



# USER EXPERIENCE

Universität Bern | IWI | Übung zur Vorlesung «Open Data»

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# KURZ VORGESTELLT



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# AGENDA

- Vorbemerkungen
- Daten visualisieren
- Allgemeine Design-Prinzipien und Guidelines

Teil I

# **VORBEMERKUNGEN**

**WAS IST DER UNTERSCHIED  
ZWISCHEN «USER EXPERIENCE» UND  
«USABILITY»?**

# USER EXPERIENCE IST SUBJEKTIV

«Wahrnehmungen und Reaktionen einer Person, die aus der *tatsächlichen* und/oder der *erwarteten* Benutzung eines Produkts, eines Systems oder einer Dienstleistung resultieren.»

DIN EN ISO 9241-210

# USABILITY IST EIN QUALITÄTSKRITERIUM

«Die Usability eines Produktes ist das Ausmass, in dem es von einem bestimmten *Benutzer* verwendet werden kann, um bestimmte *Ziele* in einem bestimmten *Kontext* effektiv, effizient und zufrieden stellend zu erreichen.»

DIN EN ISO 9241-210



Steve Krug

**DON'T  
MAKE  
ME**

**THINK**

A white hand cursor icon with a black outline, pointing upwards towards the bottom of the "THINK" button.

A Common Sense Approach to Web Usability  
FOREWORD BY ROGER BLACK

«If you have room in your head for only one usability rule, make this the one. It means that as far as is humanly possible, when I look at a Web page, it should be self-evident. Obvious. Self-explanatory.»

Steve Krug

Teil II

# DATEN VISUALISIEREN

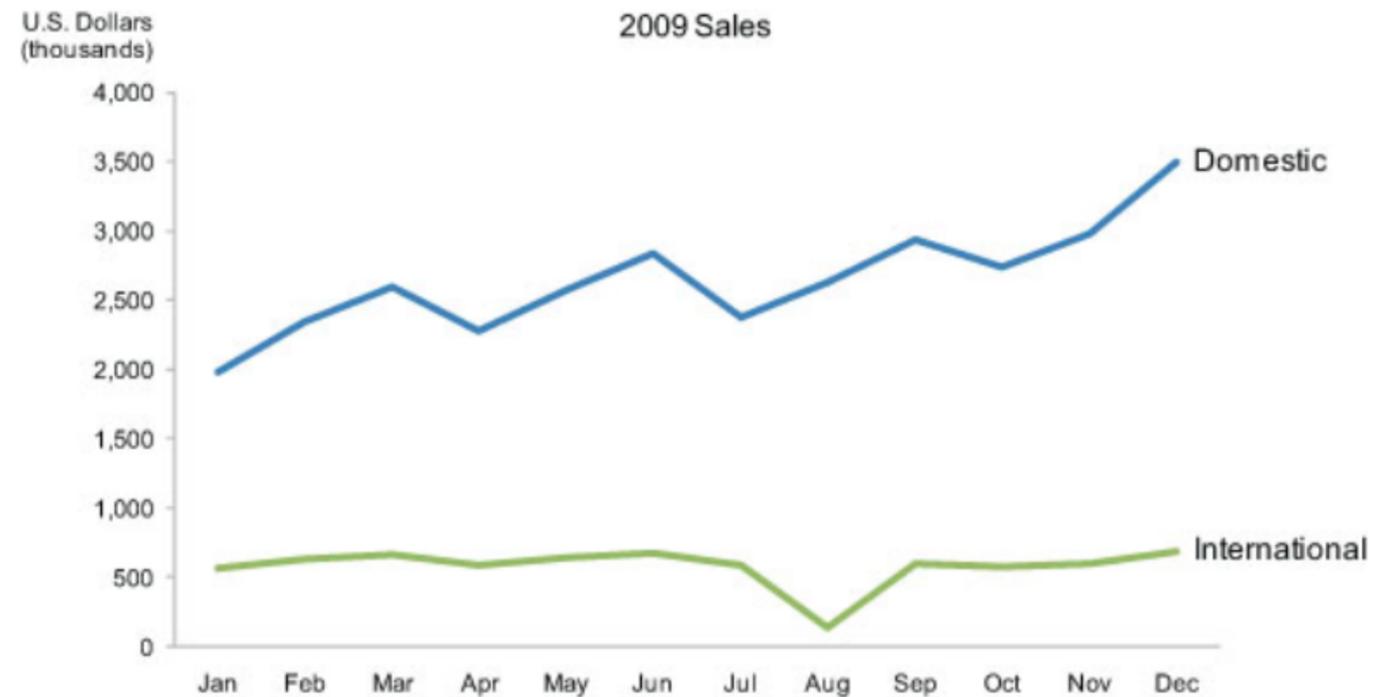
# WIESO SOLL MAN DATEN ÜBERHAUPT VISUALISIEREN?

2009 Sales (thousands of U.S. \$)

Region	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Domestic	1,983	2,343	2,593	2,283	2,574	2,838	2,382	2,634	2,938	2,739	2,983	3,493	31,783
International	574	636	673	593	644	679	593	139	599	583	602	690	7,005
Total	2,557	2,979	3,266	2,876	3,218	3,517	2,975	2,773	3,537	3,322	3,585	4,183	38,788

Quelle: Few, 2014

# VISUALISIERUNG ERMÖGLICHT DIE ERKENNUNG VON MUSTERN UND TRENDS



Quelle: Few, 2014

# VORAUSSETZUNGEN: WAHRNEHMUNG UND VERSTÄNDNIS

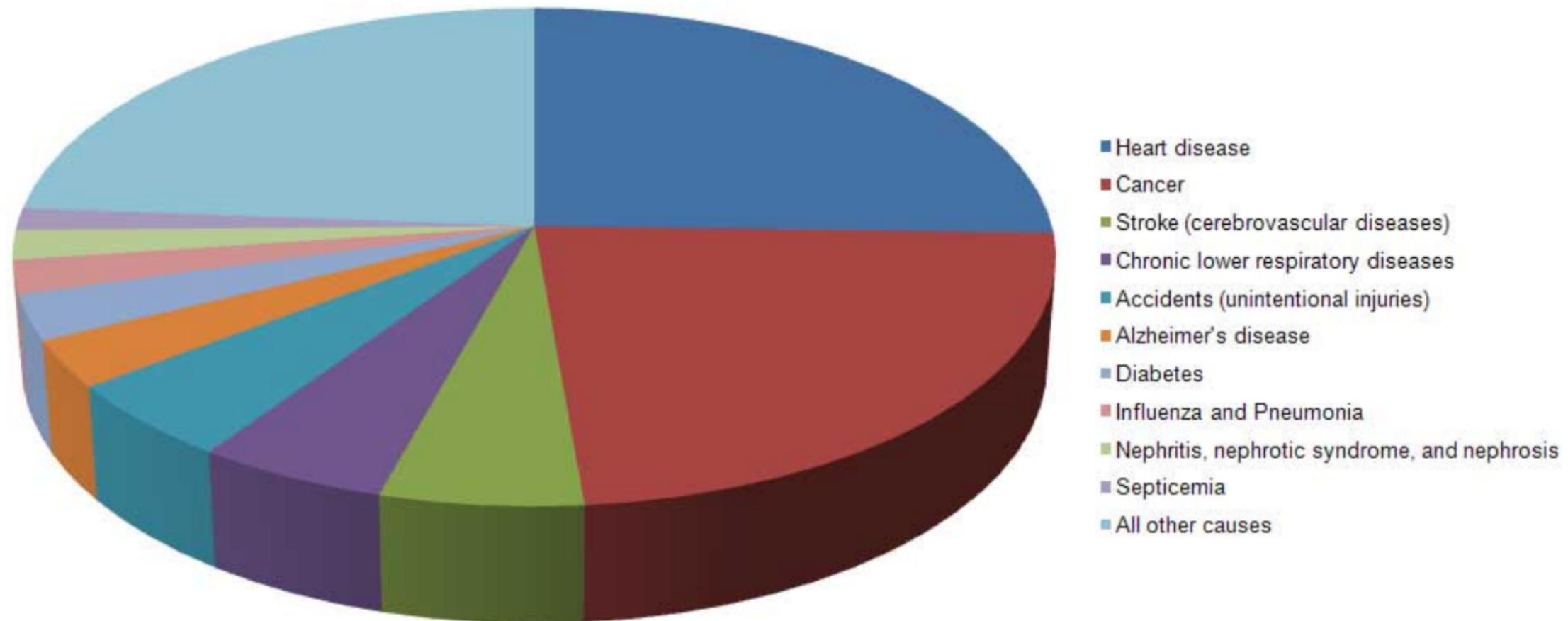
- Relationen
- Akkurate Repräsentation
- Vergleichbarkeit
- Reihenfolge
- Verwendung

Causes of Death	Deaths per Year
Heart disease	616,067
Cancer	562,875
Stroke (cerebrovascular diseases)	135,952
Chronic lower respiratory diseases	127,924
Accidents (unintentional injuries)	123,706
Alzheimer's disease	74,632
Diabetes	71,382
Influenza and Pneumonia	52,717
Nephritis, nephrotic syndrome, and nephrosis	46,448
Septicemia	34,828
All other causes	577,181
Total	2,423,712

Quelle: Few, 2014

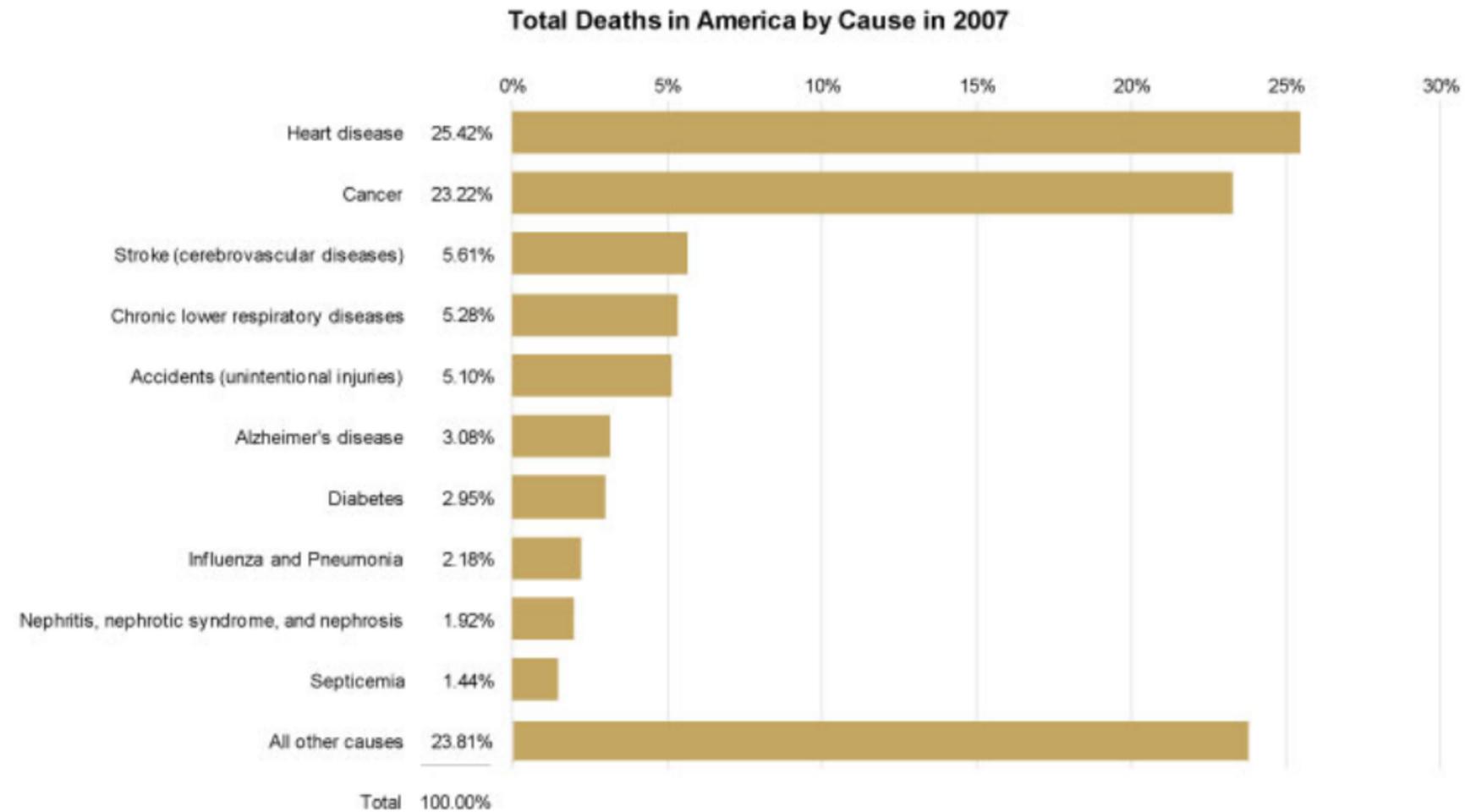
# SUBOPTIMAL: KUCHENDIAGRAMME

Total Deaths in American by Cause in 2007



Quelle: Few, 2014

# BESSER: BALKENDIAGRAMME



Quelle: Few, 2014

# LITERATUR

Few, Stephen (2014): Data Visualization for Human Perception. In: The Encyclopedia of Human-Computer Interaction, 2nd Ed. <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/data-visualization-for-human-perception>

Padmanabhan, Udhaya & Choudhury, Shilpi (2013): How to Make Data Visualization Better with Gestalt Laws. <http://sixrevisions.com/usability/data-visualization-gestalt-laws/>

Duke University (2015): Introduction to Data Visualization: Chart Dos and Don'ts. <http://guides.library.duke.edu/datavis/topten>

Teil III

**ALLGEMEINE DESIGN-  
PRINZIPIEN UND  
GUIDELINES**

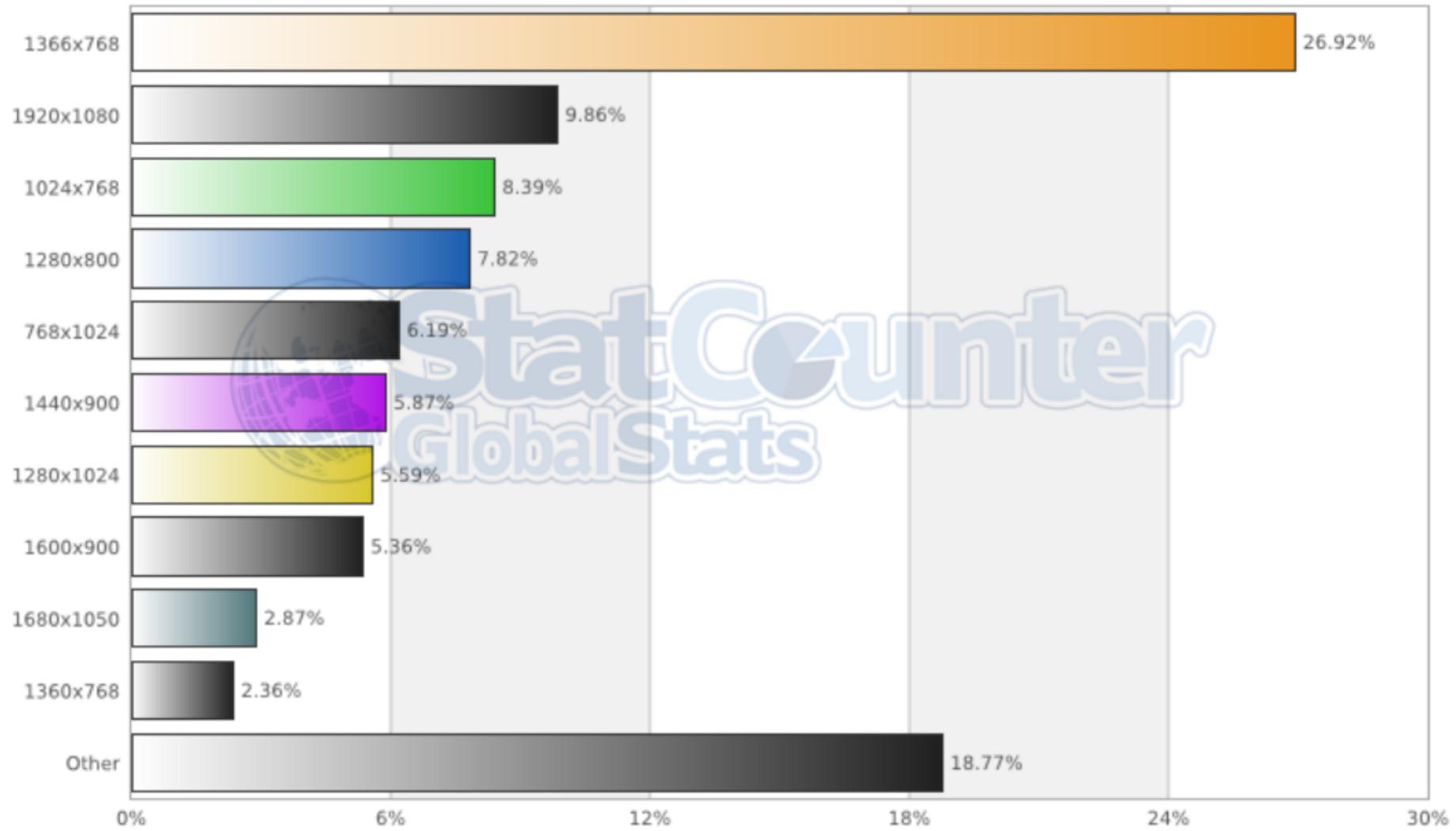
Design-Prinzip

**SCREENS SIND  
BEGRENZT**

# **WAS IST ZUR ZEIT DIE GEBRÄUCHLICHSTE BILDSCHIRMAUFLÖSUNG?**

Desktops & Laptops

**StatCounter Global Stats**  
**Top 10 Desktop & Tablet Screen Resolutions from Apr 2014 to Apr 2015**



Quelle: StatCounter

# FAZIT

## Bildschirmauflösung

- Optimierung auf bestimmte Auflösung ist sinnlos.
- Pixelgenaues Design funktioniert nicht mehr.
- Responsive Design (dynamische Anpassung an Auflösung *und* Bildschirmgröße) ist state-of-the-art.
- Desktops sind primär in der *Höhe* limitiert, Mobile Devices in der *Breite*.

# PIXEL SIND EIN WERTVOLLES GUT

Die Bildschirmfläche ist so kostbar wie ein Grundstück.  
Daher spricht man im Englischen auch von «Screen Real Estate».

«Screen Real Estate» is the amount of space available on a display for an application to provide output.

[usabilityfirst.com](https://usabilityfirst.com)

# CHROME

Chrome is the visual design elements that give users information about or commands to operate on the screen's content (as opposed to being part of that content).

These design elements are provided by the underlying system — whether it be an operating system, a website, or an application — and surround the user's data.

Quelle: Jakob Nielsen (2012)

W Graphical user interfa x

en.wikipedia.org/wiki/User\_interface\_chrome#User\_interface\_and\_interaction\_design

User interface and interaction design [\[edit\]](#)

*Main article: User interface design*

Designing the visual composition and temporal behavior of GUI is an important part of [software application](#) programming in the area of [human-computer interaction](#). Its goal is to enhance the efficiency and ease of use for the underlying logical design of a stored [program](#), a design discipline known as [usability](#). Methods of [user-centered design](#) are used to ensure that the visual language introduced in the design is well tailored to the tasks.

The visible graphical interface features of an application are sometimes referred to as "chrome" or "Gui" (Goo-ee).<sup>[8][9]</sup> Typically, the user interacts with information by manipulating visual [widgets](#) that allow for interactions appropriate to the kind of data they hold. The widgets of a well-designed interface are selected to support the actions necessary to achieve the goals of the user. A [model-view-controller](#) allows for a flexible structure in which the interface is independent from and indirectly linked to application functionality, so the GUI can be easily customized. This allows the user to select or design a different *skin* at will, and eases the designer's work to change the interface as the user needs evolve. Good user interface design relates to the user, not the system architecture.

Large widgets, such as windows, usually provide a frame or container for the main presentation content such as a web page, email message or drawing. Smaller ones usually act as a user-input tool.

A GUI may be designed for the requirements of a [vertical market](#) as application-specific graphical user interfaces. Examples of application-specific GUIs are:

- Automated teller machines (ATM)
- Point-Of-Sale touchscreens at restaurants <sup>[10]</sup>
- Self-service checkouts used in a retail store
- Airline self-ticketing and check-in
- Information kiosks in a public space, like a train station or a museum
- Monitors or control screens in an embedded industrial application which employ a [real time operating system](#) (RTOS).

The latest cell phones and handheld game systems also employ application specific touchscreen GUIs. Newer automobiles use GUIs in their navigation systems and touch screen multimedia centers.

**Examples** [\[edit\]](#)

**Sample Graphical Desktop Environments**



GNOME Shell (Gnome-3) KDE Plasma (KDE 4) Unity Xfce Enlightenment

23:09 13.11.2013

Design-Prinzip

# AFFORDANCE

# WAS IST AFFORDANCE?



Aufforderungscharakter: Eigenschaften eines Objektes, die auf Interaktions-Möglichkeiten schliessen lassen.

# Welchen Aufforderungscharakter haben diese Elemente?

Text Input:

Textarea:

Search Input:

Flip switch:  Off

Slider:

Choose as many snacks as you'd like:

- Cheetos
- Doritos
- Fritos
- Sun Chips

# In User-Interfaces wird der Aufforderungscharakter durch erlernte Konventionen bestimmt.

The image shows a screenshot of a website's article page. At the top, there is a navigation menu with links for HOME, REPORTS, TRAINING, CONSULTING, ARTICLES (which is underlined in red), and ABOUT NN/G. Below the navigation, the article title 'Guidelines for Visualizing Links' is displayed in a large, bold, black font. The author's name, 'by JAKOB NIELSEN', and the date, 'on May 10, 2004', are shown in a smaller blue font. A 'Topics' section lists 'Navigation' in blue. A red-bordered box contains a 'Summary' in red text: 'Textual links should be colored and underlined to achieve the best perceived affordance of clickability, though there are a few exceptions to these guidelines.' Below this, the text 'Here are the current usability guidelines for showing textual links:' is followed by a bulleted list of guidelines. On the left side of the page, there are sections for 'Topics' (listing E-commerce, Intranets, Mobile & Tablet, User Testing, Web Usability, and a 'See all topics...' link), 'Author' (listing Jakob Nielsen, Don Norman, and Bruce 'Tog' Tognazzini, with a 'See all authors...' link), and 'Recent Articles' (listing three article titles in blue).

HOME REPORTS TRAINING CONSULTING **ARTICLES** ABOUT NN/G

## Guidelines for Visualizing Links

by **JAKOB NIELSEN** on May 10, 2004

Topics: [Navigation](#)

**Summary:** Textual links should be colored and underlined to achieve the best perceived affordance of clickability, though there are a few exceptions to these guidelines.

Here are the current usability guidelines for showing textual links:

- To maximize the [perceived affordance](#) of clickability, **color** and **underline** the link text. Users shouldn't have to guess or scrub the page to find out where they can click.
- Assuming the link text is colored, it's not always absolutely necessary to underline it.
  - There are two main cases in which you can safely eliminate underlines: navigation menus and other lists of links. However, this is true only when the page design *clearly* indicates the area's function. (Remember: your design might not be as obvious to outside users as it is to your own team members.) Users typically understand a left-hand navigation rail with a list of links on a colored background, assuming it resembles the navigation areas on most other sites.
  - Exception: underlining is essential if you use link colors such as reds or greens, which cause problems for users with common forms of color-blindness.
  - Exception: underlined links are important for low-vision users' [accessibility](#), so retain underlines if accessibility is a priority for your site or you have many users with low vision.
- Don't underline any text that's not a link, even if your links aren't underlined. **Reserve underlining for links.** Because underlines provide a strong perceived affordance of clickability, users will be confused and disappointed if underlined text doesn't have an actual affordance to match this perception.

**Topics**

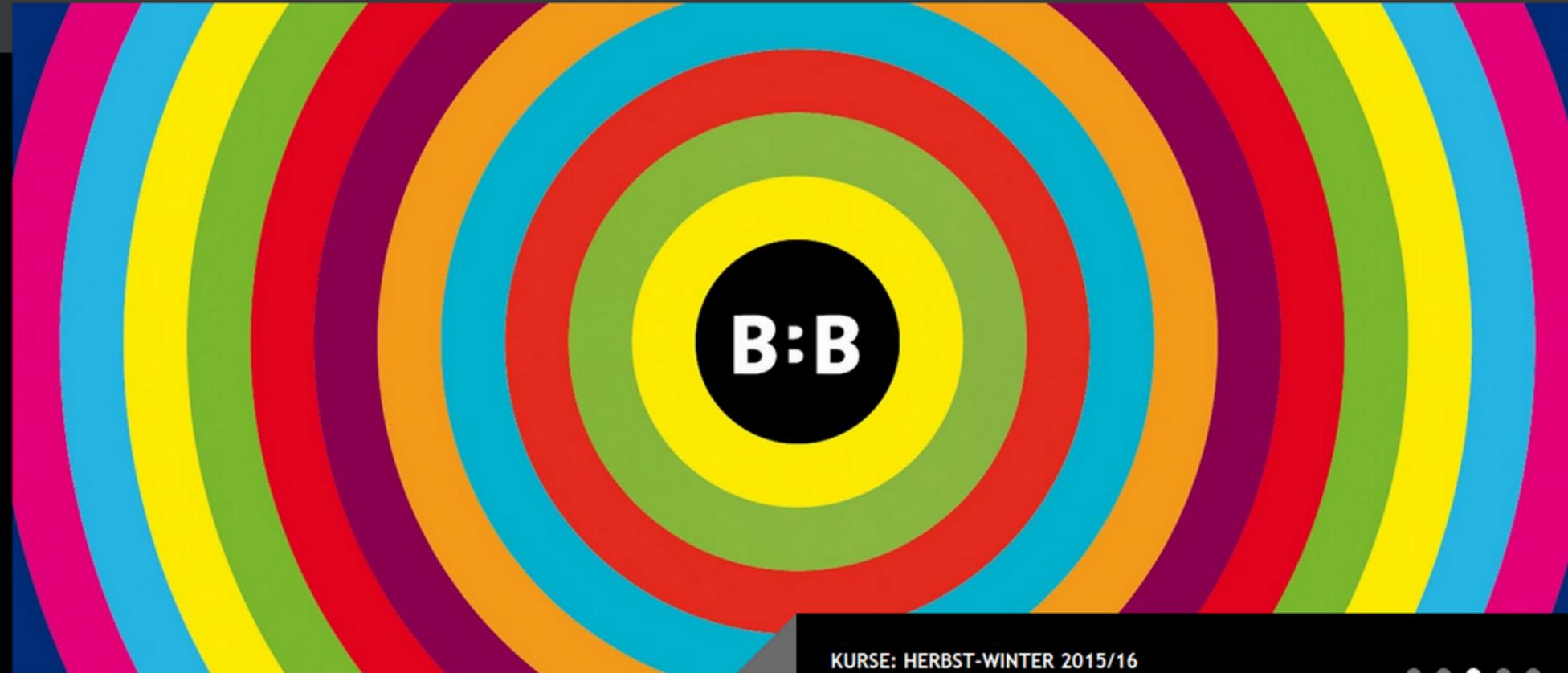
- [E-commerce](#)
- [Intranets](#)
- [Mobile & Tablet](#)
- [User Testing](#)
- [Web Usability](#)
- [See all topics...](#)

**Author**

- [Jakob Nielsen](#)
- [Don Norman](#)
- [Bruce "Tog" Tognazzini](#)
- [See all authors...](#)

**Recent Articles**

- [Search Is Not Enough: Synergy Between Navigation and Search](#)
- [Demonstrate Thinking Aloud by Showing Users a Video](#)
- [Quicklinks: Bad Label or Indicative of Usability Issues](#)
- [3 Tips for Better Product](#)

**B:B****KURSE: HERBST-WINTER 2015/16**Das aktuelle Kursprogramm ist da! [Mehr erfahren](#)

# B:B

## Schule für Gestaltung Bern und Biel

Die Schule für Gestaltung Bern und Biel ist das Kompetenzzentrum für gestalterisch-künstlerische, gestalterisch-technische und gestalterisch-handwerkliche Grundbildung im Espace Mittelland.

Sie bietet ein breites Weiterbildungsangebot an und fördert interdisziplinäre Ausbildungsformen. Der Unterricht in Biel erfolgt zweisprachig auf Deutsch und Französisch. Kreativität, Professionalität, Experimentierfreudigkeit und gesellschaftliches Engagement prägen die Schule.

Jährlich besuchen rund 3500 Personen die Schule für Gestaltung Bern und Biel. Sie lernen einen Beruf, den sie mit einem eidg. Fähigkeitszeugnis abschliessen oder entwickeln und erproben ihre Kreativität im Vorkurs/Propädeutikum

## News aus der Schule für Gestaltung Bern + Biel

### Menuplan Restaurant 2B

Laden Sie den aktuellen Menuplan herunter - in den Downloads der Restaurant 2B Seite. [Mehr erfahren...](#)



### Berufsfachschule

Den Leitfaden für die Berufsfachschulanmeldung finden Sie hier zum herunterladen [Mehr erfahren...](#)



### Die Kurs-App als Download!



Guideline

# **ORIENTIERUNG GEBEN**

# Wo bin ich?

Welcome to the United Nations. It's your world.

Search UN Website

عربي 中文 English Français Русский Español

## HUMAN RIGHTS

Peace and Security | Development | **Human Rights** | Humanitarian Affairs | International Law

UN Home

**Your United Nations**

- Secretary-General
- UN at a Glance
- UN Charter
- Structure and Organization
- Member States
- Strengthening the UN
- UN Information Centres
- Documents
- Frequently Asked Questions

**Main Bodies**

- General Assembly
- Security Council
- Economic & Social Council
- Trusteeship Council

### Secretary-General's Panel of Experts on Sri Lanka

The Secretary-General has appointed a Panel of Experts that will advise him on the issue of accountability with regard to any alleged violations of international human rights and humanitarian law during the final stages of the conflict in Sri Lanka. Its members are: Marzuki Darusman (Indonesia), Chair; Yasmin Sooka (South Africa); and Steven Ratner (United States).

The Panel will advise the Secretary-General on the implementation of the commitment on human rights accountability made in the Joint Statement issued by President [Mahinda] Rajapaksa of Sri Lanka and the Secretary-General during the latter's visit to Sri Lanka in May 2009. It will look into the modalities, applicable international standards and comparative experience with regard to accountability processes, taking into account the nature and scope of any alleged violations in Sri Lanka. It will be available as a resource to Sri Lankan authorities should they wish to avail themselves of its expertise in implementing the commitment.

In the conduct of its mandate, the Panel hopes to cooperate with concerned officials in Sri Lanka. It is expected to complete its advisory responsibilities within four months of the commencement of its work.

The Secretary-General remains convinced that accountability is an essential foundation for durable peace and reconciliation in Sri Lanka. Through the Panel, the Secretary-General expects to enable the United Nations to make a constructive contribution in this regard.

#### UN Offices

- High Commissioner for Human Rights (OHCHR)
- High Commissioner for Refugees (UNHCR)
- Special Adviser on the Prevention of Genocide
- Special Representative of the Secretary-General for Children and Armed Conflict
- Drugs and Crime (UNODC)

#### In Focus

- Secretary-General's Panel of Experts on Sri Lanka
- Human Rights Day
- 10th Anniversary of the Durban Declaration and Programme of Action, General Assembly High Level Meeting

# Wo bin ich?

**United Utilities**  
helping life flow smoothly

Corporate site: [Home](#), [Investors](#), [Media](#), [Jobs](#) and [Corporate responsibility](#)

My Account: [Log in](#) or [Register](#)

Search our site

**At home** | **Business customers** | **Builders & developers** | **My Account** | **Emergencies** | **Learning & leisure** | **Contact us**

[Moving home](#) | [All about water meters](#) | **[My bill](#)** | [My water supply](#) | [Wastewater services](#) | [Got a problem?](#) | [Extra services](#)

[At home](#) > [My bill](#) > [Understanding my bill](#) > [Metered customers](#)

▶ How bills for households with meters are changing for 2012/2013

**Pay online**  
Set up a Direct Debit  
Other ways I can pay

**Understanding my bill**  
Metered customers  
**How bills for households with meters are changing for 2012/2013**  
Unmetered customers  
Rented properties

**Where your money goes**  
Our charges 2012-2013

## How bills for households with meters are changing for 2012/2013

Metered bills are made up of a fixed standing charge and a volumetric charge. The volumetric charge depends on the amount of water that a customer uses.

**Changes in changes 2012/13 (including inflation of 5.16%)**

	Fixed charge	Volumetric charge	Bill for 60m <sup>3</sup> /year	Bill for 160m <sup>3</sup> /year	2012/13 average metered bill	Change in average metered bill
	% change	% change	% change	% change	£	£

Guideline

# **INFORMATIONEN UND AKTIONEN GEWICHTEN**

# Ungewichtete Informationen

Workspace

Default 

    http://localhost:8080/mydatatable/rdPage.aspx?rdReport=Default&lgxPreview=7952

### My Data Table

<u>Film ID</u>	<u>Description</u>	<u>Length</u>	<u>Released</u>	<u>Title</u>
1	A Epic Drama of a Feminist And a Mad Scientist who must Battle a Teacher in The Canadian Rockies	86	2006	ACADEMY DINOSAUR
2	A Astounding Epistle of a Database Administrator And a Explorer who must Find a Car in Ancient China	48	2006	ACE GOLDFINGER
3	A Astounding Reflection of a Lumberjack And a Car who must Sink a Lumberjack in A Baloon Factory	50	2006	ADAPTATION HOLES
4	A Fanciful Documentary of a Frisbee And a Lumberjack who must Chase a Monkey in A Shark Tank	117	2006	AFFAIR PREJUDICE
5	A Fast-Paced Documentary of a Pastry Chef And a Dentist who must Pursue a Forensic Psychologist in The Gulf of Mexico	130	2006	AFRICAN EGG
6	A Intrepid Panorama of a Robot And a Boy who must Escape a Sumo Wrestler in Ancient China	169	2006	AGENT TRUMAN
7	A Touching Saga of a Hunter And a Butler who must Discover a Butler in A Jet Boat	62	2006	AIRPLANE SIERRA
8	A Epic Tale of a Moose And a Girl who must Confront a Monkey in Ancient India	54	2006	AIRPORT POLLOCK

Done

Definition Source **Preview**

# Gewichtete Informationen

**PuzzleTime** Philippp Murkowsky Logout

**Zeiterfassung** **Aufträge** Planung Verwalten

Meine Aufträge Auftrag Erfassen

für  Auftragsart  im Status

Kunde Auftrag	Auftragsart Bereich	Verantwortliche Wartungsteam	Status	\$	🕒	❤️
Partners Group Contacts iPhone App Design	Projekt /ux	👤 Bruce B.	<span>Bearbeitung</span>	●	●	●
BASPO > Rahmenvertrag 2012-2016 Contacts iPhone App Design	Mandat /dev/two	👤 Andreas R. 👥 Tony S., Steve R., Bruce B.	<span>Abschluss</span>	●	▲	●
BASPO > Rahmenvertrag 2012-2016 Contacts iPhone App Design	Support & Wartung /dev/two	👤 Andreas R. 👥 Tony S., Andryrhamianifidgi R., Steve R., Bruce B.	<span>Abgeschlossen</span>	●	▲	■

# Ungewichtete Aktionen

The screenshot shows the SAP Standard Order 117 Overview screen. The interface is annotated with labels for various UI components:

- Menu bar:** Contains 'Sales document', 'Edit', 'Goto', 'Extras', 'Environment', 'System', and 'Help'.
- Command field:** A search or input field below the menu bar.
- Standard toolbar:** A row of icons for navigation and document management.
- Application toolbar:** A row of icons for application-specific actions.
- User options button:** A button for user-specific settings.
- Title bar:** Displays 'Display Standard Order 117: Overview'.
- Page tabs:** Includes 'Document flow', 'Status overview', 'Sales summary', 'Sold-to party', and 'Orders'.
- Field name:** Labels for 'Sales area', 'Sales grp', and 'Sales off.'.
- Input field:** Labels for 'Sold-to party', 'Ship-to party', 'Standard Order', and 'PO number'.
- Drop-down list button:** A button for selecting 'Payment terms'.
- Worksheet:** A table showing order items with columns for Item, Material, Description, Customer material no., Order quantity, SU, First date, S, and PO details.
- Row selection button:** A button for selecting a row in the worksheet.
- Status bar:** Displays 'VA03 hoeaag71 INS'.

**General header data:**

Sales doc.type	OR	Standard Order	Delivery prior.	2
Contact person	ATTN: QUALITY		Cont. tel.	
Req. deliv.date	D	09/24/2002	Total weight	45,311.375 KG
Payment terms	L030	NET 30 DAYS INVO...	Incoterms	FOB Destination
Shp.Cond.	90 CPU or Arranged		Title Transfer	

**Worksheet:**

Item	Material	Description	Customer material no.	Order quantity	SU	First date	S	PO details
10	add 5017236	LUENE BT BULK ST		2,500.000	GAL	09/24/2002		otc 082
20	add 5019003	XYLENE BT BULK STD		4,000.000	GAL	09/24/2002		otc 082
30	add 5017236	TOLUENE BT BULK ST		45,000	LB	09/25/2002		otc 082

# Gewichtete Aktionen

The screenshot displays the Gmail web interface. At the top, a navigation bar includes links for '+Roland', 'Search', 'Images', 'Mail', 'Drive', 'Calendar', 'Groups', 'Contacts', 'Maps', and 'More'. The user's profile 'studer@puzzle.ch' is visible in the top right corner. The main content area shows an email from 'Gmail Team' with the subject 'Get Gmail on your mobile phone'. The email body contains an image of five mobile phones and a promotional message: 'The days of needing your computer to get to your inbox are long gone. You can now use Gmail on your mobile phone to access your email from anywhere.' Below the message is a button labeled 'Get Gmail for your phone'. A context menu is open over the email, listing actions: 'Mark as unread', 'Mark as important', 'Add to Tasks', 'Add star', 'Create event', 'Filter messages like these', and 'Mute'. The left sidebar shows the 'Mail' menu with options like 'Compose', 'Inbox', 'Starred', 'Important', 'Sent Mail', 'Drafts', 'Circles', 'Follow up', 'Misc', 'Priority', and 'More'.

# Primäre Aktionen hervorheben

**EQUAL VISUAL WEIGHT**

**Submit** **Cancel**

**VISUAL DISTINCTIONS**

**Submit** **Cancel**

**Submit** | [Cancel](#)

The image shows three examples of button layouts for 'Submit' and 'Cancel' actions. The first example, titled 'EQUAL VISUAL WEIGHT', shows two buttons of equal size and weight: a green 'Submit' button and a grey 'Cancel' button. The second example, titled 'VISUAL DISTINCTIONS', shows a green 'Submit' button and a smaller, lighter grey 'Cancel' button. The third example shows a green 'Submit' button followed by a vertical line and the text 'Cancel' in blue, which is not a button.

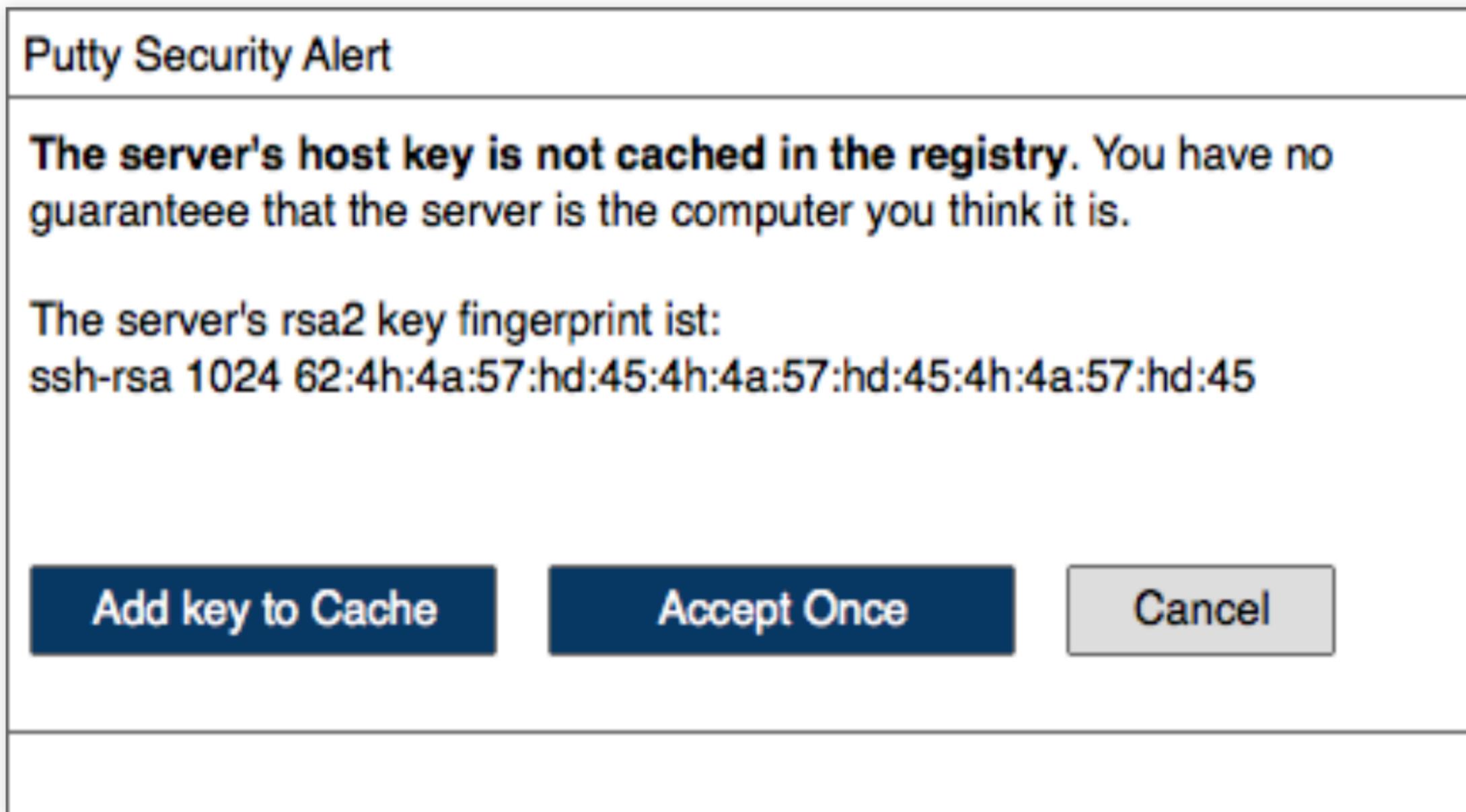
Guideline

**KLARE  
HANDLUNGSOPTIONEN  
GEBEN**

## Ja/Nein/Abbrechen vermeiden



## Konsequenzen der Aktionen verdeutlichen



## Was bedeuten diese Icons?



Posteingang | Archivieren | Spam | Löschen | Verschieben | Labels

Was bedeutet dieses Icon?



# Well known icons



Edit



Close / Delete



Delete



Add / New

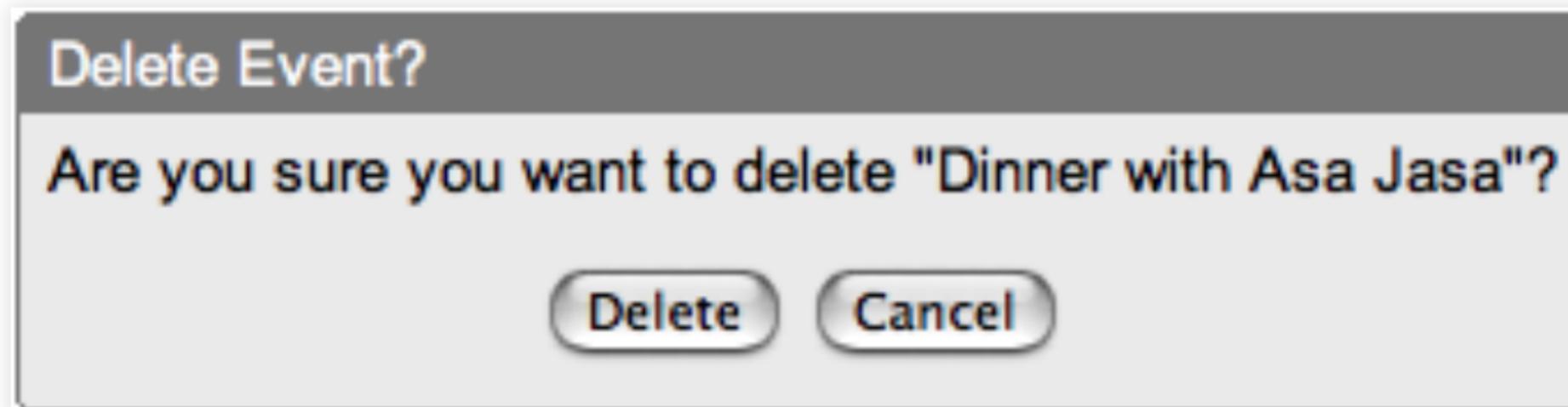


Print

Guideline

# **FEHLER VERMEIDEN UND BEHEBEN**

Destruktive Aktionen bestätigen lassen



Noch besser: Undo ermöglichen

**The conversation has been moved to the Trash. [Undo](#)**

# Unmittelbare Validierung

**Join Twitter today.**

Christian Holst ✓ Name looks great.

christian.holst@baymard.com ✓ We will email you a confirmation.

..... ✓ Password is okay.

christian ✗ This username is already taken!

Suggestions: christian\_holst · christian\_holst · christian\_holst ·

Keep me logged-in on this computer.

By clicking the button, you agree to the terms below:

These Terms of Service ("Terms") govern your access to and use of the services and Twitter's websites (the "Services"), and any

Printable versions:  
[Terms of Service](#) · [Privacy Policy](#)

**Create my account**

# Benutzer nicht verwirren

## 500 Internal Server Error

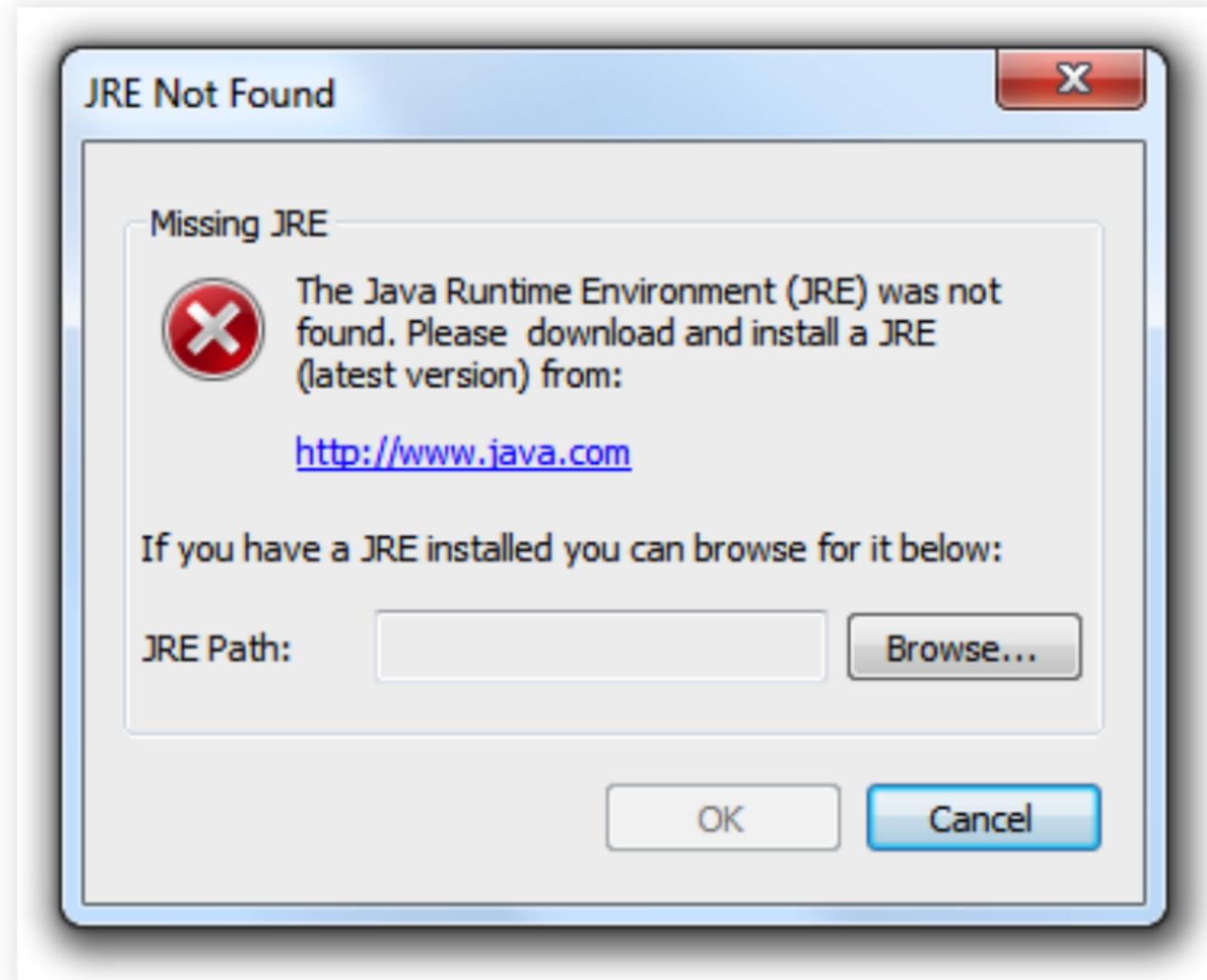
Sorry, something went wrong.

A team of highly trained monkeys has been dispatched to deal with this situation.

If you see them, show them this information:

```
AOj3EMXVsEoBLjFqb3YiN031ISFi5THdMdlh61h1NyLCy2aWKoqDcPU6ZxXg
dAKqZhgg_N4eGMEDbq68IQ-P3Br-FTyiH1mBRHQuThaak3IaMu0L9iK0Otkn
gIB6QF-0oT6p31My48rff9fF1cRaocd7konMWEfutc8E7elymRjhgYF06CpO
iPLq4ybeLOVZVxUvC-5FFTqRSyyLFxjig79_1KMP9kJaLAAhiRJneSC-6-UP
NQdkrRNd6sb8VU-en2ndCdnx9IBiEvZSQnsTUDdgw_XHDqTd7Bh2LzjT4kFs
6FYPEBwjKVWCLLxHBUusESfnSVsv_3fMwuPG1vvBi3IottOMjWfgL2qp1Bvv
eogsek7Mu7sNB1wVShMDPY14u154sgzOWFuQybHEY_07Pt0ZRvyp0HGiwORb
G5Br5k6FojlrabvyhcAZbveBjsQP73yqT_KsVhQRiKxFAUZCd8rVRJBF_X8U
qu93FpIdnj7FCvtNUR65n0VJF9CeLdMdlstD3VB1MRVzPBs5edyv2GYKk7qJ
F1wnTWabVH-uDZifwo5y0pAza4sLm497pZI4ek590CwDmCEiSSA1P08KAgiV
GYWBxcHR9YG-PtXXUkS53jqkpUC_e6QyLWOnWsbSqQrX7syZ5QkoolFJ-RJJ
gwdQHqwgAmBkYKEtu0GNBntRXDmUyYMVJgRXA9TxUndUB91PMHAvER9H6UI4
YEiRvMQaaDBY8ML_t2b5rmuzd1nJGwDAQ20xfjuw0IAv-amZR_d09m6jIdTO
zPzUpkgiZrEzsqd-N9gmphGjCEkHZVhvr4qof6BVqdfSPGLJT0qcyhe8WEre
YG3EX9VNDP7h_KojF4NC-ZHqsQutMYbqabj2AVVZ48u2MX1qoNh1_YiwQIG4
APXQp4ojlbVhепXcyMn0We-FxWnxV1vzPYks5kRC9LEy6TzRBDxrRW3dKxrL
owv7p2GvJZXH2uGTCoplCnj0I-W8Wdl_zAoD48h6_inVUO_-aSsa9964GsrI
wMbbGM-0TSGuqMx1PV7ypyFXB6WoqTHncp-yIyiL-83mPkaYhawNzwMobHcY
Jridvr_HAvxYKLjYNKVArSnrEKjjeiu5NVCDaMYC1G2n6WYxfM5-IVE1639q
WYAiahSiPLhasBwI1E4i4sZu61bwQt7PEV2sgsv01S4kSeFU0jpn04Sn6-
Wak2gnN7sDE10XSHB2716prrr1PZdcxIX7_CdokbJ3hSKNxz90uhQp8XrR59A
```

## Instruktionen zur Fehlerbehebung geben



Guideline

# **ZEITWAHRNEHMUNG DER USER BEACHTEN**



# ZEITWAHRNEHMUNG

- **0,1 Sekunde:** unmittelbar (direkte Manipulation)
- **1 Sekunde:** ohne Unterbruch (Gedankenfluss)
- **10 Sekunden:** Aufmerksamkeitsspanne (User wenden sich ab)
- **über 10 Sekunden:** Progress-Bar erforderlich

Quelle: <http://www.nngroup.com/articles/response-times-3-important-limits/>

Guideline

# TOUCHSCREENS BERÜCKSICHTIGEN

Immer mehr Geräte sind mit Touchscreens ausgestattet:

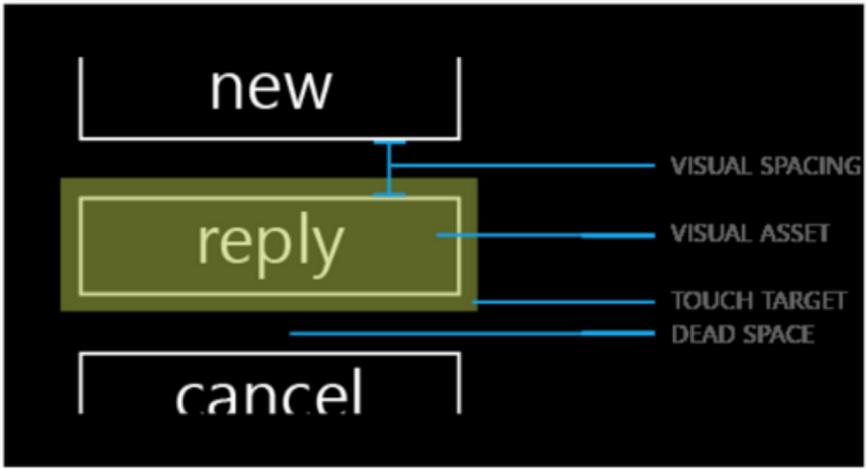
- Smartphones
- Tablets
- Notebooks
- Desktops

# TOUCH TARGETS MÜSSEN GENÜGENDE GROSS SEIN

**Apple:**  
mind. 44x44pt



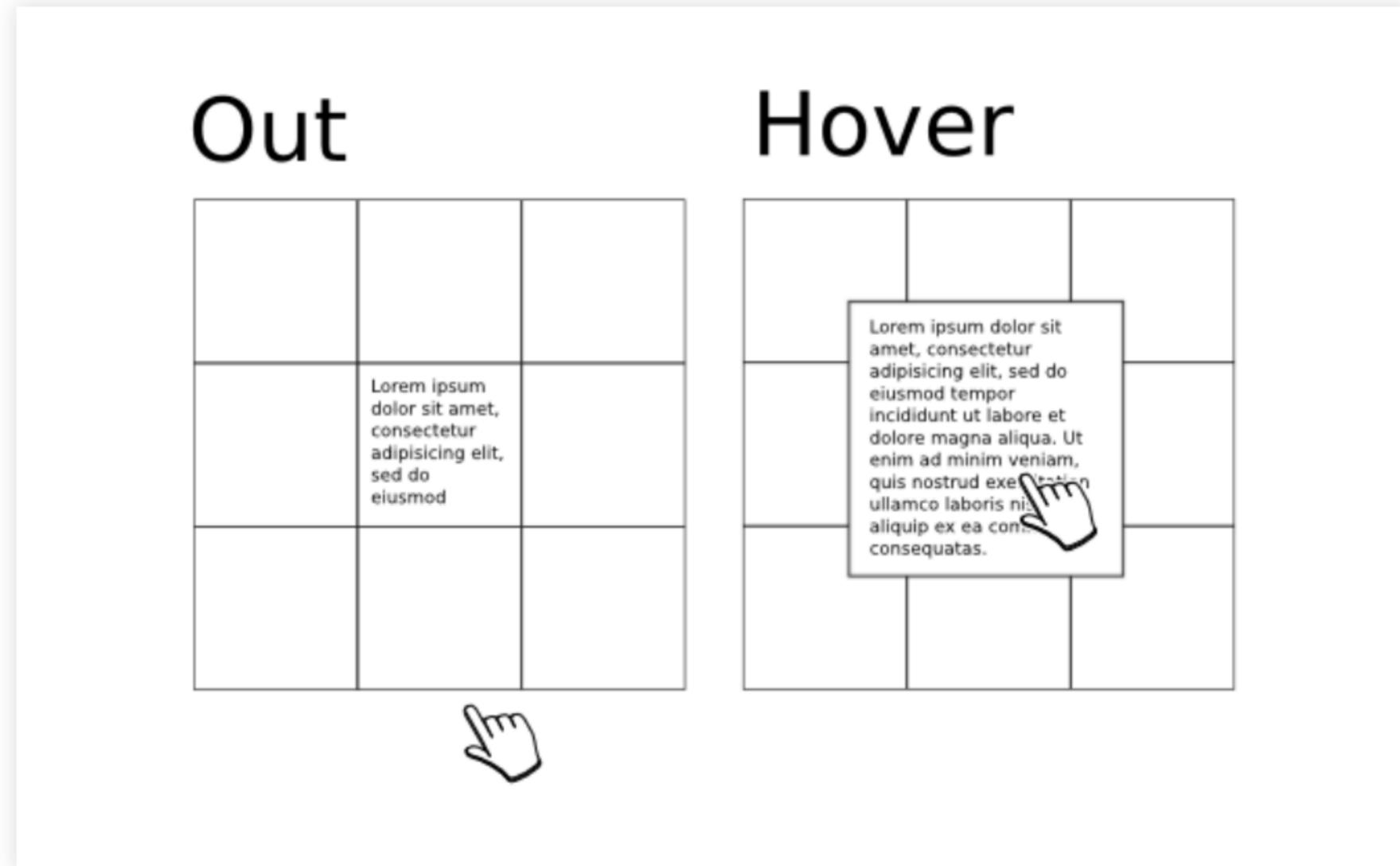
**Microsoft:**  
7-9 mm, 2mm Abstand



Weiterführende Informationen:

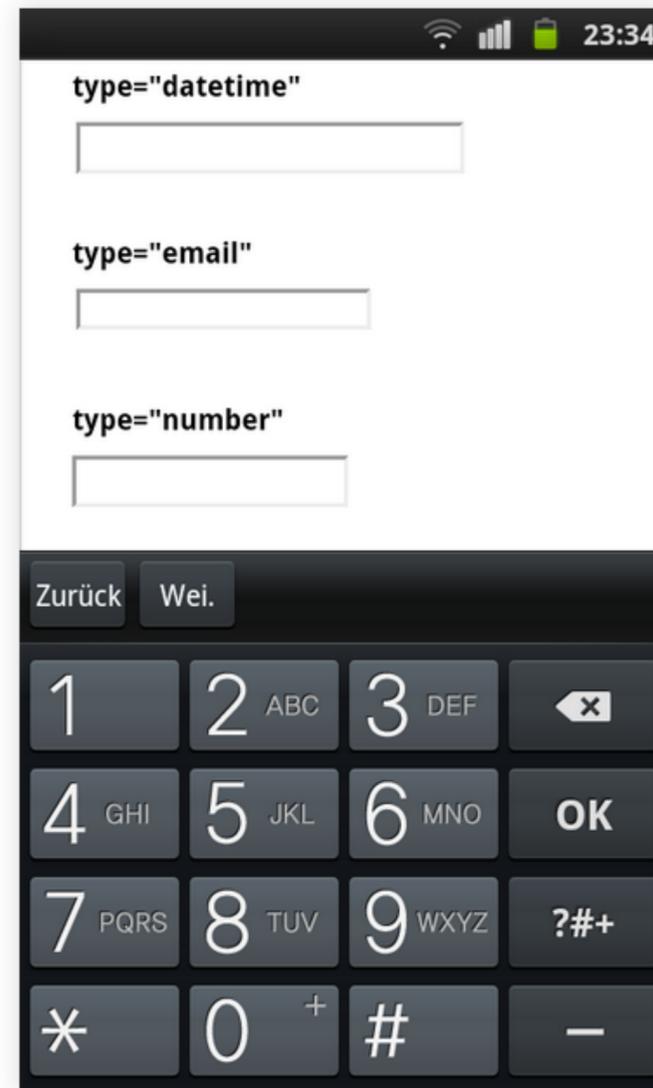
<http://sebastien-gabriel.com/designers-guide-to-dpi/>

# :HOVER VERMEIDEN



Auf Touchscreens müssen diese Bereiche zuerst angetippt werden.

# HTML5 INPUT TYPES VERWENDEN



So wird die passende virtuelle Tastatur verwendet.

Guidelines

# FORMULARE RICHTIG GESTALTEN

Elemente richtig auswählen und platzieren:

- Labels
- Eingabefelder und Controls
- Erklärungstexte

# LABELS OBERHALB DER EINGABEFELDER

**Advantage:**  
Adjacent Label and corresponding Input field

**Advantage:**  
Rapid Processing

Label

Longer Label

Even Longer Label

One More Label

Value 1

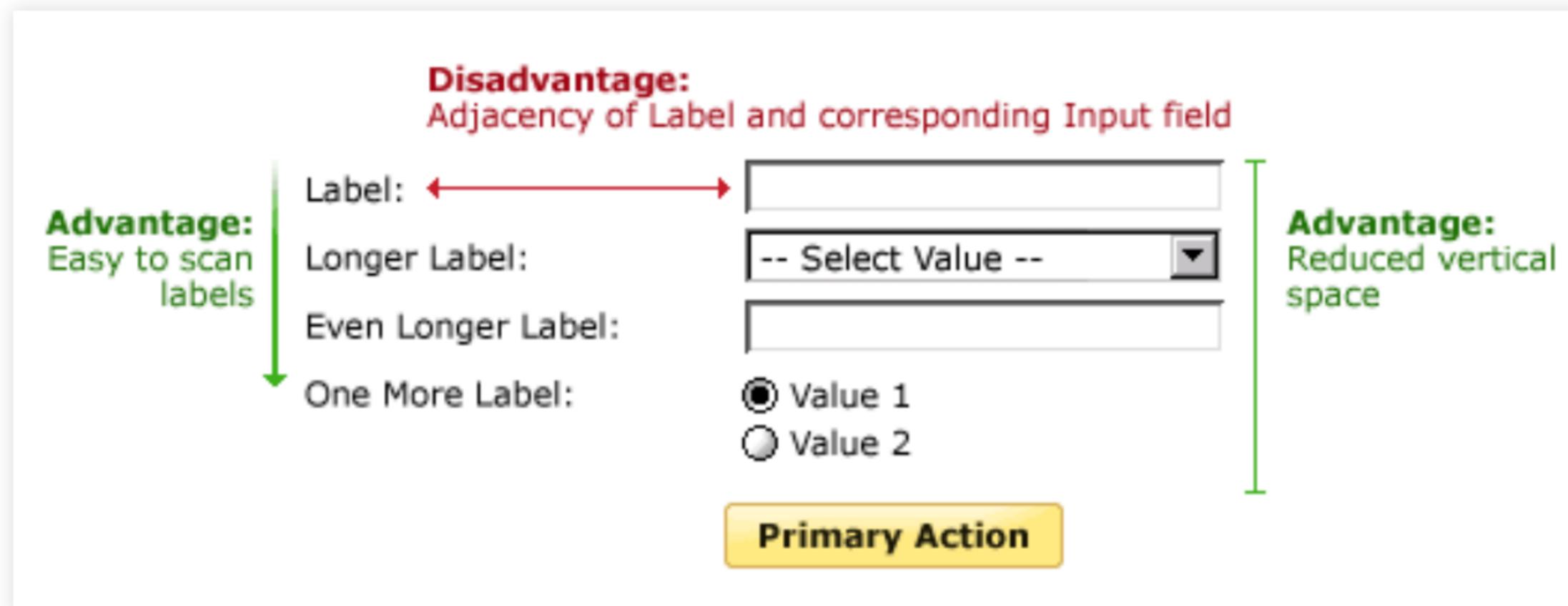
Value 2

**Primary Action**

**Disadvantage:**  
Increased vertical space

The diagram shows a vertical stack of UI elements. At the top, a label 'Label' is positioned above a text input field, with a green double-headed arrow indicating their vertical alignment. Below this, a label 'Longer Label' is positioned above a dropdown menu. Further down, a label 'Even Longer Label' is positioned above another text input field. At the bottom, a label 'One More Label' is positioned above a radio button group containing 'Value 1' and 'Value 2'. A yellow button labeled 'Primary Action' is located at the very bottom. To the left, a green arrow points downwards from the 'Label' level to the 'Even Longer Label' level, labeled 'Advantage: Rapid Processing'. To the right, a red arrow points upwards from the 'One More Label' level to the 'Label' level, labeled 'Disadvantage: Increased vertical space'. A green text block at the top right states 'Advantage: Adjacent Label and corresponding Input field'.

# LABELS LINKSBÜNDIG



# LABELS RECHTSBÜNDIG

**Advantage:**  
Adjacent Label and corresponding Input field

**Disadvantage:**  
Reduced readability

Label

Longer Label

Even Longer Label

One More Label  Value 1  
 Value 2

**Advantage:**  
Reduced vertical space

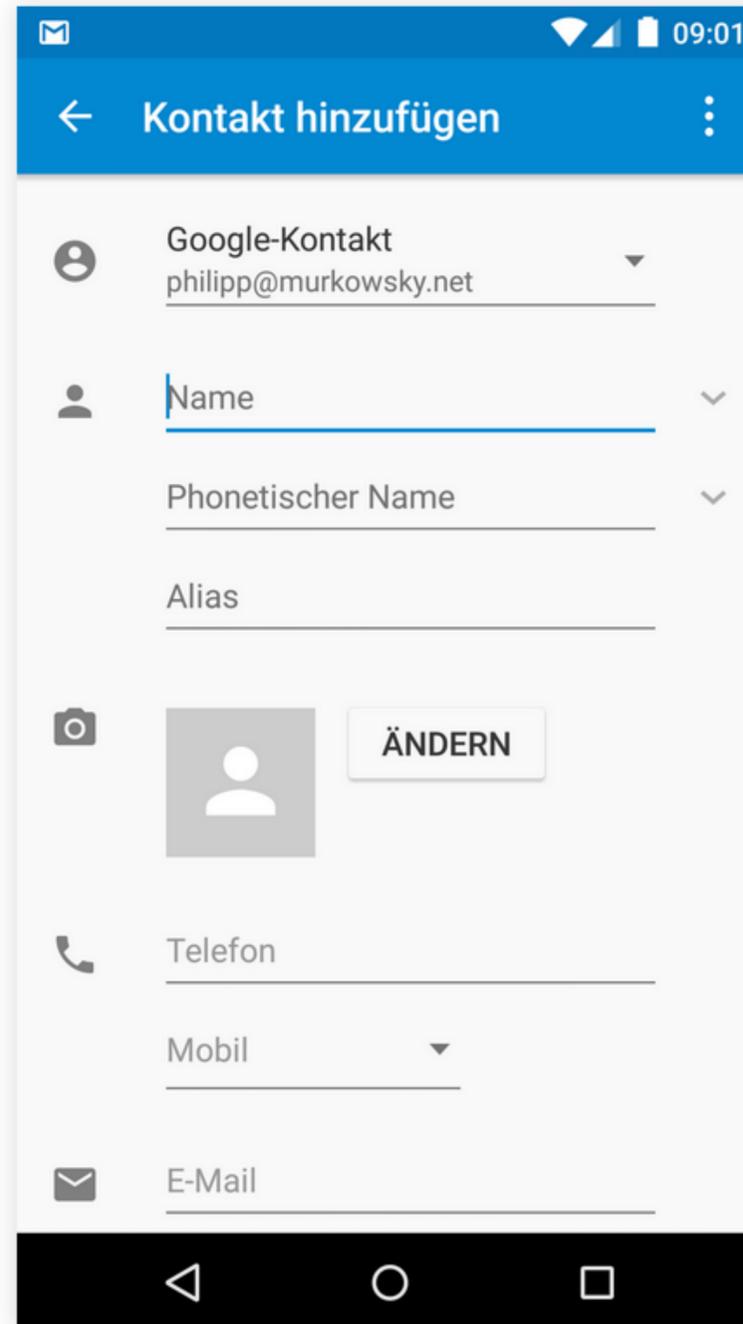
**Primary Action**

The diagram illustrates the layout of right-aligned labels for different input types. It shows four rows of labels and their corresponding input fields. The labels are 'Label', 'Longer Label', 'Even Longer Label', and 'One More Label'. The input fields are a text box, a dropdown menu, another text box, and two radio buttons labeled 'Value 1' and 'Value 2'. A yellow button labeled 'Primary Action' is positioned below the radio buttons. Annotations include a green double-headed arrow between the label and the first text box, a green vertical line on the right side of the input fields, and a red vertical arrow on the left side pointing downwards.

# **LABELS RICHTIG POSITIONIEREN**

- Rechtsbündig als Standard (einfache Zuordnung)
- Linksbündig, wenn nur ein Teil ausgefüllt werden soll/muss (Lesbarkeit)
- Oberhalb bei komplexen, umfangreichen Formularen

# NICHT EMPFOHLEN: INLINE LABELS



The screenshot shows an Android contact creation screen titled "Kontakt hinzufügen". The form uses inline labels for its input fields. The fields are: "Google-Kontakt" (with email "philipp@murkowsky.net"), "Name", "Phonetischer Name", "Alias", "Telefon" (with a "Mobil" dropdown), and "E-Mail". A profile picture section includes a camera icon, a placeholder image, and an "ÄNDERN" button. The Android navigation bar is visible at the bottom.

09:01

← Kontakt hinzufügen

Google-Kontakt  
philipp@murkowsky.net

Name

Phonetischer Name

Alias

ÄNDERN

Telefon

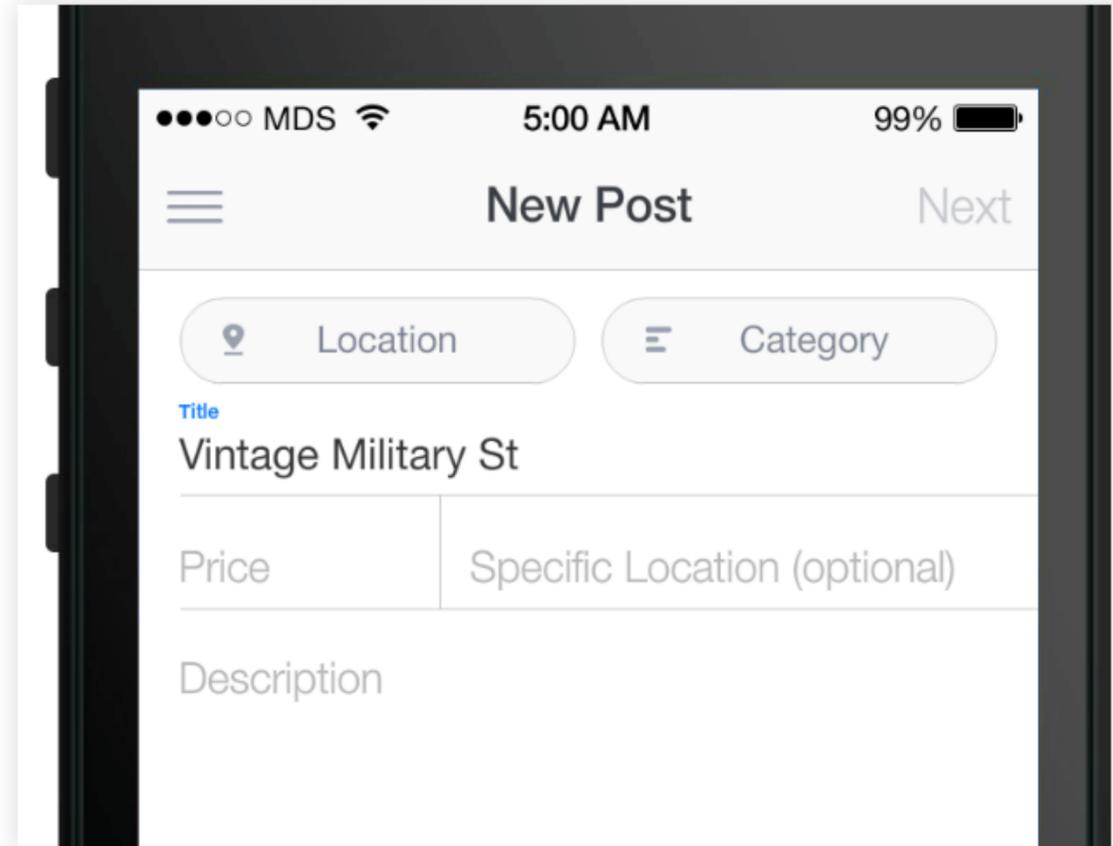
Mobil

E-Mail

## NACHTEILE VON INLINE LABELS

- User verlieren den Kontext, sobald sie etwas eingegeben haben
- Platzhalter sind kein Ersatz für Labels (Accessibility)
- Keine Zusatzinformationen möglich (z.B. Format-Vorgaben für Datum, Telefon-Nummern o.ä.)

# BESSER: FLOATING LABELS



Quelle: <http://bradfrost.com/blog/post/float-label-pattern/>

# LÄNGE VON EINGABEFELDERN

Grundsatz: Ein Feld ist so lang, wie die normalerweise erwartete Eingabe.

# SCHLECHTES BEISPIEL: ALLE FELDER SIND GLEICH LANG.

Vorname

Nachname

Strasse, Nummer

PLZ

Ort

# BESSER: PLZ IST SO LANG WIE DIE ERWARTETE EINGABE

Vorname	<input type="text"/>
Nachname	<input type="text"/>
Strasse, Nummer	<input type="text"/>
PLZ	<input type="text"/>
Ort	<input type="text"/>

# NOCH BESSER: ZUSAMMENGEHÖRENDE ELEMENTE AUF EINER ZEILE

Vorname

Nachname

Strasse, Nummer

PLZ, Ort

# NICHT EMPFOHLEN: RESET BUTTONS

Enter some text in the fields below, then press the "Reset form" button to reset the form.

First name:

Last name:

In 90% der Fälle werden Reset-Buttons *versehentlich* ausgewählt.

# BESSER: RESET-FUNKTION IN (AUSGEWÄHLTEN) EINGABEFELDERN

🔍 Meine Eingabe ✕

# FOKUS UND AUSZEICHNUNG

Name \*Pflichtfeld

Adresse \*Pflichtfeld

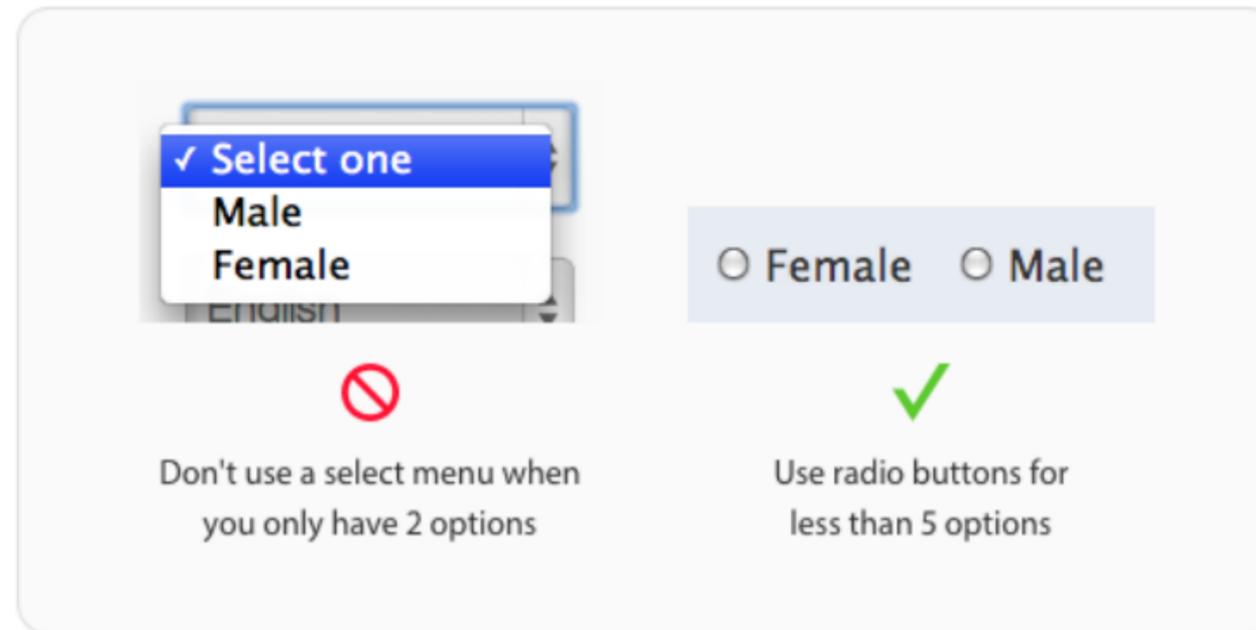
Adresszusatz

- Beim Laden der Seite sollte das erste Feld bereits im Fokus sein.
- Aktives Feld klar auszeichnen.
- Reihenfolge für Tastatur-Bedienung festlegen (Tabulator).

# **DROPDOWNS SINNVOLL EINSETZEN**

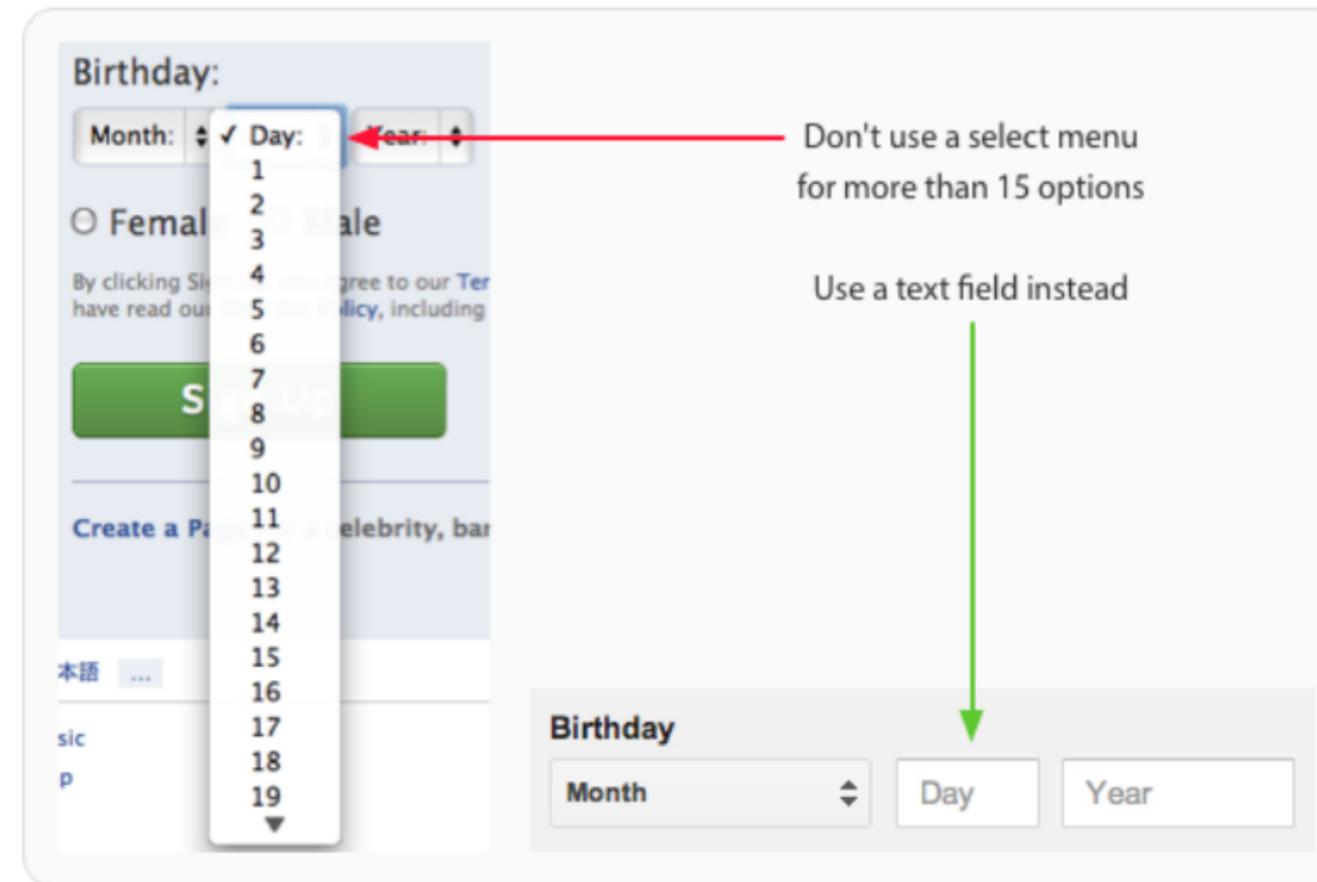
Dropdown-Menüs (Select-Menüs) sparen Platz, aber sie erschweren die Orientierung, Exploration und erhöhen die Interaktionskosten.

# RADIO-BUTTONS SIND FÜR 2-5 OPTIONEN BESSER GEEIGNET



Quelle: <http://uxmovement.com/forms/stop-misusing-select-menus/>

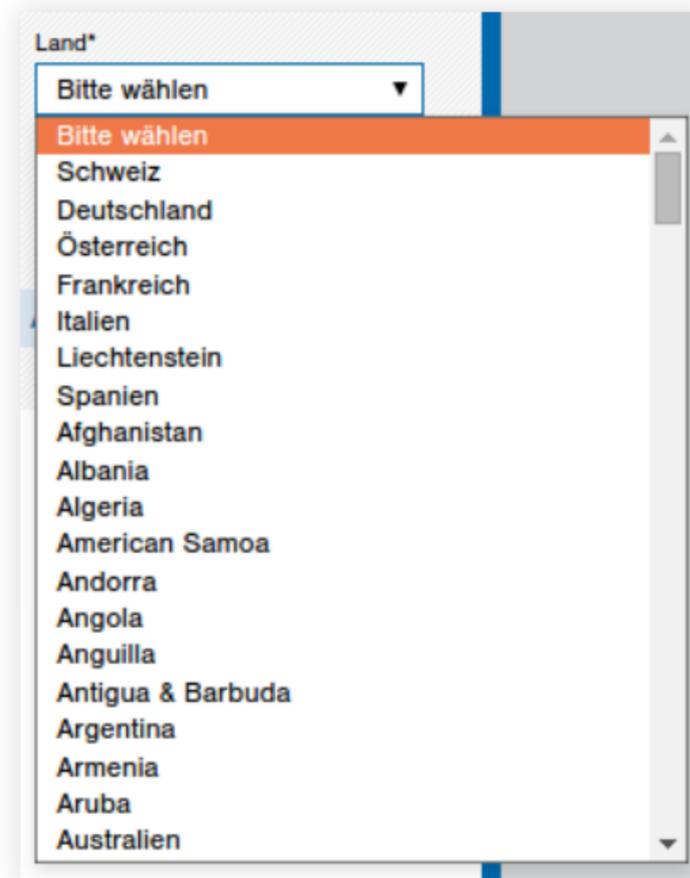
# BEI MEHR ALS 15 OPTIONEN SIND DROPDOWNS UNGEEEIGNET



Quelle: <http://uxmovement.com/forms/stop-misusing-select-menus/>

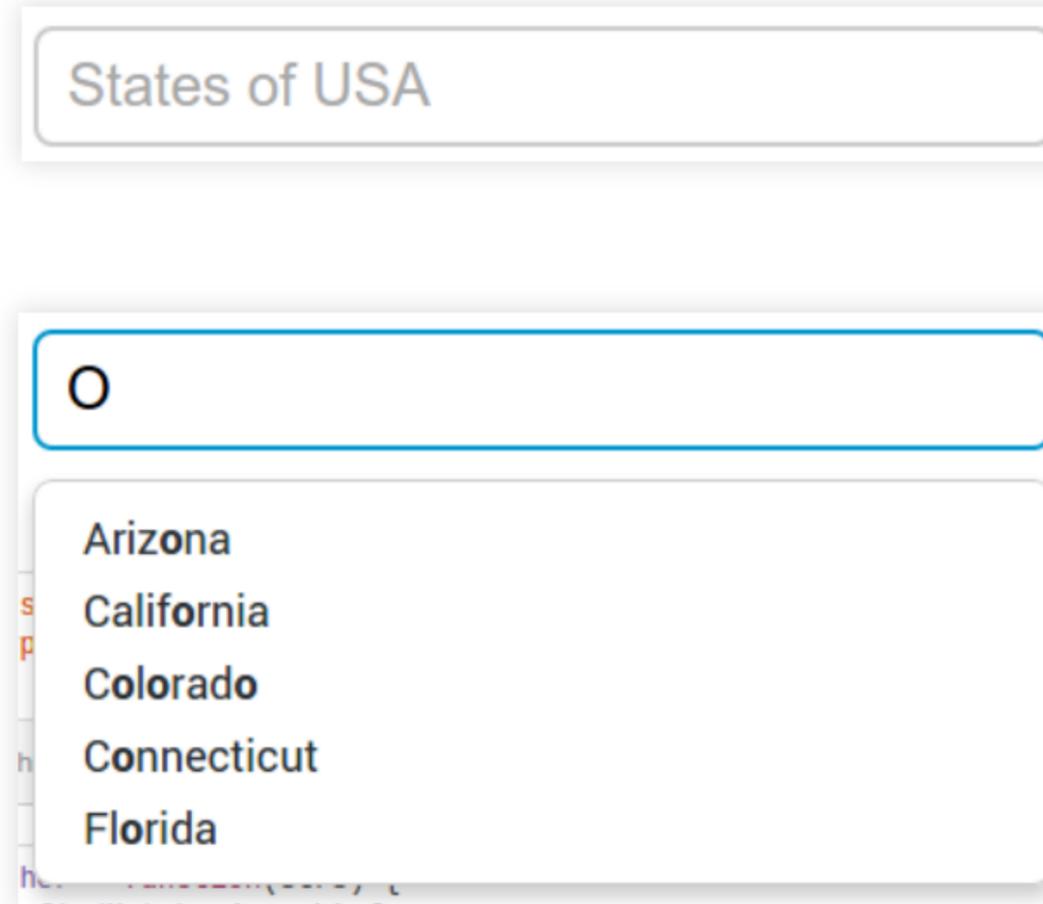
# LÄNDERAUSWAHL MIT DROPDOWNS

Gutes Beispiel: Häufigste Länder zuoberst  
(nicht stur alphabetisch)



Quelle: Digitec

# NOCH BESSER: TYPEAHEAD



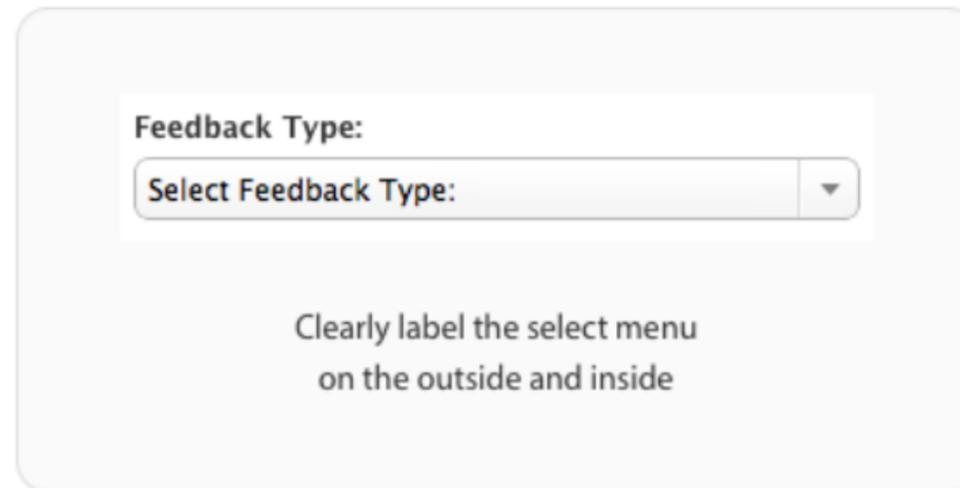
States of USA

O

- Arizona
- California
- Colorado
- Connecticut
- Florida

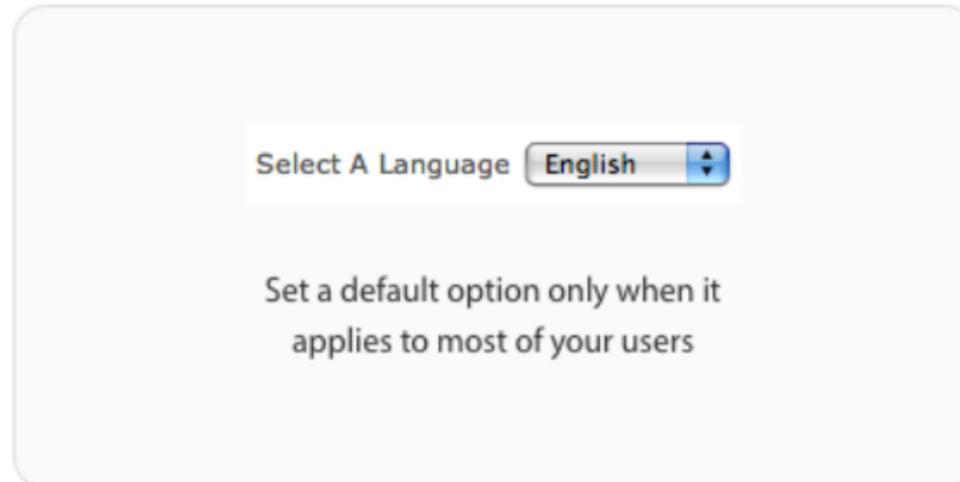
Quelle: <https://twitter.github.io/typeahead.js>

# BESCHRIFTUNG VON DROPDOWNS



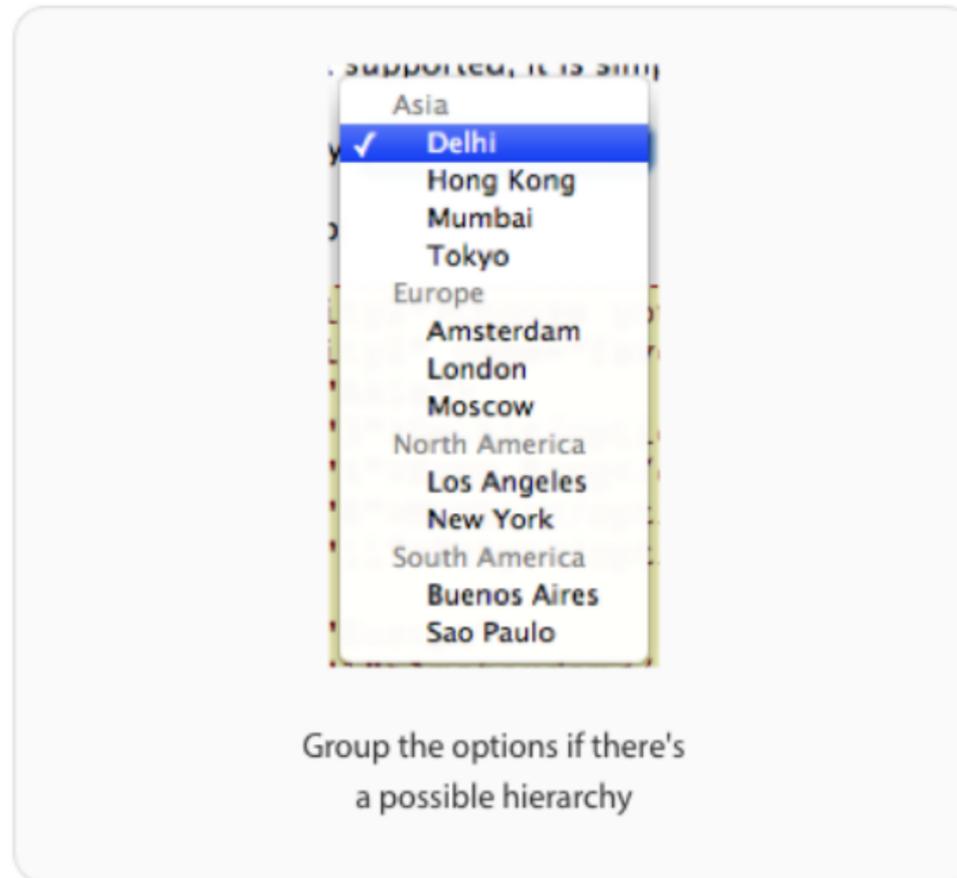
Quelle: <http://uxmovement.com/forms/stop-misusing-select-menus/>

# WENN MÖGLICH SINNVOLLE DEFAULTS SETZEN



Quelle: <http://uxmovement.com/forms/stop-misusing-select-menus/>

# HIERARCHIEN ABBILDEN



Quelle: <http://uxmovement.com/forms/stop-misusing-select-menus/>

# ERKLÄRUNGSTEXTE

Saferpay Terminal - Mozilla Firefox

**rega**  Drucken Deutsch

1. Zahlungsmittel 2. Adresse 3. Kartendaten 4. Bestätigung

**Ihre Zahlung**

▶ Händler: Schweizerische Rettungsflugwacht

▶ Angebot: Gönnermitgliedschaft 1 Jahr **CHF 30.00**

Bitte geben Sie Ihre Kreditkartendaten ein:

\* Pflichtfelder

Kartennummer \*  z.B. 1234-5678-9012-3456

Gültig bis \*

Kartenprüfnummer (CVC2) \*  

Name des Karteninhabers \*

Ich bestätige die [AGB](#) des Händlers gelesen zu haben. \*

Beispiele rechts neben dem Eingabefeld platzieren.

# HILFESTELLUNGEN

Saferpay Terminal - Mozilla Firefox

**rega**  Drucken Deutsch

1. Zahlungsmittel 2. Adresse 3. Kartendaten 4. Bestätigung

**Ihre Zahlung**

▶ Händler: Schweizerische Rettungsflugwacht

▶ Angebot: Gönnermitgliedschaft 1 Jahr **CHF 30.00**

Bitte geben Sie Ihre Kreditkartendaten ein

\* Pflichtfeld

Kartennummer \*

Gültig bis \* 12

Kartenprüfnummer (CVC2) \*

Name des Karteninhabers \*

Ich bestätige die [AGB](#) des Händlers gelesen zu haben. \*

Die Kartenprüfnummer (CVC2) ist dreistellig und befindet sich auf der Rückseite der Kreditkarte.



Umfangreiche Hilfetexte standardmässig ausblenden.

# ANWEISUNGEN

**Enter Billing Information**

Card Type:

Card Number:

Expiration date:

Security Code:  [How to find this on your card](#)

(Be sure to enter the billing address associated with your credit card)

First Name:

Last Name:

Wichtige Anweisungen offen darstellen.

**FRAGEN?**