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Flask-Menu is a Flask extension that adds support for generating menus.
CHAPTER 1

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Installation

Flask-Menu is on PyPI so all you need is:

```sh
$ pip install Flask-Menu
```

The development version can be downloaded from its page at GitHub.

```sh
$ git clone https://github.com/inveniosoftware/flask-menu.git
$ cd flask-menu
$ python setup.py develop
$ ./run-tests.sh
```

Requirements

Flask-Menu has the following dependencies:
Usage

This guide assumes that you have successfully installed Flask-Menu package already. If not, please follow the Installation instructions first.

Simple Example

Here is a simple Flask-Menu usage example:

```python
def tmpl_show_menu():
    return render_template_string("
        {% for item in current_menu.children %}
            {% if item.active %}*{% endif %}{{ item.text }}
        {% endfor -%}
    
    "")

@app.route('/
@register_menu(app, '.', 'Home')
def index():
    return tmpl_show_menu()

@app.route('/first')
@register_menu(app, '.first', 'First', order=0)
def first():
    return tmpl_show_menu()

@app.route('/second')
@register_menu(app, '.second', 'Second', order=1)
def second():
    return tmpl_show_menu()

if __name__ == '__main__':
    app.run(debug=True)
```

If you save the above as app.py, you can run the example application using your Python interpreter:

```
$ python app.py
  Running on http://127.0.0.1:5000/
```

and you can observe generated menu on the example pages:
You should now be able to emulate this example in your own Flask applications. For more information, please read the *Templating* guide, the *Blueprint Support* guide, and peruse the API.

### Templating

By default, a proxy object to *current_menu* is added to your Jinja2 context as *current_menu* to help you with creating navigation bar. For example:

```html
<ul>
  {%- for item in current_menu.children recursive -%}
  <li>
    <a href="{{ item.url }}">{{ item.text }}</a>
    {%- if item.children -%}
    <ul>
      {{ loop(item.children) }}
    </ul>
    {%- endif -%}
  </li>
  {%- endfor -%}
</ul>
```

### Blueprint Support

The most important part of an modular Flask application is Blueprint. You can create one for your application somewhere in your code and decorate your view function, like this:

```python
from flask import Blueprint
from flask_menu import register_menu

bp_account = Blueprint('account', __name__, url_prefix='/account')
@bp_account.route('/')
@register_menu(bp_account, '.account', 'Your account')
def index():
    pass
```

Sometimes you want to combine multiple blueprints and organize the navigation to certain hierarchy.

```python
from flask import Blueprint
from flask_menu import register_menu

bp_social = Blueprint('social', __name__, url_prefix='/social')
@bp_account.route('/list')
@register_menu(bp_social, '.account.list', 'Social networks')
def list():
    pass
```

As a result of this, your *current_menu* object will contain a list with 3 items while processing a request for /social/list.
Flask-Menu Documentation, Release 0.6.0

>>> from example import app
>>> from flask_menu import current_menu
>>> import account
>>> import social

>>> app.register_blueprint(account.bp_account)

>>> app.register_blueprint(social.bp_social)

>>> with app.test_client() as c:
...     c.get('/social/list')
...     assert current_menu.submenu('account.list').active
...     current_menu.children

Flask-Classy

Flask-Classy is a library commonly used in Flask development and gives additional structure to apps which already make use of blueprints as well as apps which do not use blueprints.

Using Flask-Menu with Flask-Classy is rather simple:

```python
from flask_classy import FlaskView
from flask_menu.classy import classy_menu_item

class MyEndpoint(FlaskView):
    route_base = '/'

    @classy_menu_item('frontend.account', 'Home', order=0)
    def index(self):
        # Do something.
        pass
```

Instead of using the `@menu.register_menu` decorator, we use `classy_menu_item`. All usage is otherwise the same to `register_menu`, however you do not need to provide reference to the blueprint/app.

You do have to register the entire class with flask-menu at runtime however.

```python
from MyEndpoint import MyEndpoint
from flask import Blueprint
from flask_menu.classy import register_flaskview

bp = Blueprint('bp', __name__)
MyEndpoint.register(bp)
register_flaskview(bp, MyEndpoint)
```

API

If you are looking for information on a specific function, class or method, this part of the documentation is for you.

Flask extension

```python
class flask_menu.Menu(app=None)
Flask extension implementation.
```
**init_app** *(app)*

Initialize a Flask application.

**static root** ()

Return a root entry of current application’s menu.

class flask_menu.MenuEntryMixin *(name, parent)*

Represent a entry node in the menu tree.

Provides information for displaying links (text, url, visible, active). Navigate the hierarchy using `children()` and `submenu()`.

**active**

Return True if the menu item is active.

**active_item**

Return the active item from the menu’s tree.

Return self if the item itself is active. Return an active child if there is one. If there are no active menu items, None will be returned.

**children**

Return list of sorted children.

**dynamic_list**

Return list from dynamic list constructor.

**has_active_child** *(recursive=True)*

Return True if the menu has an active child.

**has_visible_child** *(recursive=True)*

Return True if the menu has a visible child.

**hide** ()

Make the entry always hidden.

**list_path** *(from_path, to_path)*

Return all items on path between two specified entries.

Only if one of them is an ancestor of the other.

**Parameters**

- **from_path** – The ancestor entry.
- **to_path** – The child entry.

**Returns** List of entries between those items or None if they are on different branches.

**register** *(endpoint=None, text=None, order=0, external_url=None, endpoint_arguments_constructor=None, dynamic_list_constructor=None, visible_when=None, expected_args=None, **kwargs)*

Assign endpoint and display values.

New in version 0.6.0: The `external_url` parameter is mutually exclusive with `endpoint`.

**submenu** *(path, auto_create=True)*

Return submenu placed at the given path in the hierarchy.

If it does not exist, a new one is created. Return None if path string is invalid.

**Parameters**

- **path** – Path to submenu as a string ‘qua.bua.cua’
- **auto_create** – If True, missing entries will be created to satisfy the given path.
Returns  Submenu placed at the given path in the hierarchy.

url  Generate url from given endpoint and optional dynamic arguments.

visible  Return True if the menu item is visible.

Decorators

\texttt{flask_menu.register_menu}(app, path, text, order=0, endpoint_arguments_constructor=None, dynamic_list_constructor=None, active_when=None, visible_when=None, **kwargs)

Decorate endpoints that should be displayed in a menu.

Example:

```python
@register_menu(app, '.', _('Home'))
def index():
    pass
```

Parameters

- **app** – Application or Blueprint which owns the function view.
- **path** – Path to this item in menu hierarchy, for example ‘main.category.item’. Path can be an object with custom \_\_str\_\_ method: it will be converted on first request, therefore you can use current\_app inside this \_\_str\_\_ method.
- **text** – Text displayed as link.
- **order** – Index of item among other items in the same menu.
- **endpoint_arguments_constructor** – Function returning dict of arguments passed to url\_for when creating the link.
- **active_when** – Function returning True when the item should be displayed as active.
- **visible_when** – Function returning True when this item should be displayed.
- **dynamic_list_constructor** – Function returning a list of entries to be displayed by this item. Every object should have ‘text’ and ‘url’ properties/dict elements. This property will not be directly affect the menu system, but allows other systems to use it while rendering.
- **kwargs** – Additional arguments will be available as attributes on registered MenuEntryMixin instance.

Changed in version 0.2.0: The kwargs arguments.

Proxies

\texttt{flask_menu.current_menu}

Root of a menu item.
Flask-Classy

**flask_menu.classy.register_flaskview**(app, classy_view)

Register a Flask-Classy FlaskView’s menu items with the menu register.

Example:

```python
bp = Blueprint('bp', __name__)
menu.register_flaskview(bp, MyEndpoint)
```

Parameters

- **app** – Application or Blueprint which owns the function view.
- **classy_view** – The Flask-Classy FlaskView class to register menu items for.

**flask_menu.classy.classy_menu_item**(path, text, **kwargs)

Decorator to register an endpoint within a Flask-Classy class.

All usage is otherwise the same to `register_menu`, however you do not need to provide reference to the blueprint/app.

Example:

```python
class MyEndpoint(FlaskView):
    route_base = '/'

    @menu.classy_menu_item('frontend.account', 'Home', order=0)
    def index(self):
        # Do something.
        pass
```

Parameters

- **path** – Path to this item in menu hierarchy, for example ‘main.category.item’. Path can be an object with custom `__str__` method: it will be converted on first request, therefore you can use current_app inside this `__str__` method.
- **text** – Text displayed as link.
- **order** – Index of item among other items in the same menu.
- **endpoint_arguments_constructor** – Function returning dict of arguments passed to `url_for` when creating the link.
- **active_when** – Function returning True when the item should be displayed as active.
- **visible_when** – Function returning True when this item should be displayed.
- **dynamic_list_constructor** – Function returning a list of entries to be displayed by this item. Every object should have ‘text’ and ‘url’ properties/dict elements. This property will not be directly affect the menu system, but allows other systems to use it while rendering.
- **kwargs** – Additional arguments will be available as attributes on registered `flask_menu.MenuEntryMixin` instance.

Changed in version 0.2.0: The `kwargs` arguments.
Changes
• Fixes Python 3 deprecation warnings.
• Adds the `external_url` parameter to `MenuEntryMixin’s register` function, allowing menu items with external urls not tied to an endpoint.
CHAPTER 3

Version 0.5.1 (released 2016-01-04)

- Improves tests for checking when an item is active.
• Drops support for Python 2.6.
• Adds new property to MenuEntryMixin which allows the user to retrieve the current active item from the MenuEntryMixin’s tree. (#43)
• Modifies project structure to be in line with other newer Invenio project packages. This includes renaming files to match with files in other projects, revising structures of certain files and adding more tools for testing. (#42)
• Fixes incompatibility with pytest>=2.8.0 which removed the method consider_setuptools_entrypoints(). (#41)
• Updates to the new standard greeting phrase
• Flask-Classy support and automatic detection of parameters for `url_for`. (#33)
• Improves how the default active state of items is determined. (#32)
• Adds `.dockerignore` excluding among others Python cache files. This solves a problem when using both `tox` and `docker` to run the test suite on the same host. (#29)
• New method `has_active_child(recursive=True)` in `MenuEntryMixin`. (#25)
• Fixed documentation of blueprint example. (#21)
• Configuration for Docker and demo app. (#22 #29)
• Fixed template example and added code block types. (#14)
• The Flask-Menu extension is now released under more permissive Revised BSD License. (#12)
• New support for additional keyword arguments stored as MenuItem attributes. (#19)
• Richer quick-start usage example. (#16)
• Support for Python 3.4. (#6)
• Documentation improvements. (#3)
Version 0.1.0 (released 2014-06-27)

• Initial public release.

Contributing

Bug reports, feature requests, and other contributions are welcome. If you find a demonstrable problem that is caused by the code of this library, please:

1. Search for already reported problems.
2. Check if the issue has been fixed or is still reproducible on the latest master branch.
3. Create an issue with a test case.

If you create a feature branch, you can run the tests to ensure everything is operating correctly:

```bash
$ ./run-tests.sh
```

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