Nuancier Documentation

Release

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Contents

Nuancier is a web-based voting application for the supplementary wallpapers of Fedora.

For each release of Fedora a number of supplementary wallpapers are provided. These wallpapers are submitted by contributors to the community who choose among them those that will be included in the release.

The current election application does not support voting on images. Nuancier aims at providing a simple application uploading and voting on these images/candidates.

Nuancier is meant as a temporary solution before elections or nuancier takes over, but in the meanwhile it does provide a nicer way to vote for the supplementary wallpapers.

Resources:

- Home page
- Documentation
- Git repository

Contents:

CHAPTER 1

Deployment

1.1 From sources

Clone the source:

```
git clone https://github.com/fedora-infra/nuancier.git
cd nuancier
```

Copy the configuration files:

```
cp utility/nuancier.cfg.sample nuancier.cfg
```

Adjust the configuration files (secret key, database URL, admin group...). See Configuration for detailed information about the configuration.

Create the database scheme:

```
NUANCIER_CONFIG=/path/to/nuancier.cfg python createdb.py
```

Set up the WSGI as described below.

1.2 From system-wide packages

Start by install nuancier:

```
yum install nuancier
```

Adjust the configuration files: `/etc/nuancier/nuancier.cfg`. See Configuration for detailed information about the configuration.

Create the database scheme:

```
NUANCIER_CONFIG=/etc/nuancier/nuancier.cfg python /usr/share/nuancier/nuancier_createdb.py
```

Set up the WSGI as described below.

1.3 Set-up WSGI

Start by installing `mod_wsgi`:

```
yum install mod_wsgi
```

Then configure apache:

```
sudo vim /etc/httpd/conf.d/nuancier.conf
```

uncomment the content of the file and adjust as desired.

Then edit the file `/usr/share/nuancier/nuancier.wsgi` and adjust as needed.

Then restart apache and you should be able to access the website on http://localhost/nuancier

Note: Flask provides also some documentation on how to deploy Flask application with WSGI and apache.

1.4 For testing

See Development if you want to run nuancier just to test it.

CHAPTER 2

Configuration

There are the main configuration options to set to have nuancier running. These options are all present and described in the nuancier.cfg file.

2.1 The secret key

Set in the configuration file under the key `SECRET_KEY`, this is a unique, random string which is used by Flask to generate the CSRF key unique for each user.

You can easily generate one using pwgen for example to generate a 50 characters long random key

```
pwgen 50
```

2.2 The database URL

Nuancier uses SQLAlchemy an SQL Toolkit and Object Relationship Mapper in Python, and is used to connect to the database. In order to connect to the database, you need to provide the database name in a URL format under the key `DB_URL` in the configuration file.

Examples URLs are:

```
DB_URL=mysql://user:pass@host/db_name
DB_URL=postgres://user:pass@host/db_name
DB_URL=sqlite:////full/path/to/database.sqlite
```

Note: The key `sqlalchemy.url` of the `alembic.ini` file should have the same value as the `DB_URL` described here.

2.3 The admin group

Nuancier relies on a group of administrator to create new elections, open or close them for voting and open or close the publication of the results and (re)generate the cache. The `ADMIN_GROUP` field in the configuration file refers to the FAS group that manages this nuancier instance.

See Usage for details explanations on the different administration layer of nuancier.

Note: Several groups of administrators can be set using either () or [].

2.4 The pictures folder

The PICTURE_FOLDER field takes the full path to the folder in which the application will place all the pictures submitted by the candidates (within a folder, specific for each election).

2.5 The cache folder

The CACHE_FOLDER field takes the full path to the folder in which the application is allowed to generate the thumbnails of the pictures present in the PICTURE_FOLDER.

Note: This folder should be write-able by the application (ie: apache).

2.6 The thumb size

In order to reduce the size(and hence the loading time) of the pages displaying all the pictures submitted by a candidate to an election, nuancier creates thumbnails of these pictures. These thumbnails are generated with anti-aliases to maintain a certain quality.

The THUMB_SIZE is a set of length, width coordinate providing indication to nuancier about the desired size of the thumbnails.

By default THUMB_SIZE is at 256x256.

2.7 Security

It is a good practice to have the cookies require a https connection for security reason. However, while developing, this can prevent the authentication from working. So by default this is turned off to provide an out-of-the-box working configuration, however you will want to change it in production.

The setting is SESSION_COOKIE_SECURE.

Default SESSION_COOKIE_SECURE = False

Change this SESSION_COOKIE_SECURE = True when using the application in a production environment.

2.8 Cookie conflicts

If you run multiple applications at different levels of your server, by default the path of the cookie will be /, eventually leading to cookie conflict but providing a working configuration out of the box

To prevent this, adjust the APPLICATION_ROOT value or the SESSION_COOKIE_NAME as needed (in Fedora we used APPLICATION_ROOT).

Default APPLICATION_ROOT = '/'

Note: The application root should start with a / otherwise the path of the cookie is not set correctly

Note: More configuration information are described in the flask documentation.

CHAPTER 3

Administrate

3.1 Account Types

Nuancier has two types of accounts:

- administrators
- users

3.1.1 Administrators

Administrators are people with an account on the Fedora Account System (FAS) who belong to one of the administrator groups as set in the Configuration.

Administrators are the only people allowed to create an election, open or close it for votes, open or close the results and generate the cache (thumbnails).

3.1.2 Users

Users are people with an account on the Fedora Account System (FAS) who belong to the `fedora_cla` group as well as one additional group. All contributing users should be part of the `fedora_cla` group once they have signed it.

3.2 Upload new pictures for an election

All users can contribute candidates to an election by clicking on the `contribute` tab. On that page you can find a list of the rules, allowable subject matter, composition, and technical requirements regarding the submitted images. At the bottom of you page you can see elections that are currently accepting submissions.

When submitting an image you will need to provide the following:

- Title
- Author
- URL of the original work
- File location
- License type

Note: Files are limited to a max size of 16 MB.

3.3 Administration panel

After logging in, if you are in the administrator group, you will see an `Admin` entry in the menu.

If you click on this `Admin` link you will arrive to the index page of the administration panel.

This page shows you all elections registered with their information and for each if they are open for vote or not and if their results are public or not. It offers the possibility to (re-)generate the cache for an election and once the election is closed, a link to some statistics about it.

3.4 Create elections

Click on the link `Create a new election` from the administration panel.

The form to will ask for:

- `election name`: the name of the election, this will be used as link throughout the application. Example name might be : *Fedora 20 wallpaper*
- `Name of the folder containing the pictures`: this specifies the name of the folder containing the pictures for that election that has been placed in the folder specified under `PICTURE_FOLDER` in Configuration.

  Note: It is a good idea to keep this name simple, unique, ascii and without spaces.

- `Year`: the year the election is taking place, this is purely for information.
- `Open`: This is a checkbox to specify whether this election is already open for votes or not.
- `URL to claim a badge for voting`: This allows to specify a link where people will be able to go to collect a badge announcing that they participated in this election. You should coordinate with the people of the badge project to get this link.
- `Number of votes a user can make`: This specifies the number of choices a user can make for this election. For example, if a user is allowed to select only 16 wallpapers, then this field should be *16*.
- `Generate cache`: This is a checkbox offering to generate the cache assuming the pictures have already been placed on the `PICTURE_FOLDER`, together with the `infos.txt` file.

3.5 Open/Close election for votes

Once an election is opened for vote or has ended, the administrator can simply log into nuancier, go to the administration panel, find the correct election and on the *Open* column click on the `toggle` link.

If fedmsg is installed on the server, fedmsg messages are published for these events.

3.6 Publish results of an election

Once an election has ended the results will be published automatically. If fedmsg is installed on the server, fedmsg messages are published for these events.

3.7 Generate cache

In order to reduce the size(and hence the loading time) of the page where all the candidates of an election are shown, nuancier generates thumbnails.

To generate the cache of an election, the administrator needs to log in nuancier, go to the administration panel, find the correct election and click on the `(Re-)generate cache`.

CHAPTER 4

Usage

4.1 The Page Organisation

At the top of the page three tabs are presented.

- The `Home` tab brings you back to the front page of the application where you will see some text explaining what this application is about.
- The `Elections` tab shows you the list of all the election present in the database, with their name, year and status.
- The `Results` tab gives you a list of links pointing to the result page of each election whose results have been published.

If you are an administrator you will also see one additional tab:

- `Admin` tab takes you to the administrative page where you can create a new election, edit an existing election, regenerate the cache for an election, review the election, and see the stats for an election.

4.2 Finding Open Elections

Open elections can be found on the `Elections` tab. They are designated with the following image in the `Votes Open` column:

✓

If the election hasn't opened yet or is already closed it will be designated with the following image in the `Votes Open` column:

⛔

4.3 Vote

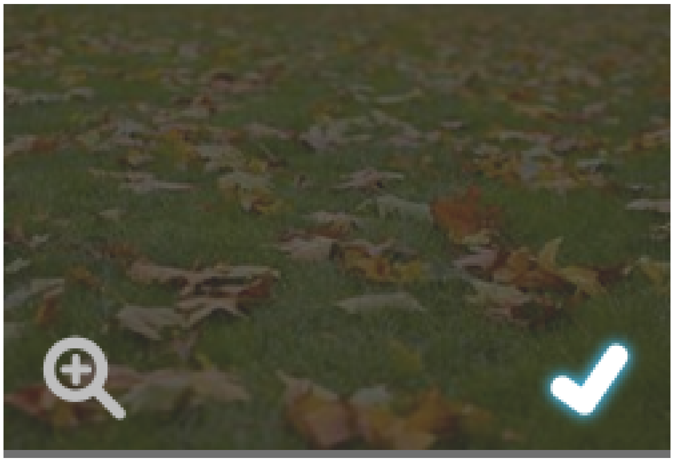
If an election is open, it is possible to vote on it.

Go to the `Elections` tab at the top of the page and click on the name of an election which has the following symbol in the `Open` column of the table:

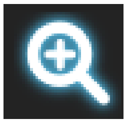
✓

This will bring you to the page where you can vote.

In front of you, in the middle of the page, all the candidates for the election you selected are presented on a white background. By hovering your mouse over the image, you will be able to see two icons:

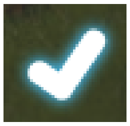


On the bottom left is a *google* icon.



If you click on the google icon,you will be able to see a bigger and more detailed version of the image.

On the bottom right is a *check* icon.



If you click on this *check* icon, the corresponding image will be selected to be voted upon.

As you select candidates, these candidates will disapear from the central list of candidates and move to the grey column on the right where all the candidates you selected are shown.

At the top of this selection, within the grey column on the right, is displayed the number of candidates you selected versus the maximum number of candidates you are allowed to select.

Once your selection is made, simply click on `Submit Votes` on the grey column on the right.

You will be brought back to the list of elections and with a message thanking you for voting.

Note: You may vote on as many or as little candidates as you like up to the maximum allowed per elections. If you select less than the maximum number of candidates you will be able to come back on the election page and complete your vote (thus allowing you to complete your vote spread over multiple sessions).

Warning: You cannot change your vote once you have submitted it.

4.4 Finding Published Elections

Published elections are elections whose results have been made public.

To find all the elections whose results are public, go to the `Elections` tab at the top of the page.

The election whose results are public are marked with:

✅

under the column `Published` in the table on this page.

Under the same column `Published`, the elections whose results are not yet public are marked with the symbol:

⛔

4.5 Consulting The Results Of An Election

You can find the list of all the elections whose results are published by clicking on the tab `Results` at the top of the page.

There you can click on the election of your interest and access the corresponding result page.

The result page will show you a table with for all the candidates, their name, number of votes and thumbnails ordered by decreasing number of votes.

4.6 Statistics of An Election

You can find the list of all the elections whose results are published by clicking on the tab `Results` at the top of the page.

There you can click on the `stats` link of the election of your choice.

This page displays some statistics about the election : - Number of participants - Number of votes, - Maximum number of vote per person - Bar graph indicating how many people voted on how many candidates, for

> example: 3 persons voted on 4 candidates while 10 voted only on 2 candidates.

CHAPTER 5

Development

5.1 Get the sources

Anonymous:

```
git clone https://github.com/fedora-infra/nuancier.git
```

Contributors:

```
git clone git@github.com:fedora-infra/nuancier.git
```

5.2 Dependencies

The dependencies of nuancier are listed in the file `requirements.txt` at the top level of the sources.

5.3 Run nuancier for development

Create the database scheme:

```
python createdb.py
```

Run the server:

```
./runserver
```

You should be able to access the server at http://localhost:5000

Every time you save a file, the project will be automatically restarted so you can see your change immediatly.

Note: You may want to adjust the values in `nuancier/default_config.py` especially the `ADMIN_GROUP` if you are not part of the default one. See Configuration for more information about the configuration.

5.4 Coding standards

We are trying to make the code PEP8-compliant. There is a pep8 tool that can automatically check your source.

We are also inspecting the code using pylint and aim,of course, for a 10/10 code (but it is an asymptotic goal).

Note: both pep8 and pylint are available in Fedora via yum:

```
yum install python-pep8 pylint
```

5.5 Send patch

The easiest way to work on nuancier is to make your own branch in git, make your changes to this branch, commit whenever you want, rebase on master whenever you need and when you are done, send the patch either by email or via the github pull-request mechanism.

The workflow would therefore be something like:

```
git branch <my_shiny_feature>
git checkout <my_shiny_feature>
<work>
git commit file1 file2
<more work>
git commit file3 file4
git checkout master
git pull
git checkout <my_shiny_feature>
git rebase master
git format-patch -2
```

This will create two patch files that you can send by email to submit in the trac.

5.6 Unit-tests

Nuancier has a number of unit-tests providing at the moment a full coverage of the backend library (nuancier.lib).

We aim at having a full (100%) coverage of the whole code (including the Flask application) and of course a smart coverage as in we want to check that the functions work the way we want but also that they fail when we expect it and the way we expect it.

Tests checking that function are failing when/how we want are as important as tests checking they work the way they are intended to.

`runtests.sh`, located at the top of the sources, helps to run the unit-tests of the project with coverage information using python-nose.

Note: You can specify additional arguments to the nose command used in this script by just passing arguments to the script.

For example you can specify the `-x` / `--stop` argument: *Stop running tests after the first error or failure* by just doing

```
./runtests.sh --stop
```

Unit-test files(located under `tests/`) can be can be invoked individually, allowing easier debugging of the tests. For example:

```
python tests/test_model.py
```

Similarly as for nose you can also ask that the unit-test stop at the first error or failure. For example, the command could be:

```
python -m unittest -f -v tests.test_model
```

Note: In order to have coverage information you might have to install `python-coverage`

```
yum install python-coverage
```

5.7 Database changes

We try to make the database schema as stable as possible, however once in a while we need to change it to add new features or information.

When database changes are made, they should have the corresponding change handled via alembic.

See the alembic tutorial for complete information on how to make a revision to the database schema.

The basic idea is to create a revision using (in the top folder):

```
alembic revision -m "<description of the change>"
```

Then edit the file generated in alembic/versions/ to add the correct command for upgrade and downgrade (for example: `op.add_column`, `op.drop_column`, `op.create_table`, `op.drop_table`).

CHAPTER 6

Contributing

If you're submitting patches to nuancier, please observe the following:

- Check that your python code is PEP8-compliant. There is a pep8 tool that can automatically check your source.
- Check your code quality using pylint.
- Check that your code doesn't break the test suite. The test suite can be run using the `runtests.sh` shell script at the top of the sources. See Development for more information about the test suite.
- If you are adding new code, please write tests for them in `tests/`, the `runtests.sh` script will help you to see the coverage of your code in unit-tests.
- If your change warrants a modification to the docs in `doc/` or any docstrings in `nuancier/` please make that modification.

Note: You have a doubt, you don't know how to do something, you have an idea but don't know how to implement it, you just have something bugging you?

Come to see us on IRC: `#fedora-apps` on irc.freenode.net or via its github tracker.

CHAPTER 7

About nuancier

Nuancier is a web-based voting application for the supplementary wallpapers of Fedora.

Here is some more information about the technology, layout and artwork used in this application.

7.1 Templates

Nuancier re-used the layout of Koji adjusted as desired.

(License: LGPLv2)

7.2 Lightbox2

Nuancier uses lightbox2 as javascript library to pop-up the pictures and present a larger version.

(License: CC-BY)

7.3 Icons

The icons used come from the echo icon theme

(License: CC-BY-SA)

7.4 Contributors

Nuancier is the results of a team effort started by Jenn and Gnookii and followed by a number of contributors.

It was first named `nuancier-lite` and renamed to `nuancier` when support for uploads and moderation was added.

On April 29, 2014 (versoin 0.8.2), the list looks as follow:

Number of commits	Contributor
616	Pierre-Yves Chibon <pingou@pingoured.fr>
31	Ralph Bean <rbean@redhat.com>
9	Ryan Lerch <ryanlerch@fedoraporject.org>
5	Jenn <jennlkotler@gmail.com>
4	Shagufta <methwanishagufta@gmail.com>
3	Michael Haynes <mhaynes.linux@gmail.com>
2	Ricky Elrod <ricky@elrod.me>
1	Chaoyi Zha <summermontreal@gmail.com>
1	Gerard Ryan <gerard@ryan.lt>
1	Paul W. Frields <stickster@gmail.com>
1	Praveen Kumar <prkumar@redhat.com>
1	Toshio Kuratomi <a.badger@gmail.com>
1	Vatsala Dorairajan <vatsala.dorairajan@gmail.com>
1	anshu <anshu@aerospike.com>

This list is generated using

```
git shortlog -s -n -e
```

CHAPTER 8

Indices and tables

- genindex
- modindex
- search