

# Feature Implementation

All 32 features are implemented.

We give screenshots to show the features we implemented.

How to store all publication information in Neo4j, including paper, author, affiliation, topics, etc.

Develop a user-friendly web portal to support the data analytics.

How to ensure scalability performance(cache user query, create microservices)

How to ensure performance( periodic statistics)

Given the name of a researcher, generate a graph\* showing the direct collaboration network of the author (her all co-authors).

The screenshot shows a laptop screen with a search bar containing 'Matej Koutny'. To the right is a 'Simple Knowledge Graph' visualization where a central node labeled 'author' is connected to several other nodes, each also labeled 'author'. Below the graph is a 'Knowledge Card' table listing various authors:

Author Name
Matej Koutny
Wojciech Piekarski-Koutny
Eike Best
Janusz M. Gajewski
Raymond R. Chawla
John W. L. Giesy
Viktor Khomenko
Mathias Vogler
Ulfar Freij
Pavol Jendek
Maciej Koutny

Below the card is a link: 'People view this query also view:'. A list of queries follows:

- 1. Get CoAuthor By author -> Author Name: Matej Koutny
- 2. undefined
- 3. undefined
- 4. undefined
- 5. undefined

Given the name of a researcher, generate a graph showing a multi-depth collaboration network of the author (her co-authors and their co-authors).

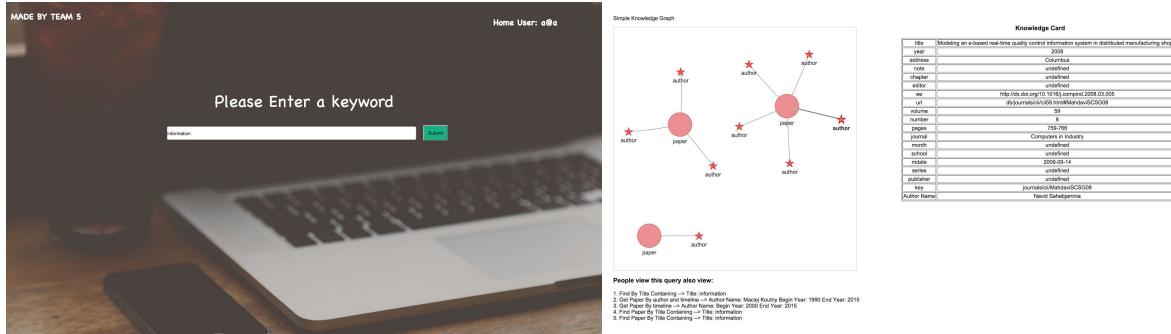
The screenshot shows a laptop screen with a search bar containing 'Matej Koutny'. To the right is a 'Simple Knowledge Graph' visualization showing a much larger and more complex network of nodes and connections compared to the previous screenshot, indicating a deeper level of collaboration. Below the graph is a 'Knowledge Card' table listing various authors:

Author Name
Matej Koutny
Wojciech Piekarski
Denis Wood
Sven Skurup
Ulfar Freij
Ralf Vollmoeller
Ute Hirschfeld
Ar
Sebastien Fuchs
David Sonderegger
ig Kowalewski
Uwe Hirschfeld
Lars Jirner
Eike Best
Ulfar Freij
Leida Penello

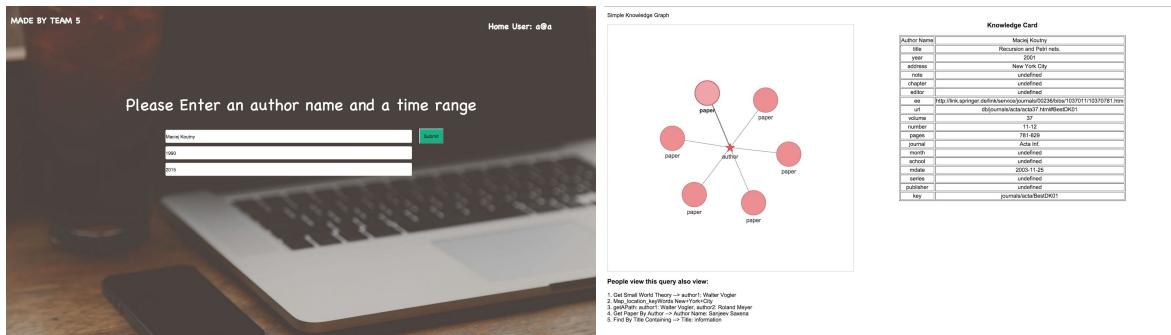
Below the card is a link: 'People view this query also view:'. A list of queries follows:

- 1. Get CoAuthor By author -> Author Name: Matej Koutny
- 2. Get CoAuthor By author -> Author Name: Wojciech Piekarski
- 3. undefined
- 4. undefined
- 5. undefined

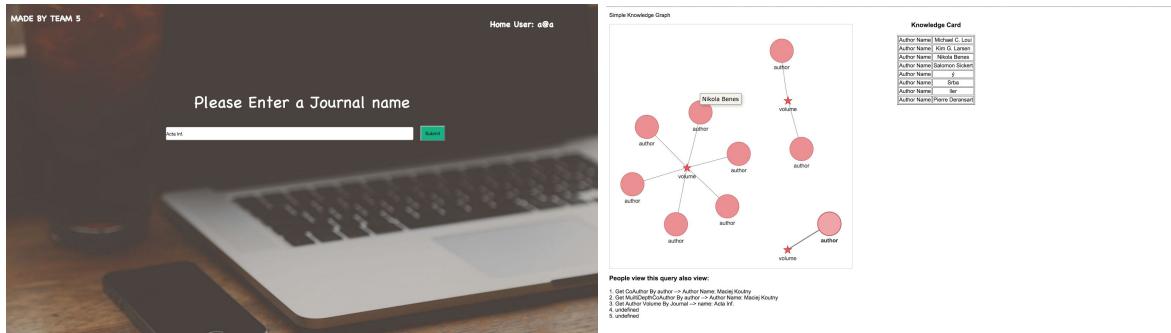
Given some keywords, generate a graph of top k related papers together with their authors.



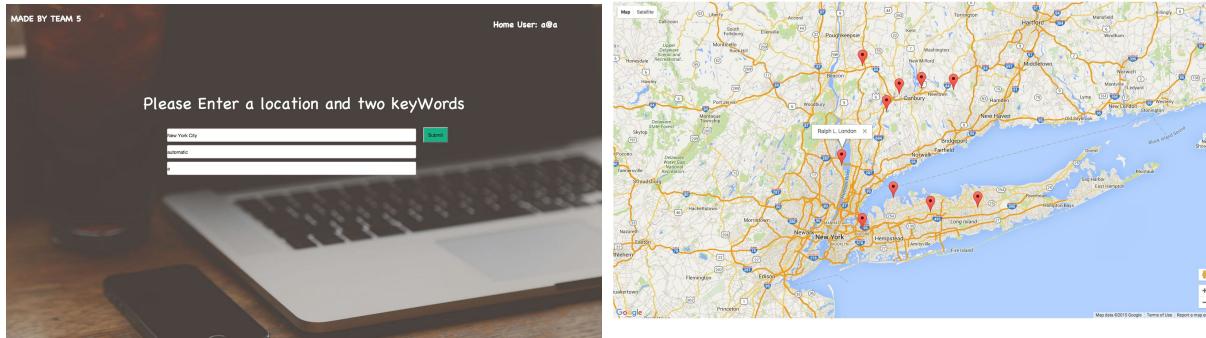
Given a timeline of years for a set of authors, generate a graph showing their publications per year.



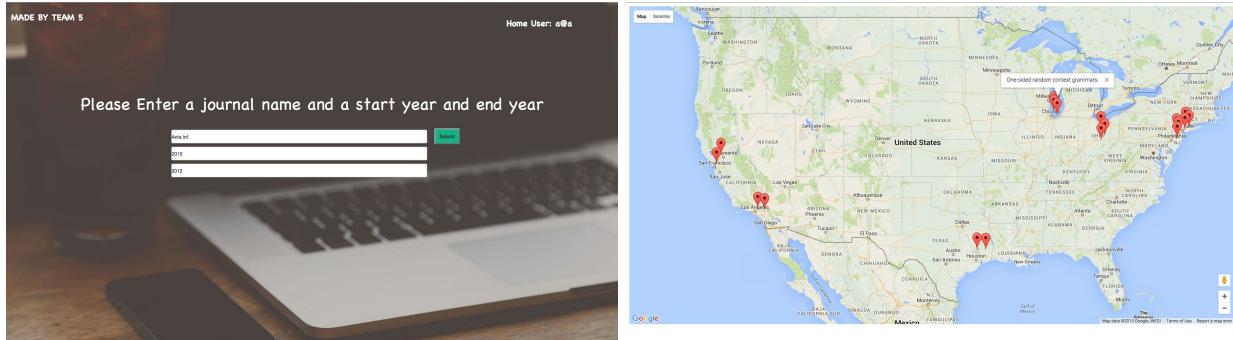
Given a journal name, generate a graph showcasing authors contributing to each of its volume, taking volume as the base axis.



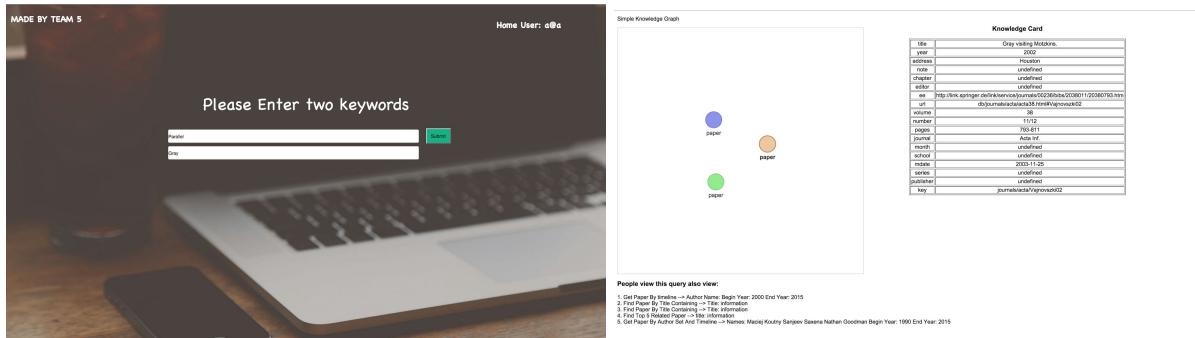
Given some geographical area (e.g., country) and some keywords, generate a graph on Google map the publications on the topic, whose authors come from the geographical area (at least one or more authors).



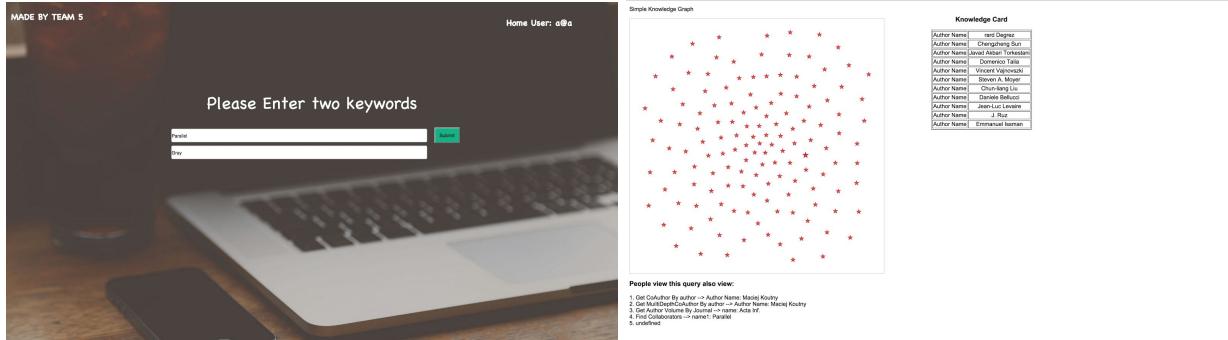
Given a publication channel name (journal or conference) and a time frame, showcase in Google map the publications distribution.



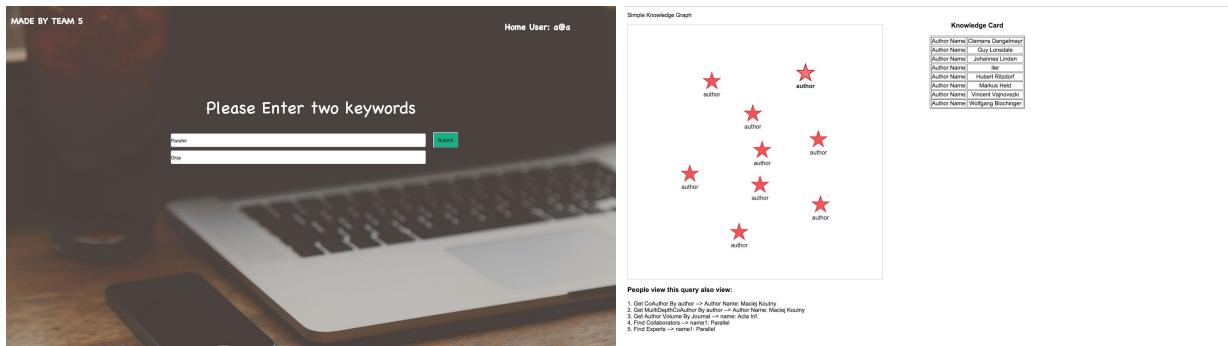
(Counted as 2 requirements) Given some keywords, return a collection of papers that the reader may be interested in reading (sorted by relevance). Show a graph of their relationships (e.g., citation)



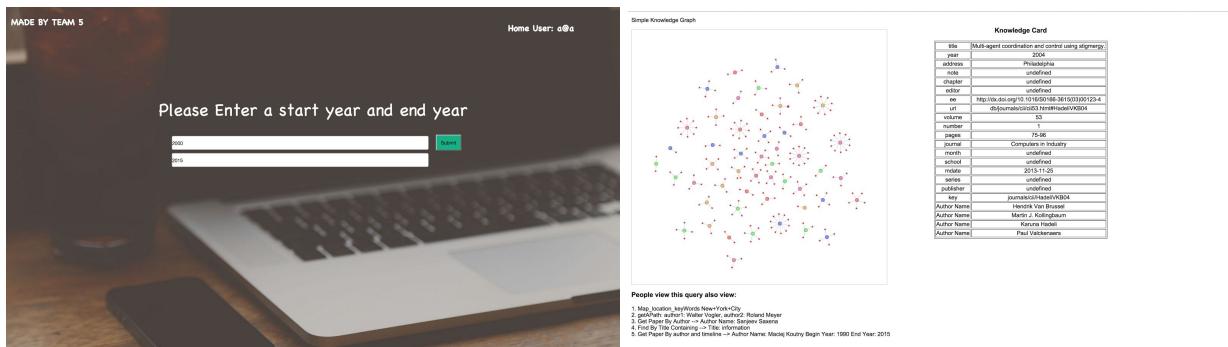
Given some keywords, search for researchers that may like to be your collaborators.(co-author and keywords in paper(interest))



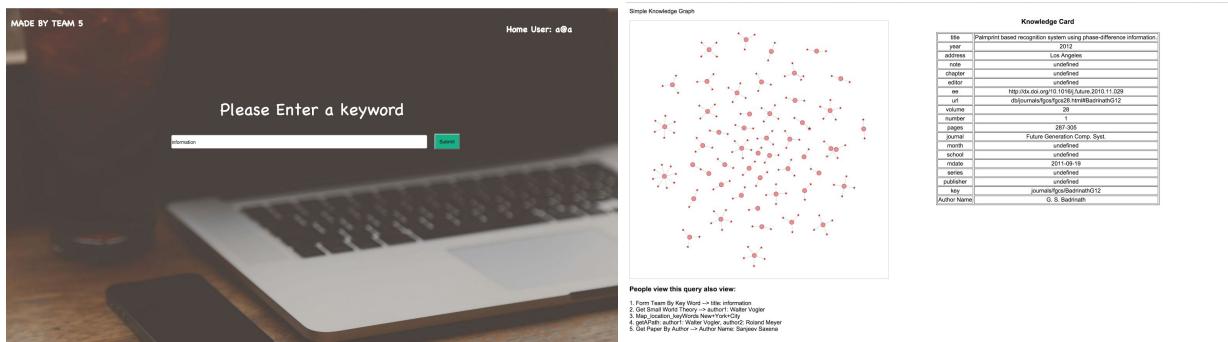
Given some keywords, search for researchers who are experts in the field.



## Categorize the research papers (given time period)



## Categorize the research papers (keywords).



For each major publication channel (e.g., a journal or a conference at a year), list the top cited papers.



Please Enter A Journal Name and A Specific Year

Ad Int  
2012

Home User: a@e

Simple Knowledge Graph

Knowledge Card

year  
2012  
journal  
Ad Int  
chapter  
undefined  
author  
undefined  
eo  
6.012-2112-4  
id  
dbJournalsadInt.html?year=2012  
volume  
49  
number  
105-115  
journal  
Ad Int  
month  
undefined  
month  
undefined  
mode  
2012-2012-08  
with  
undefined  
publisher  
undefined  
key  
journalsadIntLorenz12

Generate a Paper-Paper network, showing their citation relationships.

Generate a Person-Person network, showing their collaboration relationships.

The screenshot shows a dark-themed web application. At the top left, it says "MADE BY TEAM 5". In the center top, there's a placeholder text "Home User: @@". Below that, a large text box prompts "Please Enter an Author Name" with a placeholder "Maria Kozly". To the right of the text box is a green "Search" button. The main area contains a diagram titled "Simple Knowledge Graph" with a red star at the center. Eight red circles, each labeled "author", are connected to the star by lines. To the right of the graph is a table titled "Knowledge Card" with two rows of author names and their descriptions.

Author Name	Description
Maria Kozly	Maria Petrenko-Kozly
Aleksandr Kozly	Alex Kozly
Alex Kozly	Alex Kozly
Raymond R. Devlin	Author of the book GPT-3
Vitali Khnenko	Vitali Khnenko
Walter Vogler	Author of the book GPT-3
Ryazan Janicki	Ryazan Janicki
Maciej Kozly	Maciej Kozly

Generate a Paper-Person network, showing their authoring relationships.

The image shows a laptop screen with a search interface and a knowledge graph visualization.

**Search Interface:**

- Text input field: "Sergio Serafin"
- Search button: "Search"

**Knowledge Graph:**

- A red circle node labeled "paper" is connected by a line to a red star node labeled "author".
- The graph is titled "Simple Knowledge Graph".

**Table: Knowledge Card**

title	Parallel Integer Sorting and Simulation Amongst CROW Models
year	1990
author	Unpublished
note	Unpublished
chapter	Unpublished
series	Unpublished
ee	<a href="https://doi.org/10.1007/BF03033466">https://doi.org/10.1007/BF03033466</a>
url	<a href="https://www.springerlink.com/10.1007/BF03033466">https://www.springerlink.com/10.1007/BF03033466</a>
volume	Unpublished
number	Unpublished
pages	601-619
journal	Acta Inf.
month	Unpublished
school	Unpublished
state	2011-10-11
series_title	Unpublished
publisher	Unpublished
key	<a href="#">journals/acta/Serrefin0</a>
Author Name	Sergio Serafin

Given a researcher name, find out a path that will lead you to connect to the researcher (prove the small-world theory).

Knowledge Card	
title	Universes of a model algorithm in a fair process algebra
year	2009
address	Phoenix
chapter	undefined
editor	undefined
url	<a href="http://cs.drexel.edu/~moyr/pubs/09-029-009.pdf">http://cs.drexel.edu/~moyr/pubs/09-029-009.pdf</a>
volume	46
publisher	3
pages	209-239
journal	Acta Inf.
month	undefined
school	undefined
date	2009-02-02
series	undefined
publisher	undefined
key	journals/actinf/09-029
Author Name	Walter Vogler
Author Name	Calculus
Author Name	Roeland Moyer

Given a research topic, form a possible research team , their past collaboration relationships, and their possibility of willingness to join the team.

Knowledge Card	
Author Name	Alf Ove Brodin
Author Name	Dyer Alay
Author Name	Like Houghton
Author Name	Andrea Cimatti
Author Name	Jon M. Kenny
Author Name	Alessio Corcilia
Author Name	Alan Fries
Author Name	Konstantinos Tzortis

Given some keywords, find out a network that can link them together.

Knowledge Card	
title	Universes of a model algorithm in a fair process algebra
year	2009
address	Phoenix
chapter	undefined
editor	undefined
url	<a href="http://cs.drexel.edu/~moyr/pubs/09-029-009.pdf">http://cs.drexel.edu/~moyr/pubs/09-029-009.pdf</a>
volume	46
publisher	3
pages	209-239
journal	Acta Inf.
month	undefined
school	undefined
date	2009-02-02
series	undefined
publisher	undefined
key	journals/actinf/09-029
Author Name	Calculus
Author Name	Roeland Moyer
Author Name	Walter Vogler

In a publication network, click on an author, show a knowledge card summarizing her past publication status.

In a publication network, click on a paper, show a knowledge card summarizing its publication information and citation data.

When people do a search, give information about “People viewing this item also visit...”

5 user related features:

Provide a log in facility

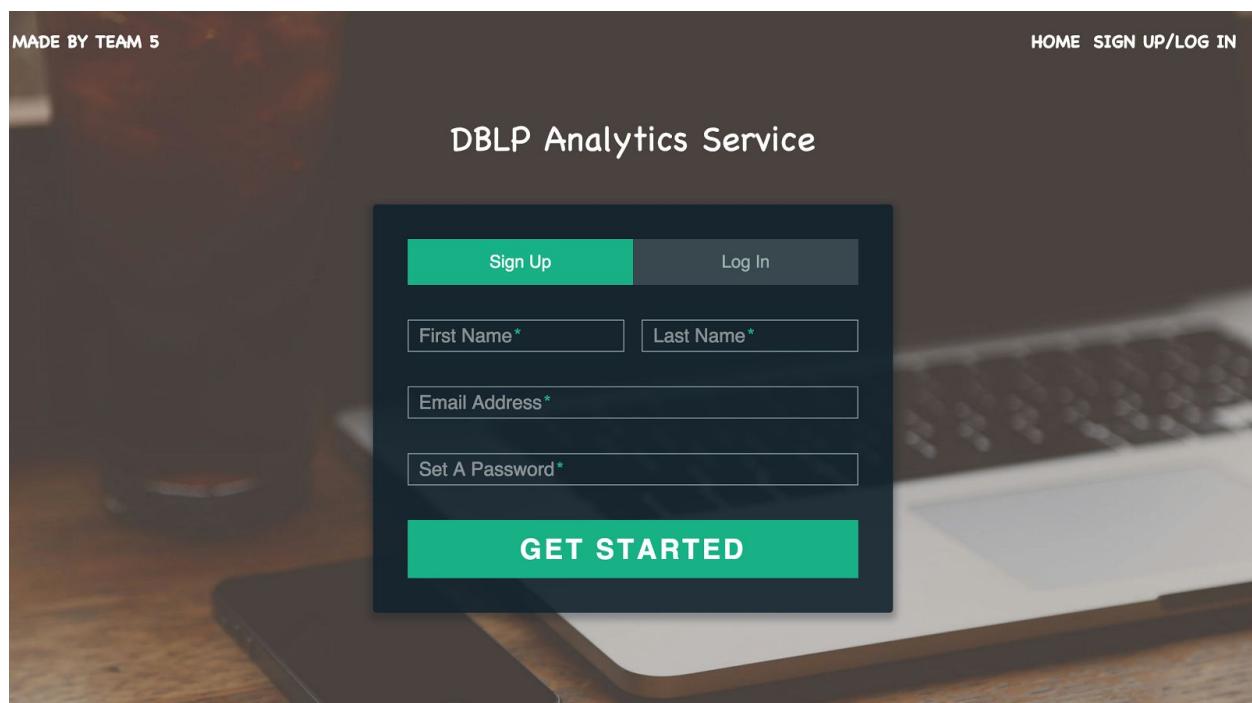
Provide a personalized interface for a user when logging in, e.g., hello xxx, you have recently visited...

Allow people to follow a researcher - when the researcher has new publication, notify the person.

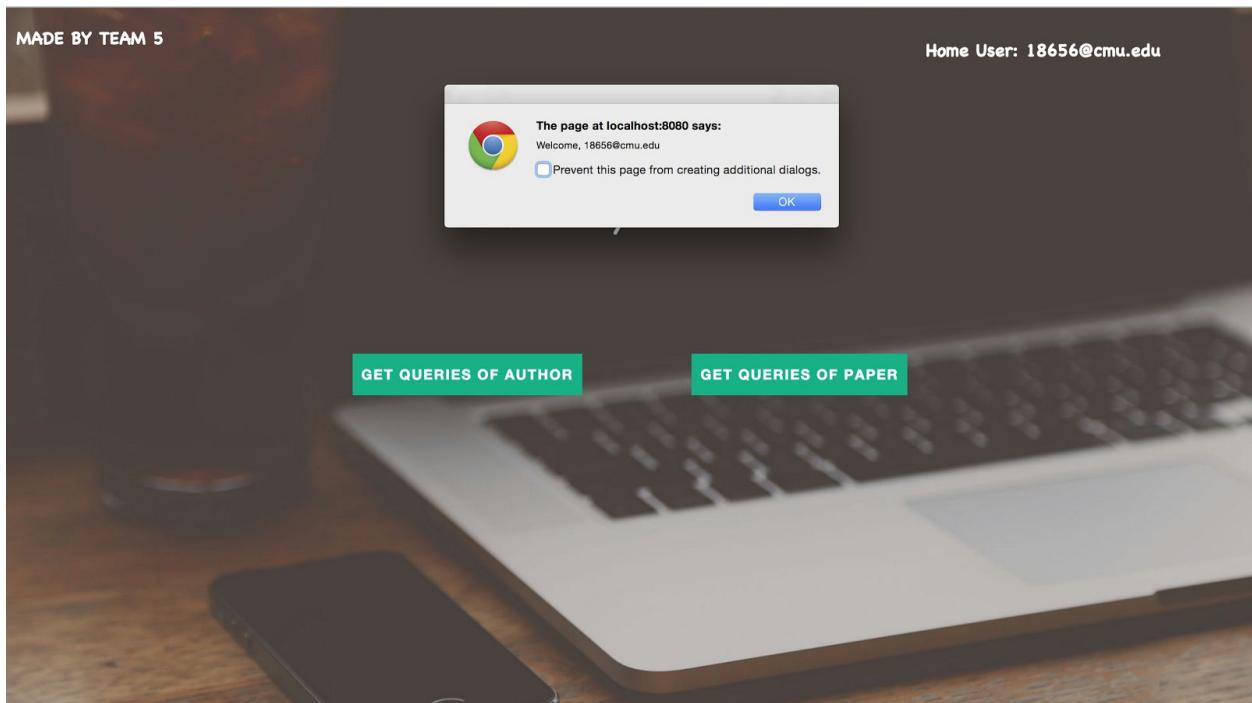
Allow to view statistics and detailed info of her own followers.

Allow to view statistics info of a person's followers.

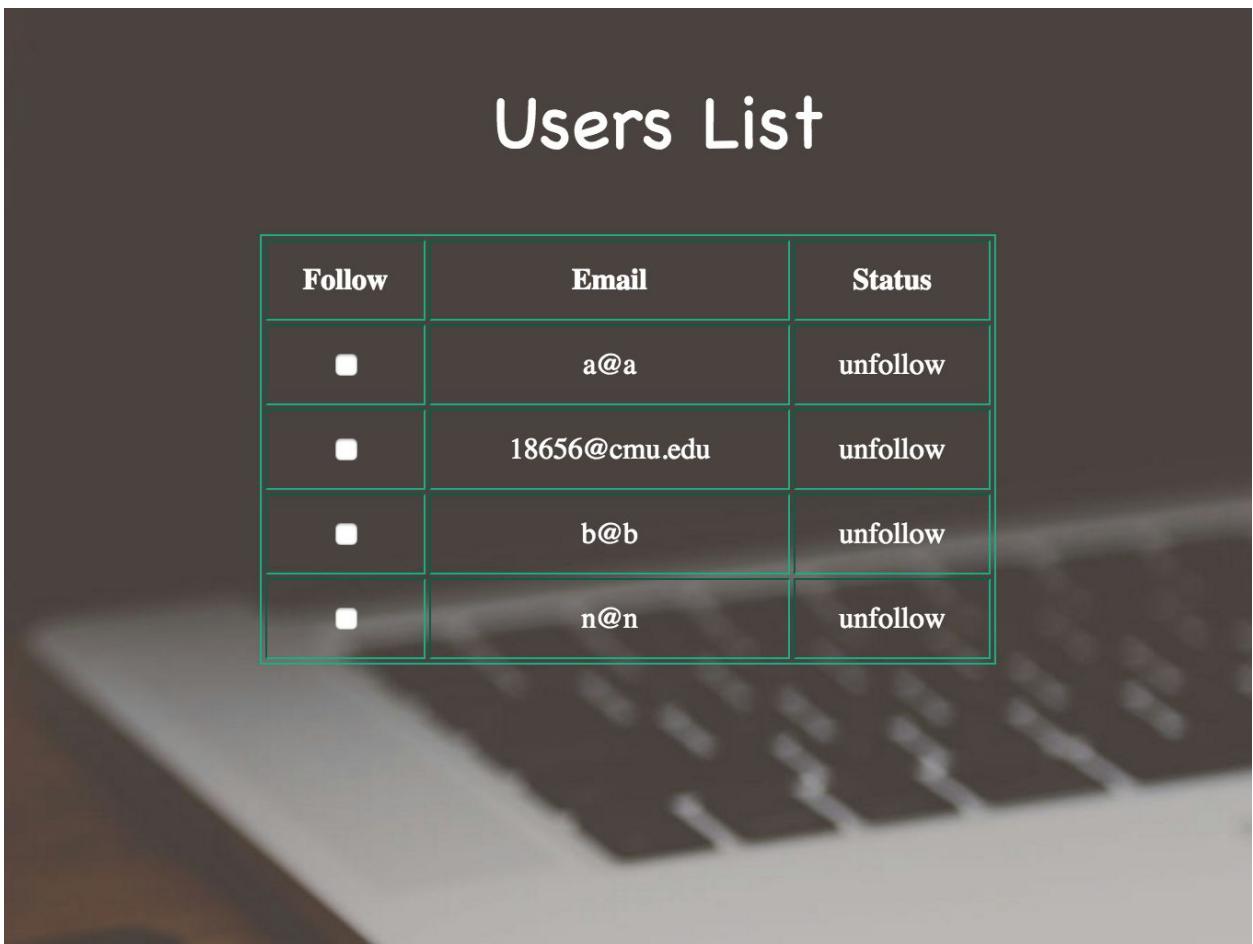
Sign up/Log in page



When successfully sign up or log in, a welcome alert pops up.



A comprehensive user list shows as follows:



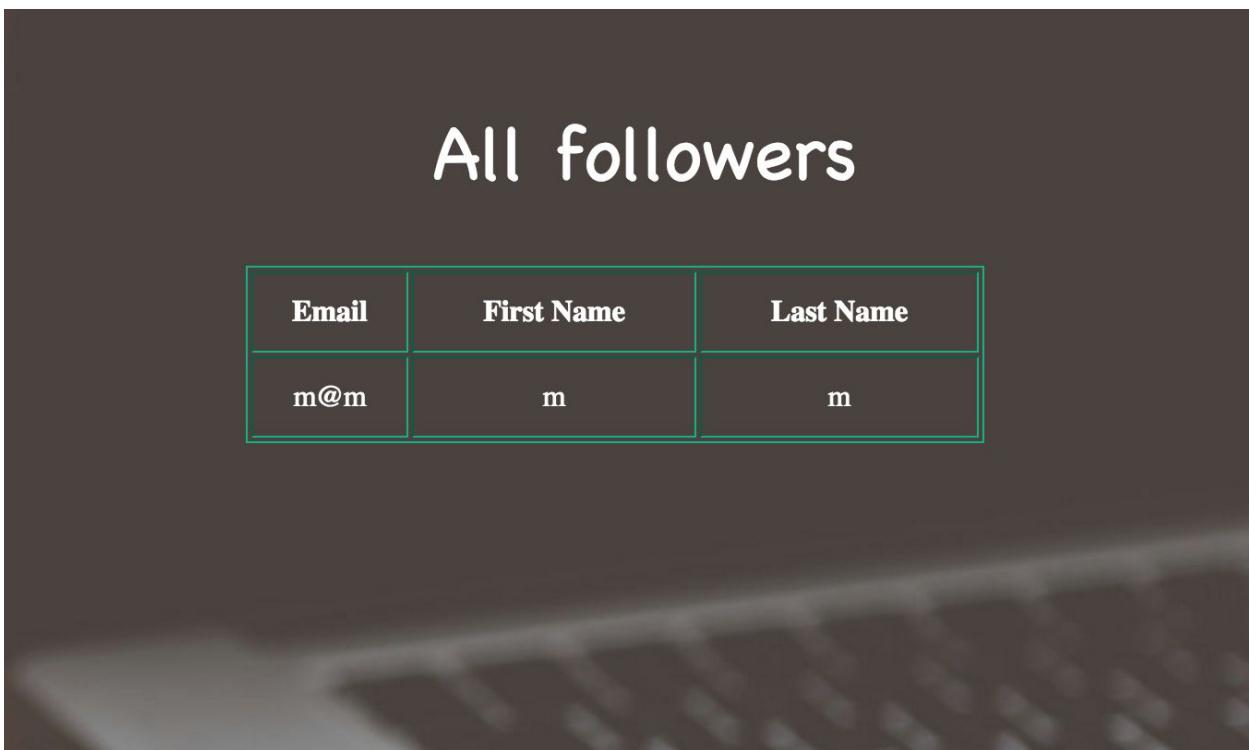
Follow	Email	Status
<input type="checkbox"/>	a@a	unfollow
<input type="checkbox"/>	18656@cmu.edu	unfollow
<input type="checkbox"/>	b@b	unfollow
<input type="checkbox"/>	n@n	unfollow

Users can check people they are following:



Email	First Name	Last Name
a@a	a	a
18656@cmu.edu	sad	asd

Users can check who follows him/her.



Email	First Name	Last Name
m@m	m	m

Users can check his/her query history:

# User Query History

<b>id</b>	<b>Query</b>
1	Find Collaborators --> name1: Parallel
2	getAPath: author1: Walter Vogler, author2: Roland Meyer
3	Form Team By Key Word --> title: information
4	Get Paper By author and timeline --> Author Name: Maciej Koutny Begin Year: 1990 End Year: 2015
5	Find Top 5 Related Paper --> title: information
6	Get Paper By author and timeline --> Author Name: Maciej Koutny Begin Year: 1990 End Year: 2015