Free your papers, researchers!

Dissemin team (Ryan Lahfa)

July 22, 2016

Introduction: what is a researcher? A Pokemon? Not yet.

Research is:

> *The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions.*

– *Oxford Dictionnaries*, `http://www.oxforddictionaries.com/definition/english/research`

What is exactly a paper ?

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This is a **breakthrough**, and there was a paper published for it!

Let's take a look to the full text here: `https://v.gd/7o6YaS`

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These publishers decide to keep the papers behind a paywall, as if it was “closed-source”. So that these papers are not accessible, nor open.

Why Open Access is necessary?

Open Access is a really *important* concept for research:

- students can access those papers **because** their school pays for subscriptions to these publishers.

What about others? They simply cannot access or have to pay a ridiculous amount ($30 for 10 pages!) to access a PDF file (which was financed through public money).

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Publishers edit journals, and accessing to their content requires a subscription.

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Summary

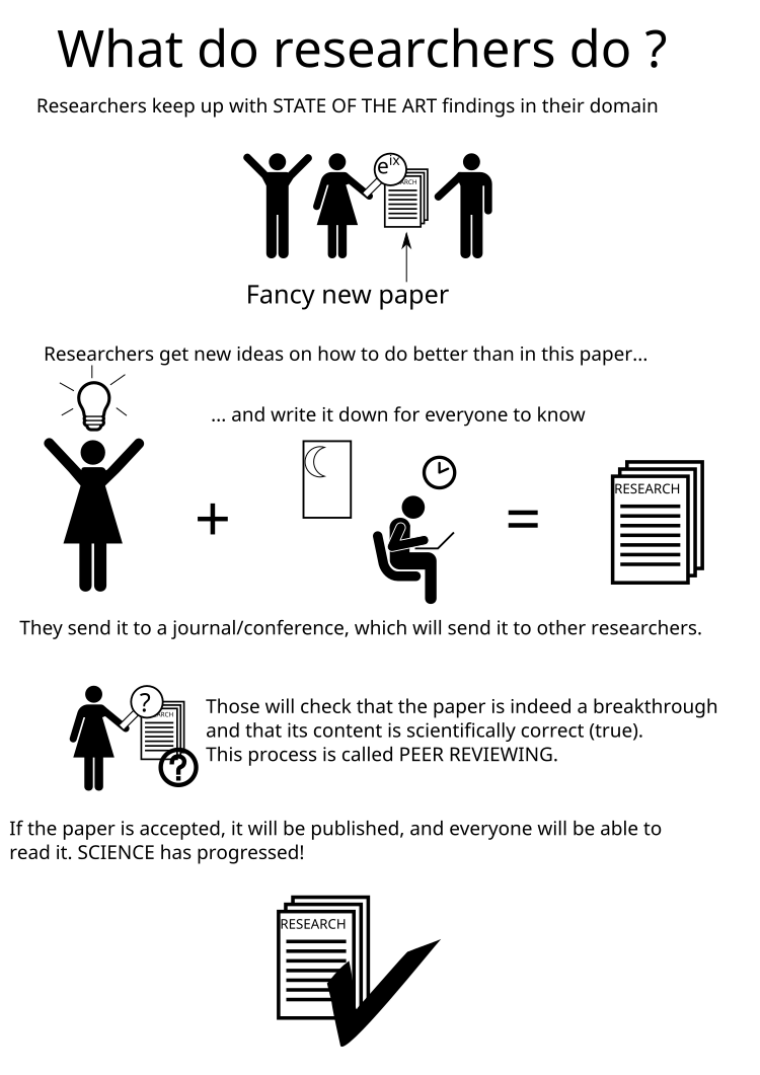

Figure 1: What we believe

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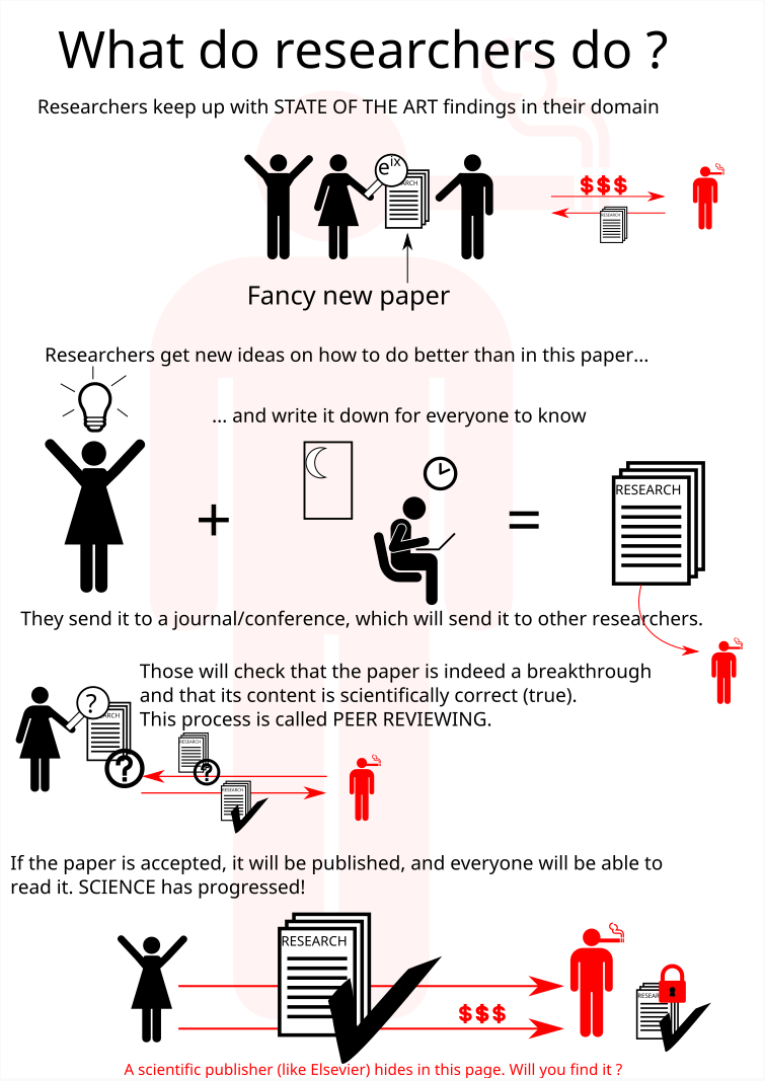

Figure 2: What we see

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- Why shouldn't students from developing countries have access crucial papers which are behind a paywall?
- Why cannot people who aren't students access papers?
- This could be you. As a developer, you can run into a situation where you need a paper and it is not available, only behind a expensive paywall!

What can we do to improve Open Access?

Using open source software,

Dissemin (`http://dissem.in/`) is a tool to give control back to researchers. We would like to **promote** a global Open Access policy and **achieve it**.

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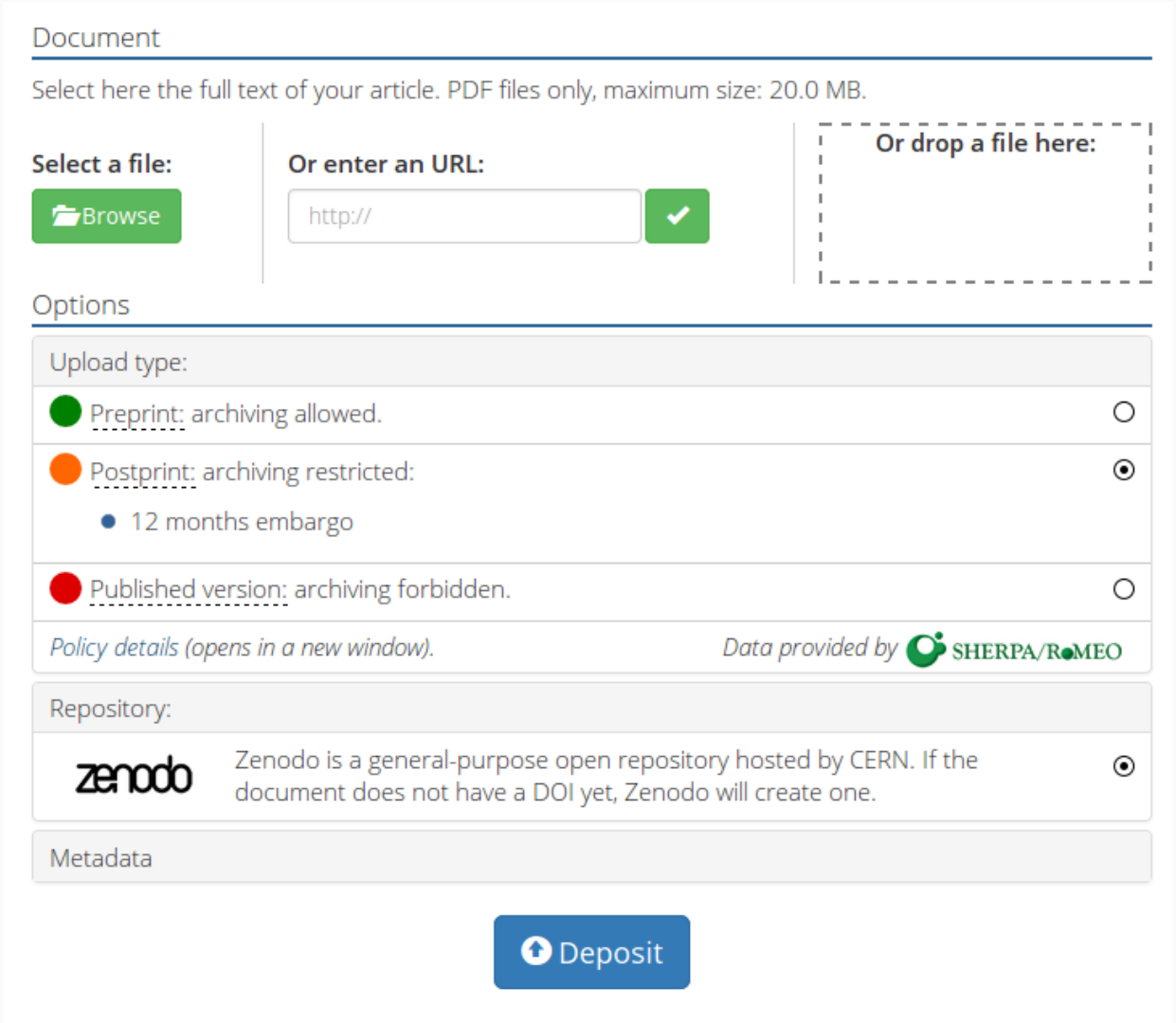
- We check the policy on these papers.
- We tell you what you can deposit legally.

Upload!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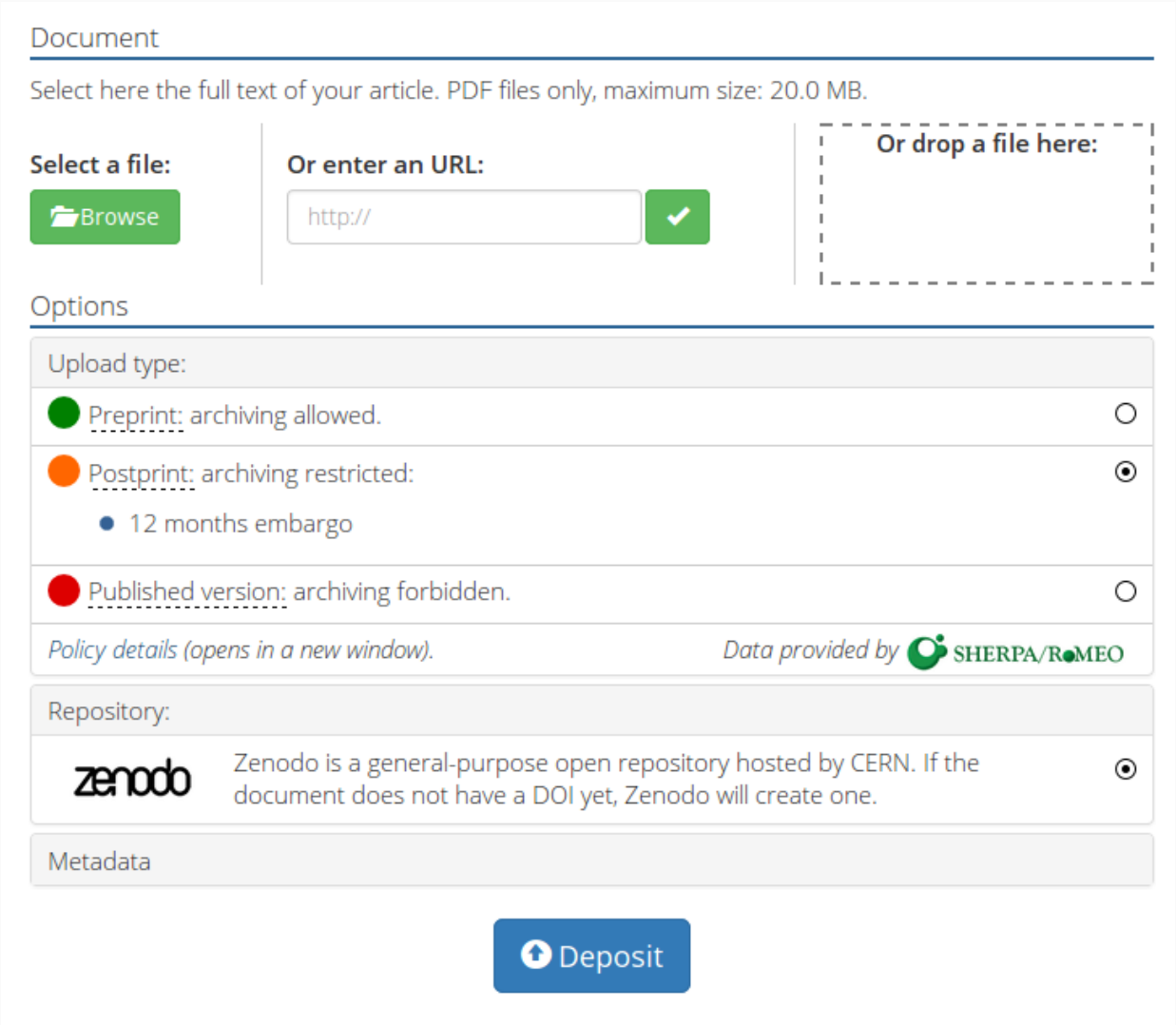
Zenodo is a general-purpose open repository hosted by CERN. If the document does not have a DOI yet, Zenodo will create one.
Metadata
Deposit

Upload!



Voilà! Your paper is free and accessible by everyone!

Who is behind Dissemin?

Dissemin is an initiative from a group of students of the "École Normale Supérieure" in France.

We are a non-profit organization participating in many Open Access related projects: Wikipedia, OpenCon, ...

This is a Python talk, where is Python?!

Dissemin is *of course* written in Python, using the Django framework!

We are using PostgreSQL to store papers and their metadata.

Challenge #1: Papers.

We have more than 15 millions metadata of papers and we are still getting more and more metadata through many academic sources.

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We kept PostgreSQL and used its powerful JSON field!

PostgreSQL and JSON field

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class Paper(Model):

    authors_list = JSONField()
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Awesome, you're done!

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- Avoid very complex JOINS
- You can access subfields in queries directly without having to fetch the whole record!

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Enter Haystack.

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We are still working to make this faster and better, but we are really happy of the capabilities of these technologies!

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So far, this technique is working *more or less* fine, we are always looking at how we can improve that. Especially when we have papers with very minimal metadata coming from some sources which makes our task harder!

Closing on challenges

We have many more challenges around machine learning to disambiguate name authors, perform title cleaning from LaTeX markup, infrastructure scripts (We have Vagrant for development, we would like Ansible for production), more deposit interfaces and sources!

Our GitHub repository is filled of interesting issues, we need your help : `https://github.com/dissemin/dissemin`

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Inspiration (researcher)

If you are a researcher interested in open access

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- Open your own papers.

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- Persuade them to open their papers.
- Open your own papers.
- If anything goes wrong, complain to us!

Thank you EuroPython!

Contact us at team@dissem.in or @disseminOA