Setup

Structure:

Download data

Get the lates .pbf from Geofabrik: https://download.geofabrik.de/africa/uganda-latest.osm.pbf

Uganda and neighbouring countries:
https://wambachers-osm.website/boundaries/

For ugandan administrative boundaries:
http://ubos.geo-solutions.it/search/?limit=100&offset=0&category__identifier__in=boundaries

- District(2018)
  http://ubos.geo-solutions.it/geoserver/wfs?format_options=charset%3AUTF-8&typename=geonode%3Auganda_districts_2018&outputFormat=SHAPE-ZIP&version=1.0.0&service=WFS&request=GetFeature&access_token=6da15c2a770d11e98b2f0242ac120004

- Subcounties(2017)
  http://ubos.geo-solutions.it/geoserver/wfs?format_options=charset%3AUTF-8&typename=geonode%3Auganda_subcounties&outputFormat=SHAPE-ZIP&version=1.0.0&service=WFS&request=GetFeature&access_token=56ab5fae722e11e998560242ac120004

- Parishes(2016)
  http://ubos.geo-solutions.it/geoserver/wfs?format_options=charset%3AUTF-8&typename=geonode%3Auganda_parishes_cleaned_attached&outputFormat=SHAPE-ZIP&version=1.0.0&service=WFS&request=GetFeature&access_token=5a50f2fe722e11e9acdb0242ac120004

Get the software

Install QGIS
https://qgis.org/en/site/forusers/download.html

Preprocessing

Step by step query(thematically and spatially) your layers from osm

Convert to SQLite

Use ogr2ogr to convert `uganda-latest.osm.pbf` to SQLite format to easier handle it in QGIS.

Linux: If qgis is installed you can run `ogr2ogr` from any console

Windows: Open the OSGeo shell and run `ogr2ogr` in this console

conversion command:
`bash ogr2ogr -f "SQLite" -dsco SPATIALITE=YES uganda.db uganda-latest.osm.pbf`

Preprocessing steps in qgis

** Dont lose time, use the `preprocessing_atlas` model **

Run the model:
Open the graphic modeler in QGIS and open `atlas_preprocessing.model3`,

you find it in `src/models`

Parameter	Value
Countries	donloaded geojson file from osm-boundaries
district	Name of the ugandan district (e.g. Yumbe)
osm	converted .db file
parishes	Parishes shapefile from UBOs
style	link to style folder (/src/style)
subcounties	Subcounties shapefile from UBOs

What is done by the model?

1. Open all OSM, UBOS and osm-boundaires data
2. Query UBOS Subcounties to match the provided district name
3. Query spatially all osm data around the selected soubcounties and country borders around Uganda
4. Query objects thematically
5. Apply styles

Manual steps afterwards:

6. Save the processed layer in *one* GeoPackage file.
7. Open the data from GeoPackage filtering
8. Apply style using the `apply_styles` model
9. Rename layers
10. Adjust layer hierarchy and print composer

Output

When your done with your maps, give this tool a try.

You will see the difference in color space between RGB(on your screen) and CMYK(printed)

convert rgb pdf to cmyk

```
bash gs -dSAFER -dBATCH -dNOPAUSE -dNOCACHE -sDEVICE=pdfwrite \ -sColorConversionStrategy=CMYK -dProcessColorModel=/DeviceCMYK \ -sOutputFile=output.pdf input.pdf
```