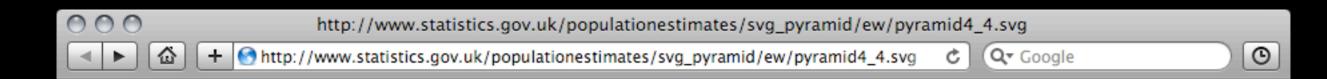
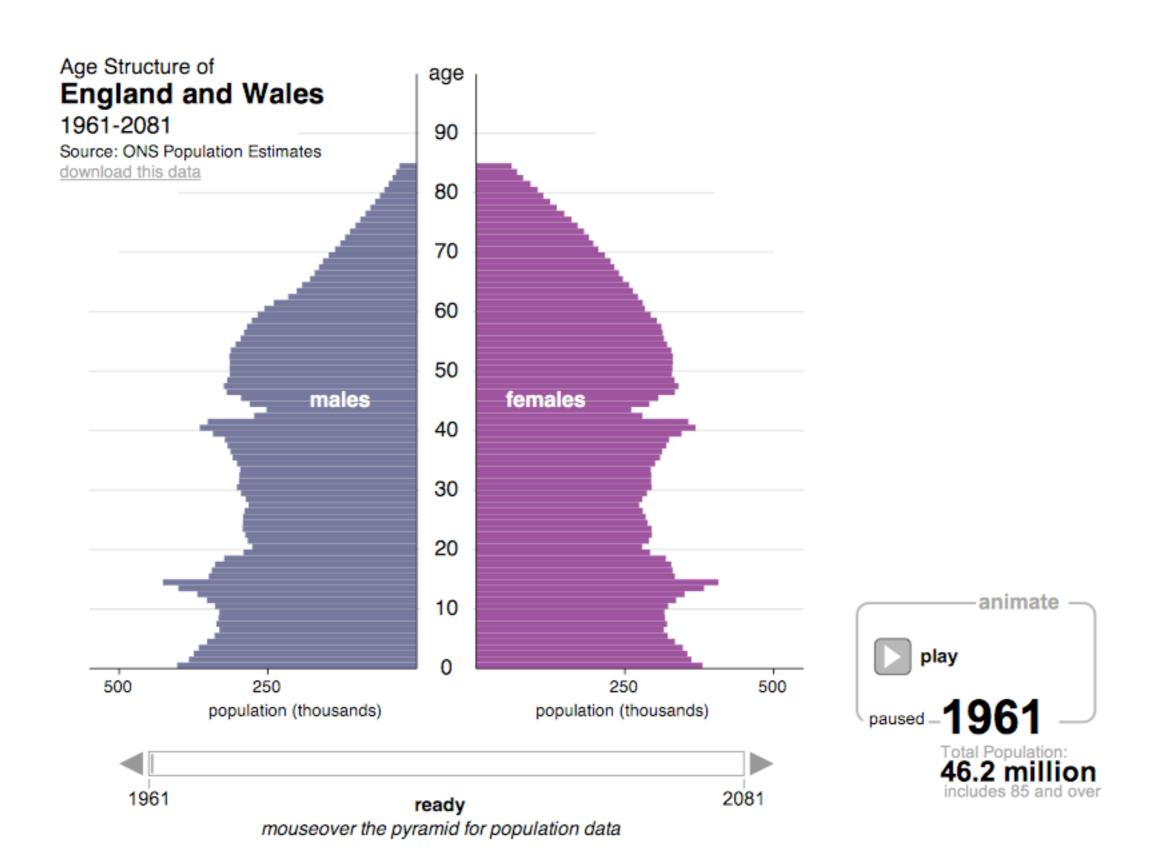
# The strengths of SVG in web mapping

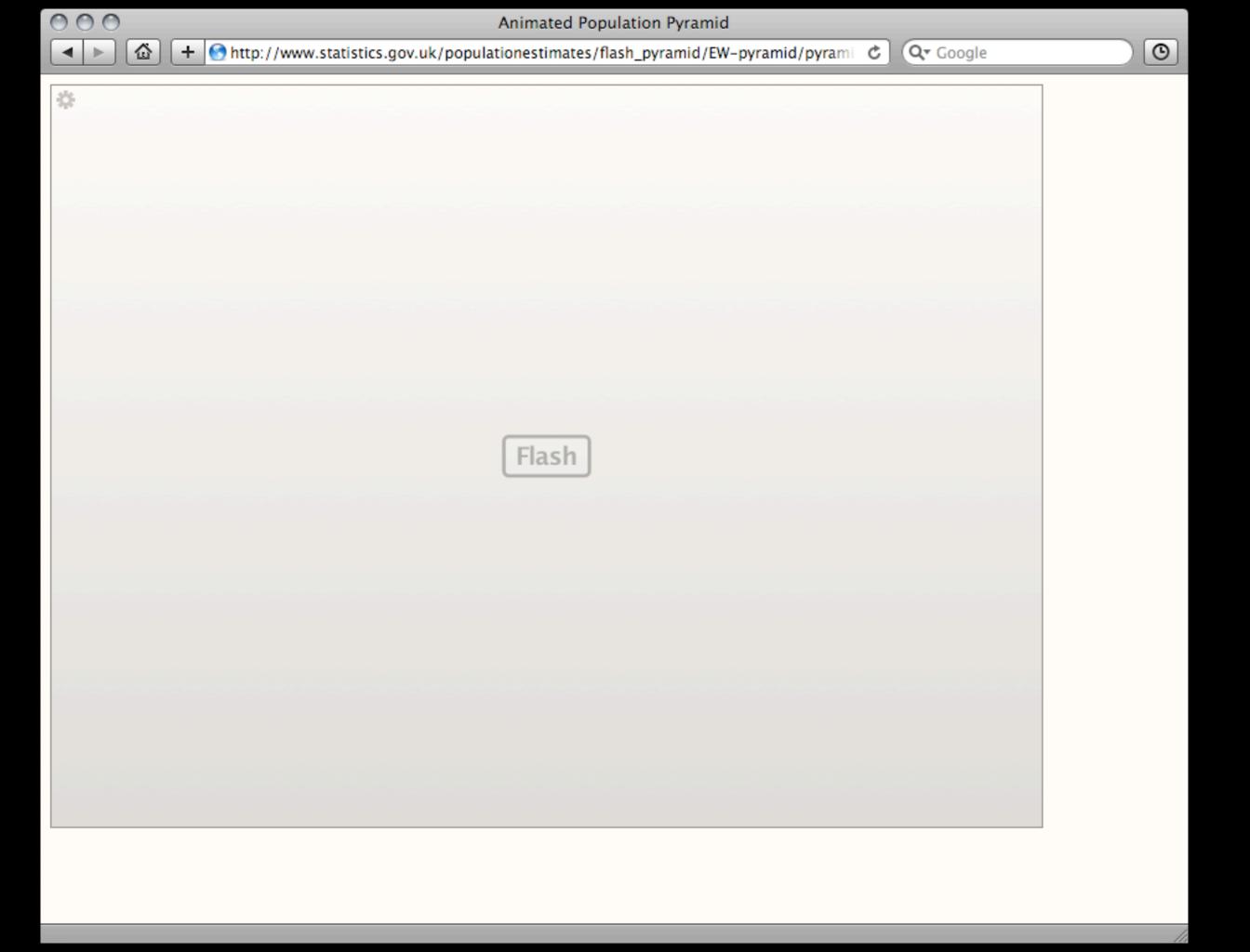
Michael Neutze, wahlatlas.net

# Observation

National Statistical Institutes are moving away from SVG







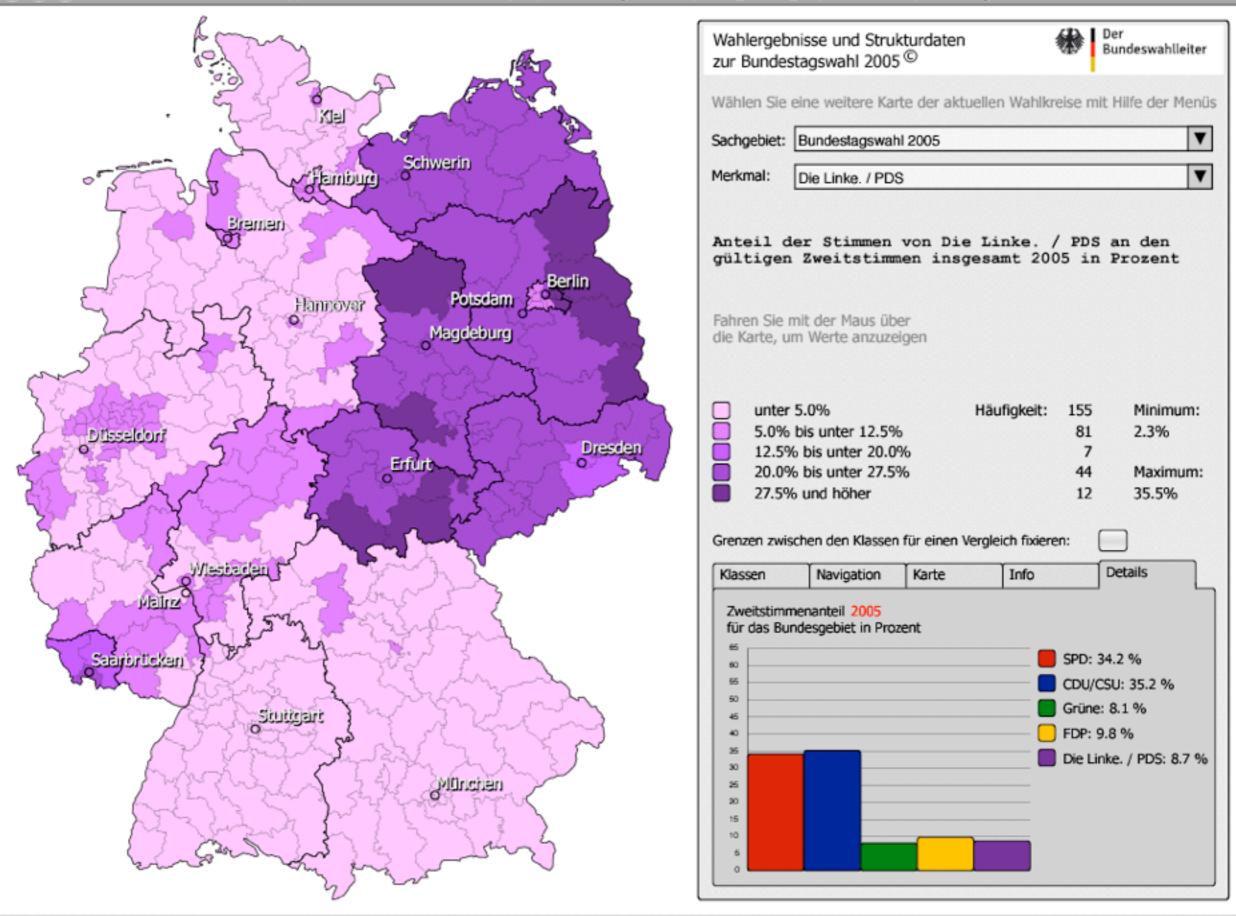
# Age Structure of England and Wales, 1961-2008 Source: Office for National Statistics



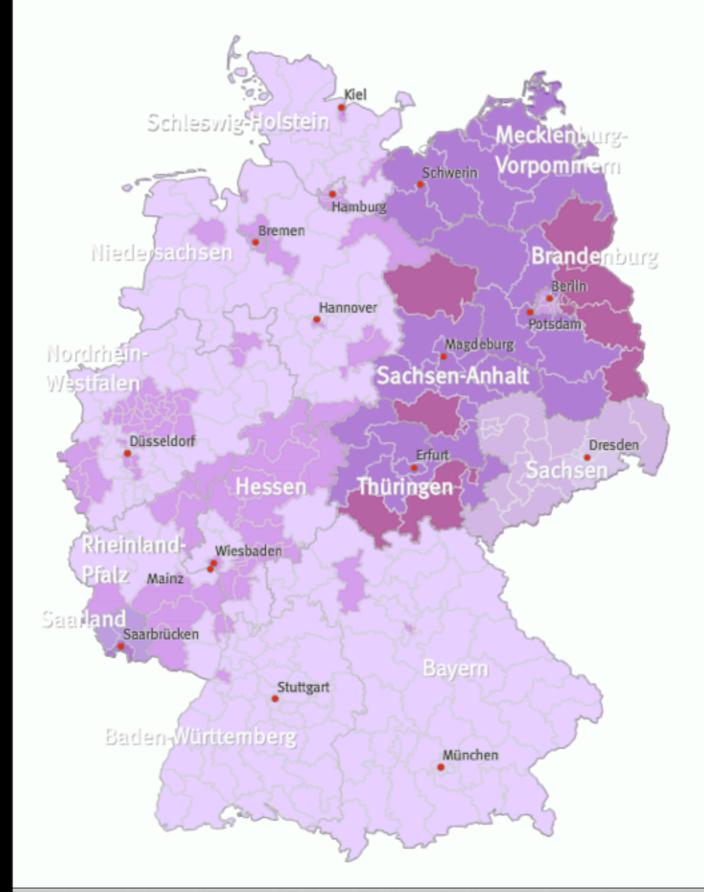
**1961** 46.2 million people

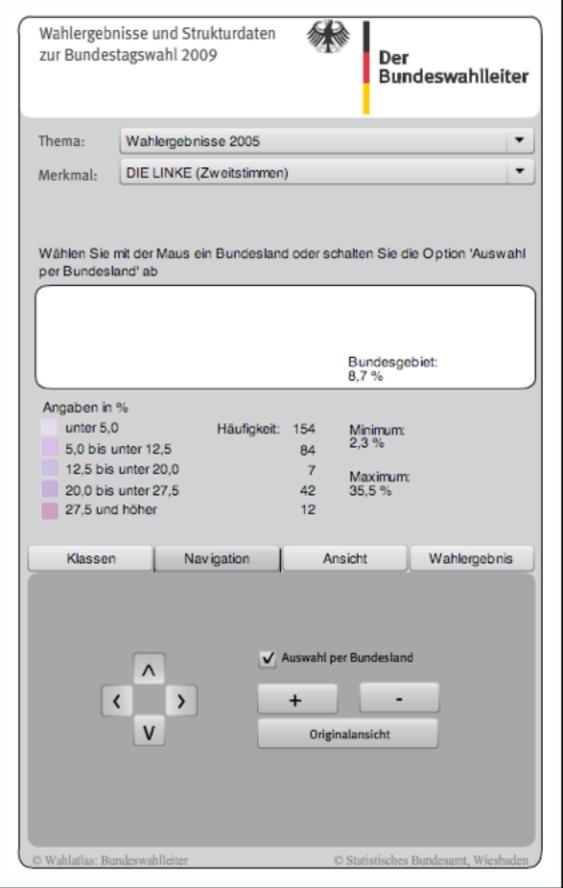


graphic by ONS Data Visualisation Centre











# Assessment

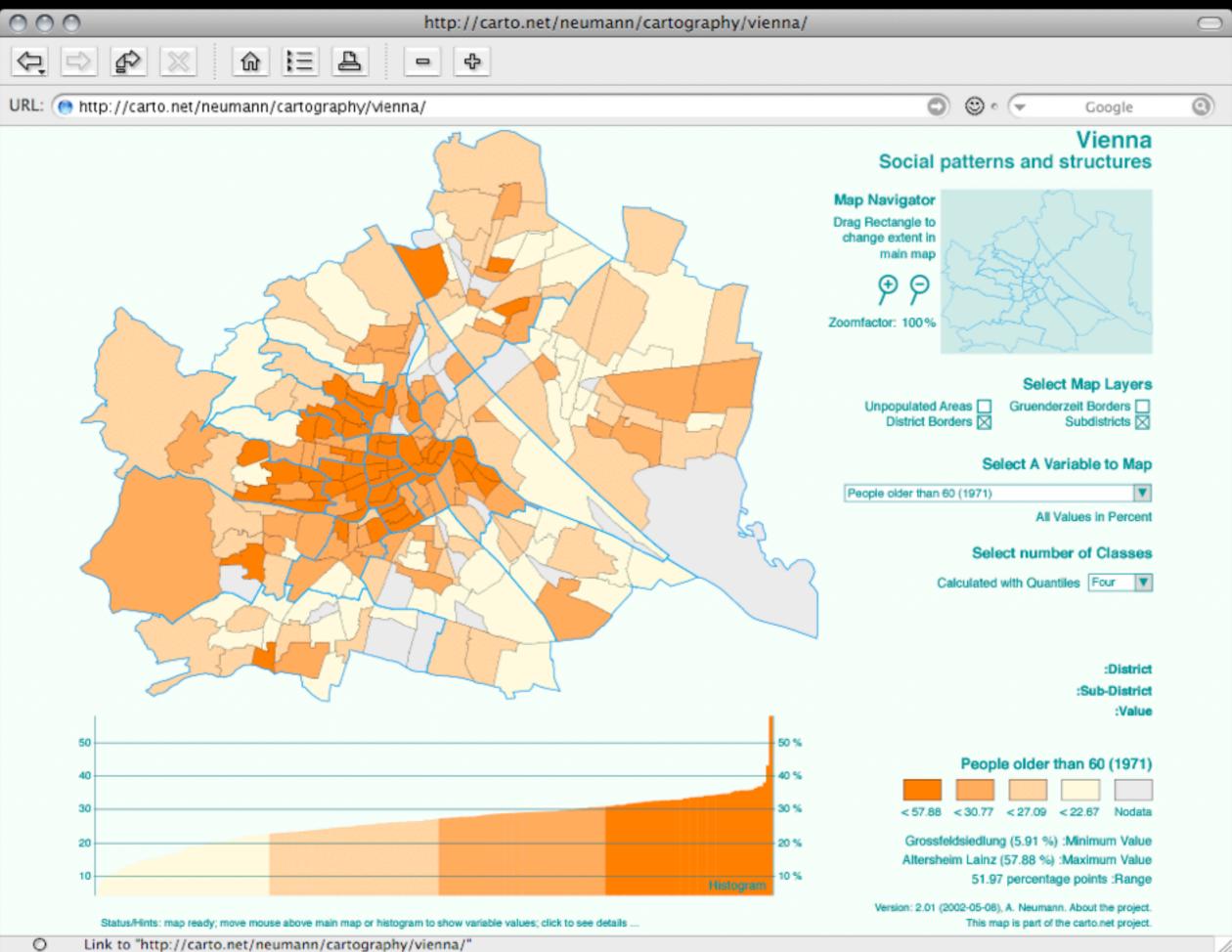
This is wrong

# Action

Show that SVG is a better choice for data driven graphics

# In the beginning

was Andreas Neumann's Vienna Map (2002)

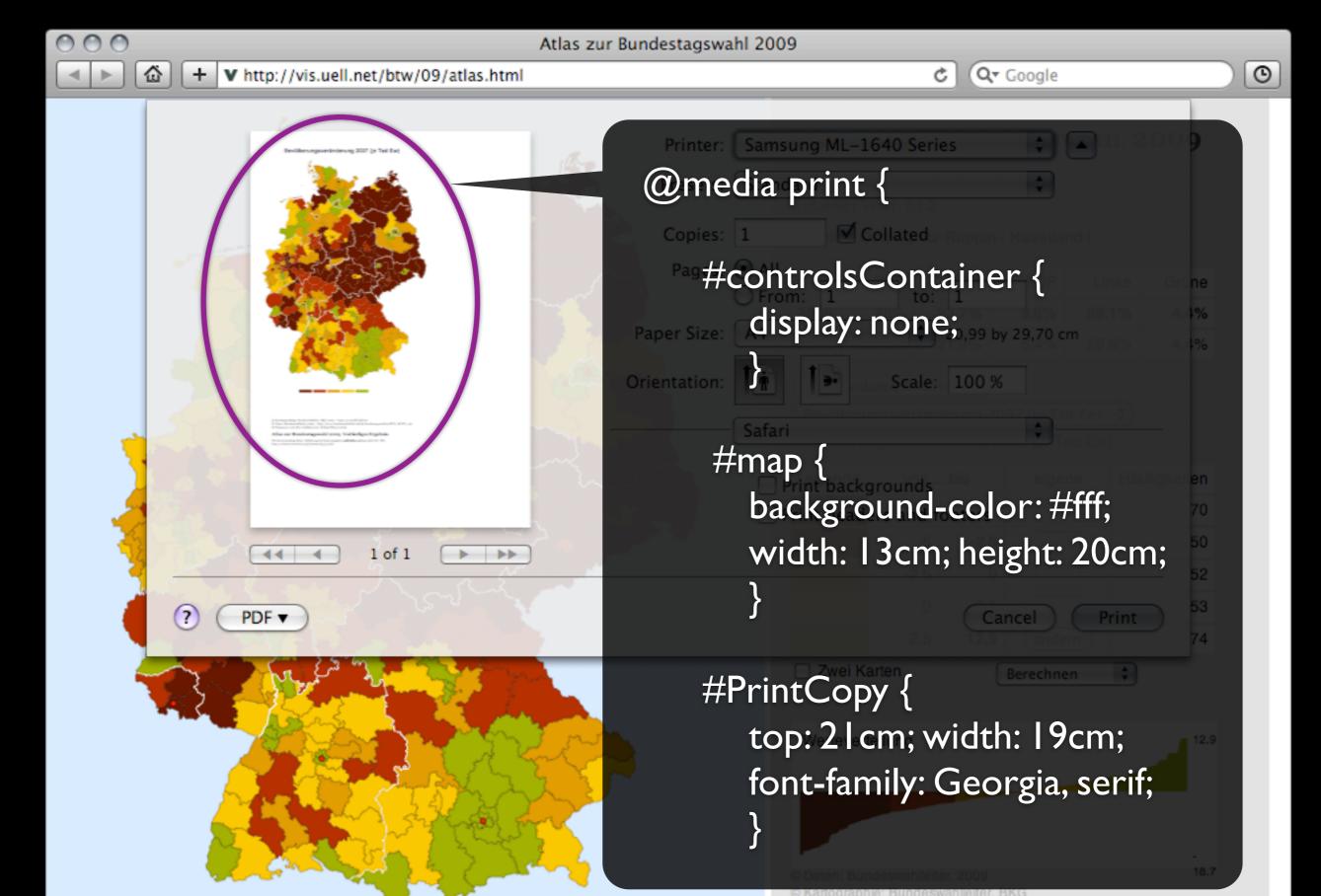


# Can we improve on the Vienna Map?

- Mix SVG with (X)HTML
- Zoom/Pan a la Google Maps
- Two-Map View
- Generalization of interface elements
- Make it run in all browsers

# Demo

# Printing



ZOOM

@ Programm: wahlatlas.net, 2009

RESET



# Frankfurter Allgemeine

ZEITUNG FÜR DEUTSCHLAND

# Auch in Kiel: Es reicht für Schwarz-Gelb

Heute

Versamstunge und die Presider-heit für 45 Tage ausgewich, wei der alsgeweite Präsident Zalaya von der

# Happy End



# Müntefering deutet Rückzug an Merkel: Neue Regierung bis 9. November

# Die Schere schließt sich

Neue Gerechtigkeit: Der Wähler macht die kleinen Parteien größer / Von Duniel Deckres

# Islamisten in München Zastrow wird nicht vorbeugend festgesetzt Minister in Sachsen

# nach Kopenhagen

VOTDEUSCHIN 28. September Nach

PS. DEESEEN N. S. September Dar

TORINGER des Terreration Al-Quela and

In Super Free Sentence of Quela and

In Super Free Sentence of Control and Sentence of Control

# So stark wie noch nie

# Vorhang auf

# Die CSU spaltet sich

# Die Ergebnisse in den Wahlkreisen



# Progressive Loading





# ATLAS ZUR EUROPAWAHL

Anwendung ist aktiv

# Fahren Sie mit der Maus über die Karte

	CDU	SPD	Grüne	Linke	FDP
2009	-	-		-	-
2004	-		-	-	

Europawahl 2009	*	
-----------------	---	--

# Angezeigte Variable

Legende	von b	is	eigene	Häufigkeiten
	min	bis		-
	limit1a	bis		, , ,
	limit2a	bis		-
	limit3a	bis		-
	limit4a	max		-
	Berechnen	•	ändern	

Darstellung mit zwei Karten nebeneinander

Werteverteilun	Ç
----------------	---

111011

© Karte: Bundesamt für Kartographie und Geodäsie, Frankfurt/M 2009

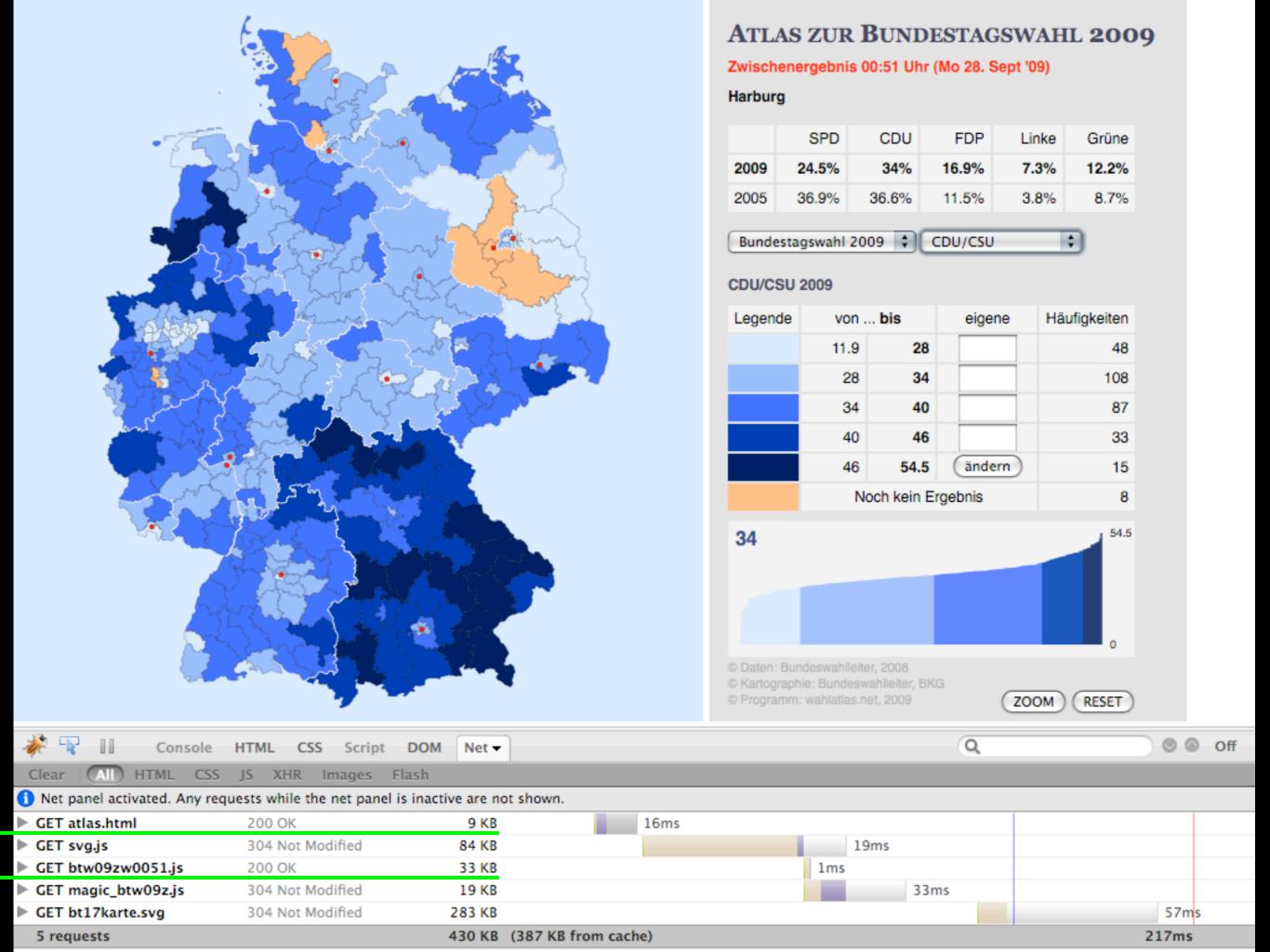
© Daten: Bundeswahlleiter, 2009

e Programm: vis.ueii.net, 2009

ZOOM )

RESET

# Performance



# Searchability

# Search in SVG is still a theoretical advantage



Shopping Groups Mail more ▼ Web Images Videos Maps

Search settings | Sign in



election atlas svg

Search

Advanced Search

of the map

got indexed

Show options...

Results 1 - 10 of about 108,000 for election atlas svg. (0.22 seconds)

# **SVG** Web Test: **Election Atlas** – European **Election** in Germany 2009

European Election in Germany. Application is loading . . . Move your mouse over the map.

Cons. Soc.Dem. Green, Left, Lib. 2009, -, -, -, -, -, ...

vis.uell.net/gsvg/electionAtlasGermany.html - Cached - Similar

# Visuell, das Blog der Visualisierung

only HTML So I am preparing my paper for SVGopen 2009 which is titled The stren mapping. Turns out that the strength of the election atlas cannot be ... vis.uell.net/blog/labels/svg.html - Cached - Similar parts

Hide more results from vis.uell.net

# Visuell, das Blog der Visualisierung

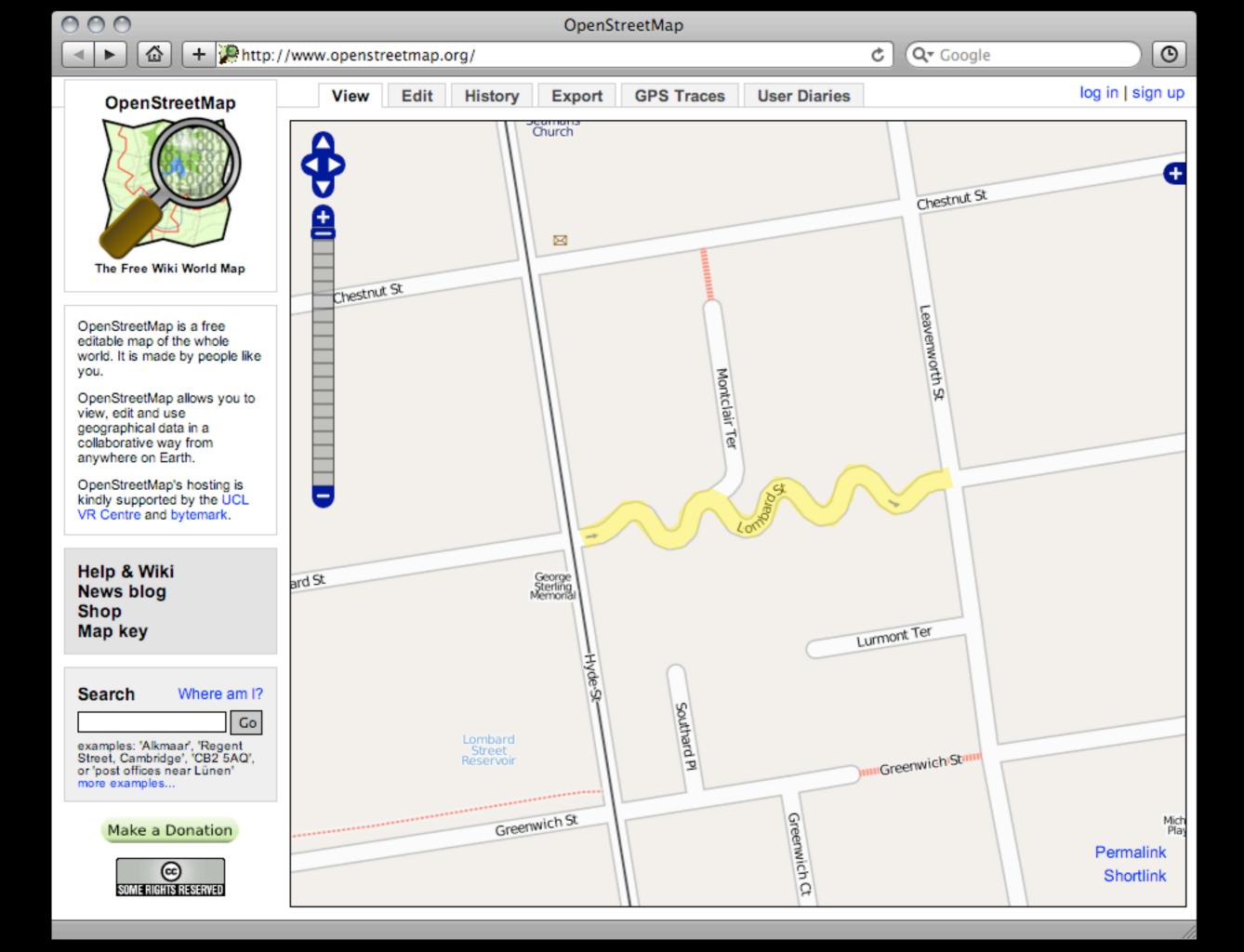
So I am preparing my paper for SVGopen 2009 which is titled The stren mapping. Turns out that the strength of the election atlas cannot be ... vis.uell.net/blog/labels/en.html - Cached - Similar

# Visuell, das Blog der Visualisierung: Data-Driven Everywhere

One of the huge advantages of SVG Web is its ability to run almost unmodified ... The election atlas is also making good progress in running on Internet ... vis.uell.net/blog/2009/08/data-driven-everywhere.html - Cached - Similar

# Atlas zur Bundestags- und Europawahl 2009 in Deutschland

Juni 2009 ... Mit diesem Atlas k\u00f6nnen Karten interaktiv gestaltet und analysiert werden. Damit wird die unterschiedliche politische Situation in den ...





(cc) by-nc-sa: Matt Goff

Montclair Ter Lo LONG LONG Leavenworth St George Sterling Memorial Lurmont Ter

```
000
<symbol overflow="visible" id="glyph45-3">
<path style="stroke: none;" d="M 3.6875 -5.734375 C 3.570312 -5.773438</pre>
3.445312 -5.800781 3.3125 -5.8125 C 3.175781 -5.820312 3.03125
-5.816406 2.875 -5.796875 C 2.320312 -5.710938 1.925781 -5.46875 1.6875
-5.0625 C 1.445312 -4.65625 1.378906 -4.117188 1.484375 -3.453125 L
1.96875 -0.3125 L 0.984375 -0.15625 L 0.0625 -6.09375 L 1.046875 -6.25
L 1.1875 -5.328125 C 1.320312 -5.722656 1.539062 -6.03125 1.84375 -6.25
C 2.144531 - 6.476562 2.535156 - 6.628906 3.015625 - 6.703125 C 3.085938
-6.710938 3.160156 -6.71875 3.234375 -6.71875 C 3.316406 -6.726562
3.414062 -6.734375 3.53125 -6.734375 L 3.6875 -5.734375 Z M 3.6875
-5.734375 "/>
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</g>
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91043.292969 L -9922.535156 91010.082031 L -10050.121094 90879.425781 L
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90657.300781 L -10311.679688 90622.125 L -10413.75 90532.671875 L
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-10828.410156 90177.875 L -10876.257812 90143.699219 L -11016.601562
```

Line 77, Col 14

Next Previous

Highlight all

Match case Phrase not found

Find: Q Lombard

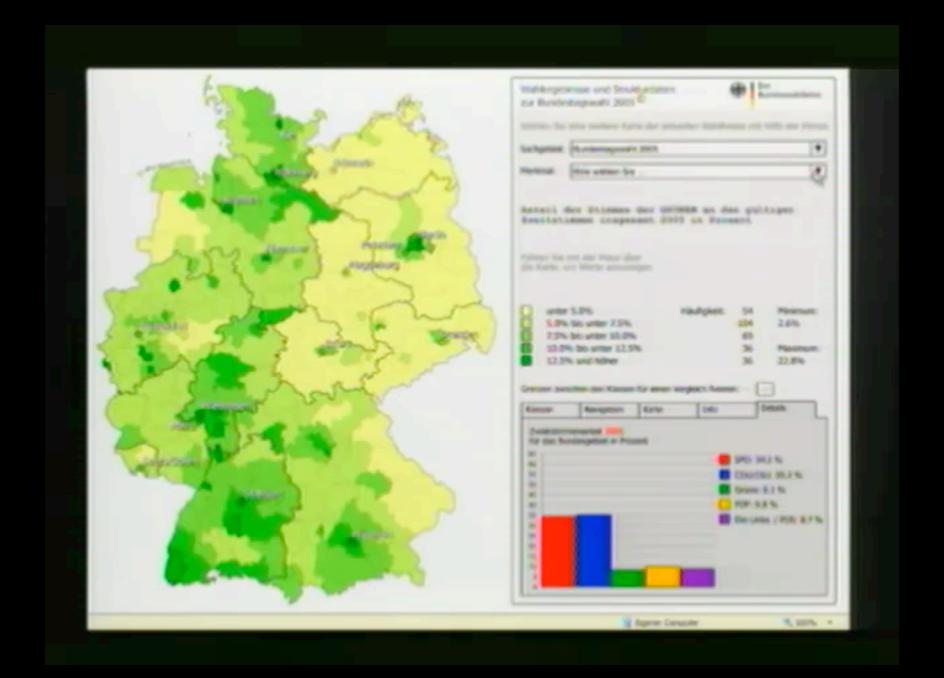
# Coordinate Systems

# Real World Coordinates (e.g. UTM)

```
< svg ...
viewBox = "-340431 -475036 672623 911401" >
< g id = "map" stroke-width = "1500" >
```

# "View Source" goes well with democracy

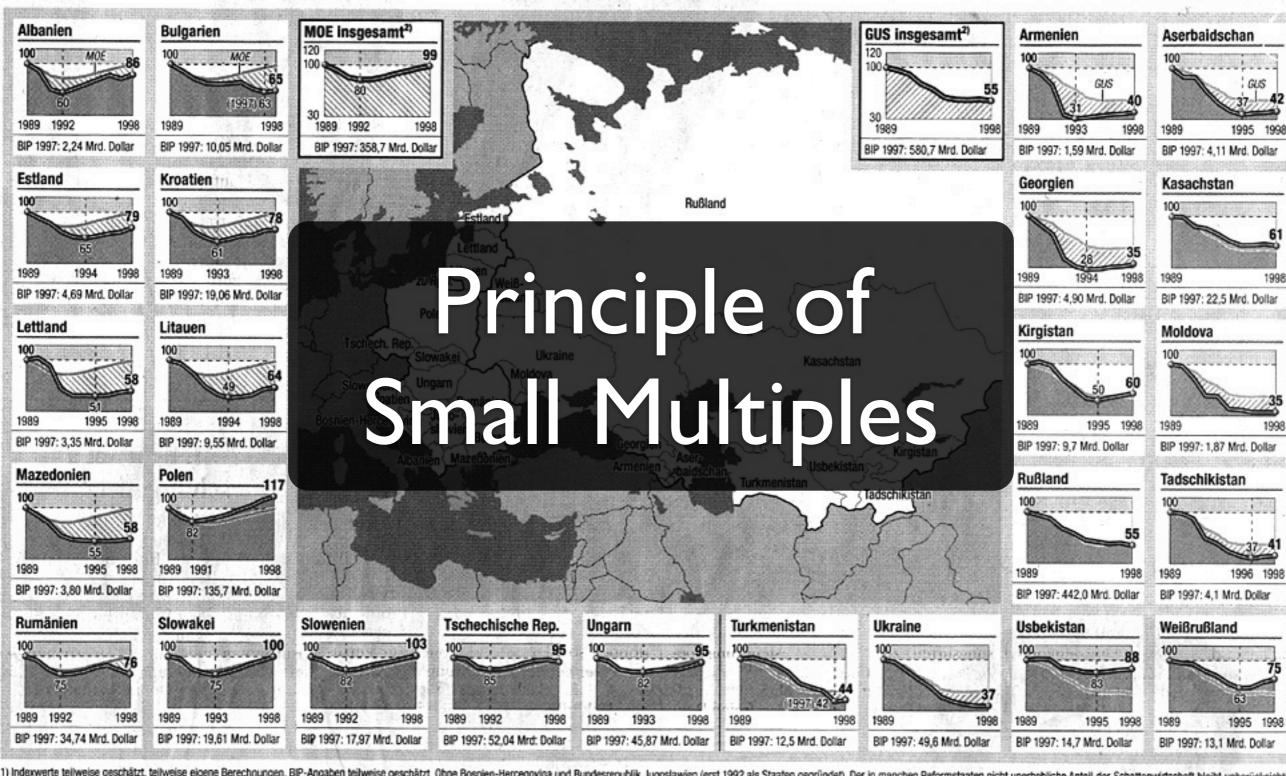
# "View Source" allows learning and extending



Math students researched how prone the election system is to manipulation, published results in atlas

# cloneNode

Entwicklung des Brutttoinlandsprodukts in den Ländern Mittel- und Osteuropas (MOE) sowie in der Gemeinschaft Unabhängiger Staaten (GUS) von 1989 bis 1998 (1989=Index 100)<sup>1)</sup>



1) Indexwerte teilweise geschätzt, teilweise eigene Berechnungen. BIP-Angaben teilweise geschätzt. Ohne Bosnien-Hercegovina und Bundesrepublik Jugoslawien (erst 1992 als Staaten gegründet). Der in manchen Reformstaaten nicht unerhebliche Anteil der Schattenwirtschaft bleibt unberücksichtigt.

2) Gewichteter Durchschnitt.

Quellen: European Bank of Reconstruction and Development (Osteuropabank); Frankfurter Aligemeine Zeitung GmbH Informationsdienste; Bundesministerium für Wirtschaft; PoliSci.com; F.A.Z.-Archiv

# Flash

# What happened in the absence of SVG support



















# tages**schau**.de®

Die Nachrichten der ARD

Kontakt

Zurückliegende Wahlen

Suchbegriff



Ansicht maximieren •

**BUNDESTAGSWAHL 2009** 

**◄ Zur Startseite**

# Startseite **Inland**

**Ausland** 

Wirtschaft

# Regional

# Wahlarchiv

Aktuelle Ergebnisse

Bundestagswahlen

Länderparlamente

Europäisches Parlament

DDR-Volkskammer

Jahrzehnte im Überblick

Recherche im Wahlarchiv

# Wetter

Weltatlas

**Info-Services** 

Blog

**News in English** 

Haberler

Für Kinder

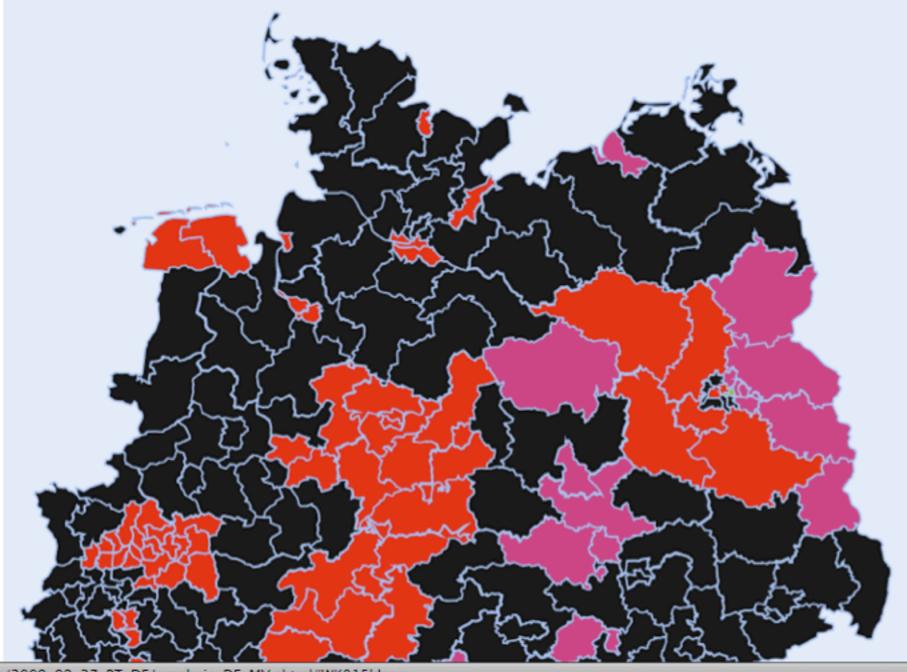
Spendenkonten

Über uns

Korrespondentenwelt

**Archiv** 

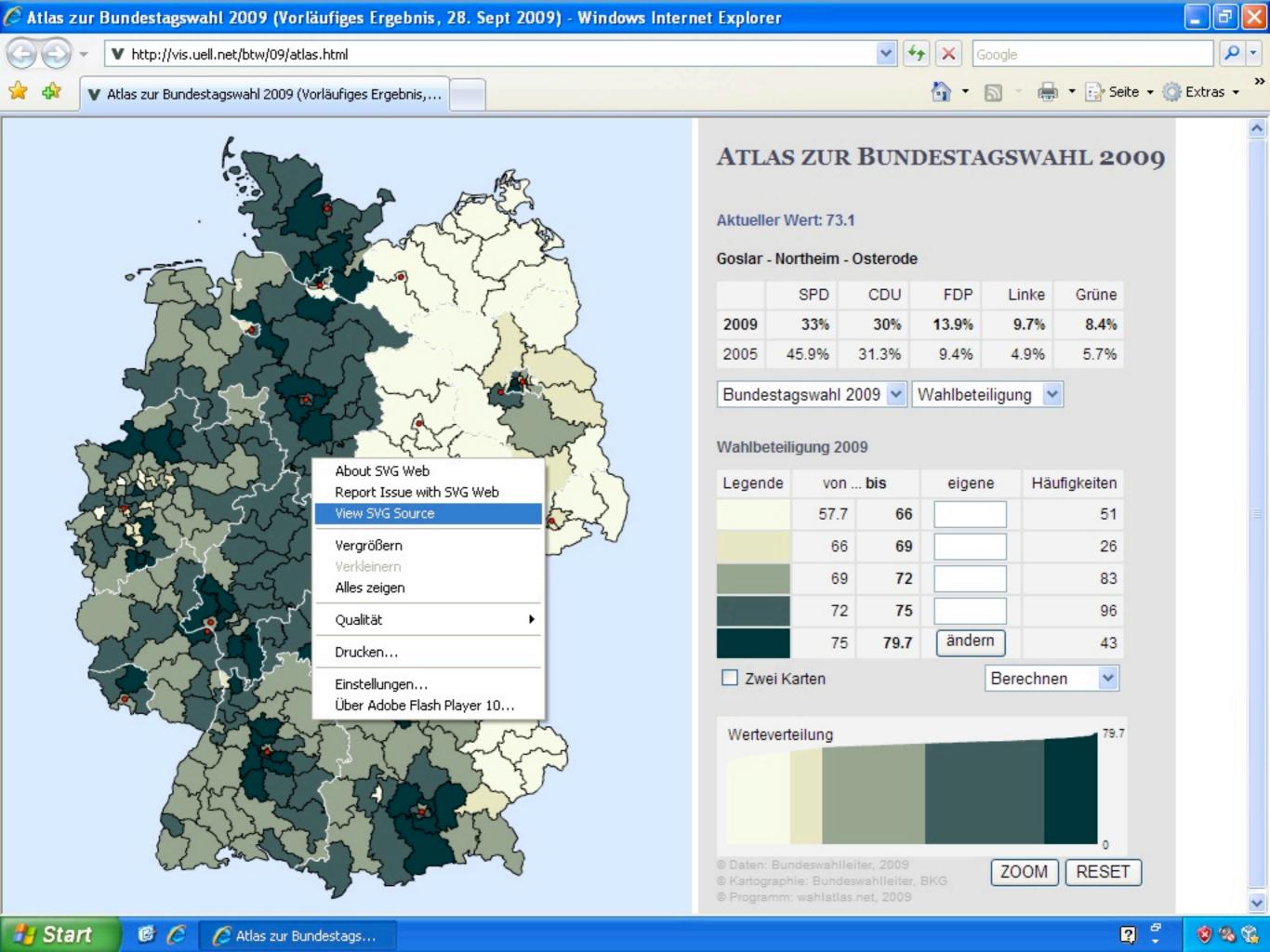
Inhaltsverzeichnis



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000
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            <img alt="" src="charts/kartegross/chart 112495.png" usemap="#DE imap big Map" />
        <div class="spacer12"></div>
        </div>
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290,920, 295,923, 296,926,



000







# The strengths of SVG in web mapping

# A real world comparison against Flash and ArcIMS

# Michael Neutze

Geographer wahlatlas.net

> Wiesbaden Germany

Michael Neutze is known to the SVG community for the animated population pyramids that he developed with the National Statistical Institutes of the UK and Germany. He currently explores the use of SVG on his own and maintains a related website for data visualisation at http://vis.uell.net where he is focused on mapping german election data. Michael attended SVGopen 2003, 2005 and 2008 before.

# Abstract

The initial goal of this paper was to compare current examples of thematic mapping on the web for the 2009 elections in Germany. The national statistical institute offers both ArcIMS and Flash based mapping applications and the author of this paper examined the strengths of SVG in web mapping by building his own SVG based election atlas. While the subject area is similar - choropleth maps of Germany with comparable level of detail – the implementations differ a lot.

As such the emphasis of this paper is mostly on aspects of SVG with regards to mapping. It will discuss some of the features that were implemented in the SVG based map and will conclude with an outlook on how well SVG Web, the JavaScript library for rendering SVG in Flash, already works for web mapping.