+ languages
- Free for open source projects

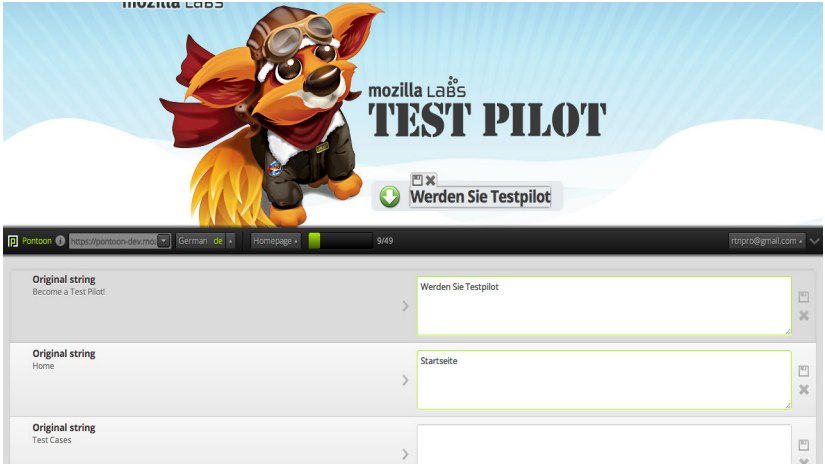
Django on Transifex



Pontoon

- Live website localization
- Configurable with various backends like Transifex, Pootle, etc.
- Very intuitive
- Support for various web frameworks: **PHP**, **Django** (others will follow)
- Helps localize non i18n-ized websites
- Open Source
- Contribute: https://github.com/mathjazz/pontoon

Pontoon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TEST PILOT
Werden Sie Testpilot
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German de
Homepage
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Original string
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Werden Sie Testpilot
Original string
Home
Startseite
Original string
Test Cases

Questions?

Thanks :)