

# ScienceDirect® goes social: a social network for scientists integrated with online digital library

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## Overview

Online digital libraries exist for a long time, offering works in a large number of domains. A lot of work has been done to enrich the functionality of such systems: citations, research genealogy, keyword search and a lot more.

Our idea is to fuse social network and such digital library and introduce not only usual social network features, but a possibility to discuss papers.

Also, a scientist's notebook for keeping ideas and reviews privately was done.

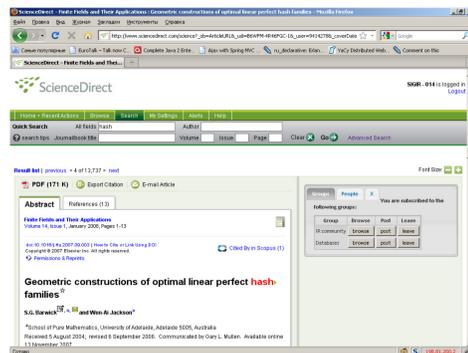
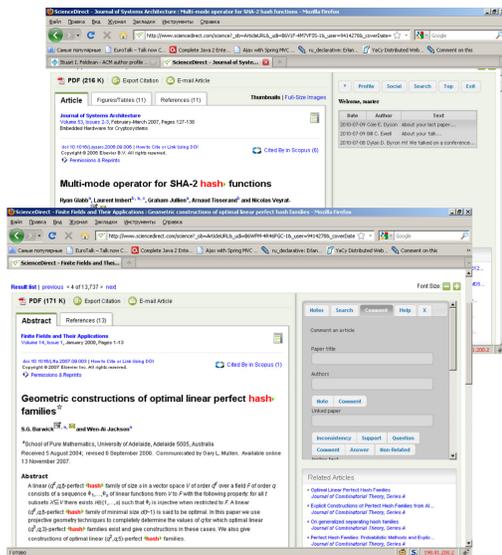
The proposed system offers a type system over comments which can lead to an interesting queries:

- What did a scientist X think about problem Y?
- What are the most active research topics in the domain of X?
- What are the most disputed papers?
- A lot more of simple (but still useful) queries which can be answered by our system.

## Social Part

The well known social network features which become a standard de-facto:

- 1) Personal profiles
- 2) Groups or communities
- 3) Personal messaging
- 4) Privacy mechanisms – the problem is to integrate access of many people from the same institutional login (additional authorization)



## Paper Information Management Part

Private Notes

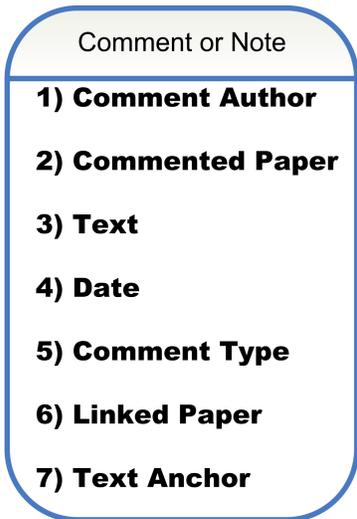


Public comments



Types of comment:

- Inconsistency or contradiction – this type of comment is applicable when the fact stated or used in the paper contradicts to your opinion, or to opinion of others. In this case a **Linked Paper** field might come in handy.
- A question – is different from the latter. This is a merely a clarification request. Very useful when bound to **Text Anchor**.
- Answer – an answer to both of these two previous question types.
- Support – a type of comment to indicate that you agree to the information provided. It can be backed up with a **Linked Paper**.
- Non-related comment is given to all other possible types.



## Related Work

ACM Digital Library author profiles (beta): a comparison

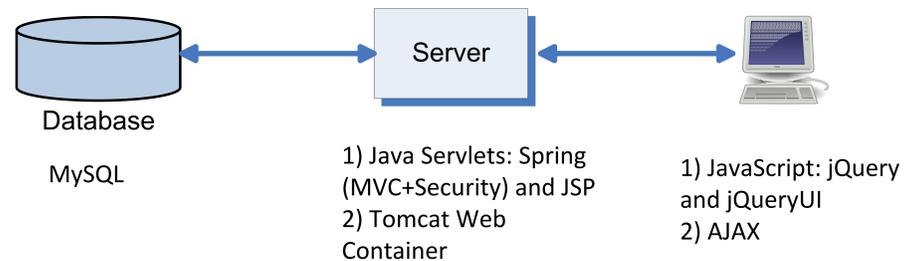
Strong points:

- More oriented on static profiles
- Entity disambiguation works
- Affiliation history (ordered)
- Complex bibliometrics features
- More content: photos, awards
- Still beta, probably more to come

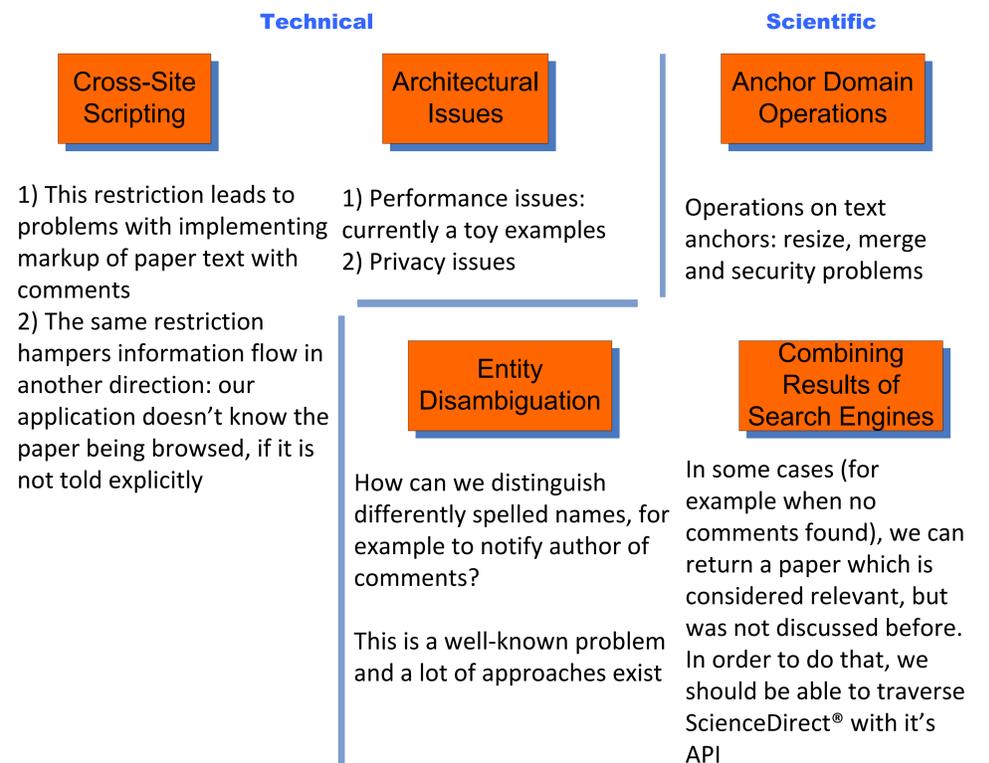
Benefits of our approach:

- Live discussions in context of paper content
- Complex queries to comments, opinion mining
- Scientist's notepad
- Communities and personal mail
- Promotion of inter-domain collaboration

## Architecture and Implementation Details



## Major Problems



## Future Work

- Short-Term**
  - 1) Automatic fill-in of comment forms
  - 2) Proper additional markup of papers
  - 3) Simple profile Content-Based recommender
  - 4) Mixing-up results of provided API search and constructed search engine
- Long-Term**
  - 1) Entity disambiguation
  - 2) Complex Collaborative Filtering Recommender
  - 3) Privacy issues: privacy preserving groups, etc
- A Really Long Way**
  - 1) Flash-based Collaborative paper edition tools
  - 2) Automatic formatter to different journal formats
  - 3) From groups to conference registration and review systems

And a lot more!

Try decoupled demo at: <http://adm2.math.spbu.ru:84/springapp/Login.html>