Introduction to Open Source Patent Analytics

Paul Oldham

3 March 2015

About the Project

1. This project provides practical guidance and resources in the use of open source patent analysis tools.
2. Patent information is a valuable source of technical data on trends in scientific research and development and is increasingly used to inform policy debates and decisions.
3. Millions of patent records are available online through patent databases such as EPO espacenet, Patent Scope and Patent Lens and Free Patents Online.
4. The questions this project seeks to address are:
   - How to obtain patent data in a form that is useful for different types of analysis?
   - How to process, analyse and visualize patent data using only open source or free software?
   - How to promote confidence that the results of analysis are transparent and robust for informed decision-making?

Topics

The project is presently divided into seven main topics but we will see how it develops:

1. Approaching Patent Data
2. Getting Patent Data
3. Tidying Patent Data
4. Analysing Patent Data
5. Visualising Patent Data
6. Sharing Patent Data
7. Tools and Resources

Each of these topics will be accompanied by documentation, videos, code and resources to assist with patent analysis. A set of patent datasets are provided to help you get started with working examples.

We welcome your inputs to the project by contributing files, code or tips to the GitHub repository or the project Wiki. Hopefully we can build a repository of useful open source tools that everyone can use.

Tools

We will mainly focus on:

- ▶ Using free databases and APIs to retrieve patent data [Open Patent Services](http://www.epo.org/searching/free/ops.html.
- ▶ Using tools such as Open Office Calc and Google Refine/Open Refine] for basic data cleaning.
- ▶ Using R in RStudio for tidying, analysing and visualizing patent data.
- ▶ Using Python to retrieve patent data.
- ▶ Using Google Charts, Tableau Public and Shiny Apps to create interactive dashboards
- ▶ Using Gephi to visualize networks (inventors, applicants, IPCs)
- ▶ Using mapping tools such as Google Maps or Open Street Map

Please submit suggestions for other free tools that you think will be useful