

Visualisierung – Konzepte, Tools und ihre Anwendung an der UB

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Kolloquium Wissensinfrastruktur

11.7.2015

Mit **Visualisierung** oder **Veranschaulichung** (Sichtbarmachen) meint man im Allgemeinen, abstrakte Daten (z. B. Texte) und Zusammenhänge in eine graphische bzw. visuell erfassbare Form zu bringen.

(Wikipedia)

Wissenschaftliche Visualisierung nutzt

- die Farbenlehre,
- den Aufbau des menschlichen Auges
- die Psychophysik und
- die Kognitionspsychologie

Anwendungsfälle Visualisierung

- HTML-basierte Darstellung
- Text-Basierte Diagramm-Erstellung (Google Chart)
- Web-basierte Programmierung (matplotlib, Python)
(am Beispiel Katalog, BASE)
- Linked Data
- Poster (sharelatex)
- Datenvisualisierung mit ggplot am Beispiel von OpenAPC

Revisionstool

UB Bielefeld: Revisionsliste - Mozilla Firefox

129.70.11.218:8009/cgi-bin/proc_rev.pl?start=OJ400&func=func&vague=6

Revisionsergebnis Bereich: OJ400 -

Anzahl der Einträge: 37

Eingelesen: 31

Bände laut Katalog (ingesamt):35

Bände laut Katalog (im Regal):32

1	2	3	4	5	6	7	8	9	10	11	12	13	14
00	f	✓	✓	✓	✓	✓	⇄	✓	✓	✓	✓	✓	✓
158/4027588+01 OJ400 A2D6	158/0762365+01 OJ400 C112	158/0386423+01 OJ400 D3D6	158/3272048+01 OJ400 E8J2	150/4005928+02 OJ400 F4I3S	150/4164299+01 OJ400 G8E5S[1	150/4164298+01 OJ400 G8E5S[2	158/0762365+01 OJ400 C112	150/4164297+01 OJ400 G8E5S[3	158/3044592+01 OJ400 I6L7	158/1258199+01 OJ400 I6P4L	158/1258199+02 OJ400 I6P4L	150/1443902+01 OJ400 K77	158/4186402+0 OJ400 K9I6
Fehlt	Fehlt (leicht verstellt)	OK	OK	OK	OK	OK	Leicht verstellt	OK	OK	OK	OK	OK	OK
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http://katalog.ub.uni-bielefeld.de/title/2040098

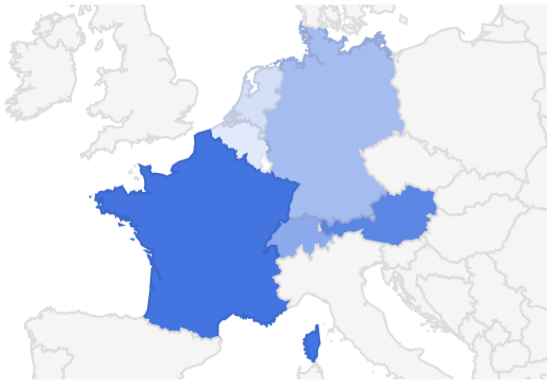
Suchen: BIE

zotero

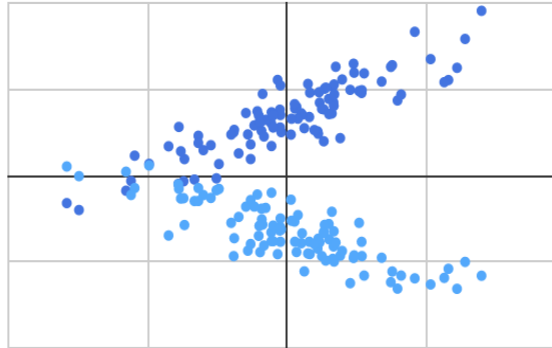
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07.09.2012

SUPPORT

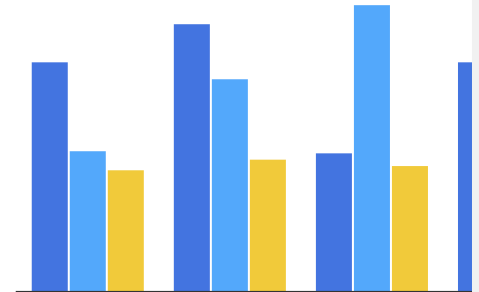
Geo Chart



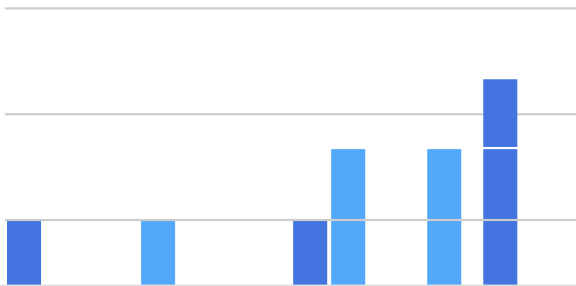
Scatter Chart



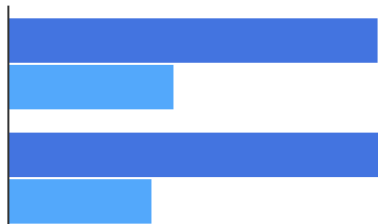
Column Chart



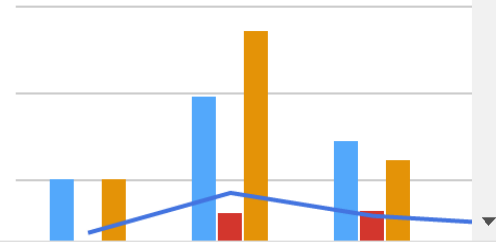
Histogram



Bar Chart

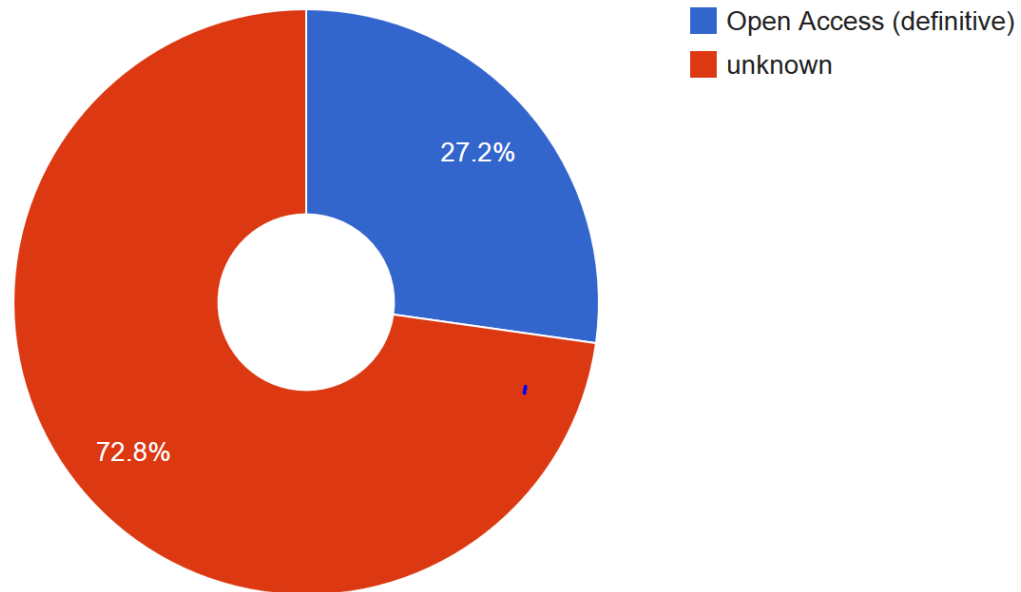


Combo Chart



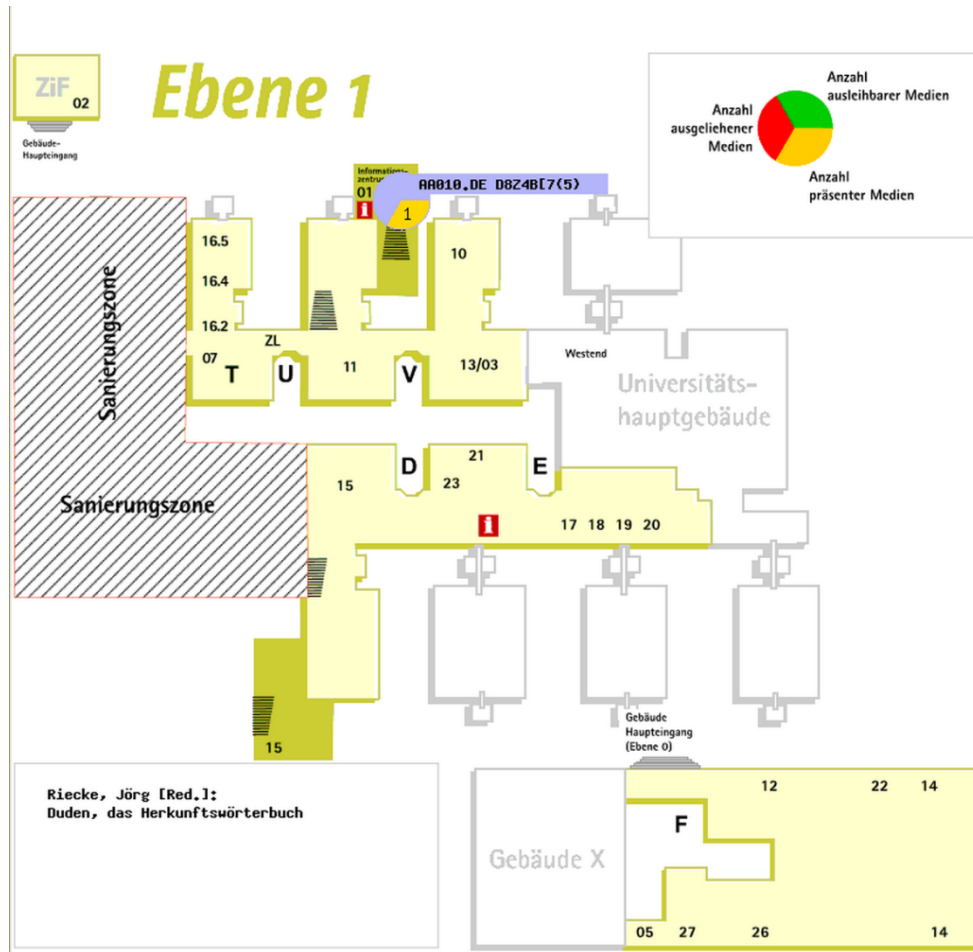
- `<html>`
- `<head>`
- `<script type="text/javascript" src="https://www.google.com/jsapi"></script>`
- `<script type="text/javascript">`
- `google.load("visualization", "1", {packages:["corechart"]});`
- `google.setOnLoadCallback(drawChart);`
- `function drawChart() {`
- `var data = google.visualization.arrayToDataTable([`
- `['Open Access Status', 'Number of Documents'],`
- `['Open Access (definitive)', 20082000],`
- `['unknown', 53658000],`
- `]);`
- `var options = {`
- `title: 'Open Access Status',`
- `pieHole: 0.3`
- `};`
- `var chart = new google.visualization.PieChart(document.getElementById('donutchart'));`
- `chart.draw(data, options);`
- `}`
- `</script>`
- `</head>`
- `<body>`
- `<div id="donutchart" style="width: 900px; height: 500px;"></div>`
- `</body>`
- `</html>`

Open Access Status



Warum Programmierung?

- Flexibilität des Aufrufs (Parameter)
- On-the-fly-Web-Anzeige
- Anpassungsmöglichkeiten



Systematik (Buchaufstellung): Browsing

 [Startseite Systematik](#)

 [Systematik durchsuchen](#)

 [Lageplan](#)

 [Info](#)









 **10.I**
 **HK100-HK820**

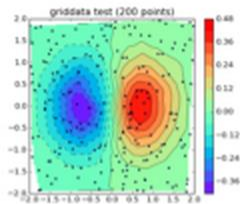
Informatik

Informatik (Neue Systematik, benutzt seit 1.1.1992)

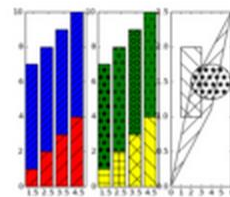
 **Vorhergehende Systemstelle**

Nächste Systemstelle 

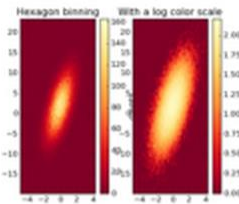
	HK370-HK440	Theoretische Informatik
	HK370	Gesamtdarstellungen, Allgemeine Einzelfragen
	HK380	Datenstrukturen und Datenorganisation
	HK390	Codier- und Informationstheorie (auch mathematische Literatur)
	HK400	Berechenbarkeit, Automatentheorie
	HK410	Algorithmenanalyse und Problemkomplexität
	HK415	Quanteninformatik
	HK420	Logik und Analyse von Programmen



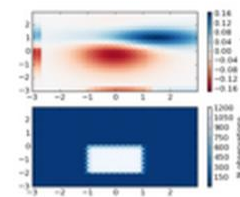
griddata_demo



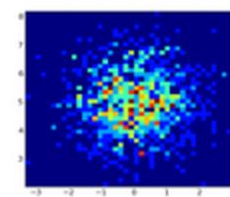
hatch_demo



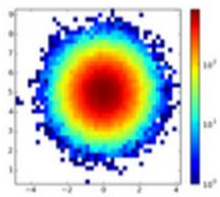
hexbin_demo



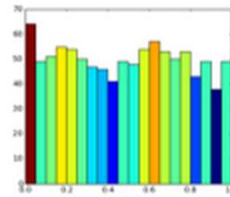
hexbin_demo2



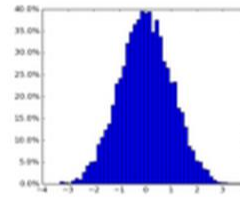
hist2d_demo



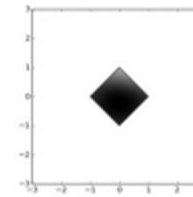
hist2d_log_demo



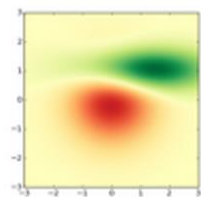
hist_colormapped



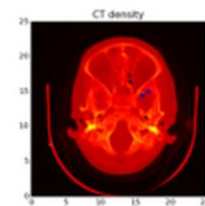
histogram_percent_demo



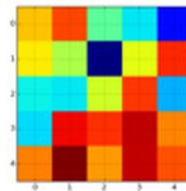
image_clip_path



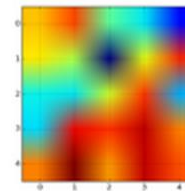
image_demo



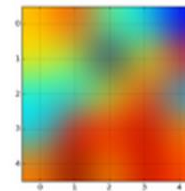
image_demo2



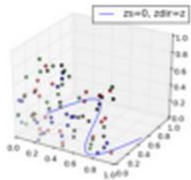
image_interp



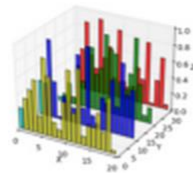
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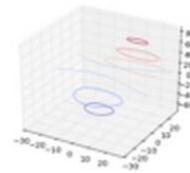
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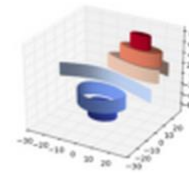
2dcollections3d_demo



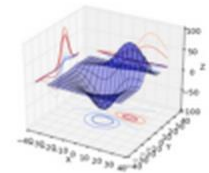
bars3d_demo



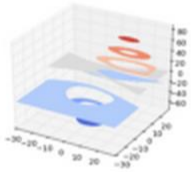
contour3d_demo



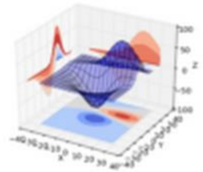
contour3d_demo2



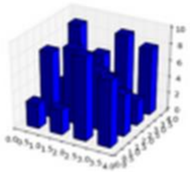
contour3d_demo3



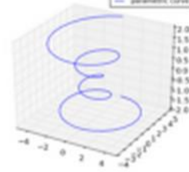
contourf3d_demo



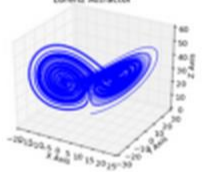
contourf3d_demo2



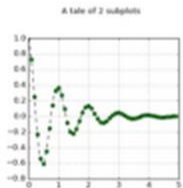
hist3d_demo



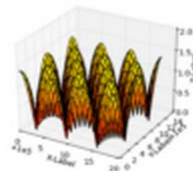
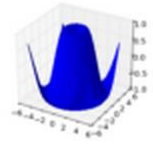
lines3d_demo



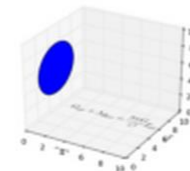
lorenz_attractor



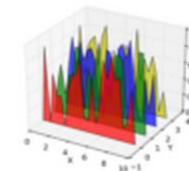
mixed_subplots_demo



offset_demo



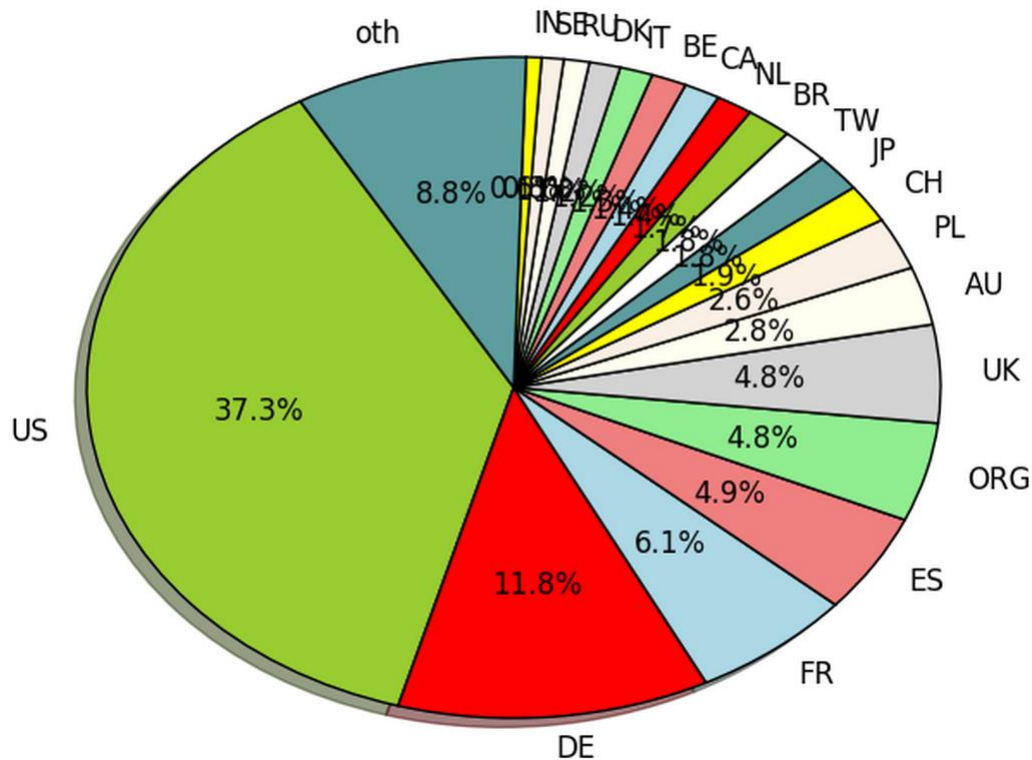
pathpatch3d_demo



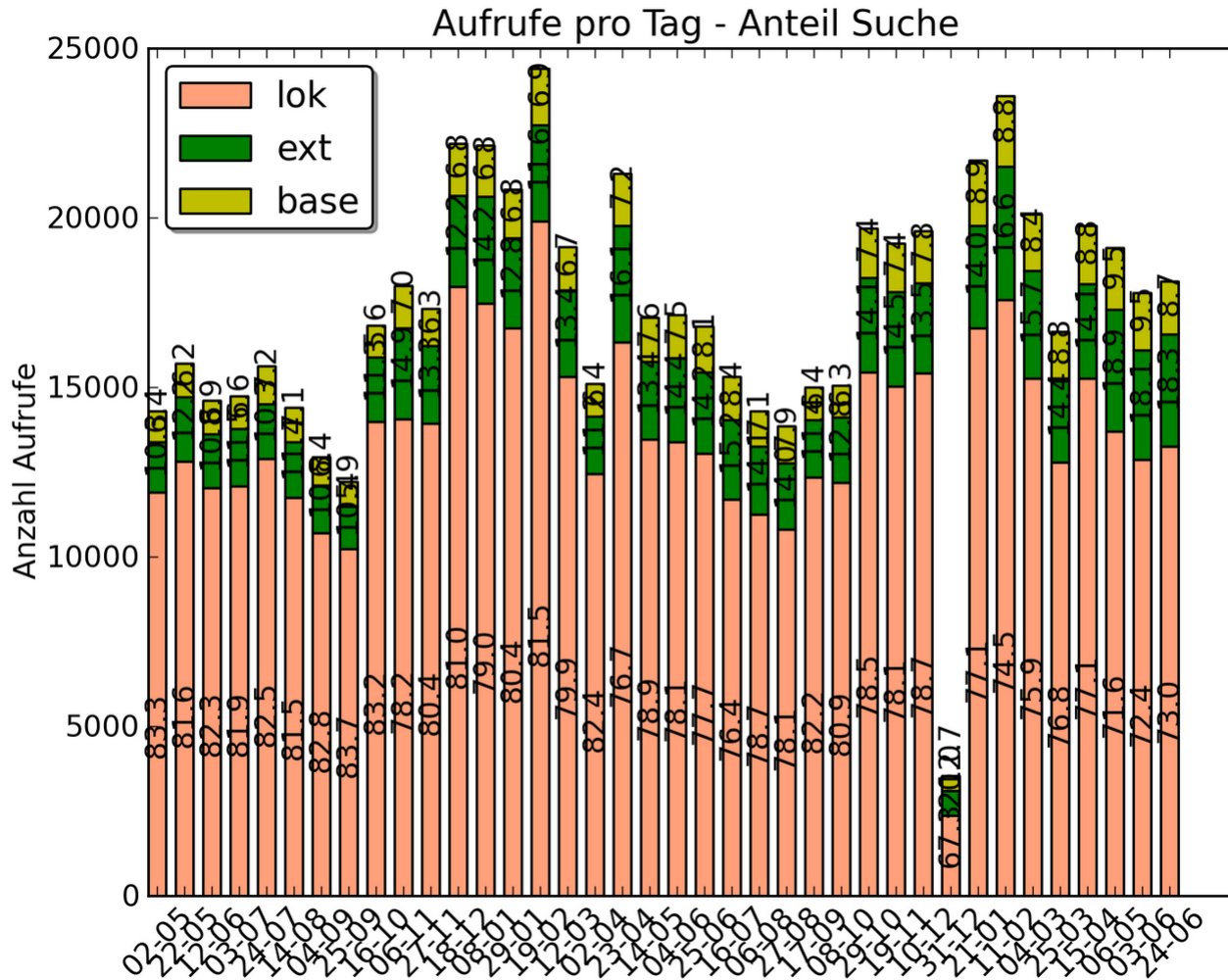
polys3d_demo

<http://ubharvest.ub.uni-bielefeld.de/cgi-bin/showbase.py?chart=pie&row=6&max=20&count=1>

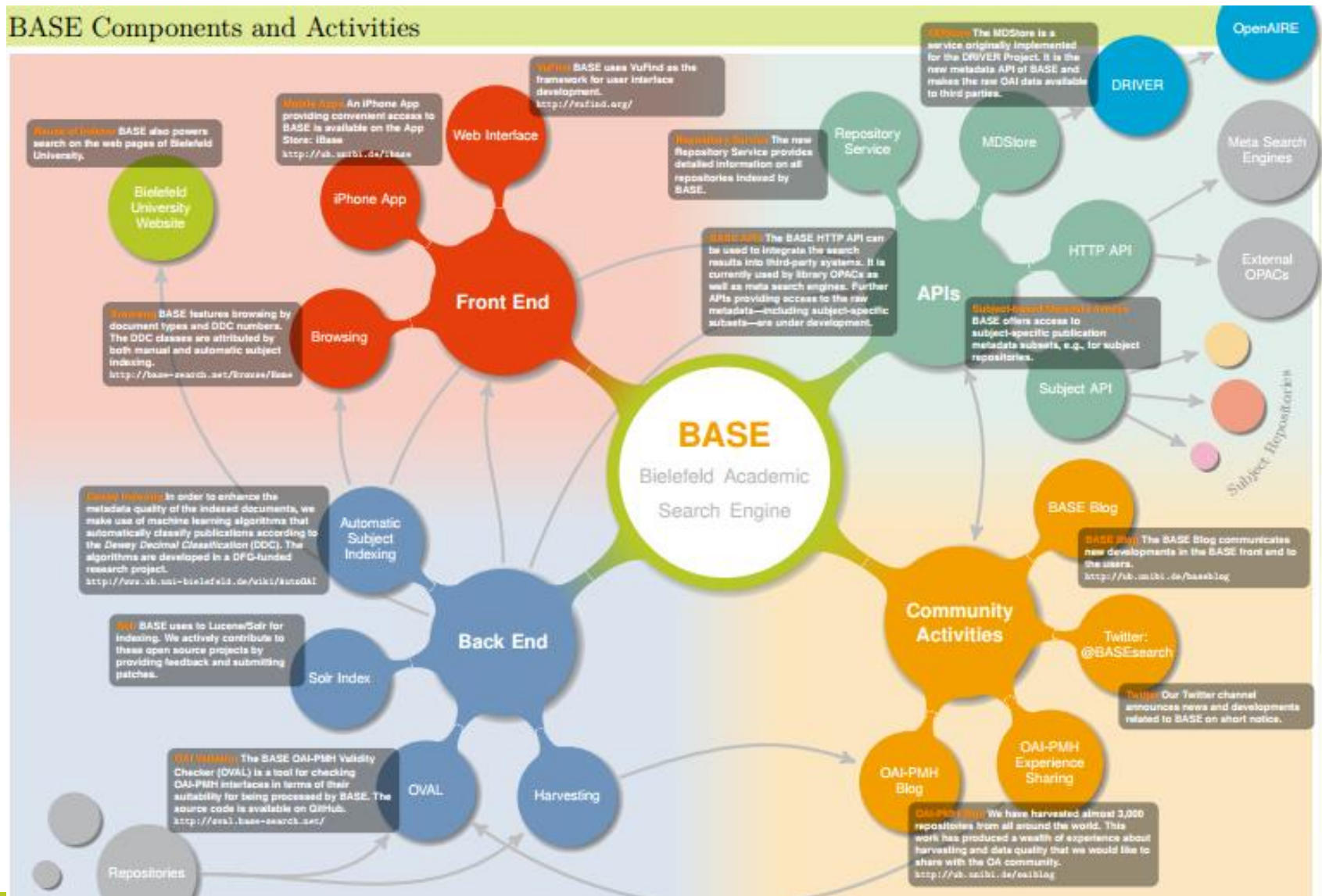
Distribution Country (Number of docs)



http://revision.ub.uni-bielefeld.de/cgi-bin/stat_kat.py?func=srch&interval=3



BASE Components and Activities




```

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extra concept/.append style={color=blue!50,text=black}

% Applied area: computer science and its subfields
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  \node [concept] {Informatique}[clockwise from=-5]
    child {node [concept] (log) {M{\`e}thodes
cat{\`e}goriques}}
    child {node [concept] (alg) {Algorithmique}}
    child {node [concept] (cod) {Compression \& transmission}}
    child {node [concept] (img) {Tra{\`i}tement des images}}
    child {node [concept] (opt) {Optimisation}}
    child {node [concept] (res) {R{\`e}seaux}};
\end{scope}

% Applied area: theoretical physics and its subfields
\begin{scope}[mindmap, concept color=red,text=white]
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    child [grow=-10, level distance=160]
      {node [concept] (qin) {Calcul quantique}}
    child [grow=20]
      {node [concept] (csm) {Astronomie \& cosmologie}}
    child [grow=110]
      {node [concept] (mat) {Mati{\`e}re condens{\`e}e}};
\end{scope}

% Applied area: biology and its subfields
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color=green!50!black,text=white]
  \node [concept] at (6.5,-15) {Biologie}

```

Recompile



- <https://code.google.com/p/surf-incontext/>

