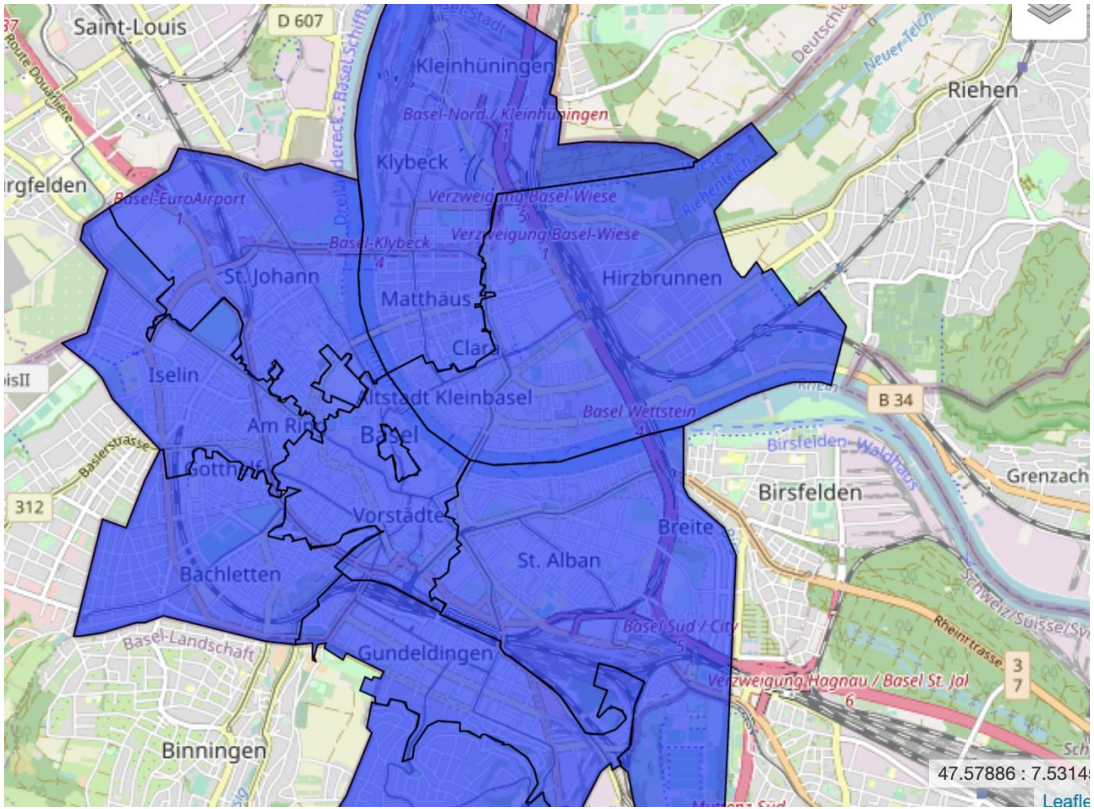
Display Your Map on a Website Using Geopandas , Folium , Django , and Heroku

Gregory Wallace - GeoPython 2022

Demo



https://anyuniquename.herokuapp.com/ + maps at the end

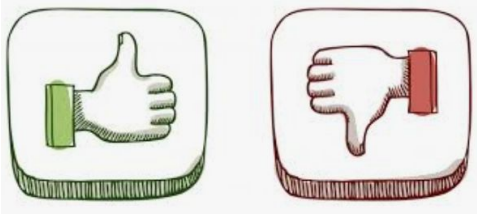
Agenda & scope

1. We explain the pros & cons, and the tools needed,

2. Then we start by a data preparation example with Geopandas to prepare a Folium map.
3. Then we create and prepare a Django application to render the map locally.
4. We finally push the code to Heroku to have a website ready with a map page.

Current presentation and detailed steps are in a public github repo so no need to take notes https://github.com/gregwalla/geopythonBasel

Pros & Cons



An html file can be seen justs as easily just by clicking on it

> Potential exceeding size of an html file to be shared via email

> Web app can be embedded in a presentation as a link

Why Django & Heroku ? Other options exist to publish a GIS web app

>Currently 100 % free & no credit card no to give

> Harder to set up , easy to iterate

> Good tutorials (especially Corey Shafer) & documentations

Whoami

I work in an energy distribution company in Paris

Data Scientist and responsible for GIS applications in geomarketing

Switched from finance to data science & GIS 5 years ago

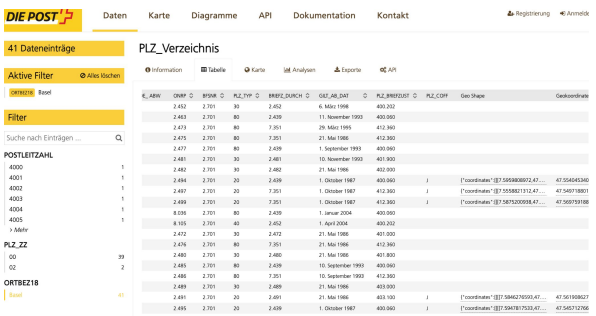
Live in la Rochelle , western coast of France

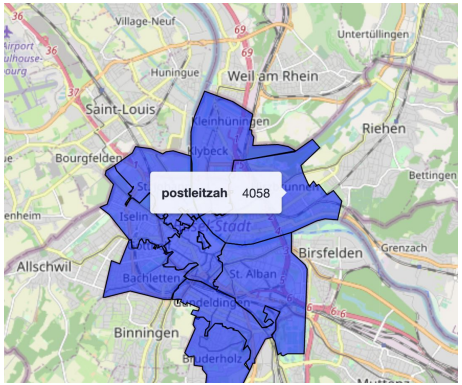
Ingredients and purpose

1. A computer, with an OS and python version 3.6 or higher
2. Internet not “too” blocked - to install libraries and push code to Heroku
3. IDE(s), of your choices - for data prep & for website preparation
4. Build-in pyhton venv - to manage depedencies
5. Command line - to navigate, start venv and push codes
6. Geopandas & Folium libraries - to prepare the map
7. Django library - to prepare the website
8. Git - to deploy the app to Heroku
9. Gunicorn, a python web server library - to be used by heroku, using WSGI via a procfile (.. its complicated ..)
10. Heroku Client (Admin rights) , alternatively Github (Without Admin rights) - to manage the heroku app from command line
11. Github - to save & backup the documentation & codes , alternatively to deploy

1- Geopandas to prepare a Folium map

“From data, to a map in a html file ”

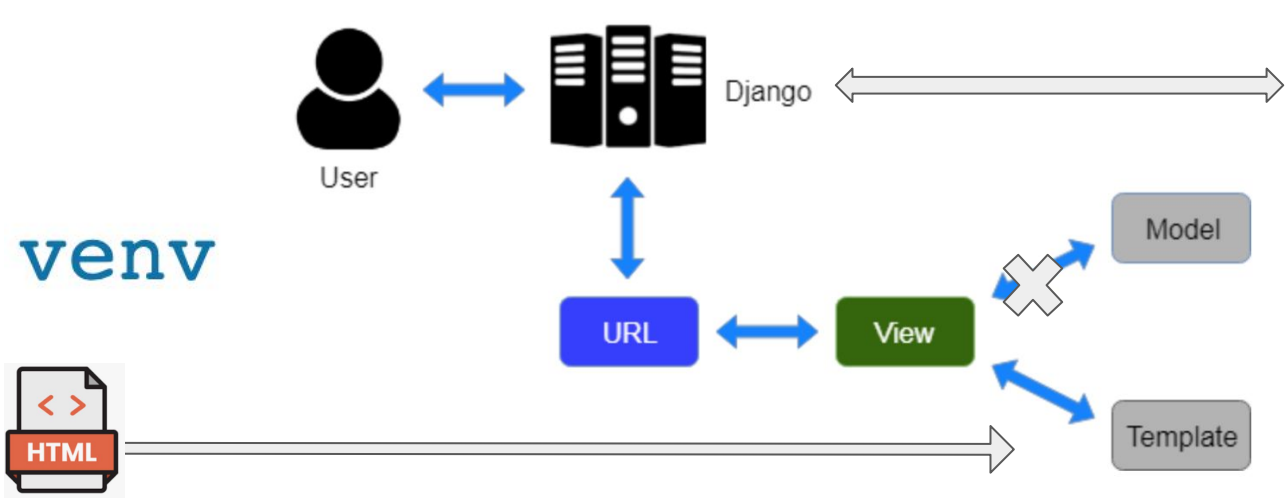


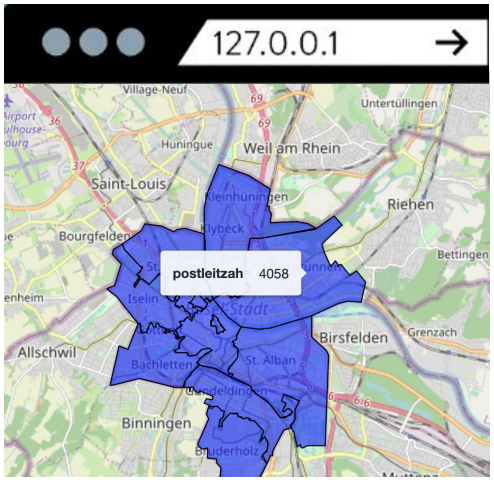


Leaflet

2- Serve our map in a Django app

“From html file to local website”

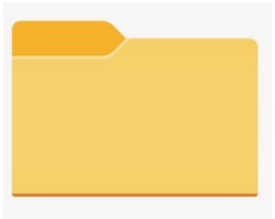


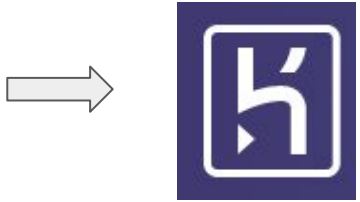


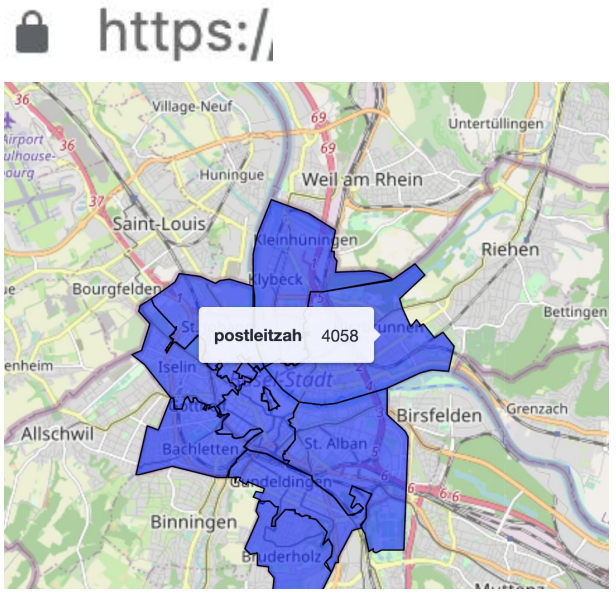
django schem source : https://www.javatpoint.com/django-mvt

3- Deploy the app to Heroku

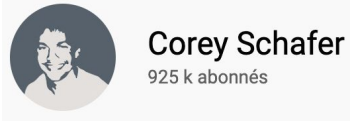
“From local website to web app … ”







“Thanks to Corey Shafer”



Looking forward

- Repeat and duplicate easily
- improve the process
- Beware of maintenance (Heroku , Libraries)
- Focus on what you currently like the most
  - Data prep
  - App development
  - Deployment