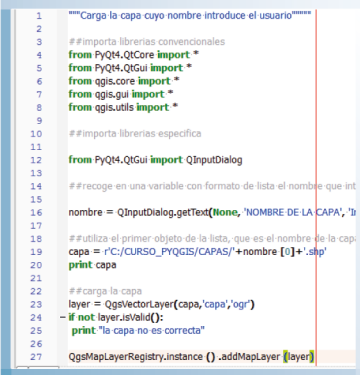
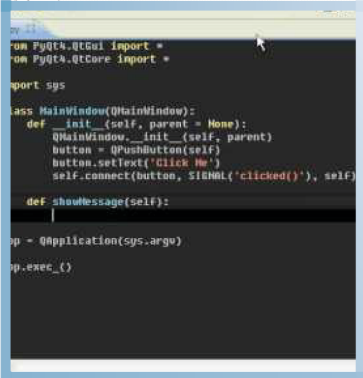
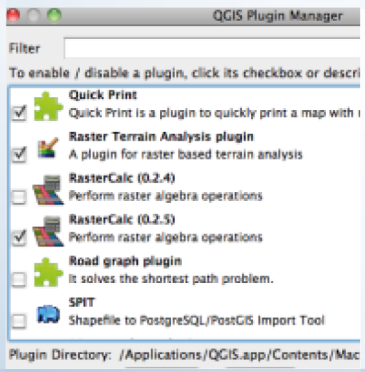
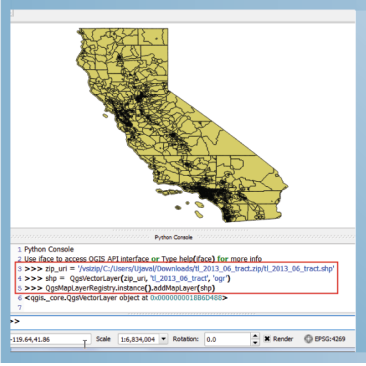
QGIS PLUGIN DEVELOPMENT WITH PYTHON

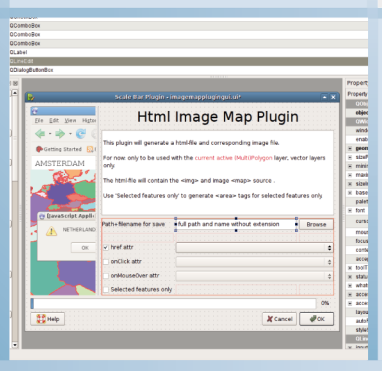
ONLINE TRAINING











TYC GIS Training

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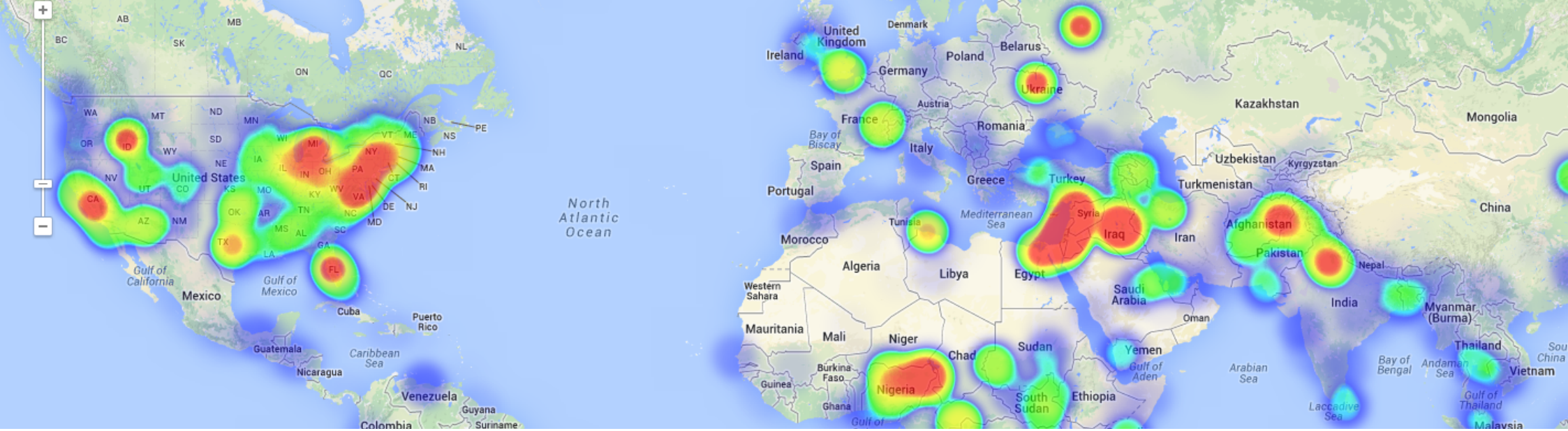


COURSE

The course will provide training in the use of pyQGIS, with a special focus on the development of QGIS plugins.

The student will learn how to develop a plugin, how to manage the IDE, how to debug Python code. At the end of the course each student will have to develop their own QGIS plugin and learn how to publish it on the official QGIS Plugins Repository.

GOALS

- Learn from scratch about capabilities and functionalities QGIS, pyQGIS and PyQt API offer.
- Demonstrate through practical examples the basic methods and functionalities of PyQgis and PyQt.
- Find out about the key tools that can be used in the WEB GIS development environment.
- Get help and guidance in the development process of a QGIS plugin and learn how to disseminate the information.

METHOLOGY

Enrolled students in this online course will have access to our virtual e-learning platform (which is available 24 hours), where they will find the content of the course, practical exercises, forum discussion and additional content. One of the advantages of this online platform, is that students can benefit of real time support and assistance offered by the instructor (2 hours per week), whom they can contact via direct messages, regarding course related issues, at any moment. They can also contact the instructor via email.

PERFILES

The course is aimed at professionals of the GIS world who, with knowledge or not of programming, want to know all the possibilities that programming with PyQGIS offers.

INSTRUCTOR

Francisco José Raga López

Cartographer and Geodetic Engineer specialized in GIS at Polytechnic University of Valencia, with more than 5 years of experience in GIS related software development projects using QGIS, in Spain as well as overseas, Francisco is one of the best professional expert in this field. He also has training experience due to his involvement in teaching different GIS related courses in private organizations and companies.

PROGRAM

INTRODUCTION TO PYQGIS AND PYQT

Introduction to QGIS
Introduction to PyQGIS and PyQt
PyQGIS modules
PyQt modules
Python console
Python Plugins

LOAD DATA THROUGH PYQGIS

How to create and load a new project
Loading vector data
How vector data is organized
Loading raster data, refresh/update a raster file, display raster data file

USING VECTOR DATA

Layer attributes - working with the Attribute Table
Working with selected features records
Iterate through layers
Add/Delete new records to an existing layer
Access geometry
Project layers in different projection systems

GEOPROCESSES

Basic concepts about geoprocesses
List of geoprocesses and help documentation
Using Python console to execute geoprocesses

USING CANVAS

Introduction to Canvas
Using map tools along with Canvas

Map rendering and printing
Simple Rendering
Simple Composition

DEVELOPMENT ENVIRONMENT

Configuring a IDE on Windows and start debugging

PLUGIN DEVELOPMENT

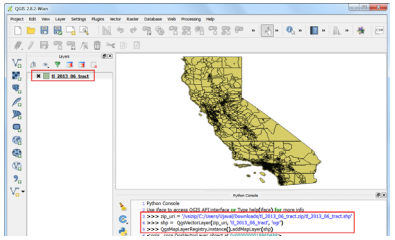
Basic structure of a plugin

QT DESIGNER USER INTERFACES

Designing and building graphical user interfaces with Qt Designer
Connecting events
Resource files
Compile GUIs created with Qt Designer

UPLOADING YOUR PLUGIN

Name and metadata
Code and help documentation
Official repository of QGIS Plugins



FINAL PROJECT

Develop a plugin at choice.
Chose one from the following plugin development ideas and customize it after your own will:
Create a graphic interface that takes as input two vectors, perform simple geoprocessing analysis (intersection, union, etc.), the result can be added or not to the canvas.

Create a plugin that takes data from the canvas and makes a printout, using a previously created template.

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